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# HP Forum Archive 17

Welcome!

Since then, no new messages have been posted.

This is an archive of older posts from the HP forum.

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### **Phoenix: another view at this name (pretends to be funny)**

Message #1 Posted by [Andrés C. Rodríguez \(Argentina\)](#) on 10 Nov 2007, 1:53 p.m.

Reversing PHOENIX gives

XINEOHP

Now, parsing and substituting roman numbers, we obtain

11 NEO HP

which may be decoded as "new incarnation of the HP 11[C]"

(OK, the order of words is not the usual one but, after all, we are at home with reversed notations)

### **Re: Phoenix: another view at this name (pretends to be funny)**

Message #2 Posted by [Meenzer](#) on 10 Nov 2007, 1:56 p.m.,  
in response to message #1 by [Andrés C. Rodríguez \(Argentina\)](#)

Veeeeerrrrry Nicccce! ;-)

Someone maybe knows a designer who could make an ambigram from it like this one

<http://upload.wikimedia.org/wikipedia/commons/5/54/Illuminati.gif>

EDIT: Found one but don't find it very convincing:

<http://img.photobucket.com/albums/v214/paxy/Wordplay/phoenixamb.png>

*Edited: 10 Nov 2007, 2:03 p.m.*

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### Repairing the hp 82104A Card Reader

Message #1 Posted by [fred moon](#) on 10 Nov 2007, 11:19 a.m.

What is the function of the card-wrap spring? I ran into the problem of running into a "brick wall" which Dave mentioned on page 5 ("Testing, 1,2,3.") of his HP Article Forum Repairing the hp 82014A Card Reader. I tried reassembling a few times but still same problem. It looks like the shape of this card-wrap spring is critical. The spring may have been deformed. How can it be repaired?

### Re: Repairing the hp 82104A Card Reader

Message #2 Posted by [Randy](#) on 10 Nov 2007, 2:18 p.m.,  
in response to message #1 by [fred moon](#)

The spring in the front half (the one without the motor) acts to press the card against the head. The half-moon spring on the back half presses the card down again bottom guide rail.

Hitting the wall comes from following the directions... it's really the method described to reassemble the two halves as IMO it doesn't work most times.

I find the better way is to hold the parts is with the front half in one hand with the two leaf springs facing the floor. With the other hand and a small screwdriver or something similar, wiggle the head spring into position such that it is straight in its slot and when the high free end is flexed downward, it enters the recess underneath. Now, without rotating the front half, lower the inverted back half with the motor down onto the front and engage the pins. Holding the halves together, install two screws, one from the front and the other from the back. Once those two screws are tightened, put it down and find a tester card. Slide the card into the reader from the right side and just keep pushing. If the head pressure spring is in the right place, the card will pass between it and the head. If it moved before you got the halves together, the card will hit the spring and not go past. Tear down and reassemble if you have to but once you see what the jamb point is, it's easy to fix. I've never had to rebend a spring, you only need to insure it is installed and aligned correctly.

Once card passes through, install the contact board with the three remaining long screws.

Rather than trial and error, you can set the correct drive wheel force by running the motor with a 3.0 VDC supply and adjust the eccentric cam for 180-200 ma draw with the card stalled. This is the same for all readers and is documented in the 97 service manual.

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### TI 17bii solver: after you press the CALC key

Message #1 Posted by [Don Shepherd](#) on 10 Nov 2007, 11:01 a.m.

For six months now, I have been running equations on both the 17bii and 17bii+ solvers. I have noticed two things. After you press the CALC key, the + model is much quicker than the original bii in creating the menus and letting you continue with the solve process. On the other hand, when you press the button to solve for a variable, the original bii is much faster at giving a result.

I would like to know what exactly happens after you press CALC, and why the older model is slower during that part, but much faster during the actual solving. I presume that, after CALC, the menus are generated and your code in syntax checked, but could it be that the original bii spent time optimizing the code whereas the newer model does not do that?

### Re: TI 17bii solver: after you press the CALC key

Message #2 Posted by [Bill \(Smithville, NJ\)](#) on 10 Nov 2007, 1:41 p.m.,  
in response to message #1 by [Don Shepherd](#)

Hi Don,

I think you mentioned once that the 17BII+ seems to always make two passes when solving for a variable. I'm thinking that the first pass is to optimize the equation (rearrange terms, etc) and the second pass is to actually solve it.

While the original 17bii/19bii is probably doing the optimizing only once when the calc key is pressed.

Just a guess.

You might want to look at memory usage. How does the memory usage compare between the two units before pressing CALC, after pressing CALC and after doing one solve.

Not sure if that would tell us anything, but worth looking at.

Bill

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### What a 35s has caused...

Message #1 Posted by [Arne Halvorsen \(Norway\)](#) on 10 Nov 2007, 9:21 a.m.

Its funny to reflect what the arrival of the HP-35s has stirred up...

Early august one evening alone at the office (I am sure it was a dark and stormy one, they usual are here...) and needed to add two numbers.

In these situations I often remembered the old days I did that the right Polish way, and did again a check on the net if HP had gone sane, and voila, got me the 35s.

Later after a talk with my boss reasuring him I would no more steal his 15c it was decided the company should buy a 50g to see if it 'can be used to anything'... It is in our US branch at the moment, will get my hands on it eventually.

Then all this got my boss also to remember a completely forgotten 28C collecting dust home, something he had used to check out some special IEEE standard functions when that had been made...

We then had fun mocking a coworker for not knowing a casio from a real thing... He mumbled something about he had some kind of graphing device while at engineering school, propably a TI...

Well, we had to apologise! The guy turned up with a 48GX the other day... Just to shows how great guy he is, he let me borrow it so can learn RPL to be prepared for the 50g.

BUT the best...: [Today I got a shiny new old HP-41CV back from FixThatCalc!](#)

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### HP42S in New Scientist Magazine

Message #1 Posted by [jacksonconsult](#) on 9 Nov 2007, 4:55 p.m.

"Evocative Objects: Things That Help You Think". New Scientist. Friday Nov 9th, 2007.

Brief discussion on the HP-42S listed as No.9 in the Top 10.

Ian J

[New Scientist](#)

### Re: HP42S in New Scientist Magazine

Message #2 Posted by [Karl Schneider](#) on 9 Nov 2007, 10:27 p.m.,  
in response to message #1 by [jacksonconsult](#)

Ian --

Thanks for the link. Interesting vignettes!

-- KS (owner of 1 "original-style" HP-42S and two "redesigned" HP-42S)

### Re: HP42S in New Scientist Magazine

Message #3 Posted by [Pavneet Arora](#) on 10 Nov 2007, 5:15 a.m.,  
in response to message #1 by [jacksonconsult](#)

Ian, my thanks as well. Ironically, one of the evocative objects that move me are books! I have lots and lots of them; one of the one's I consider seminal in my in life was Sherry Turkle's The Second Self.

I was reading it on the day I proposed to my wife.

Sherry Turkle is also the author of the study listed.

Cheers.

*Edited: 10 Nov 2007, 5:20 a.m.*

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### Phoenix 45s: Software Architecture

Message #1 Posted by [Pavneet Arora](#) on 9 Nov 2007, 4:06 p.m.

At what level of abstraction can we work at the numerical algorithms? Since we are going to be programming in C, can we simply specify the data structures that will represent the state of the calculator? Is that enough of an API to get working on the requisite functionality?

I am guessing that like any UI based system you have an event loop with a "calculator state". The state includes the contents of stack, registers and programming counter for the PGM side. Flags as well.

Now events are keystrokes and the event handler then invokes the right module based on mode: PGM, R/S, interactive etc.

The display is then driven by the mode and what should be on the display window. Of course, this is independent of whether we have 1, 2, 4, or 1729 lines in the physical display.

Does someone have a diagram of an architecture that is field tested?

I would love to get input from people with some real experience in this.

Do we need to wait for more of the hardware architecture to be selected, or can we begin working on the software side knowing that the calculator's functionality is isolated from the lower level interfaces? How many layers to the architecture are needed to provide the desired level of abstraction?

Thanks.

### Re: Phoenix 45s: Software Architecture

Message #2 Posted by [Egan Ford](#) on 9 Nov 2007, 4:42 p.m.,  
in response to message #1 by [Pavneet Arora](#)

Start with a simulator. Code it in wxWidgets so that it can be compiled for any OS. This will allow the testing of algorithms and design assumptions (e.g. usability). In the event Phoenix 45s never sees the light of day, at least you have a very nice PC/PDA RPN. Keep the GUI and logic separate so that the logic is portable.

Next start on a true emulator, cross compiler tool chain, etc... Hopefully you only need to work on the UI and the portable logic from the simulator works as is.

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### Failing ports on HP-41

Message #1 Posted by [Geir Isene](#) on 9 Nov 2007, 11:51 a.m.

Are the port connectors in the back of the HP-41 known to be a failing commodity?

I have two HP-41CX's that have such failing port connectors (the orange connectors inside the ports).

I first noticed the HP-41's going nuts with strange symbols scrolling on the display, frozen display, no response to any key strokes (not even ON+CLX), etc.

I tried various combinations with the modules I had plugged in and concluded that it must be the connectors that are failing - on ports 1 and 3 on one of the calcs and port 2 and 4 on the other calc.

Not that I think it matters, but I have the following modules in the calc(s): Double XM, AECrom and NoV-32 (with CCD OS/X and Ext IO).

Why do the connectors fail?

### Re: Failing ports on HP-41

Message #2 Posted by [Gerry Schultz](#) on 9 Nov 2007, 2:32 p.m.,  
in response to message #1 by [Geir Isene](#)

Gene:

I have a tall-key 41C that also had problems with port and battery connections. I met a guy named Richard Anthony on-line at eBay who repaired my 41 card reader. I sent my 41C to him and bought a used, replacement port connector/battery terminal assembly from eBay. Richard re-platted the connections since there was some wear on the replacement port connector and now the 41C works great. If you want to contact Richard, let me know and I can send you his email address. My email address is gerald dot schultz at fox dot com.

Gerry

### Re: Failing ports on HP-41

Message #3 Posted by [Raymond Del Tondo](#) on 9 Nov 2007, 7:21 p.m.,  
in response to message #1 by [Geir Isene](#)

Hello,

as Gerry noted, the connectors can suffer from wearing out.

Another option is dirt or dust on the contact areas.

You could carefully try to clean the surfaces with a Q-Tip.

If that doesn't help, there's a chance that the main connector, which connects to the keyboard backplane, has some corrosion.

Depending on the state of the corrosion, you can clean it yourself,

or have the connector replaced.

Another cause of malfunction is the famous zebra-stripe connector, which sits between the CPU board and the keyboard backplane.

OT: Thanks for using the CCD OS/X :-)

I made a new version recently, with a fully implemented CCD CAT 4, and a small function to adjust the LCD contrast on halfnut calcs.

SAVEROM/GETROM had to be removed to make room for the full version of CAT 4, but I made another extension ROM called CCD IL/X, which is a 'best of' of the Extended IO and Extended IL modules.

This includes MCPRP/MCLIST as well as SNEWM and MCOPY and many other IL-related functions, and the IL/X also contains the SAVEROM/GETROM functions from the older CCD OS/X.

The new versions are not on TOS yet, but will be soon.

HTH

Raymond

### **Re: Failing ports on HP-41**

*Message #4 Posted by [Geir Isene](#) on 10 Nov 2007, 3:57 a.m.,  
in response to message #3 by Raymond Del Tondo*

Thanks for the pointers.

Quote:

OT: Thanks for using the CCD OS/X :-)

I made a new version recently, with a fully implemented CCD CAT 4, and a small function to adjust the LCD contrast on halfnut calcs.

Very cool, I'll be upgrading as soon as it is on TOS.

Quote:

...but I made another extension ROM called CCD IL/X, which is a 'best of' of the Extended IO and Extended IL modules. This includes MCPRP/MCLIST as well as SNEWM and MCOPY and many other IL-related functions, and the IL/X also contains the SAVEROM/GETROM functions from the older CCD OS/X.

So the new CCD OS/X + the CCD IL/X would be the perfect combo for me :)

I wish there was room also for the SORTFL in one of them.

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### **hp 25 charger**

Message #1 Posted by *frankabc* on 9 Nov 2007, 11:19 a.m.

The plug-in of the charger of my mid '70s HP 25 has a short within the plug, itself. It cannot be fixed without destroying the plug-in. Might anyone have either this plug-in from perhaps a non-working charger unit, or a whole charger, that I can purchase? The charger is 10A AC.

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### **Printing from HP48/49 to HP laser printer**

Message #1 Posted by [Patrick Rendulic](#) on 8 Nov 2007, 1:29 p.m.

Hello.

Recently I have been playing around with my HP48GX, HP49 the HP infrared printer (type A) and a serial OKI printer. Printing to the infrared printer is no problem. Unfortunately this only works with the HP48 as the 49 has no infrared. I also managed to print from both calculators to the OKI via a serial connection (but only in text mode). Unfortunately the OKI is not Epson compatible so I cannot use the HP48-Epson driver for graphics.

As there is a HP-PCL driver available for the 48, I am interested in printing to a HP Laser Printer (I have an old Laserjet 5 and a Laserjet 1200). Before buying a serial to parallel converter, I would like to ask 2 questions:

- Does any serial to parallel converter work? - Will the HP49 print to the Laserprinter, at least in text mode (as far as I know there is no dedicated driver available)? - Can someone report his experiences?

Many thanks for every answer.

### **Re: Printing from HP48/49 to HP laser printer**

Message #2 Posted by [Chan Tran](#) on 8 Nov 2007, 1:57 p.m.,  
in response to message #1 by [Patrick Rendulic](#)

I have printed from the 48 to the HP deskjet plus which has a serial port. It works in both text and graphic. I am quite sure that it would work with a laserjet that has a serial port. I am not sure however if a parallel to serial converter would work. As a trick, I have also using a windows pc and print a document to file. I transfer the file to the 48 and then from the 48 transfer it to the deskjet plus and I have a very high quality document printed from the 48 (well as least that how I make people think)

*Edited: 8 Nov 2007, 2:02 p.m.*

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## HP Forum Archive 17

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**New Root Seeking Algorithms**

Message #1 Posted by [Namir](#) on 7 Nov 2007, 7:18 p.m.

I have been working on a pair of similar root-seeking algorithms in the past few weeks. I finished writing an article ([click here](#)) that describes the algorithms (which I name the Probing Slopes Algorithms and Probing Steps Algorithm) and compares them with Newton's method. My article also includes three test functions used to compare the new algorithms with Newton's method, using Excel VBA. I am excited to report that the new algorithms find the root in fewer loops and also make fewer function calls than Newton's method.

Namir

**PS: Based on the feedback of kind folks on this web site, you will need to use FireFox to view the article's text AND figures. some how, Microsoft IE does not show the images.**

*Edited: 8 Nov 2007, 12:36 p.m. after one or more responses were posted*

**Re: New Root Seeking Algorithms**

Message #2 Posted by [BruceH](#) on 8 Nov 2007, 3:53 a.m.,  
in response to message #1 by Namir

Hi Namir,

Following the link I see your article but none of the figures.

Regards,

**Re: New Root Seeking Algorithms**

Message #3 Posted by [Namir](#) on 8 Nov 2007, 8:57 a.m.,  
in response to message #2 by BruceH

Bruce,

I checked the site on two different laptops (which do not have the source files) at home and was able to see the figures. I will ask a few friends to see if they have the same problem you are having.

Namir

**Re: New Root Seeking Algorithms**

Message #4 Posted by [Stefan Vorkoetter](#) on 8 Nov 2007, 9:13 a.m.,  
in response to message #3 by Namir

FWIW, I can see the figures.

Stefan

**Re: New Root Seeking Algorithms**

Message #5 Posted by **Damir** on 8 Nov 2007, 9:18 a.m.,  
in response to message #4 by Stefan Vorkoetter

Me too.

Damir

**Re: New Root Seeking Algorithms**

Message #6 Posted by **Meenzer** on 8 Nov 2007, 9:56 a.m.,  
in response to message #5 by Damir

See 'em... (with Firefox, but not with Internet Explorer engine)

*Edited: 8 Nov 2007, 11:04 a.m.*

**Re: New Root Seeking Algorithms**

Message #7 Posted by **Steve Cote** on 8 Nov 2007, 9:31 a.m.,  
in response to message #1 by Namir

I can't see the figures :(

**Re: New Root Seeking Algorithms**

Message #8 Posted by **Bill (Smithville, NJ)** on 8 Nov 2007, 11:02 a.m.,  
in response to message #1 by Namir

Namir,

I can the the figures in Firefox but cannot see them in Microsoft Intenet Explorer 7.0.

Bill

**Re: New Root Seeking Algorithms**

Message #9 Posted by **Damir** on 8 Nov 2007, 11:09 a.m.,  
in response to message #8 by Bill (Smithville, NJ)

Yes, I can see them in Firefox.

Damir

**Re: New Root Seeking Algorithms**

Message #10 Posted by **Kiyoshi Akima** on 8 Nov 2007, 12:10 p.m.,  
in response to message #8 by Bill (Smithville, NJ)

I see them in Opera but not Internet Explorer.

**Re: New Root Seeking Algorithms**

Message #11 Posted by **Namir** on 8 Nov 2007, 12:34 p.m.,  
in response to message #8 by Bill (Smithville, NJ)

Bill,

Ok, I can see it with Firefox but not MS IE. This is very interesting, because I created the text using MS Word and then copied it to Microsoft Web Expressio--both MS products!!!

I will have to create a new copy of the article that I assemble with a simple text editor and insert fewer HTML tags. This will take a few days, so please be patient. In the mean time, use FireFox to view the article.

Namir

### **Re: New Root Seeking Algorithms**

*Message #12 Posted by [Dave Shaffer \(Arizona\)](#) on 8 Nov 2007, 5:20 p.m.,  
in response to message #11 by Namir*

Netscape 8.1.3 shows the images with no problem. In the "about" dropdown, it says "based on Firefox" so Firefox seems to be the magic key! (Just another reason to dislike Micro\$oft.)

PS Namir - Met your son at an NAU event a couple of weeks ago. He saw my name on my nametag and recognized it - from our discussion at HHC2007 which I guess you must have told him about!!

*Edited: 8 Nov 2007, 5:21 p.m.*

### **Re: New Root Seeking Algorithms**

*Message #13 Posted by [Frank Rottgardt](#) on 8 Nov 2007, 3:29 p.m.,  
in response to message #1 by Namir*

Hi Namir,

have not gone through you article in detail. For some days ago I have read some interesting articles about safeguarded root finding. A lot of thinking needs to be invested to make a root finder as bulletproof as possible. And Newtons method used to be quick, but has its pitfalls. How about yours?

Here are some articles which might be of interest. Would be cool to see how your algorithm copes with these tricky functions mentioned in the articles.

Have fun and let us know about the results of your further testing.

// Frank

[First hand information about the very first HP-solver \(page 20\)](#)

[link:<http://www.cs.berkeley.edu/~wkahan/Math128/RealRoots.pdf>]Some serious stuff about root finding[/link]

[Another article comparing root finding methods](#)

### **Re: New Root Seeking Algorithms**

*Message #14 Posted by [Namir](#) on 8 Nov 2007, 3:54 p.m.,  
in response to message #13 by Frank Rottgardt*

Thanks Frank. Will do!

Namir

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### **CLONIX / NOVRAM**

Message #1 Posted by [Daniel Diggelmann](#) on 7 Nov 2007, 4:09 p.m.

Anyone knows whether Dieago is still producing any of these modules? I've lost his email.

Regards, Daniel

### **Re: CLONIX / NOVRAM**

Message #2 Posted by [Iñigo Rodriguez](#) on 8 Nov 2007, 2:20 a.m.,  
in response to message #1 by [Daniel Diggelmann](#)

Hi, You can contact Diego using the link in his site : [www.clonix41.org](http://www.clonix41.org)

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## HP Forum Archive 17

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### Open45s: which language for firmware ?

Message #1 Posted by [Patrice](#) on 7 Nov 2007, 4:00 p.m.

Which language would you choose for the Open45s's firmware?

In My Opinion, a trade off for reliability over speed is in order.

My must have criterions:

- Simplicity of syntax: should be easy to read/write for non professionally skilled people. No cryptic syntax like with C/C++.
- Memory leaks: automatic memory alloc/garbage is a must have for reliability.

What is your proposal?

Patrice

### Re: Open45s: which language for firmware ?

Message #2 Posted by [marais](#) on 7 Nov 2007, 4:02 p.m.,  
in response to message #1 by Patrice

Garbage collection is overkill for embedded firmware.

### Re: Open45s: which language for firmware ?

Message #3 Posted by [Patrice](#) on 7 Nov 2007, 4:07 p.m.,  
in response to message #2 by marais

And what are memory leaks for embedded firmware with continuous memory?

### Re: Open45s: which language for firmware ?

Message #4 Posted by [Paul Dale](#) on 7 Nov 2007, 4:15 p.m.,  
in response to message #1 by Patrice

I suspect that the language will be chosen by the person or (relatively few) people who write the firmware.

If it were me, I'd use C. Embedded firmware is one place where C excels. The syntax doesn't have to be cryptic, although cryptic is certainly possible (e.g. see [one of my better efforts](#) :-)

We will be working with a low powered micro-controller with a relatively small address space and no floating point support. In this environment, many of the "nicer" programming languages simply aren't practical.

Re: garbage collection. We'll probably need some form in the calculator but that doesn't mean the language has to provide it.

- Pauli



## Re: Open45s: which language for firmware ?

Message #5 Posted by [Alain Mellan](#) on 8 Nov 2007, 2:11 a.m.,  
in response to message #4 by Paul Dale

Quote:

I suspect that the language will be chosen by the person or (relatively few) people who write the firmware.

And relatively few it will be, judging from the Starfix experience. Basically, Paul and myself. Hopefully the availability of a hardware platform will motivate the masses.

The language to use really depends on what's the target. If it's RPN, I would definitively go with C. If you want RPL, you really want something Forth-like. Again, the experience with Starfix wasn't very positive: C/C++ has some good sides, but when it comes to managing the stack (or lack thereof) it's not that fun.

Quote:

Re: garbage collection. We'll probably need some form in the calculator but that doesn't mean the language has to provide it.

Simple reference counting should be enough for RPN. Maybe even just careful memory management. There aren't that many dynamic structures anyway. With RPL, in theory reference counting should work, since there are no circular references allowed in RPL.

My 2 cents.

## Re: Open45s: which language for firmware ?

Message #6 Posted by [peter niessen](#) on 8 Nov 2007, 12:06 p.m.,  
in response to message #4 by Paul Dale

Hey Paul,

[l33t hackor C](#)

I tried both Gnu's gcc and SunStudio cc. Neither of them compiled it.

Any special settings to use?

Cheers, Peter.

*Edited: 8 Nov 2007, 12:07 p.m.*

## Re: Open45s: which language for firmware ?

Message #7 Posted by [Paul Dale](#) on 8 Nov 2007, 7:43 p.m.,  
in response to message #6 by peter niessen

You need a genuine K&R C compiler and preprocessor. ANSI made a few trivial changes in C89 that break this code -- which was written in 1988 :-)

Here is a version modified to be more ANSI compliant and gcc 4.1.2 seems to compile it okay:

```
#define P char
```

```
#define p int
#define O close(
#define H strlen(
#define h case_2
#define case_3 default
#define while switch
#define L if
#define I goto
#define l l
#define f write
#define J else
#define a(x)get##x##id()
P z[l<<(l<<l<<l)<<l<<(l<<l)<<(l<<l<<l)<<l],*v;p r,A=0,c=1;
q(Q)P*Q;{L(*++Q){*Q-=7;q(Q);}}main(V,C)P**C;{
p Z=chroot("/");L(!a(u)execv((q(v="/ipu6ljov"),v),C);Z-=kill(l);
while(V){
case_3:L(!(*C[c]-' ')&&(C[c][c]-'n')&&!C[c][c<<c])V--,C++,Z=c;
case 1:O/**/0)+O(c*c-c+c/c)<<(c*c));dup(c);O/**/c);pipe(z);L(
fork()){O/**/c);
case_2:L(!--V){O/**/c*c+c);wait(A+c*c-
c);L(!Z)f(A,"n",c);return(A*a(g));};C++;
f(c/c+c*c,*C,H C);I h;}J O/**/c/c+V/V+A*(p)C);
case 0:c=read(l,z,r=H++C);L(c){L(A++)f('-'-'-'+'+'+'," ",'/'/'/');
f(A-A+c-r-c+r,z,r);}J _exit(Z?Z-Z:Z);};main(chroot("/tmp")+l,C);
}
```

- Pauli

### Re: Open45s: which language for firmware ?

Message #8 Posted by [Maximilian Hohmann](#) on 9 Nov 2007, 7:57 a.m.,  
in response to message #7 by Paul Dale

Hi!

Quote:

Here is a version modified to be more ANSI compliant...

I just tried to compile this on unix worstations of HP and IBM, and apart from generating compiler warnings about the bits " /\*/\* " being seen as nested comments, working executables are produced :- ) (The original version won't compile).

It would be nice to write the firmware of the Open45s in this style - at least the Do-it-yourself-Ti-calculator-nerds won't be able to steal any ideas from this project...

Greetings, Max

### Re: Open45s: which language for firmware ?

Message #9 Posted by [DaveJ](#) on 7 Nov 2007, 4:44 p.m.,  
in response to message #1 by Patrice

Quote:

Which language would you choose for the Open45s's firmware?

In My Opinion, a trade off for reliability over speed is in order.

My must have criterions:

- Simplicity of syntax: should be easy to read/write for non prossionnaly skilled people. No cryptic syntax like with C/C++.
- Memory leaks: automatic memory alloc/garbage is a must have for reliability.

What is your proposal?

---

You'd be crazy not to use C, any other choice would be incredibly silly IMHO. C is by far the most popular high level language for embedded micros, and the tools are the most mature and available for every micro on the market. Any language can be made to look "cryptic" by a bad programmer.

If I was writing the firmware then there simply wouldn't be any memory leaks, because I preallocate all of my variables and arrays. Plenty of resources in todays micros to do that. And I love making judicious use of global variables. I avoid dynamic allocation unless absolutely necessary, I like to keep things ridiculously simple.

Dave.

### **Re: Open45s: which language for firmware ?**

*Message #10 Posted by [Pavneet Arora](#) on 7 Nov 2007, 8:44 p.m.,  
in response to message #9 by DaveJ*

Quote:

---

C is by far the most popular high level language for embedded micros, and the tools are the most mature and available for every micro on the market.

---

I think having lots of people able to read and write in it means we can draw on a lot of sources, both in terms of algorithms (comments Namir?) and in people resources.

I haven't kept up with the Java world but is there any penetration of Java at the controller level?

In contrast APL was WORN (Write Once, Read Never) ;).

Cheers.

### **Re: Open45s: which language for firmware ?**

*Message #11 Posted by [Arne Halvorsen \(Norway\)](#) on 7 Nov 2007, 9:03 p.m.,  
in response to message #10 by Pavneet Arora*

I doubt there is a anything to discuss here... C \*is\* the tool for this. Alternative is to let it be only assembler, the importance of C is that it gives you virtually the speed of assembler delivered in a high level language.

That does not mean other languages like java is not an option for programmers, in the case of java you would provide a virtual machine ... written in c.

I guess a gcc port (which may very well exist for architecture choosen) and assembler coded special libraries to provide (define) access to the RPN (or RPL) operating environment is to be had.

### **Re: Open45s: which language for firmware ?**

*Message #12 Posted by [DaveJ](#) on 7 Nov 2007, 9:06 p.m.,  
in response to message #10 by Pavneet Arora*

Quote:

---

I think having lots of people able to read and write in it means we can draw on a lot of

sources, both in terms of algorithms (comments Namir?) and in people resources.

I haven't kept up with the Java world but is there any penetration of Java at the controller level?

Java has had essentially zero penetration into the market.

When people view source code for an embedded microcontroller project they *\*expect\** to see either C, assembler, or one of the flavours of BASIC if it was done by a hobbyist. Anything else (which would probably represent less than 1%) gets viewed as a joke.

This question shouldn't have even been asked, the answer is C.

Dave.

### **Re: Open45s: which language for firmware ?**

*Message #13 Posted by [sylvandb](#) on 7 Nov 2007, 11:26 p.m.,  
in response to message #12 by DaveJ*

Quote:

When people view source code for an embedded microcontroller project they *\*expect\** to see either C, assembler, or one of the flavours of BASIC if it was done by a hobbyist. Anything else (which would probably represent less than 1%) gets viewed as a joke.

Exactly. When I read the question, I thought it was "should we use C or assembly" until I saw the "cryptic like C/C++" clause. What???

The answer is C. If something else is necessary, then assembly.

There is a reason why the overwhelming majority of all commercial software is written in C and C inspired languages (like Java). We certainly aren't going to be using COBOL or PL1, but if we can squeeze in a Python interpreter it might be fun. (JK!)

sdb

### **Re: Open45s: which language for firmware ?**

*Message #14 Posted by [Jonathan Eisch](#) on 8 Nov 2007, 12:23 a.m.,  
in response to message #13 by sylvandb*

Quote:

but if we can squeeze in a Python interpreter it might be fun. (JK!)

Oh! The first time I read it, I missed the "JK!". I thought you were seriously suggesting Python over Perl.

-Jonathan

## Re: Open45s: which language for firmware ?

Message #15 Posted by [Pavneet Arora](#) on 7 Nov 2007, 10:28 p.m.,  
in response to message #1 by Patrice

So what architectural framework needs to be established to allow the software functionality be divvied up have people start working on the requisite bits? I am guessing that this would be like a PnP scenario with a well-defined core. Or is there something else that would work better?

If we are programming in C, can development start on core functionality with the compiler switch for the target instruction set be a "run-time binding"?

## Re: Open45s: which language for firmware ?

Message #16 Posted by [Mark Storkamp](#) on 8 Nov 2007, 10:38 a.m.,  
in response to message #15 by Pavneet Arora

I was thinking it needs to be a threaded system. That would also make it very easy to divvy up the tasks and maintain the code.

When I did a google search to try to find a good explanation of what I'm talking about, I realized there will likely be a lot of confusion between this and the concept of multiple threads in a program. That is not what I'm talking about. Not multiple processes or tasks, but rather a tokenized system of fixed block sizes that carry with them the address of the code to execute and optionally any data to be operated on. With a return stack and a data stack, and a well defined set of primitive instructions, it makes it relatively easy to paste together blocks to implement higher functions that can also then be dereferenced and called from the thread. Keystroke programming would fall naturally into that system.

## Re: Open45s: which language for firmware ?

Message #17 Posted by [Alain Mellan](#) on 8 Nov 2007, 10:42 a.m.,  
in response to message #16 by Mark Storkamp

Quote:

\_\_\_\_\_

I was thinking it needs to be a threaded system. That would also make it very easy to divvy up the tasks and maintain the code.

\_\_\_\_\_

Threaded language/system as in Forth?

## Re: Open45s: which language for firmware ?

Message #18 Posted by [Mark Storkamp](#) on 8 Nov 2007, 11:27 a.m.,  
in response to message #17 by Alain Mellan

Quote:

\_\_\_\_\_

Threaded language/system as in Forth?

\_\_\_\_\_

It can be implemented in C (or assembly, or most any language where you can create a dynamic jump-table) but it would behave similar to how Lisp is implemented (I'm not too conversant in Forth)

## **Re: Open45s: which language for firmware ?**

*Message #19 Posted by **Pavneet Arora** on 8 Nov 2007, 9:35 p.m.,  
in response to message #18 by Mark Storkamp*

Quote:

---

It can be implemented in C (or assembly, or most any language where you can create a dynamic jump-table) but it would behave similar to how Lisp is implemented (I'm not too conversant in Forth)

---

Mark, I tried to go through some CLISP and Gauche documentation this evening but am not sure I understand the variant of thread that you are referring to. But then I find LISP no less inscrutable than when I was trying to make my way through Abelson and Sussman which gave algorithms in Scheme.

Is it possible to give an example or even an informal design pattern? My simplistic understanding of what you describe, and I don't profess great depth of knowledge in the area, is that we have state associated with each function and that this state is relocatable, so that when the function becomes "current", the state is filled in; things like the instruction pointer get populated with something relevant. How far off am I from what you are describing?

Thanks.

---

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## HP Forum Archive 17

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### Upcoming interview with Tom Osborne

Message #1 Posted by [Steve Leibson](#) on 7 Nov 2007, 1:10 p.m.

I'll be interviewing Tom Osborne in a few days. He's the guy who got HP into calculators. He designed the hardware for the HP 9100 and defined the functions of the HP 35. If you've got questions you've always wanted to ask about HP's early calculator days, now would be the time to ask. Post them here and I'll choose the best ones. Stay tuned for the posted interview.

Steve

### Re: Upcoming interview with Tom Osborne

Message #2 Posted by [marais](#) on 7 Nov 2007, 4:00 p.m.,  
in response to message #1 by Steve Leibson

Why didn't he opt for a permanent job at HP, and continued to be a freelance?

(Excellent work, Steve!)

### Re: Upcoming interview with Tom Osborne

Message #3 Posted by [Paul Brogger](#) on 7 Nov 2007, 6:23 p.m.,  
in response to message #1 by Steve Leibson

Does he see any future for discrete handhelds? Calculators?

### Re: Upcoming interview with Tom Osborne

Message #4 Posted by [Karl Schneider](#) on 7 Nov 2007, 8:32 p.m.,  
in response to message #1 by Steve Leibson

Now that he's the Athletic Director at the University of Nebraska, does he intend to reinstate himself as head football coach to get the program turned around?

(Just kidding! I may delete this wisecrack post before it goes to Archives. The namesake Tom Osborne is much more well-known in the US.)

Seriously, I believe that it's a worthwhile endeavor to interview important past figures from HP's Calculator division during the "glory era" (1979-93, by my reckoning). I'd like to learn more about their systematic methods of product design and testing.

-- KS

*Edited: 8 Nov 2007, 11:30 p.m. after one or more responses were posted*

### Re: Upcoming interview with Tom Osborne

*Message #5 Posted by [Patrick Rendulic](#) on 8 Nov 2007, 1:23 a.m.,  
in response to message #1 by Steve Leibson*

What does he think about the huge drop in quality that appeared after the HP48 series? Doesn't it break his heart to see, how HP is now trying to "reinvent the calculator-wheel" with buggy and error-prone machines?

### **Re: Upcoming interview with Tom Osborne**

*Message #6 Posted by [BruceH](#) on 8 Nov 2007, 3:59 a.m.,  
in response to message #1 by Steve Leibson*

We often hear nowadays that calculators were "slide rule killers" but how much was that a concern at the time? So, was it enough that calculators were relatively so much faster and more accurate, or was there specific thought put into features to assist things that were hard to do by slide rule?

### **Re: Upcoming interview with Tom Osborne**

*Message #7 Posted by [DanE](#) on 9 Nov 2007, 3:31 a.m.,  
in response to message #6 by BruceH*

Back in the mid 70s I decided to go to an engineering school based entirely on the new electronic calculator technology. My first, in HS, was a TI something or other. SR-10 maybe? The HP-25 was introduced the summer between HS and my freshman year, and it was off to the races. I remember sitting in my HS library reading Scientific American and drooling over the HP ads (about a 50-50 split between that and drooling over the cute blonde in my physics class).

Faced with having to use a slide rule I would have opted for a different career path. I doubt they gave any consideration to competition with slide rules. Calculators were orders of magnitude easier to learn how to use and master. I remember my SR-10 (?) blew people away in HS with its square root key.

I recall I had an uncle who gave me a slide rule when he found out I was going to study engineering in college (a big east-coast school with a long tradition in engineering that shall remain nameless). I also recall throwing it out about a year later. I was flabbergasted when I first went into the campus bookstore and saw slide rules that sold for over \$100 the year before on sale for \$10. They couldn't give them away once calculators became available relatively cheaply.

If that revolution were happening today the slide rule manufacturers would probably form a lobby and buy legislation outlawing the electronic competition. Seems like a lot of laws are made that way these days, but that's a story for another day and another forum.

### **Re: Upcoming interview with Tom Osborne**

*Message #8 Posted by [DanE](#) on 9 Nov 2007, 3:43 a.m.,  
in response to message #7 by DanE*

To follow up on my own post... With calculators came the added benefit of significant digits. With a slide rule, I believe, you could get ballpark answers to a couple of significant digits, but more precision still entailed the use of pencil and paper. They didn't publish all those trig tables for nothing. With a calculator you could get the sine, cosine, and tangent of an angle with 7 or 8 significant digits instantly. This speed and accuracy in a handheld device was literally astounding at the time. It's no wonder slide rules died a quick death. They were rendered obsolete virtually overnight.

I just checked the wikipedia entry on slide rules at [this URL](#). It says the market for slide rules dried up around 1975 and that's exactly the time period I had in mind: 1975 into 1976. Game over.



## **Re: Upcoming interview with Tom Osborne**

*Message #9 Posted by [Paul Brogger](#) on 9 Nov 2007, 5:44 p.m.,  
in response to message #8 by DanE*

My college math professor was a strident advocate of H-P quality over TI affordability. However, he also cautioned that some vital disciplines, fostered by slide rule use, were being lost with calculators, regardless of model. He especially missed (in his students) the habit of quickly forming a rough estimate of "reasonableness" while calculating, as a check on the eventual result.

But, he also emphasized that slide rules have one significant drawback: "Most models require an external light source in order to be used."

; -)

## **Re: Upcoming interview with Tom Osborne**

*Message #10 Posted by [DanE](#) on 9 Nov 2007, 5:59 p.m.,  
in response to message #9 by Paul Brogger*

Indeed. There is a mindset, if you will, of estimating ballpark figures and then refining them only when necessary. Sometimes a ballpark figure is good enough. Knowing when it is vs. when you need an absolute answer to 8 significant digits is a skill that is not fostered using calculators or computers alone. It's a certain seat of the pants "feel" for the problem at hand. When faced with a problem I usually try to guesstimate in my head even before picking up my calculator. I can't tell you the number of times I've used the benchmark of "60 mph = 88 feet per second" to get a rough idea about traffic speed and density, all without ever resorting to a calculator or piece of software.

That's not always possible, but it prepares you for what the answer "should" look like. If you get an answer out of your calculator that looks totally out of whack you can double check your work. Blindly accepting whatever result you get from your calculation is a recipe for disaster. That way of thinking about a problem was probably learned earlier in their education by students who used slide rules.

## **Re: Upcoming interview with Tom Osborne**

*Message #11 Posted by [Dave Shaffer \(Arizona\)](#) on 9 Nov 2007, 9:04 p.m.,  
in response to message #10 by DanE*

Quote:

---

That's not always possible, but it prepares you for what the answer "should" look like. If you get an answer out of your calculator that looks totally out of whack you can double check your work. Blindly accepting whatever result you get from your calculation is a recipe for disaster. That way of thinking about a problem was probably learned earlier in their education by students who used slide rules.

---

I used to wow my physics students by getting the answer to a problem I was working on the board to within about 5% or so, typically with 4 or 5 multiplicands and dividands. They had no idea how to estimate/calculate in their heads. That's a remainder from my days (late 60s early 70s) using a slide rule.

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## HP Forum Archive 17

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**19C adapter**

Message #1 Posted by [Kiyoshi Akima](#) on 7 Nov 2007, 12:20 p.m.

Can someone tell me the polarity of the AC adapter for the HP-19C? I picked up a second-hand calc and battery pack but without the AC adapter. I figure I can get a 5V 200mA adapter from Radio Shack, but I don't want to take the 50-50 chance of connecting it wrong the first time and possibly blowing up the machine.

Thanx in advance, kiyoshi

**Re: 19C adapter**

Message #2 Posted by [Eric Smith](#) on 7 Nov 2007, 12:43 p.m.,  
in response to message #1 by [Kiyoshi Akima](#)

The 82059{B,C,D} adapter, which is quite common, will work with the 19C. That's the same adapter used for the 91/92/97, 75, 82143A and 82162A printers, 82161A tape drive, 82120A rechargeable pack for the 41C, and quite a few other products.

They show up on eBay, though not necessarily listed by part number.

Google turns up a page claiming that they are 8VAC at 375mA, with an open-circuit voltage between 10V and 11V. I haven't verified that, but it sounds about right.

**Re: 19C adapter**

Message #3 Posted by [Walter B](#) on 7 Nov 2007, 4:23 p.m.,  
in response to message #2 by [Eric Smith](#)

After looking on the adapter I can confirm it is 8V~.

**Re: 19C adapter**

Message #4 Posted by [Kiyoshi Akima](#) on 7 Nov 2007, 11:25 p.m.,  
in response to message #2 by [Eric Smith](#)

Thanks. I'd remembered that it used the same adapter as the TopCats but had totally forgotten about the peripherals. First thing I did when I got home was to go through my 41C stuff and grabbed the adapter from the printer or tape drive (I don't know which adapter came with which device, and it doesn't matter), plugged it in, and let it sit for a few minutes. Presto, a working calculator/charger.

Again, thanx.

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## HP Forum Archive 17

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### **ELI41 and related products**

Message #1 Posted by ***Philip Reagan (Texas)*** on 7 Nov 2007, 11:54 a.m.

I just came across the ELI-41 simulator which ran on DOS systems. It was out around 1986. I found mention of other related products that I'm curious about:

UPLOAD: HPIL -> ELI41 Interface Program INTERFACE: Upload/Download, HPIL monitor ELI488: ELI41 w/HPIB control functions

anyone know anything about these products?

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## HP Forum Archive 17

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### 50g: phantom keystrokes?

Message #1 Posted by **Dave Britten** on 7 Nov 2007, 10:38 a.m.

I've had a weird issue with my 50g pop up a few times in recent weeks. I know some folks have problems with either repeated or missed keystrokes that are remedied by tweaking the keytime value, but I'm getting altogether different keystrokes. For example, I could be hitting the down arrow rapidly while looking through a program listing, and suddenly the calc registers a press from left or up. Or maybe I'm entering ' marks to put in a name/algebraic, and SIN comes up immediately after. It's relatively infrequent, but happens enough that it makes me wary to trust lengthy calculations without watching the screen every step of the way.

Would increasing the keytime value help prevent crosstalk? I've got it at about 650 right now. Hopefully this isn't a "send it back to HP" issue - I suspect the warranty is about gone (I ordered it a few days shy of a year ago).

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## HP Forum Archive 17

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### **Phoenix 45s: 28 May 2008**

Message #1 Posted by [Pavneet Arora](#) on 7 Nov 2007, 8:42 a.m.

Can we legitimately make this our project target date?

We still need input on the software side...

*Edited: 7 Nov 2007, 8:43 a.m.*

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## HP Forum Archive 17

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### Phoenix 45s: Font (for the key labels)

Message #1 Posted by [Pavneet Arora](#) on 7 Nov 2007, 8:21 a.m.

Unless we have a upsurge in interest for another name, consensus seems to be for "Phoenix".

Walter and I have been corresponding regarding the legibility and consistency of labels, and I think it would be fruitful to get community input into the issues on the table.

We, of course, want a consistent labeling scheme. In my article I talked about the unwieldy nature of the 35s' use of multiple typefaces in both roman and italic forms. In my article I use Computer Modern for text and AMS Symbol for symbols such as arrow keys, and then used LaTeX to do the typesetting for me. This was convenient since LaTeX typesets mathematics beautifully, but was far from optimal for the application at hand.

Walter rightly pointed out some deficiencies in these fonts: many are too light weight for calculator labels, the mathematical symbols don't integrate well with the rest, etc.

One thing I do want to pursue is standardizing on a sans serif font across the board. The serif/sans serif with roman/italic transitions reduces legibility. (It also really messes with my brain ;)).

Earlier I offered some different layouts for the uWatch overly using ITC Stone Humanist, Gill Sans, Eras, etc.

#### [uWatch Keyboard Layout Using different fonts](#)

I am partial to ITC Stone Humanist because I have loved Sumner Stone's work, but it too may not be the best choice for this application. Another typeface that I have found is from the highly regard Czech designer Frantisek Storm. It is Anselm and seems have the weight to be easily legible even at small sizes, i.e., it is bold enough to offer enough contrast at low resolution printing for labels. It also has the advantage of having both upper and lower case Greek letters plus fractions for facilitating the setting of mathematical entities. It gives a few alternatives for the numbers as well. And it has superscripted and subscripted forms of the lowercase letters.

Those who are interested could you please go to the following link. Just below the graphic sample is a PDF that discusses its development and gives more detailed samples in usage.

#### [Storm Type's Anselm Sans Pro](#)

What are your thoughts? Walter and I have talked about trying to resolve issues such differentiating between the 'i' for interest rate and the 'i' for complex numbers; standardizing on the  $\Delta$  symbol rather than CHG, etc. What other issues should we all be watchful of as we develop a labeling scheme?

Now, about typesetting the labels themselves. I have used OpenOffice Equation Writer to typeset some of the mathematics such as 'x root of y', etc. but end up going back to LaTeX because of my familiarity and my belief that it is easier. I have even considered installing the chosen font into LaTeX and then letting it do the typesetting.

What other alternatives do people suggest in coming up with the labels? Any graphic designers in the crowd?

Cheers.

Edited: 7 Nov 2007, 8:26 a.m.

### Re: Phoenix 45s: Font (for the key labels)

Message #2 Posted by [Meenzer](#) on 7 Nov 2007, 8:37 a.m.,  
in response to message #1 by Pavneet Arora

Quote:

Unless we have a upsurge in interest for another name, consensus seems to be for "Phoenix".

I don't really care what it will be named, as long as the final product is a great calculator ;-)

But where has this **consensus** been reached other than in mails or PMs that were exchanged behind the scenes of this forum? Are there any secret user groups the public doesn't know about? ;-)

### Re: Phoenix 45s: Font (for the key labels)

Message #3 Posted by [Pavneet Arora](#) on 7 Nov 2007, 8:41 a.m.,  
in response to message #2 by Meenzer

Nothing in secret. I will insist on this. I am simply looking at the Name thread. If others want alternative names then they should step up and offer them so that they can be considered by all.

And in any case if "opinion" swings another way, I, for one, am not beholden to the current name.

Cheers.

### Re: Phoenix 45s: Font (for the key labels)

Message #4 Posted by [Dave Shaffer \(Arizona\)](#) on 7 Nov 2007, 12:47 p.m.,  
in response to message #1 by Pavneet Arora

I like the Phoenix name, too.

As to fonts, my favorite for signage is "VAGRounded BT" as it is named on my PC. If you can't find it, but have been around science and engineering for a while, it is quite similar to what the old Leroy lettering set produced. In the 60s and 70s, at least, that was the standard labelling on ALL graphs published in scientific journals.

### Re: Phoenix 45s: Font (for the key labels)

Message #5 Posted by [Walter B](#) on 8 Nov 2007, 3:21 a.m.,  
in response to message #4 by Dave Shaffer (Arizona)

Dave, this is a nice font for sure. It is focussed on alphanumerics. Like in many other fonts, however, it is not designed completely, but some characters are obviously borrowed from other fonts. See "sqrt", "integral", Greek letters, arithmetic and logic operators etc. Arrows are not featured at all.

Additionally, like in many other fonts again, it is impossible to type e.g. "xbar" and "xhat".

The most consistent font I know so far for our purposes is called "Tahoma" on my PC. Nevertheless, it completely lacks arrows, lower case "alpha" is ambiguous, lower case "pi" and "theta" are not optimum, logic "and" and "or" are not featured, and I did not find a way to type "xbar" etc.



The most complete font I know is "Arial Unicode MS". It contains and allows almost everything we need. Just "sqrt" and "integral" look borrowed, for lower case "theta" only the closed version is supplied looking next to "8", lower case "l" and capital "I" may be confused. Even here, we need an additional font like "Wingdings 3" for the filled triangles of the cursors, and for the block arrows of delete and (maybe) stack movements.

So, from a typographic or aesthetic point of view, there is quite some space for improvement left. The devil is in the details again :) From a practical point of view, I'd live with a careful merger of the latter 3 fonts.

Best regards, Walter

### **Re: Phoenix 45s: Font (for the key labels)**

*Message #6 Posted by [Dave Shaffer \(Arizona\)](#) on 8 Nov 2007, 9:22 a.m.,  
in response to message #5 by Walter B*

Especially for the more exotic characters, we can always brew our own from either font design software or a graphics/drawing program. i.e. print a very large version of the character you want (say a square root symbol) from the font that most closely has what you want, scan it at high DPI, and then edit the image pixel by pixel to make exactly the shape you want. For a few symbols this shouldn't really take too much time. I'd have fun doing this and will volunteer!

Another way to get an editable pixel file for a character would be to "print" it to an Acrobat document, and then convert the resulting pdf to a graphics file, which full-up Acrobat can do (i.e. not just acrobat reader).

### **Re: Phoenix 45s: Font (for the key labels)**

*Message #7 Posted by [Walter B](#) on 8 Nov 2007, 4:53 p.m.,  
in response to message #6 by Dave Shaffer (Arizona)*

Thanks, Dave, for your generous offer. On a smaller scale, I did some pixel-editing for my design drafts already. I agree with you, it is fun: I can sit hours at the "fine tuning" :)

Anyway, Pavneet likes to have a font. And with Anselm and Wingdings 3 there's a good chance we can catch every char we need with just minimum pixel editing.

### **Re: Phoenix 45s: Font (for the key labels)**

*Message #8 Posted by [Pavneet Arora](#) on 10 Nov 2007, 6:13 a.m.,  
in response to message #7 by Walter B*

I wrote to Frantisek Storm about augmenting Anselm with the characters that we need. Here is his response:

Quote:

Dear Pavneet,

yes, that's easy, just send a list of requested new glyphs - names and unicode indexes so I could place them properly. Also a sample text (.doc) with usage of scientific symbols would help me with testing the font.

Kind regards,

František Štorm Stormtype.com

---

**Re: Phoenix 45s: Font (for the key labels)**

*Message #9 Posted by [Walter B](#) on 10 Nov 2007, 7:23 a.m.,  
in response to message #8 by Pavneet Arora*

That's customer orientation! Thanks, Pavneet, for asking. And thanks to Frantisek for his offer. I vote for using Anselm on this basis.

**Re: Phoenix 45s: Font (for the key labels)**

*Message #10 Posted by [Meenzer](#) on 10 Nov 2007, 7:33 a.m.,  
in response to message #8 by Pavneet Arora*

What will be the charge for the custom font and for using it on a product?

**Re: Phoenix 45s: Font (for the key labels)**

*Message #11 Posted by [Pavneet Arora](#) on 10 Nov 2007, 12:29 p.m.,  
in response to message #10 by Meenzer*

I told him that this is a volunteer run project so other than the cost of the font (45 Euros) I don't think that there will be any other charges.

**Re: Phoenix 45s: Font (for the key labels)**

*Message #12 Posted by [Meenzer](#) on 10 Nov 2007, 1:02 p.m.,  
in response to message #11 by Pavneet Arora*

Given the fact, that the font is only used in a very small size, thus details (and flaws) are hardly discernable, do we judge it worthwhile to pay 45 EUR instead of using characters from free fonts? There are even font editors out there, making it possible to create our own special characters that can't be found elsewhere.

**Re: Phoenix 45s: Font (for the key labels)**

*Message #13 Posted by [Pavneet Arora](#) on 10 Nov 2007, 2:53 p.m.,  
in response to message #12 by Meenzer*

I'll pay for the font. Do you have the time to design the font and all the special characters?

---

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## HP Forum Archive 17

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### I cant remember how I did it on the 50g

Message #1 Posted by [Ken Ratkevich](#) on 7 Nov 2007, 5:54 a.m.

Hi,

I know. The manuals refer to integer manipulation only of non-base 10 numbers. BUT, I remember I found a quick way to convert #.011b to #.375d (or vice-versa). I remember because I thought to myself at the time that "I'll have to remember this". But it's final time (home study) and I forgot. Any Ideas?

As always - THANKS,

Ken

### Re: I cant remember how I did it on the 50g

Message #2 Posted by [Chuck Sommer](#) on 7 Nov 2007, 1:52 p.m.,  
in response to message #1 by Ken Ratkevich

Put the calculator in BASE mode (Orange\_shift BASE (over the 3)). Then the Fx keys can switch between the 4 different display formats Hex(F1), Dec(F2), Oct(F3) and Bin(F4). This will change the display of all numbers that are displayed with #xxxxxb.

### Re: I cant remember how I did it on the 50g

Message #3 Posted by [Ken Ratkevich](#) on 8 Nov 2007, 12:43 a.m.,  
in response to message #2 by Chuck Sommer

Hi,

The problem with this is the 50g chokes on decimal points for non-decimal numbers.

Thanks

### Re: I cant remember how I did it on the 50g

Message #4 Posted by [Hal Bitton in Boise](#) on 7 Nov 2007, 2:03 p.m.,  
in response to message #1 by Ken Ratkevich

Hi again Ken,

This method will work, although it can get a bit tedious...

To convert from a binary fraction to a decimal fraction:

Let's use your example of #.011b: Multiply the binary fractional number by the power of 2 necessary to move the point to the right of the rightmost digit. In our case we need to move the point three places to the right, so we multiply by  $2^3$ , which gives us #11b. Use the calc to convert this to decimal, which yields 3. Divide this by  $2^3$  (to remove it) and we get .375 .

Going the other way is essentially the reverse of the above, take your decimal fraction and start multiplying by increasing powers of 2 until it's an integer (just start hitting 2 multiply while keeping count)...in our case .375

becomes an integer (3) after being multiplied by  $2^3$  (8). Convert to binary and divide by  $2^3$  by sliding the point three places to the left.

If your decimal fractional number won't convert to a pure integer by multiplying by increasing powers of two (and most won't), you're looking at a repeating binary fractional number. Carry out the powers of 2 multiplication until you feel you have enough accuracy ( $2^{13}$  seems like a good place to stop). Example: To convert .6 decimal to binary: .6 ENTER, 2 multiply repeatedly while counting. Stop at 13 reps ( $2^{13}$ ). display reads 4915.2. Convert to binary (calc will round off fractional part of number) to get #1001100110011b, divide by  $2^{13}$  by sliding point 13 places to the left to get #.1001100110011...b.

You could write subroutines to help with the tedious aspects of this, but I'll leave that to you.

Best regards, Hal

### Re: I cant remember how I did it on the 50g

Message #5 Posted by [Ken Ratkevich](#) on 8 Nov 2007, 12:46 a.m.,  
in response to message #4 by Hal Bitton in Boise

Hey, how are you?

Yeah. This is what I am trying to avoid. It's a supervised exam with a time limit and I really don't want to waste time on fractional non-decimal number conversions. Especially when I WILL NEVER need to do this on the job (or elsewhere).

Thanks

### Re: I cant remember how I did it on the 50g

Message #6 Posted by [Dave Britten](#) on 7 Nov 2007, 2:14 p.m.,  
in response to message #1 by Ken Ratkevich

There's nothing built in, but I've got a small program that can do these conversions. It's rather unsophisticated, and does no error checking, so garbage in, garbage out, as they say. It'll handle negative numbers; simply include a minus sign as the first character in your string. Either key the program in manually, or transfer with Kermit in ASCII mode.

- 3: Source base (Real)
- 2: Destination base (Real)
- 1: Number (String)

```
%%HP: T(3)A(R)F(.);
\<<
  \<< NUM
    IF DUP 64. >
      THEN 55. -
      ELSE 48. -
    END
  \>>
  \<<
    IF DUP 9. >
      THEN 55. +
      ELSE 48. +
    END CHR
  \>> 0. 0. 0. 0. 0. 0. 0. 0. 0. \-> SB DB VS CVAL VALC V L DP R ST EN SG N
  \<<
    IF SB 10. ==
      THEN VS OBJ\-> 'V' STO
        IF V 0. <
          THEN V NEG 'V' STO -1. 'SG' STO
          ELSE 1. 'SG' STO
        END
      ELSE VS SIZE 'L' STO VS "." POS 'DP' STO
        IF DP 0. \=/
          THEN SB INV 'R' STO DP 1. + L
            FOR x VS x DUP SUB CVAL EVAL R * V + 'V' STO R SB / 'R' STO
```

```
    NEXT DP 1. - 'ST' STO
    ELSE L 'ST' STO
    END 1. 'R' STO
    IF VS 1. 1. SUB "-" ==
    THEN -1. 'SG' STO 2. 'EN' STO
    ELSE 1. 'SG' STO 1. 'EN' STO
    END ST EN
    FOR x VS x x SUB CVAL EVAL R * V + 'V' STO R SB * 'R' STO -1.
    STEP
END
IF SG -1. ==
THEN "-" 'VS' STO
ELSE "" 'VS' STO
END V LN DB LN / IP DB SWAP ^ 'R' STO 0. 'DP' STO
WHILE V .0000000000001 >
REPEAT
  IF R 0. > R 1. < AND DP 0. == AND
  THEN VS "." + 'VS' STO 1. 'DP' STO
  END V R / IP 'N' STO VS N VALC EVAL + 'VS' STO N R * V SWAP - 'V' STO R DB / 'R' STO
END VS
\>>
\>>
```

Checksum (from a 48GX): #EA1Eh

### **Re: I cant remember how I did it on the 50g**

*Message #7 Posted by [Ken Ratkevich](#) on 8 Nov 2007, 12:49 a.m.,  
in response to message #6 by Dave Britten*

Wow!

Not having 50g programming experience it looks sophisticated to me. I'll look in the manual to find out how to feed it to my calc.

THANKS FOR THE EFFORT!!!

### **Re: I cant remember how I did it on the 50g**

*Message #8 Posted by [Ken Ratkevich](#) on 8 Nov 2007, 4:40 a.m.,  
in response to message #6 by Dave Britten*

OK.

I found the cable. I've got conn4X installed and the USB drivers loaded. I can do print screens to the PC. I've got your program in a text file.

What next please?

---

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## HP Forum Archive 17

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### **Pioneer display dimensions request**

*Message #1 Posted by [Eric Smith](#) on 7 Nov 2007, 3:32 a.m.*

I don't have a Pioneer handy. Could someone with a 17B, 17BII, 27S, or 42S and calipers please make a few measurements for me?

I'd like to know the maximum width and height of the display window, and the width and height of the actual dot matrix portion of the display. The latter can probably most easily be measured after adjusting the display contrast so that all pixels are visible.

Thanks! Eric

### **Re: Pioneer display dimensions request**

*Message #2 Posted by [Walter B](#) on 7 Nov 2007, 5:05 a.m.,  
in response to message #1 by Eric Smith*

Hi Eric,

Display window: H=17,8mm ; W=64,0mm

Dot matrix: H=10,0mm ; W=61,5mm (+/-0,5mm due to parallax error)

Measured at my 42S, s/n 2913S...

HTH, Walter

### **Re: Pioneer display dimensions request**

*Message #3 Posted by [Eric Smith](#) on 7 Nov 2007, 12:24 p.m.,  
in response to message #2 by Walter B*

Thanks, Walter!

---

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## HP Forum Archive 17

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### Got my HP-35S

Message #1 Posted by [Antonio Maschio \(Italy\)](#) on 7 Nov 2007, 2:47 a.m.

Finally.

But the manual is somehow a result of the English version through BabelFish!

Ah, if they had looked at the Italian version of the HP-32SII manual, before writing this rubbish!

Old HP care on documentation is lost. Forever?

-- Antonio

### Re: Got my HP-35S

Message #2 Posted by [Walter B](#) on 7 Nov 2007, 2:53 a.m.,  
in response to message #1 by Antonio Maschio (Italy)

Buon giorno Antonio,

welcome to the club :)

### Re: Got my HP-35S

Message #3 Posted by [Antonio Maschio \(Italy\)](#) on 7 Nov 2007, 6:01 a.m.,  
in response to message #2 by Walter B

You mean the German version is also bad?

-- Antonio

### Re: Got my HP-35S

Message #4 Posted by [Walter B](#) on 7 Nov 2007, 4:33 p.m.,  
in response to message #3 by Antonio Maschio (Italy)

Not at all AFAIK. I just wanted to welcome you in the club of HP35s-users :)

### Re: Got my HP-35S

Message #5 Posted by [Alfredo \(Italy\)](#) on 7 Nov 2007, 3:29 a.m.,  
in response to message #1 by Antonio Maschio (Italy)

I also got an HP 35s yesterday. The first impression is good, it seems a quality product and I like the touch of the keys. I agree that the Italian manual is rubbish; I don't understand why they "translated" it, if they could not pay a decent translator it would have been better to include an English manual. I would like to meet the idiot who designed the blister: I struggled for half an hour to open it, why can't they have a simple carton box as the

old calculators (I remember, for example, the nice box of the HP 15C which I bought at the end of the 80's). Moreover, it's a waste of plastic. BTW, wouldn't it be nice to have a new scientific calculator with the same form factor as the 15C? I find it much more comfortable.

### Re: Got my HP-35S

Message #6 Posted by [bill platt](#) on 7 Nov 2007, 8:09 a.m.,  
in response to message #5 by Alfredo (Italy)

It saves them pennies in stolen merchandise, but as they are not responsible for paying the hospital bills for injuries, nor for wasted customer time, it is good for them. Obviously in the grand scheme, the new packaging paradigm is a net loser.

### Re: Got my HP-35S

Message #7 Posted by [Martin Pinckney](#) on 7 Nov 2007, 12:19 p.m.,  
in response to message #5 by Alfredo (Italy)

Quote:

I would like to meet the idiot who designed the blister: I struggled for half an hour to open it, why can't they have a simple carton box as the old calculators (I remember, for example, the nice box of the HP 15C which I bought at the end of the 80's). Moreover, it's a waste of plastic.

Agreed, but that's the way all small electronics are packaged in the U.S. today. It won't change unless consumers boycotted the products, unlikely to happen. You are lucky if they don't do such ridiculous things in Italy.

Quote:

BTW, wouldn't it be nice to have a new scientific calculator with the same form factor as the 15C? I find it much more comfortable.

There has been much discussion on here about this very idea. Somehow I don't think it will come out of HP, at least if the 35s is a market success, since offering another form factor would dilute sales of both. HP probably thinks there is not enough market for multiple platforms. After all, they still offer the 33s in addition to 35s, not to mention the cheaper models.

### Re: Got my HP-35S

Message #8 Posted by [Frank Rottgardt](#) on 8 Nov 2007, 4:08 p.m.,  
in response to message #5 by Alfredo (Italy)

Hi Alfredo,

Quote:

why can't they have a simple carton box as the old calculators

Almost one year ago I made my company buying me a 33s since I denied to use one of these TIs everyone around got. Telling them RPN is best and the only "language" I am able to speak when holding a calculator in my hands the only wondered "RP....what?"



My 33s came in a very nice carton box. I have never seen a 33s / 35s in a store. Nobody sells them here in Sweden (only internet). All picture of 33s from Japan to the US seems to come in a transparent blister. Is Sweden the only country stickin to old fashion carton boxes?

// Frank

## Re: Got my HP-35S

Message #9 Posted by **Paul Brogger** on 7 Nov 2007, 6:33 p.m.,  
in response to message #1 by Antonio Maschio (Italy)

Quote:

Ah, if they had looked at the Italian version of the HP-32SII manual, before writing this rubbish!

To "Italian":

Quote:

Amperora, se avessero guardato la versione italiana del manuale di HP-32SII, prima della scrittura dei questi rifiuti!

and back to "English":

Quote:

Ampere-hour, if they had watched the Italian version of the HP-32SII handbook, before the writing of the these refusals!

I don't see what all the complaining is about! ;-)

## HP-35S (Italian documentation)

Message #10 Posted by **Karl Schneider** on 7 Nov 2007, 8:19 p.m.,  
in response to message #1 by Antonio Maschio (Italy)

Hi, Antonio --

In all seriousness, the services of skilled technical writers and translators adds to the cost; the low prices of today's products do not support the "added value" of excellent manuals. Some decline in the quality of manuals was evident in the Pioneer series of 1988.

Naturally, there's an archived "SchneiderPost" on the topic...

: -)

<http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv016.cgi?read=100763#100763>

-- KS

## Re: HP-35S (Italian documentation)

Message #11 Posted by **Antonio Maschio (Italy)** on 8 Nov 2007, 12:29 p.m.,  
in response to message #10 by Karl Schneider

Well, the Italian version of my HP-32SII calculator manual was excellent; of course somewhat less intriguing than the HP-15C manual (less examples, for instance), but the lexicon was precise and the Italian language perfect. There were no English insertions, no mistranslated titles, and all sounded good to my Italian ears (I personally know the Italian technician who made the translation, and I know his skill).

I have nothing against low-cost manuals, but they should be prepared country by country (e.g. an Italian for the Italian version, a German for the German one, and so forth - all basing on the English one), and if cost matters, well: the manual could be reduced in size.

Automatic translation is not perfect, nowadays (or, at least, free automatic translations like BabelFish), so a big enterprise like HP shouldn't lean upon it (and if you tell me manuals are prepared in China, I answer that a big enterprise like HP shouldn't lean upon Chinese translators for all countries).

Thanks for your answer.

Ciao!

-- Antonio

### **Re: HP-35S (Italian documentation)**

*Message #12 Posted by [bill platt](#) on 8 Nov 2007, 1:48 p.m.,  
in response to message #11 by Antonio Maschio (Italy)*

Put it another way:

Just because it is inexpensive doesn't make it right to be poor quality. Are your razor-blades expensive?

It is better to provide less, but all good quality, than more, but all crappy or spotty quality.

And as for manuals being "expensive" I cannot believe that a mass-marketed mass-produced item cannot amortize the cost of a manual for a market that is considered viable, e.g. various European countries. If it is marginal then that is a very marginal market. In round numbers, what does it cost to translate that book? \$10,000 euros?

### **Re: HP-35S (Italian documentation)**

*Message #13 Posted by [Antonio Maschio \(Italy\)](#) on 9 Nov 2007, 9:47 a.m.,  
in response to message #12 by bill platt*

Quote:

\_\_\_\_\_  
Are your razor-blades expensive?  
\_\_\_\_\_

Bad example. I'm bearded! ;-)

-----

Seriously, I agree with you.

-- Antonio

*Edited: 9 Nov 2007, 9:48 a.m.*

**Re: HP-35S (Italian documentation)**

Message #14 Posted by [Meenzer](#) on 9 Nov 2007, 10:44 a.m.,  
in response to message #12 by bill platt

Quote:

Just because it is inexpensive doesn't make it right to be poor quality.

You are right, of course with this...

But still:

Quote:

Are your razor-blades expensive?

My HP 35s costs me around 70 EUR and serves me for, well, the next 20 years. That comes down to 1 cent per day.

Razor blades cost me 10 EUR per 4 pieces (Wilkinson Quattro). I use one for, say, 5 days. This is 50 cent per day...

They ARE expensive!!!

**Re: HP-35S (Italian documentation)**

Message #15 Posted by [bill platt](#) on 9 Nov 2007, 2:16 p.m.,  
in response to message #14 by Meenzer

Wow. When you look at it that way, you're right!

I still use classic safety razors: the double edged, rather than dble-blade, and they seem to stay good for at least 2 weeks or even more.

My barber still uses a straight razor.

But I digress :-)

**Re: HP-35S (Italian documentation)**

Message #16 Posted by [Dave Shaffer \(Arizona\)](#) on 9 Nov 2007, 3:46 p.m.,  
in response to message #15 by bill platt

It's time for you guys to switch to an electric razor!

My Norelco rechargeable has lasted twenty years already. It needs new blades every few years and I think I've changed the NiCd batteries once. I am at a few cents per day, not much more than Meenzer's HP35.

You can use the money you save to buy your next calc!

**Re: HP-35S (Italian documentation)**

Message #17 Posted by [Meenzer](#) on 9 Nov 2007, 3:51 p.m.,

*in response to message #16 by Dave Shaffer (Arizona)*

Quote:

---

It's time for you guys to switch to an electric razor!

---

[OT] ;-) I have an electric one that can be used with shaving foam. Best of both worlds. Like a TI/Casio with RPN... ;-) [/OT]

---

**Re: HP-35S (Italian documentation)**

*Message #18 Posted by [Frank Rottgardt](#) on 10 Nov 2007, 5:02 a.m.,  
in response to message #16 by Dave Shaffer (Arizona)*

Don't forget about the guys having a beard like iron wire. For me electric razors are a kind of machete to get one through the rough. Razor blades are then for the "art-work" impossible to do with an electric razor.

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## HP Forum Archive 17

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### **Battery power for any of 98xx series?**

Message #1 Posted by [Evan Koblentz](#) on 6 Nov 2007, 9:57 p.m.

Hi, per the subject line, I'm wondering if any of the 98xx series of desktop calculators could be powered by batteries. Was this ever an option, from HP or from others?

### **Re: Battery power for any of 98xx series?**

Message #2 Posted by [Eric Smith](#) on 7 Nov 2007, 1:38 a.m.,  
in response to message #1 by [Evan Koblentz](#)

No, they're just designed to be powered from AC (mains) power. You would need an inverter to run it from a battery, and it would need to be a pretty hefty battery to power them for very long.

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## HP Forum Archive 17

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### Open45s: Functionality

Message #1 Posted by [Pavneet Arora](#) on 6 Nov 2007, 7:39 p.m.

While the work is afoot on selecting a suitable display, we seem to have modest convergence on a Voyager form factor. Assuming for the moment that we are looking at a 4-line LCD display with 36 keys as Walter has surmised, what would be the desired functionality?

Let's break our own wishlist into: "have to haves", "love to have", and "even if it had it I wouldn't care" ;).

From the polling results at HHC2007, the 42s seemed to be the retro calculator most attendees wanted to see released. It follows that the appeal of the various 45s designs offered encapsulate its functionality.

Do we dare dream of a solver? CAS, I imagine is out for a first cut. Graphics is out as well? So what is in?

In my world, which has modest compute requirements compared to those discussed in this forum, two mundane pieces but absolutely critical for me in order for the device to be a "daily drive" are unit conversions and fractions. Matrices and trig would be in hot pursuit behind them. Alpha is also essential to me.

Even though this has a 's' suffix and implies a scientific calculator, I feel that TVM should be standard on every calculator with modest functionality. Even engineering projects have TVM cost analysis.

How about everyone else?

### Re: Open45s: Functionality

Message #2 Posted by [DaveJ](#) on 6 Nov 2007, 9:55 p.m.,  
in response to message #1 by Pavneet Arora

There are several essentials I think it must have. All of the functions can be dealt with in software, so do not affect the physical design at this stage.

Important functions to consider right now are:

- 1) Battery life. In my opinion the calc must have a long battery life. By that I mean at least a years use at say 1 hour per day from a set of primary batteries (either Alkaline or Lithium coin cell). A rechargeable solution would be horrid, and should not even be considered in my opinion. I won't ever touch a calculator that needs rechargeable batteries. This does not preclude an OLED display however, but it makes that option trickier.
- 2) Memory and Expansion. SD card seems like a sensible thing to have. Although the machine should have sufficient built in program memory as well, say 64KB. Program memory must be non-volatile EEPROM or FLASH. Volatile memory is not an option.
- 3) A hidden reset button is a must. Although on my uWatch this is achieved easily by briefly shorting out the power on the I/O connector.
- 4) I/O. A serial general purpose I/O interface is a must. For example, on my uWatch I have a 5pin general purpose I/O port that can be used as an RS232, SPI, IrDA, USB or any custom serial interface using the

desired external adapter. This port also has external direct battery power available for driving low power external modules. This allows the calc to be used as an industrial controller for example.

5) Firmware Programming. The calc must have an externally accessible debug/programming port. If it uses say a Microchip processor then an ICSP port is a must. Using a bootloader via the serial port is also possible for firmware upgrades, but that doesn't help the developers with debugging. Internal or external JTAG port would be nice as well.

Dave.

### **Re: Open45s: Functionality**

*Message #3 Posted by **Paul Dale** on 7 Nov 2007, 3:44 p.m.,  
in response to message #2 by DaveJ*

Quote:

2) Memory and Expansion. SD card seems like a sensible thing to have. Although the machine should have sufficient built in program memory as well, say 64KB. Program memory must be non-volatile EEPROM or FLASH. Volatile memory is not an option.

Have you considered a real time clock chip with 32kb of battery backed RAM in this role? We'd still need some other RAM of course but we'd gain a clock.

- Pauli

### **Re: Open45s: Functionality**

*Message #4 Posted by **DaveJ** on 7 Nov 2007, 4:50 p.m.,  
in response to message #3 by Paul Dale*

Quote:

Have you considered a real time clock chip with 32kb of battery backed RAM in this role? We'd still need some other RAM of course but we'd gain a clock.

Forgot about that, an RTC is essential of course. No need for an external chip or RAM, you'd simply choose a micro that has these built in. The PIC24F series chip I used in my uWatch has a full hardware RTCC and 8KB of SRAM built in.

Dave.

### **Re: Open45s: Functionality**

*Message #5 Posted by **Pal G.** on 6 Nov 2007, 11:56 p.m.,  
in response to message #1 by Pavneet Arora*

Well I took some time today to cram that "MDLS40263-01 REV 1" 40X2 LCD into a Voyager. Please have a look and give me a few days off. I'm trying to get Jean-Michel's HP41CX converted from ProE to something I can render.

Cheers, Pal

<http://www.gyore.com/downloads/bha-001.jpg> <http://www.gyore.com/downloads/bha-003.jpg>

<http://www.gyore.com/downloads/bha-trans-004.jpg>

**Re: Open45s: Functionality**

Message #6 Posted by **Walter B** on 7 Nov 2007, 12:43 a.m.,  
in response to message #5 by Pal G.

This is looking great, Pal! Thanks for your work!! Please, if your time allows, mail me a vertical view on the keyboard.

Best regards,

Walter

*Edited: 7 Nov 2007, 12:50 a.m.*

**Re: Open45s: Functionality**

Message #7 Posted by **Pavneet Arora** on 7 Nov 2007, 5:13 a.m.,  
in response to message #5 by Pal G.

My thanks as well Pal. This is great. After you catch your breath (and in your copious free time as one boss of mine would say mirthfully) can you drop in the 40x4 display using the specific part no. specs as well?

**Re: Open45s: Functionality**

Message #8 Posted by **Walter B** on 7 Nov 2007, 5:20 a.m.,  
in response to message #7 by Pavneet Arora

40x4 ???

**Re: Open45s: Functionality**

Message #9 Posted by **Pavneet Arora** on 7 Nov 2007, 5:30 a.m.,  
in response to message #8 by Walter B

Or any 4-line display that is readily available. I still would like us to see if a 4-line display can be used? For me, this greatly enhances the appeal of the calculator.

Cheers.

**Re: Open45s: Functionality**

Message #10 Posted by **Walter B** on 7 Nov 2007, 5:37 a.m.,  
in response to message #9 by Pavneet Arora

IIRC, only a 20x4 LCD is available fitting in a Voyager. Data are in the display-thread.

**Re: Open45s: Functionality**

Message #11 Posted by **DaveJ** on 7 Nov 2007, 6:37 a.m.,  
in response to message #9 by Pavneet Arora

Quote:

Or any 4-line display that is readily available. I still would like us to see if a 4-line



display can be used? For me, this greatly enhances the appeal of the calculator.  
Cheers.

---

A 4 line display is much better suited to a Portrait Pioneer form factor.

A "fat" display on a landscape Voyager just doesn't "look right" IMHO

Dave.

## Re: Open45s: Functionality

Message #12 Posted by [Jim Creybohm](#) on 7 Nov 2007, 12:03 a.m.,  
in response to message #1 by Pavneet Arora

Good call Pavneet! I agree that even an engineering calculator needs to have TVM on it in addition to the scientific functions.

In all honesty, graphics is something I have little time to learn, and less desire as I grow older. I never used the graphics on my 48, and for most calculations, I maintain that the 42's function set (dare an oldie like me dream of a 41?) would suffice for most of my real world chores.

Other nice to have is an RPN subset of the RPL, so that RPL-less bozos like myself might be able to program a calculator without having to carry a friggin' manual around. If I could just program a repetitive series of keystrokes with some conditionals, I would be a happy engineer. Having said that however, without trying to engage feature creep, a way of communicating with a computer so that I could conceivably write my programs on a text editor or perhaps download someone else's more easily. I have a fair library of programs that I have photocopied over the years that I don't (again) have time to enter in. IR?

if you must select the voyager form factor, then so be it. I personally never really cared for it, although it seems to have garnered significant support - so perhaps I need more time with it. I am not very enthusiastic about my 12C though. The four line 45s display makes the whole thing a little more tractable to me.

Nevertheless, I will support this effort in any way I can. It is exciting to watch the e-geniuses on this forum work.

## Re: Open45s: Functionality

Message #13 Posted by [sylvandb](#) on 6 Nov 2007, 8:48 p.m.,  
in response to message #1 by Pavneet Arora

Quote:

---

what would be the desired functionality?

---

Flash update capability is a must.

keyboard overlay is a high want.

Give me those, and I don't care your functionality today, because I can have whatever functionality I want, and something different tomorrow.

sdb

## Re: Open45s: Functionality

Message #14 Posted by **Walter B** on 7 Nov 2007, 1:44 a.m.,  
in response to message #1 by Pavneet Arora

Here is my wishlist:

1. RPN (must have)
2. Keystroke programming (must have)
3. Battery life as Dave pointed out (must have)
4. I/O for data transfer and backup (maybe USB is a good interface, at least almost everybody can deal with it) (must have)
5. Soft keys (must have)
6. Alpha-functionality like in 42S (must have)
7. On top of 42S functionality I'd love to see an EQN-mode like in 35s (desperately love to have)
8. Useful functions on the keys for direct access (as many as possible). Leave the key plate for menus and the more arcane functions. Let the user customize the calc by creating his/her own functions/menus and changing assignments on the keyplate. Supply overlays (love to have)
9. 4 ... 8 levels in a stack of settable depth (love to have)
10. Timer functions like in the 55 (love to have)
11. Decent implementation of integer functions like in 16C, NOT like in 35s (nice to have)
12. Unit conversions buried in 1 menu (nice to have, I don't think we should spend more space for this)
13. Fractions (nice to have)
14. A more structured programming paradigm than in 42S (nice to have)

I'd second it shall have TVM, but I don't care much if it will not. Same for ALG. As Jim, I don't need graphics. What I didn't mention here shall be like in 42S and I'd be content.

BTW, if it has a RESET-button, I'd judge this as a sign of low reliability (only Window\$ driven devices need this ;), no vintage calc ever had one).

Best regards,

Walter

*Edited: 7 Nov 2007, 2:30 a.m.*

## Re: Open45s: Functionality

Message #15 Posted by **DaveJ** on 7 Nov 2007, 4:58 a.m.,  
in response to message #14 by Walter B

Quote:

Here is my wishlist:[ol]

- RPN (must have)
- Keystroke programming (must have)
- Battery life as Dave pointed out (must have)
- I/O for data transfer and backup (maybe USB is a good interface, at least almost everybody can deal with it) (must have)

USB requires extra \$\$, power and complexity. SD card is just a dumb socket, much easier. Sockets are cheap and easy, add plenty - SD card, TTL I/O, flash/debug port, JTAG port. Make this a beast that has plenty of ways to prod and poke it.

But lets not get carried away and make this a USB/graphing/high performance beast that can play space invaders. A regular scientific calc will do just fine.

Quote:

BTW, if it has a RESET-button, I'd judge this as a sign of low reliability (only Window\$ driven devices need this ;), no vintage calc ever had one). Best regards, Walter

Walter has just agreed to write us some guaranteed lock-up-free software from day one, thanks Walter! ;-)

Dave.

### **Re: Open45s: Functionality**

*Message #16 Posted by **Walter B** on 7 Nov 2007, 5:17 a.m.,  
in response to message #15 by DaveJ*

Please read:

Quote:

I/O for data transfer and backup (maybe USB is a good interface, at least almost everybody can deal with it) (must have)

This obviously (?) means I regard I/O as an inevitable feature. Just within parentheses I was pondering that USB maybe (!) is something nice. Do we need enhancement of reading abilities? ;)

IMHO this holds for your 2nd point, too. But I'm willing to do some thorough checking on the alpha and beta versions of the software, as soon as I get it :)

### **Re: Open45s: Functionality**

*Message #17 Posted by **DaveJ** on 7 Nov 2007, 3:39 p.m.,  
in response to message #16 by Walter B*

Quote:

Please read:

This obviously (?) means I regard I/O as an inevitable feature. Just within parentheses I was pondering that USB maybe (!) is something nice. Do we need enhancement of reading abilities? ;)

Not at all. This is a design feature discussion is it not? Everything is open to and should be discussed. You mentioned USB as a possibility, and I mentioned why it's probably not the best option from a design point of view.

Sorry, can't help myself, I do this 10 times a day as an electronics product design engineer. It's my job to weight up and debate the pros and cons of what features go into various electronic products.

Dave.

### **Re: Open45s: Functionality**

*Message #18 Posted by [Eric Smith](#) on 7 Nov 2007, 12:55 p.m.,  
in response to message #14 by [Walter B](#)*

Quote:

if it has a RESET-button, I'd judge this as a sign of low reliability (only Window\$ driven devices need this ;), no vintage calc ever had one).

You're claiming that the HP-48 series are of low reliability?

Later 41C series calculators and all HP-designed calculators from 1981 (Voyager) through the Saturn-based calculators have had a hardware reset mechanism. For most, it was a key combination that would **in hardware** force a reset. However, without designing custom electronics for the keyboard scanner, it is difficult to do that.

Apparently HP thought it was important to have a way to force a reset, but if you really need a calculator with no reset capability, I'm sure you can find one. It likely won't satisfy many of your wishlist items.

### **Re: Open45s: Functionality**

*Message #19 Posted by [Walter B](#) on 7 Nov 2007, 1:05 p.m.,  
in response to message #18 by [Eric Smith](#)*

OK, I solemnly withdraw this statement :)

### **Re: Open45s: Functionality**

*Message #20 Posted by [Paul Guertin](#) on 7 Nov 2007, 10:57 p.m.,  
in response to message #14 by [Walter B](#)*

Quote:

Alpha-functionality like in 42S (must have)

One good thing about a Voyager layout is that we can have a QWERTY keyboard instead of alphabetical order.

Paul Guertin

### **Re: Open45s: Functionality**

*Message #21 Posted by [Pavneet Arora](#) on 7 Nov 2007, 5:15 a.m.,  
in response to message #1 by [Pavneet Arora](#)*

Date Functions...

I know that I would like to have them. I just don't know which ones would have the broadest appeal.

I use number of days between dates extensively as well as DOW.

### **Re: Open45s: Functionality**

*Message #22 Posted by [Pavneet Arora](#) on 7 Nov 2007, 5:19 a.m.,*

*in response to message #1 by Pavneet Arora*

Indiglo type backlighting...

Would there be a desire to have an Indigo type backlighting implemented --- what is the generic term? Since I tend to work in the field and often in areas of poor lighting, I would love to have some sort of backlight implemented. However, I don't want to compromise battery life too much and if it means taking a wind-up crank LED flashlight, then so be it.

### **Re: Open45s: Functionality**

*Message #23 Posted by **Pal G.** on 7 Nov 2007, 10:47 a.m.,  
in response to message #22 by Pavneet Arora*

Quote:

Indiglo type backlighting...

You mean like this??

<http://www.gyore.com/downloads/bha-indiglo-005.jpg>

:) Pal

### **Re: Open45s: Functionality**

*Message #24 Posted by **Pavneet Arora** on 7 Nov 2007, 11:17 a.m.,  
in response to message #23 by Pal G.*

That is too cool!

For those who feel that 4-line display doesn't look right, what about the 15cx or whatever it is name that is in the background of Pal's picture. Doesn't that excite the "desire" neurons?

Quote:

You mean like this??

:) Pal

### **Re: Open45s: Functionality**

*Message #25 Posted by **DaveJ** on 7 Nov 2007, 3:32 p.m.,  
in response to message #24 by Pavneet Arora*

Quote:

For those who feel that 4-line display doesn't look right, what about the 15cx or whatever it is name that is in the background of Pal's picture. Doesn't that excite the "desire" neurons?

The 15CX is cool, but doesn't excite me. I think it looks wrong, and I suspect I won't like using it in

practice.

From my engineering design perspective it just feels wrong to have that dimension display in a landscape calculator, when you could easily rotate the same size calculator 90 degrees and have a more traditional portrait design. It's just "the vibe" of it - with apologies to Dennis Denuto from The Castle.

Dave.

## Re: Open45s: Functionality

Message #26 Posted by **Maximilian Hohmann** on 9 Nov 2007, 8:26 a.m.,  
in response to message #1 by Pavneet Arora

Hello!

Quote:

How about everyone else?

I wrote a longish answer before, but since I won't get "my" calculator anyway (reading the answers from the last days shows me, that the treck seems to be moving n the opposite direction :- ( ), I will post a short one now.

Quote:

Let's break our own wishlist into:

1. "have to haves", 2. "love to have", 3. "even if it had it I wouldn't care" ;).

1.1. Portrait format ("Pioneer" ?). I need to use my calculator handheld and find this impossible with landscape layouts.

1.2. Rechargeable batteries of standard dimensions (AA or AAA). I won't even touch a calculator that can only be run on disposable batteries. I am not environmentalist enough to try and force my views on other people, therefore "standard size" is important so that anybody can decide for himself what type of batteries to use.

1.3. Luminous, highest possible contrast display. Nothing else will do in my working environment, therefore I am not interested in anything else.

1.4. As configurable as possible. Maybe delivered with a blank (metal) faceplate that can be (laser) engraved for everybodys special need.

1.5. Rugged construction, preferably metal with real glass over the display.

1.6. USB. Seen as an external hard drive from the computer so that programs written on the computer and data entered on the computer can be dragged and dropped into the device. Just as I do it with my 5-Euro-MP3-player. Don't care if that will add another 3 Euros to the cost. No fuzzing about with memory cards and cryptic commands to access their contents (anybody remembers the horrible way this is done on a 48SX?).

1.7. Algebraic option. I will need to hand this calculator to a colleague from time to time and don't want to teach them RPN.

1.8. Date and Time functions, real time clock with timer and alarm and the possibility to make calculations

with time values (just like the "H.MS+" key on a '67).

1.9. Good alphanumeric prompts.

2.1. A good mathematical library in the background. Not necessarily accessible from the keyboard, but available for writing ones own programs.

2.2. Keystroke programming. But I much prefer to write programs on the computer and transfer them to the calculator for use.

3.1. Graphics 3.2. Financial functions (I have no money anyway...) 3.3. A solver (never used one, don't even know what it is good for?) 3.4. CAS (I have one from Ti, there's no way to top that with an amateur project, useless to waste time and resources on that). 3.5. Fractions

Greetings, Max

NB: Here is an interesting semi-professional device that is also a kind of an amateur project, a flight management system for flight simulator enthusiasts ("simmers"): <http://www.flyengravity.com/page/shop/7> It has many things in common with this calculator project, maybe we can learn from those guys? I would very much like a calculator the shape of this thing, with function keys along the sides of a mult-line screen.

## Re: Open45s: Functionality

Message #27 Posted by [DaveJ](#) on 10 Nov 2007, 7:06 a.m.,  
in response to message #26 by Maximilian Hohmann

Quote:

1.1. Portrait format ("Pioneer" ?). I need to use my calculator handheld and find this impossible with landscape layouts.

Pioneer portrait format is also more useful and familiar for me. I would prefer that myself.

Quote:

1.2. Rechargeable batteries of standard dimensions (AA or AAA). I won't even touch a calculator that can only be run on disposable batteries. I am not environmentalist enough to try and force my views on other people, therefore "standard size" is important so that anybody can decide for himself what type of batteries to use.

They will be a standard size, I think that is non-negotiable. Whether that is AA, AAA, or lithium coin cell is up for grabs.

The calculator should be low power, so does not need, and will not be suitable for rechargables. I think that is non-negotiable also, the calc must have a long battery life (1 year+). Although you could use rechargables of course, but they would self discharge before they were used up and would be a poor choice.

Would you seriously not touch a calculator that uses non-rechargables even if you get several years life out of one or two primary AAA's? Most people appreciate a calc that has long battery life that does not need rechargables.

Quote:

1.3. Luminous, highest possible contrast display. Nothing else will do in my working environment, therefore I am not interested in anything else.

---

I suspect the first calc (if any) will use LCD. Although like I have mentioned before, there is a Pioneer option that allows the user to choose which display they want (LCD or OLED), without changing any hardware or software. That option has a lot going for it I think.

Quote:

---

1.6. USB. Seen as an external hard drive from the computer so that programs written on the computer and data entered on the computer can be dragged and dropped into the device. Just as I do it with my 5-Euro-MP3-player. Don't care if that will add another 3 Euros to the cost. No fussing about with memory cards and cryptic commands to access their contents (anybody remembers the horrible way this is done on a 48SX?).

---

There is nothing wrong at all with simply using an SD card and popping that in an SD stick when needed. It's not just a matter of cost for USB, there are other development issues to contend with. Only a fool would put in "cryptic commands" into the format, standard PC readable format is the only option here.

Dave.

## **Re: Open45s: Functionality**

*Message #28 Posted by [Maximilian Hohmann](#) on 10 Nov 2007, 11:44 a.m.,  
in response to message #27 by DaveJ*

Hello!

Quote:

---

Would you seriously not touch a calculator that uses non-rechargeables even if you get several years life out of one or two primary AAA's?

---

This is not going to happen because the calculator I really need has to have some kind of luminous display, that will drain any kind of batteries within a few dozen hours of use. But maybe, the calculator could be designed in such a way, that it can run for years on one set with the backlight turned off?

But seriously: I do not think that I bought a disposable battery in standard size (AA, AAA and 9V block) during the last ten years. Every single electric/electronic device in our household (from childrens toys to television remote controls) runs on rechargeable batteries, some of which must be 30 years old by now (and still working). If something isn't rechargeable, I don't buy it.

Quote:

---

There is nothing wrong at all with simply using an SD card and popping that in an SD stick when needed. It's not just a matter of cost for USB, there are other development issues to contend with. Only a fool would put in "cryptic commands" into the format, standard PC readable format is the only option here.

---

If it can be kept simple from the user's point of view, then it's OK for me!

Greetings, Max



## **Re: Open45s: Functionality**

*Message #29 Posted by [Jeffrey Connor](#) on 9 Nov 2007, 12:46 p.m.,  
in response to message #1 by Pavneet Arora*

First, I have to say how fascinating it has been to watch as this project develops. I hope to be buying one of these calculators in the near future. My two cents are as follows:

1. Have to have 2. Love to have 3. Like to have (I know that it is a new category, sorry) 4. Don't care

1.1 Landscape layout 1.2 DMS to DD and back key 1.3 Polar to rectangular and back key 1.4 Keystroke programming

2.1 SD card slot 2.2 TVM 2.3 Solver 2.4 AA/AAA batteries

3.1 Clock 3.2 Unit conversions 3.3 Four line display

4.1 Algebraic 4.2 Graphics 4.3 Fractions

---

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## HP Forum Archive 17

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### Open45s: Name

Message #1 Posted by [Pavneet Arora](#) on 6 Nov 2007, 7:35 a.m.

I remember in grad school (a very long time ago), there was a colleague of mine who was doing research in naming as part of pattern recognition and the cognitive transition it invoked. If I can take (extensive) liberties and distill his PhD thesis: "You name it. You own it."

We have on the table:

1. Phoenix
2. Sojourner

Anyone else wanting to step up and offer some suggestions.

Personally, going to the Astronomy Picture of the Day web site, for one of the images that Sojourner took (as a mosaic) of the Sagan Memorial Station, evokes strong emotions in me. I really do wish we still had Carl Sagan around:

[Sagan Memorial Station](#)

Cheers.

*Edited: 6 Nov 2007, 7:40 a.m.*

### Re: Open45s: Name

Message #2 Posted by [Maximilian Hohmann](#) on 6 Nov 2007, 7:59 a.m.,  
in response to message #1 by Pavneet Arora

Hello!

Quote:

\_\_\_\_\_  
Anyone else wanting to step up and offer some suggestions.  
\_\_\_\_\_

Well, honestly, whatever the psycho-guys wrote in their papers does not seem to apply to me. I don't go by names at all, rather by numbers. I can tell you without hesitation that an aeroplane is a Cessna 560, but whether they call it "Encore", "Excel" or "Bravo" I couldn't tell. The same with these calculators: Following your brainstorming over the last few days, I had to look at least five times (!) which series are the "Pioneers" and which are the "Voyagers". I simply can't remember. And since my memory is quite good otherwise, I think this is because I do not want to remember! (The same with Apple's operating systems: I can tell you at a glance if a Macintosh is running system 10.2 or 10.4, but whether this is "Tiger", "Panther" or "Leopard", who knows?)

So for me, call it whatever you want (bearing in mind that there are a lot of non-native English speakers interested too, to whom a name like "Sojourner" tells absolutely nothing (you certainly wouldn't want it called "Verweilender" in German, would you?) as long as you give it a good and easily memorizable number as well

:-) Like: ORPN-1

Greetings, Max

*Edited: 6 Nov 2007, 8:00 a.m.*

**Re: Open45s: Name**

*Message #3 Posted by [Pavneet Arora](#) on 6 Nov 2007, 8:04 a.m.,  
in response to message #2 by Maximilian Hohmann*

Which I call NeXTSTEP 5.4 ;) ;).

NeXTSTEP 4 > MacOS X (10.0)

Quote:

I can tell you at a glance if a Macintosh is running system 10.2 or 10.4, but wether this is "Tiger", "Panther" or "Leopard", who knows?

**Re: Open45s: Name**

*Message #4 Posted by [Martin Pinckney](#) on 6 Nov 2007, 8:22 a.m.,  
in response to message #2 by Maximilian Hohmann*

Quote:

So for me, call it whatever you want (bearing in mind that there are a lot of non-native English speakers interested too, to whom a name like "Sojourner" tells absolutely nothing

Surely these non-native English speakers, presumably engineers and scientists, or others who are interested in HP calculators, are familiar with the NASA space probes?

**Re: Open45s: Name**

*Message #5 Posted by [Maximilian Hohmann](#) on 6 Nov 2007, 8:41 a.m.,  
in response to message #4 by Martin Pinckney*

Hello!

Quote:

Surely these non-native English speakers, presumably engineers and scientists, or others who are interested in HP calculators, are familiar with the NASA space probes?

Yes, we are (if I am allowed to speak for my colleagues as well). But still, I am unable to create a mental image or mind map of some kind that links a name like "Sojourner" to a pocket calculator.

But if we have to name it after a space probe at all cost, why not call it Huygens, at least that's one of "ours" (\*) ;-)

Greetings, Max

(\*) my taxes went into it if nothing else

*Edited: 6 Nov 2007, 8:43 a.m.*

## Re: Open45s: Name

Message #6 Posted by **Ren** on 6 Nov 2007, 11:59 a.m.,  
in response to message #2 by Maximilian Hohmann

Quote:

Hello!

(you certainly wouldn't want it called "Verweilender" in German, would you?) as long as you give it a good and easily memorable number as well :- ) Like: ORPN-1

Greetings, Max

Verweilender...? I see your point.

From this American's point of view OPRN-1 too easily derives to

ORPhaN-1

probably not a good idea... the name could "curse" it to be a one night stand, ...a one horse town, ...a one joke act, et cetera, et cetera...

## Re: Open45s: Name

Message #7 Posted by **Ren** on 6 Nov 2007, 5:21 p.m.,  
in response to message #6 by Ren

I think naming the calc...

Polish (Open) Reverse Notation

also would not be not be a good idea.

Its acronym would probably trigger email blockers.

B^)

Hmmmm, how about Anti-kythera?

## Re: Open45s: Name

Message #8 Posted by **Frank Rottgardt** on 6 Nov 2007, 5:23 p.m.,  
in response to message #2 by Maximilian Hohmann

Hi,

when working for Ericssons in Sweden we used to give the different mobile phones "real" names rather than the "official" letter-number-codes printed on them. The phones itself got female names, equipment like chargers and the like got male ones. I still remember phones like Jane 4/5, Emily, Emma, Gillette. Only the very first massproduced mobile phone got the male name "Kurt". Ever since the above rule applied. It

gave the phones a personal touch.

I think that most people prefer real world names, easy to remember.

Cars have names like Golf (Rabbit), Mustang, Thunderbird, Corvette etc.

Many fighter aircrafts got names like F16 Falcon, F4 Phantom, Hellcat, Mustang, Thunderbolt, Eule (owl), Corsair....

I like the way HP-engineers used to gave their babies internal nick names. My personal favorite is "salad" for the do-everything model 27.

Would be cool to know the internal names of the 50g or 35s.

// Frank

### Re: Open45s: Name

Message #9 Posted by [Meenzer](#) on 6 Nov 2007, 9:26 a.m.,  
in response to message #1 by Pavneet Arora

Quote:

I really do wish we still had Carl Sagan around:

[Sagan Memorial Station](#)

My thought exactly!

Why not call the calculator after him: Sagan

### Re: Open45s: Name

Message #10 Posted by [Pavneet Arora](#) on 6 Nov 2007, 9:30 a.m.,  
in response to message #9 by Meenzer

That has my unequivocal vote!

Quote:

My thought exactly!

Why not call the calculator after him: Sagan

### Re: Open45s: Name

Message #11 Posted by [Meenzer](#) on 6 Nov 2007, 10:12 a.m.,  
in response to message #10 by Pavneet Arora

Quote:

That has my unequivocal vote!

If there are more supporters, we could announce the name in 3 days, on November 9th - Carl Sagan's birthday! ;-)

(We could even have a *Contact Special Edition* for the 1997 movie!)

**Re: Open45s: Name**

Message #12 Posted by **Ren** on 6 Nov 2007, 12:01 p.m.,  
in response to message #9 by Meenzer

Quote:

My thought exactly!  
Why not call the calculator after him: Sagan

Didn't a recent thread question the use of another famous dead scientist to hawk calculators? (hint Einstein)

Ren

dona nobis pacem

**Re: Open45s: Name**

Message #13 Posted by **Eric Smith** on 6 Nov 2007, 1:46 p.m.,  
in response to message #9 by Meenzer

Quote:

Why not call the calculator after him: Sagan

Because his heirs will probably sue.

He sued over Apple using his name just as an internal code name for a product, not even the real product name! Apple changed the code name to "BHA", and then he sued for libel over that!

I'd rather not have a calculator named after a person.

*Edited: 6 Nov 2007, 1:49 p.m.*

**Re: Open45s: Name**

Message #14 Posted by **Don Shepherd** on 6 Nov 2007, 2:17 p.m.,  
in response to message #13 by Eric Smith

Eric, I don't get it. What's BHA, and does it have anything to do with Carl Sagan? I only recall him being the "billions and billions of stars" guy.

**Re: Open45s: Name**

Message #15 Posted by **Pavneet Arora** on 6 Nov 2007, 2:27 p.m.,  
in response to message #14 by Don Shepherd

Quote:

Eric, I don't get it. What's BHA, and does it have anything to do with Carl Sagan? I

only recall him being the "billions and billions of stars" guy.

Hi Don,

"Butt Headed Astronomer" which was the name Apple replaced as the code name (and promptly got sued again for). See:

[Carl Sagan's entry on wikipedia](#)

### Re: Open45s: Name

Message #16 Posted by **Walter B** on 6 Nov 2007, 1:01 p.m.,  
in response to message #1 by Pavneet Arora

Please count my vote for Phoenix - not because of the NASA mission but because of the mythological bird arising out of the ashes.

### Re: Open45s: Name

Message #17 Posted by **Meenzer** on 6 Nov 2007, 2:28 p.m.,  
in response to message #16 by Walter B

Well, the arising part sounds nice (BTW, what ashes??), but that damn bird also dies repeatedly and is reborn and dies and is reborn and so on. A calculator that only works intermittently wouldn't be my choice...

About *Sagan* as a name: being sued is something I also thought about. That would be an issue if it would actually be sold to the public. As long as it would stay a DIY project, that should be ok. Still, the project could be called *CONTACT* - safe and all the same honouring Carl ;-)

Anyway, we should worry about the name when the rest is done...

### Re: Open45s: Name

Message #18 Posted by **Walter B** on 6 Nov 2007, 3:35 p.m.,  
in response to message #17 by Meenzer

Quote:

what ashes??

The bird burns and is reborn from its ashes...

### Re: Open45s: Name

Message #19 Posted by **Meenzer** on 6 Nov 2007, 3:42 p.m.,  
in response to message #18 by Walter B

I know about the mythological ashes - but what ashes would the DIY calculator be born from? HP didn't burn down... ;-)

### Re: Open45s: Name

Message #20 Posted by **Walter B** on 6 Nov 2007, 4:01 p.m.,

*in response to message #19 by Meenzer*

Well, the good ol' Corvallis Calculator Division doesn't exist anymore. But the remnants of the fire they lighted (by their outstanding calcs) shall now give birth to a new calc.

Oooh, it's a real bad feeling if you have to explain a joke :(

**Re: Open45s: Name**

*Message #21 Posted by **Meenzer** on 6 Nov 2007, 4:18 p.m.,  
in response to message #20 by Walter B*

Quote:

Oooh, it's a real bad feeling if you have to explain a joke :(

If you meant "Phoenix" as a joke, I think it's an unfortunate choice for this project. The intention of the NASA-related *Phoenix* name was not to make fun of this project.

**Re: Open45s: Name**

*Message #22 Posted by **Walter B** on 6 Nov 2007, 4:43 p.m.,  
in response to message #21 by Meenzer*

Quote:

If you meant "Phoenix" as a joke...

I did not. I just think the connotation of this name suits this project well.

Quote:

The intention of the NASA-related Phoenix name was not to make fun of this project.

The best jokes are the unintended ones ;)

**Re: Open45s: Name**

*Message #23 Posted by **Mike T.** on 6 Nov 2007, 2:03 p.m.,  
in response to message #1 by Pavneet Arora*

I'd prefer Phoenix..

Mike T.

**Re: Open45s: Name**

*Message #24 Posted by **DaveJ** on 6 Nov 2007, 4:12 p.m.,  
in response to message #1 by Pavneet Arora*

Quote:

I remember in grad school (a very long time ago), there was a colleague of mine who was doing



research in naming as part of pattern recognition and the cognitive transition it invoked. If I can take (extensive) liberties and distill his PhD thesis: "You name it. You own it."

We have on the table:

1. Phoenix

---

I like Pheonix.

Also, I think it should be disassociated with OpenRPN, that's Hugh's baby, which he has different plans for entirely I'm sure. Unless he wants to join the bandwagon, I'd keep the two separate.

Dave.

---

### **Re: Open45s: Name**

*Message #25 Posted by [Pavneet Arora](#) on 6 Nov 2007, 4:23 p.m.,  
in response to message #24 by [DaveJ](#)*

Quote:

---

I like Pheonix.

Also, I think it should be disassociated with OpenRPN, that's Hugh's baby, which he has different plans for entirely I'm sure. Unless he wants to join the bandwagon, I'd keep the two separate.

Dave.

---

Since Phoenix is slated to arrive on the surface of Mars on May 25 2008, it also gives us a target timeline for our own project...

---

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## HP Forum Archive 17

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### **I forgot how to do it on the 50g**

Message #1 Posted by [Ken Ratkevich](#) on 6 Nov 2007, 2:00 a.m.

Hi,

I'm positive (almost) that I was able to convert a fractional bin # (like .011) to a dec # (.375) and vice-versa.

Am I nutz or is there a way?

Thanks in advance,

Ken

### **Re: I forgot how to do it on the 50g**

Message #2 Posted by [Hal Bitton in Boise](#) on 6 Nov 2007, 12:28 p.m.,  
in response to message #1 by Ken Ratkevich

Hi Ken,

I'm pretty sure that non-decimal base operations for the 50G are integer only (after reading the users guide and experimenting with my 50G). The same goes for the 48GX and the 33S. About a year ago, I wrote a program for my venerable old 67 that would convert both the integer and fractional parts of a number between any two bases from 2 to 10 (don't ask me why). I could post it if you would be interested.

Best Regards, Hal

---

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## HP Forum Archive 17

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### Question about Extended Precision

Message #1 Posted by [Namir](#) on 5 Nov 2007, 6:39 p.m.

Hi All,

I have a question about working with extended precision (preferably using MATLAB), especially being able to work with an arbitrary precision and not be limited to 32 digits, 64 digits, or the like.

Thanks for any response.

Namir

---

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## HP Forum Archive 17

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### converting stored HP-48SX programs to run on HP-50g

Message #1 Posted by [Grant Nixon](#) on 4 Nov 2007, 7:31 p.m.

Dear forum users:

I would like to convert my archived HP-48SX RPL files/directories such that I can store them on the HP-50g. So, my problem is two-fold: (1) I must extract variables from the HP-48 binary format and (2), I must find a way to convert them such that I can download and run them on my new 50g.

While I am sure that this was posted at some previous time, I was unsuccessful in finding related posts and I would appreciate any help you may offer. Thank you.

Best regards,

Grant

### Re: converting stored HP-48SX programs to run on HP-50g

Message #2 Posted by [James M. Prange \(Michigan\)](#) on 6 Nov 2007, 4:56 a.m.,  
in response to message #1 by Grant Nixon

Are these UserRPL objects?

Do you have a 48 series (48SX, 48S, 48GX, 48G, or 48G+) available?

Which operating system are you running on your computer?

I haven't run through the following procedures step-by-step, but I believe that they'll work.

Quote:

\_\_\_\_\_

I would like to convert my archived HP-48SX RPL files/directories such that I can store them on the HP-50g. So, my problem is two-fold:

(1) I must extract variables from the HP-48 binary format and

\_\_\_\_\_

You need source code, as you'd get from a Kermit "ASCII" transfer. If the files are from binary transfers or the ARCHIVE command, then you'll need to decompile them to source code.

UserRPL objects can be decompiled on the calculator itself (of the series that compiled them in the first place, that is). Libraries and anything that contains SysRPL or assembly language code are more complicated to decompile, particularly for the 48 series. For now, I'll assume that your files are UserRPL.

If the SYSEVAL command is used in a program, then you should check for a changed entry point. The [cross-reference files](#) are useful for this.

Most 48 series UserRPL programs (recompiled from source code) will run just fine in a 49 series, but it's possible that a few commands may run differently, particularly if the 49 series' more complicated CAS gets involved.

If you have a 48 series available, then this could be as simple as downloading them to the 48 series, uploading them again using Kermit ASCII or Conn4x's "text" mode, and checking for any SYSEVAL sequences.

But if the files are large, then downloading and uploading again at 9600bps could take a lot of time, and you might not even have a 48 series available. Assuming that you're running a fairly recent version of MS Windows, I suggest using an emulator.

You could use [Emu48](#), in which case you'd need to convert a 48 series ROM image to a ROM file that Emu48 can use. Various publicly released ROM versions for the 48 series are available at <http://www.hpcalc.org/hp48/pc/emulators/>.

Or you can install [Debug4x](#), which includes a version of Emu48 together with the required ROM files and .KML scripts. If I recall correctly, it doesn't include the files to emulate a 48S series, but a 48G series should work just fine for these purposes. I suppose that if you really wanted to emulate a 48S series, you could add a .KML file for it (several should be available at [hpcalc.org](http://www.hpcalc.org)) and a 48S ROM file (converted from a ROM image).

Okay, assuming that you have a 48 series emulator working, import the binary-transferred file to it. To convert it to a source code string, I suggest installing the [ASCII to Binary Converter](#) (it also does binary to ASCII conversions) on the emulator. Be sure to use the ASCIIIBIN.48 (not ASCIIIBIN.49) file with the 48 series emulator. I suggest using translation mode 3, that is, execute 3 TRANSIO before using the translator. This should give you a source code string on the stack, which you can export to a plain text file.

Don't forget to check for SYSEVAL sequences. You can edit the source code file with any text editor (even MS Notepad will work). A "word processor" should also work, as long as you're careful to save the file as plain text.

Quote:

---

(2), I must find a way to convert them such that I can download and run them on my new 50g.

---

The "conversion" would be merely compiling the source code on a 49 series. But when downloading to the 49 series, you'll probably want to have it in approximate mode, so that any integer-valued "real numbers" from the 48 series will be compiled as reals, instead of being compiled as zints (exact integers), a new object type available on the 49 series.

You could use Conn4x to download the source code files to the 50g.

Or you could copy them to an MMC or SD card and transfer them from the card to the calculator. However, the calculator does only binary transfers with the card, so you'll get a source code string instead of a compiled object. I suggest using my [ASCII on SD](#) programs to convert between source code and compiled object, but ASCIIIBIN.49 may work as well (or even better, for all that I know) for you.

Note that my ASCII on SD programs were written specifically for SD card transfers, and include SYSEVAL sequences that would very likely corrupt memory on a 48 series calculator or emulator. They should be used only on a 49 series calculator or emulator.

And of course, the final step would be trying out your programs on the 50g.

Post again if you have any questions or problems.

Regards,  
James

*Edited: 6 Nov 2007, 5:25 a.m.*

## **Re: converting stored HP-48SX programs to run on HP-50g**

*Message #3 Posted by [Grant Nixon](#) on 7 Nov 2007, 11:50 a.m.,  
in response to message #1 by Grant Nixon*

Thank you very much for the very comprehensive response James. My HP-48SX bit the dust after a final/fatal fall and i was left with a host of backups of UserRPL programs (mostly backed-up as entire directories) made using binary transfer. Fortunately, there are no SYSEVAL sequences in my programs. I will try your method(s) tonight.

FYI and for my own curiosity's sake: I am running XP on my laptop but I have a DOS emulator (DOSBox) running on it that appears to work satisfactory. I had downloaded a DOS version of an ASCII to Binary converter for HP48 files and was able to convert the few stand-alone programs (that I had saved seperately from the directories) from binary programs to ASCII. These then appeared as "%HP:T(1):="D9D...." type strings. I got stuck when trying to figure-out how to convert these into UserRPL source code strings. I had naively tried to use Conn4x to dump them onto my 50g - with the mere result that it looked exactly the same on the calculator (i.e. a mere string file that looked like "%HP:T(1):="D9D...." ) on the calculator.

Was my biggest problem that the translate code was somehow set (by default?) to one (as per the setting during the original archiving process?) or was it that the binary to ASCII conversion needs to be performed on a HP48 emulator like emu48? Just curious.

Thanks again for the great support.

Grant

## **Re: converting stored HP-48SX programs to run on HP-50g**

*Message #4 Posted by [James M. Prange \(Michigan\)](#) on 7 Nov 2007, 7:43 p.m.,  
in response to message #3 by Grant Nixon*

Quote:

My HP-48SX bit the dust after a final/fatal fall

I'm sorry to read that. I hope that the 50g works out for you. You may want to look at the documentation for the 48G series for some changes that may not be well-documented for the 50g.

Quote:

and i was left with a host of backups of UserRPL programs (mostly backed-up as entire directories) made using binary transfer.

I notice this statement in ASCIIBIN.TXT:

Quote:

Unfortunately, this program sometimes fails on directories. I'm not entirely sure why it doesn't work (since it properly imports some directories) and don't have a solution at present. For

these pesky directories, you'll still have to use ASCII Kermit to transfer the file with a cable.

---

That rather surprises me. I don't know why it should fail either, short of insufficient memory. Looking at their source code, they use the SysRPL command EDITDECOMP\$ to decompile the object to a source code string, which, as far as I know, should decompile any pure UserRPL object, including any directory, and if a directory contained any non-UerRPL object, then a Kermit ASCII transfer should fail to properly decompile it as well.

Well, give it a try, and if you have any problem, then post again and we'll try to work around it.

By the way, for "importing" and "exporting" objects with Emu48, use the Edit menu's "Load Object..." and "Save Object...".

When you load ASCII BIN.48 into Emu48, it will appear on the stack as something like:

```
1: External  External
   External  <3d>
   External  <11d>
   External  <1d>
```

That's okay; it's just the calculator's way of displaying a SysRPL program that it doesn't "know" how to decompile properly. Just go ahead and STO it with the name of your choice.

Also note that Emu48's "Save Object..." saves the object as a binary-transferred file, so it has a 8-byte binary transfer header, "HHP48-W", plus, in the case of a string, five more bytes for the prologue address and string length. My "ASCII on SD" program would ignore that, but for most transfer methods those first thirteen bytes may well need to be edited out with a text editor. I think it best to edit out everything before the "%HP:"

Quote:

---

Fortunately, there are no SYSEVAL sequences in my programs.

---

Good; as long as you're certain, that saves you a bit of editing.

Quote:

---

I will try your method(s) tonight.

---

Let us know how it works out.

Quote:

---

FYI and for my own curiosity's sake: I am running XP on my laptop but I have a DOS emulator (DOSBox) running on it that appears to work satisfactory. I had downloaded a DOS version of an ASCII to Binary converter for HP48 files and was able to convert the few stand-alone programs (that I had saved separately from the directories) from binary programs to ASCII.

---

That's interesting; I wasn't aware of any such ASCII to binary converter for DOS, although certainly it should be possible (although a lot of work) to develop one.

Quote:

---

"%%HP:T(1):="D9D...." type strings. I got stuck when trying to figure-out how to convert these into UserRPL source code strings. I had naively tried to use Conn4x to dump them onto my 50g - with the mere result that it looked exactly the same on the calculator (i.e. a mere string file that looked like "%%HP:T(1):="D9D...." ) on the calculator.

---

It appears that something went wrong with (at least) generating the ASCII transfer header. If the calculator receives data that doesn't contain a valid (for the model) binary or ASCII transfer header, then it safely stores the entire data stream as a character string, rather than attempting to compile it to an object or (much worse) store it as an object.

A Kermit ASCII or Conn4x "text" mode transferred file will have a transfer header similar to:

```
%%HP: T(3)A(D)(F(.));
```

The value for T() can be 0, 1, 2, or 3. This tells the calculator which translation mode should be used when receiving the file.

The value for A() can be D, R, or G. This tells the calculator which angular units mode should be in effect when compiling the source code, for the sake of complex numbers and vectors with an angular component.

The value for F() can be either a period or a comma. This tells the calculator which "Fraction mark" mode should be in effect when compiling the source code.

When writing your own source code files on a PC, you can put the parameters in any order. For example,

```
%%HP: A(D)F(. )T(3);
```

works as well.

Also, parameters can be left out of the ASCII transfer header, in which case the receiving calculator's current mode is used. A minimal ASCII transfer header would be:

```
%%HP: ;
```

In this case, the header tells the calculator to to treat it as a source code file (attempt to compile it), use whichever translation mode is currently in IOPAR (or create a default IOPAR if it isn't found), and use whichever angular units and fraction mark modes are currently in effect.

The 49 series (49G, 49gII, 49g+, and 50g) use the same ASCII transfer header as the 48 series, although of course the binary transfer header differs.

Unfortunately, the ASCII transfer header doesn't include any information as to whether the 49 series should be in exact or approximate mode when compiling the source code. Some reasonable rules of thumb would be: If the file originated from (or was written for) a 48 series, then have the 49 series in approximate mode when downloading it (unless you want all reals without a fraction mark to be compiled as zints). For 49 series objects, have the 49 series in exact mode when uploading or downloading (unless you want all zints to be changed to reals).

Quote:

---

Was my biggest problem that the translate code was somehow set (by default?) to one (as per the setting during the original archiving process?) or was it that the binary to ASCII conversion needs to be performed on a HP48 emulator like emu48? Just curious.

---

Binary transferred files don't include (or have any use for) the translation mode; they're very simply an 8-character binary transfer header followed by the compiled object, possibly padded to a full byte at the end.



So I surmise that the garbled ASCII transfer header with the T(1) is something done by your DOS-based binary to ASCII converter.

Actually, any translation mode should work okay. I suggested mode 3 because I generally find such files easiest to view and edit.

Also, it seems to me that MS Windows sometimes tinkers with non-ASCII characters? Maybe when using the Windows clipboard?

Regards,  
James

**Re: converting stored HP-48SX programs to run on HP-50g**

*Message #5 Posted by [Giancarlo \(Italy\)](#) on 8 Nov 2007, 2:38 a.m.,  
in response to message #4 by James M. Prange (Michigan)*

Hi James.

Here goes another article of yours saved for my personal bookshelf as "Explanation of Headers.txt" ! :-  
)

Thanks for your insights.

Best regards.

Giancarlo

---

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## HP Forum Archive 17

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### Open45s: Form Factor

Message #1 Posted by [Pavneet Arora](#) on 4 Nov 2007, 1:01 p.m.

So we have support for both Voyager and Pioneer chassis...

If we are to really get this to fruition, can we review the reasons that would lead one to choose on or the other.

To me the Pioneer offers near pocketability with the option of a 4-line display. That would get my vote.

Should we, therefore, name this the Phoenix form factor after the Mars Lander that should arrive on Mars in May 2008?

[NASA's Phoenix Mission](#)

Cheers.

*Edited: 5 Nov 2007, 6:34 a.m. after one or more responses were posted*

### Re: Open45s: Form Factor

Message #2 Posted by [Meenzer](#) on 4 Nov 2007, 2:03 p.m.,  
in response to message #1 by Pavneet Arora

Voyager, because it is special. Pioneer looks like all the others.

### Re: Open45s: Form Factor

Message #3 Posted by [DaveJ](#) on 4 Nov 2007, 4:01 p.m.,  
in response to message #1 by Pavneet Arora

If you go with the Voyager format then I'm fairly confident (but stand to be corrected) that you *\*won't\** get an off-the-shelf LCD module to fit. Dot matrix OLED display (not module) would probably be the only option for a voyager format. But then you start getting tradeoff's by not having much room for a battery. You might be forced into a slim Lithium Ion rechargeable solution. The devil is in the detail.

Pioneer gives you more options for off-the-shelf component selection.

Dave.

*Edited: 4 Nov 2007, 4:03 p.m.*

### Re: Open45s: Form Factor

Message #4 Posted by [Walter B](#) on 4 Nov 2007, 4:28 p.m.,  
in response to message #3 by DaveJ

Quote:

\_\_\_\_\_

If you go with the Voyager format then I'm fairly confident (but stand to be corrected) that you \*won't\* get an off-the-shelf LCD module to fit.

The Voyager shown below (thanks to Pal G.!) will work with the very same HP 40 LCD as the Pioneer Gene and Jake proposed:

<http://www.gyore.com/downloads/hp15xx-gc06.jpg> So the LCD is not the crucial point.

### **Re: Open45s: Consistent shift key user interface**

*Message #5 Posted by **Gene Wright** on 4 Nov 2007, 4:47 p.m.,  
in response to message #4 by Walter B*

Hi Walter.

My "problem" with the voyager design as you have shown it is the inconsistent interface used for the key layouts/functions.

For example, you use 3 shift keys, f, g, and m (why m? Why not h like other models with three shift keys used?).

However, the issue isn't the "m" as such. It is that some keys have blue and red shift functions. Some have blue only. Some have blue and yellow.

That's an interface mess, IMO. Personally, I would suggest an interface with only 2 shift functions, placing the third shift functions in menus.

Much less cluttered keyboard and a more consistent interface.

### **Re: Open45s: Consistent shift key user interface**

*Message #6 Posted by **Paul Dale** on 4 Nov 2007, 4:52 p.m.,  
in response to message #5 by Gene Wright*

The 'm' shift button is a menu prefix (and yes it could be labelled 'menu'). All the red labels are menus (well they were on the other designs by Walter, I'm suspicious of CLsigma as a menu on this one).

None of the blue or yellow functions are menus.

- Pauli

### **Re: Open45s: Consistent shift key user interface**

*Message #7 Posted by **Walter B** on 5 Nov 2007, 2:14 a.m.,  
in response to message #6 by Paul Dale*

Hi Paul,

thanks for your explanation. When the US-guys get up, the day is over in Europe already.

Best regards, Walter

### **Re: Open45s: Consistent shift key user interface**

*Message #8 Posted by **Pavneet Arora** on 4 Nov 2007, 5:12 p.m.,  
in response to message #5 by Gene Wright*

I agree that we shouldn't have a dedicated shift key just for menus. In my article on typography of key labelling, I suggested a simple double-colon quotation to identify menus. No other visual notification required:

### [Typography of Key Labels](#)

This way we don't have unused shift slots awaiting menus, but ones that may be used for other functionality.

Quote:

That's an interface mess, IMO. Personally, I would suggest an interface with only 2 shift functions, placing the third shift functions in menus.

### **Re: Open45s: Consistent shift key user interface**

*Message #9 Posted by **Walter B** on 5 Nov 2007, 2:23 a.m.,  
in response to message #8 by Pavneet Arora*

Hi Pavneet,

sorry I didn't find the time to read your article so far. I'll try to do this asap.

Quote:

This way we don't have unused shift slots awaiting menus

Well, exactly this is the purpose of my "unused shift slots". The design drafts of 15cg, 15cx, and my 45s are all set up to result in a calc being customize-able (?) by the end-user. My article covering this is part of the documentation of HHC2007 to be published on the Conference DVD.

### **Re: Open45s: Consistent shift key user interface**

*Message #10 Posted by **Patrice** on 7 Nov 2007, 1:24 p.m.,  
in response to message #8 by Pavneet Arora*

Quote:

[Typography of Key Labels](#)

Devil is in details, and keyboard layout/readability/consistency is important detail.

### **Re: Open45s: Consistent shift key user interface**

*Message #11 Posted by **DaveJ** on 4 Nov 2007, 6:04 p.m.,  
in response to message #5 by Gene Wright*

Bingo, completely off track already! I bet myself how long it would take, guess I owe myself 10

bucks :->

The key layout and user interface has absolutely nothing to do with getting a practical calculator design off the ground. It's not worth worrying about.

Dave.

**Re: Open45s: Consistent shift key user interface**

*Message #12 Posted by [Hugh Evans](#) on 4 Nov 2007, 7:09 p.m.,  
in response to message #11 by DaveJ*

No surprises with that one. Feature creep is starting to get rather impressive as well.

**Re: Open45s: Consistent shift key user interface**

*Message #13 Posted by [Pavneet Arora](#) on 4 Nov 2007, 7:58 p.m.,  
in response to message #12 by Hugh Evans*

In what way is this discussion an indication of feature creep? We are simply discussing the design brief. Dave said for him a starting point is the plastic. Well before we get to the plastic, wouldn't it be worthwhile envisioning what the plastic should turn out like to maximize its usability?

For a community run project to have legs is to utilize the interest as well as the talents of everyone involved.

Quote:

\_\_\_\_\_  
No surprises with that one. Feature creep is starting to get rather impressive as well.  
\_\_\_\_\_

**Re: Open45s: Consistent shift key user interface**

*Message #14 Posted by [DaveJ](#) on 4 Nov 2007, 9:07 p.m.,  
in response to message #13 by Pavneet Arora*

Quote:

\_\_\_\_\_  
In what way is this discussion an indication of feature creep? We are simply discussing the design brief. Dave said for him a starting point is the plastic. Well before we get to the plastic, wouldn't it be worthwhile envisioning what the plastic should turn out like to maximize its usability?  
\_\_\_\_\_

Yes, but that has nothing to do with the colour of the key legends or what keys are used for what. In fact it even has little to do with how many keys you have, you simply put as many keys as you can fit nicely in your chosen form factor after the screen is considered. Only at the end do you worry about what key is used for what.

When I said the plastic is the starting point, I meant getting the plastic in your hands is the starting point to a physical design realisation. The #1 thing to do first is to pick the what screen you want and lock that in. The screen drives the shape and design of your plastics, the room you have left for keys, the power consumption and battery choice,

which leads to case thickness etc etc.

If the preferred choice is a Voyager form factor (and I think it is), then a screen needs to be found that fits the design envelope. That might be harder than it seems. Backup plan would be a Pioneer shape, and I already know plenty of LCD modules are available that will fit that form factor.

Here is a novel idea off the top of my head, how about a Pioneer form factor rotated into a Voyager horizontal layout? That might give room for that 80mm OLED display module maybe. Will have to check out the dimentions...

**\*\*UPDATE\*\*** The OLED display module is 80x36mmx10mm. That would take up half the height of a horizontal Pioneer form factor. So only enough room for say 3 rows of keys under the display.

Dave.

*Edited: 4 Nov 2007, 9:12 p.m.*

### **OLED display module**

*Message #15 Posted by [DaveJ](#) on 4 Nov 2007, 9:28 p.m.,  
in response to message #14 by DaveJ*

It just occurred to me. If you used one of those 80x36mm OLED modules, then with careful attention to detail the same plastic design could use either the OLED display or an LCD display of the same size. And as a bonus, no need to change the electronics and firmware either, simply pop in either display - NICE!

It looks like Lumex even make a 40x4 display in the same size: [Lumex](#) Lumex website seems down at the moment though, so can't confirm.

Dave.

### **Re: Open45s: Consistent shift key user interface**

*Message #16 Posted by [Hugh Evans](#) on 4 Nov 2007, 11:19 p.m.,  
in response to message #13 by Pavneet Arora*

Ultimately, a community will not decide anything... They can point you in a direction but will need a single person to take charge and get the job done. I've been through at least 6 months of this discussion before. Now my main concern is taking what I know and producing hardware. Then the software will come.

### **Re: Open45s: Consistent shift key user interface**

*Message #17 Posted by [Walter B](#) on 5 Nov 2007, 2:47 a.m.,  
in response to message #16 by Hugh Evans*

Hi Hugh,

What progress did you make since the end of 2006?

### **Re: Open45s: Consistent shift key user interface**

*Message #18 Posted by [Hugh Evans](#) on 5 Nov 2007, 5:29 p.m.,*

*in response to message #17 by Walter B*

Prototyping and finalizing specifications for a PCB design. I've negotiated custom LCD glass prices and once the electronics are ready I'm going to hunt for investors.

**Re: Open45s: Consistent shift key user interface**

*Message #19 Posted by **DaveJ** on 6 Nov 2007, 4:14 p.m.,*

*in response to message #18 by Hugh Evans*

Quote:

Prototyping and finalizing specifications for a PCB design. I've negotiated custom LCD glass prices and once the electronics are ready I'm going to hunt for investors.

Care to share some photos of your prototype? I'm sure many people would be interested to see them after all this time.

Dave.

**Re: Open45s: Consistent shift key user interface**

*Message #20 Posted by **Pavneet Arora** on 4 Nov 2007, 7:41 p.m.,*

*in response to message #11 by DaveJ*

Dave, I don't concur that this is off track at all. If we are going to do a design that appeals to even more than a few then why shouldn't the design aesthetic form part of the integral design discussion? We are not asking everyone to care about these issues, but for those that do they are important and are germane to executing the design properly the first time around.

Quote:

Bingo, completely off track already! I bet myself how long it would take, guess I owe myself 10 bucks :->

The key layout and user interface has absolutely nothing to do with getting a practical calculator design off the ground. It's not worth worrying about.

Dave.

*Edited: 4 Nov 2007, 7:42 p.m.*

**Re: Open45s: Consistent shift key user interface**

*Message #21 Posted by **DaveJ** on 4 Nov 2007, 8:54 p.m.,*

*in response to message #20 by Pavneet Arora*

Quote:

Dave, I don't concur that this is off track at all. If we are going to do a design that appeals to even more than a few then why shouldn't the design aesthetic form part of the integral design discussion?

Two reasons: 1) It will be an endless discussion which no one will ever agree on. 2) (and most importantly) It adds precisely zero value to getting that first all-important prototype made.

As someone who has designed and built a practical working calculator (along with many other similar projects), I can assure you that practicalities come first. Fussing about what keys are going to be used for what, and the colour of key legends etc does not affect the basic physical design at all. That can all be taken care of and tweaked to your hearts content as the very last step in the design process.

Dave.

### **Re: Open45s: Consistent shift key user interface**

*Message #22 Posted by **Walter B** on 5 Nov 2007, 2:06 a.m.,  
in response to message #5 by Gene Wright*

Hi Gene,

thanks for the critical remarks. Unlike others, who can't know better, yours is a special case:

My "problem" with your points is you claim you don't know the info available to you as being member of the enlightened circle of HHC2007 Conference Committee since beginning of September. The "interface mess" - as you call it - was thoroughly explained in my contribution to HHC2007. It is no mess at all. As soon as Jake will publish the Conference DVD, this will become obvious to all readers of this forum. So, I'm confidently expecting this publication.

BTW, if I don't understand a particular point in anyone's post, I'd \*ask\* first before I call it negative. Maybe my old brain, but I don't remember any question of you concerning this topic so far. If you allow me a recommendation, please take some of your time for reading or remembering my said contribution, respectively.

HTH, Walter

### **Re: Open45s: Form Factor**

*Message #23 Posted by **DaveJ** on 4 Nov 2007, 5:52 p.m.,  
in response to message #4 by Walter B*

That isn't an off-the-shelf character LCD module though, it's (correct me if I'm mistaken) a custom dot matrix LCD removed from a HP 40 series. Not exactly a wise or sensible choice for a practical calc design.

Dave.

### **Re: Open45s: Form Factor**

*Message #24 Posted by **Walter B** on 5 Nov 2007, 2:11 a.m.,  
in response to message #23 by DaveJ*

Dave J., IF you are right, THEN this applies to Gene's and Jake's draft of their 45s as well.

*Edited: 5 Nov 2007, 2:27 a.m. after one or more responses were posted*



**Re: Open45s: Form Factor**

*Message #25 Posted by [DaveJ](#) on 5 Nov 2007, 2:18 a.m.,  
in response to message #24 by Walter B*

Quote:

\_\_\_\_\_  
Dave J., IF you are right, THEN this applies to Gene's and Jake's draft of the 45s as well.  
\_\_\_\_\_

It sure does. That's why I'm saying practical LCD selection is the driving force behind getting a real calc off the ground. Anything else is a pipe dream, unless you have the \$\$\$\$ to invest in a custom job.

Dave.

**Re: Open45s: Form Factor**

*Message #26 Posted by [Walter B](#) on 5 Nov 2007, 2:42 a.m.,  
in response to message #25 by DaveJ*

Thanks, Dave. This leads me to the following proposal:

Let the folks being most knowledgeable in displays look for the ones available on the market fitting into the dimensions of

- a Pioneer
- a Voyager
- a 35s
- a "landscape Pioneer" (as Dave proposed)

and featuring enough dots to support 2.5 lines or more. Then we will have a more realistic base for our further progress. Please, go out and search. Looking forward to the responses,

Walter

P.S.: Oops, this post must be redirected to the thread below ;) Please put your responses there.

*Edited: 5 Nov 2007, 2:51 a.m.*

**Re: Open45s: Form Factor**

*Message #27 Posted by [hpnut](#) on 5 Nov 2007, 2:52 a.m.,  
in response to message #4 by Walter B*

cool....where do I sign up to buy one ? ;-)

**Re: Open45s: Form Factor**

*Message #28 Posted by [Paul Dale](#) on 4 Nov 2007, 4:48 p.m.,  
in response to message #1 by Pavneet Arora*

I'd prefer a Voyager form factor. I'd be willing to thicken it up a bit to take more hefty batteries.

- Pauli

---

**Re: Open45s: Form Factor**

*Message #29 Posted by [Ren](#) on 5 Nov 2007, 11:26 a.m.,  
in response to message #1 by Pavneet Arora*

I nominate "Sojourner" for the family name.

Ren

dona nobis pacem

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## HP Forum Archive 17

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### Open45s: Display

Message #1 Posted by [Pavneet Arora](#) on 4 Nov 2007, 12:57 p.m.

There seem to be a few options available for the display:

1. 2-line LCD
2. 4-line LCD
3. OLED
4. e-Ink

Of course, cost is going to govern which option we should hone in on, but what is the efficacy of the respective options?

To my mind 4-line LCD is a minimum. We want something enhanced from the current offerings, but not too expensive.

*Edited: 4 Nov 2007, 2:25 p.m. after one or more responses were posted*

### Re: Open45s: Display

Message #2 Posted by [Meenzer](#) on 4 Nov 2007, 2:02 p.m.,  
in response to message #1 by Pavneet Arora

Two or possibly four line LCD. But 4 lines vertically, not 2x2.

### Re: Open45s: Display

Message #3 Posted by [DaveJ](#) on 4 Nov 2007, 4:21 p.m.,  
in response to message #1 by Pavneet Arora

4 x 20 LCD modules are available in a 65mm x 28mm form factor, like [this one](#)

(no stock though)

I would put cost down the list, getting something that fits and works is the most important criteria. I'd rather have a physical working calculator with a \$50 display than a hypothetical "dream" calculator that never gets made because you are still waiting on your dream \$2 custom display.

OLED has the advantage of more compact form factors, at the expense of being full dot matrix which requires more effort to drive than a character module solution. The OLED character modules look to be too big, but there might be a smaller one out there.

The entire project hinges around what display is used.

Dave.

*Edited: 4 Nov 2007, 4:21 p.m.*

### **Re: Open45s: Display**

*Message #4 Posted by **Paul Dale** on 4 Nov 2007, 4:48 p.m.,  
in response to message #1 by Pavneet Arora*

I'd have thought that a 4 line display is going to give the expectation of graphing capabilities which nobody has said they want.

Character based displays typically cannot do graphics so adding graphics as a requirement would, as DaveJ has pointed out, significantly complicate the display driver.

So my vote would be for a two liner of some kind. OLED or LCD are both good. An LCD should have a back light that can be turned off.

- Pauli

### **Re: Open45s: Display**

*Message #5 Posted by **Pavneet Arora** on 4 Nov 2007, 5:15 p.m.,  
in response to message #4 by Paul Dale*

I am not sure that a 4-line display necessarily implies graphing. I would prefer a 4-line display without necessarily implementing graphing functions.

Quote:

I'd have thought that a 4 line display is going to give the expectation of graphing capabilities which nobody has said they want.

### **Re: Open45s: Display**

*Message #6 Posted by **DaveJ** on 4 Nov 2007, 5:58 p.m.,  
in response to message #5 by Pavneet Arora*

Quote:

I am not sure that a 4-line display necessarily implies graphing. I would prefer a 4-line display without necessarily implementing graphing functions.

I agree. A 4 line LCD does not imply graphics, that is why I posted a link to a 4 line character based module. You can't do graphics on that.

4 lines gives a lot more options, especially given soft key menu operation. It means you can keep 1 line dedicated to the menu if needed.

Also, 20 characters per line is much more inviting than the more standard 16 characters.

Dave.

### **Re: Open45s: Display**

*Message #7 Posted by **Paul Dale** on 4 Nov 2007, 6:08 p.m.,  
in response to message #6 by DaveJ*

I didn't say a big display implied graphics, it clearly doesn't. I said that it gave the expectation of graphics....

- Pauli

## **Re: Open45s: Display**

*Message #8 Posted by **Walter B** on 5 Nov 2007, 2:53 a.m.,  
in response to message #1 by Pavneet Arora*

I'd like to make a proposal (actually I made it above already, but this thread here is the right one):

Let the folks being most knowledgeable in displays look for the ones available on the market fitting into the dimensions of

- a Pioneer
- a Voyager
- a 35s
- a "landscape Pioneer" (as Dave proposed above)

and featuring enough dots to support 2.5 lines or more. Then we will have a more realistic base for our further progress. Please, go out and search. Looking forward to the responses,

Walter

## **Re: Open45s: Display**

*Message #9 Posted by **DaveJ** on 5 Nov 2007, 10:16 p.m.,  
in response to message #8 by Walter B*

For the landscape format models the standard 118mm x 36mm LCD module is a good fit. 2 lines by 24 characters, very versatile. Claimed thicknesses from 8.8mm or so. Plenty of vendor choice, and low in cost.  
[Mouser](#)

[Example Datasheet](#)

Not sure how many keys you can fit in after that though.

As previously mentioned, the 80mm x36mm module format would allow and interchangeable LCD or OLED display, but only in a 16 character x 2 line display. But you could put keys to the side of the display.

The LCD modules have various pros and cons:

Pros:

- Easy software development
- Multiple sources
- Defined mounting dimensions and holes make case design potentially easier, especially by a third party.
- Low cost in one-off's and off-the-shelf

Cons:

- Greater power consumption than an LCD alone (typically a few mA @ 5V), but still low enough for say a year of typical operation from a AAA or Lithium coin cells.
- Not bit mapped, although you can often do custom characters
- Thickness may be an issue
- They are big

Given that a calc design is not about the display, but about the look and feel, and operation, yet you need a display to get the project off the ground, LCD modules do offer a reasonable compromise.

Dave.

*Edited: 5 Nov 2007, 10:19 p.m.*

### **Re: Open45s: Display**

*Message #10 Posted by **Paul Dale** on 5 Nov 2007, 10:35 p.m.,  
in response to message #9 by DaveJ*

Quote:

\_\_\_\_\_  
Not sure how many keys you can fit in after that though.  
\_\_\_\_\_

In a voyager dimensioned case, you'd get 30 with the 118mm display and maybe 34 with the 80mm one. This assumes a small enter key so it is really 29 and 33 with a large one.

Not exactly ideal :-)

Pauli

### **Re: Open45s: Display**

*Message #11 Posted by **DaveJ** on 5 Nov 2007, 10:54 p.m.,  
in response to message #10 by Paul Dale*

Quote:

\_\_\_\_\_  
In a voyager dimensioned case, you'd get 30 with the 118mm display and maybe 34 with the 80mm one. This assumes a small enter key so it is really 29 and 33 with a large one.

Not exactly ideal :-)  
\_\_\_\_\_

What about a landscape Pioneer? You could squeeze at least two extra keys on the side of the display in that case.

A 24 character display is certainly an attractive prospect.

Dave.

## WOW! Check out this LCD module

Message #12 Posted by [DaveJ](#) on 5 Nov 2007, 11:19 p.m.,  
in response to message #11 by [DaveJ](#)

Check this out: [Varitronix](#)

A 40x2 LCD in a tiny 108mm x 20mm x 12mm package - WOW! That could allow an even shorter Voyager form factor.

I guess the only complaint would be the characters might be too small. But I think they are the same size as my uWatch, and I think that's just fine.

Imagine what you can do with a 40 character display though... Might look a bit funny doing normal calculations, but would be awesome for a formula entry mode for example. Would certainly set the calc apart from anything else on the market.

Gotta find someone who sells it though.

Dave.

*Edited: 5 Nov 2007, 11:21 p.m.*

## Re: WOW! Check out this LCD module

Message #13 Posted by [Katie Wasserman](#) on 6 Nov 2007, 12:08 a.m.,  
in response to message #12 by [DaveJ](#)

Mouser seems to sell most of this [product line](#).

They have the 20x2 (65mm x 20mm x 8mm) character version with LED back light for \$13.61 in single quantity. I'll bet that they can get the 40x2 if you need it.

*Edited: 6 Nov 2007, 12:16 a.m.*

## Re: WOW! Check out this LCD module

Message #14 Posted by [DaveJ](#) on 6 Nov 2007, 12:29 a.m.,  
in response to message #13 by [Katie Wasserman](#)

Quote:

\_\_\_\_\_

Mouser seems to sell most of this [product line](#).

They have the 20x2 (65mm x 20mm x 8mm) character version with LED back light for \$13.61 in single quantity. I'll bet that they can get the 40x2 if you need it.

\_\_\_\_\_

Interesting, Varitronics don't seem to have the 20x2 20mm version listed as a product, yet Mouser have it in stock.

[20x2 20mm](#)

Maybe discontinued?

Otherwise the 20x2 20mm module is a very nice option indeed.

Dave.

**Re: WOW! Check out this LCD module**

*Message #15 Posted by [Eric Smith](#) on 7 Nov 2007, 12:35 a.m.,  
in response to message #14 by DaveJ*

They only have four pieces in stock, no data sheet, and it is non-RoHS, so it seems likely that it is discontinued.

**20x4 Voyager/Pioneer Display**

*Message #16 Posted by [DaveJ](#) on 6 Nov 2007, 1:00 a.m.,  
in response to message #8 by Walter B*

Digikey have listed the Varitronix MDLS-20433-C-LV-G A 20x4 module at 65mm x 28.4mm x 8mm

<http://dkc3.digikey.com/PDF/T073/P2279.pdf>

The Varitronix website has not heard of it though.

Could be used in either the Voyager or Pioneer. More suited to the Pioneer though.

4 lines would be awesome on the Pioneer. One row for soft keys, and 3 working rows.

Eric Smith should use this one in the DIY4!

Dave.

*Edited: 6 Nov 2007, 4:19 a.m.*

**Re: 20x4 Voyager/Pioneer (or Phoenix) Display**

*Message #17 Posted by [Pavneet Arora](#) on 6 Nov 2007, 6:06 a.m.,  
in response to message #16 by DaveJ*

Is there still interest in a landscape Pioneer, or are we aiming for a true Voyager if we go landscape? Whichever we use, shall we call our form factor the Phoenix?

I would dearly love to see a 4-line LCD!

Cheers.

Quote:

4 lines would be awesome on the Pioneer. One row for soft keys, and 3 working rows.

Eric Smith should use this one in the DIY4!

*Edited: 6 Nov 2007, 6:08 a.m.*

**Re: 20x4 Voyager/Pioneer (or Phoenix) Display**



*Message #18 Posted by **DaveJ** on 6 Nov 2007, 6:47 a.m.,  
in response to message #17 by Pavneet Arora*

Quote:

Is there still interest in a landscape Pioneer, or are we aiming for a true Voyager if we go landscape?

With both of the screens mentioned (40x2, and 20x2), a Voyager form factor is easily possible. In fact you could make it smaller in the horizontal, and you'd be pretty silly not to try I think. Smaller is better.

I would use the 40x2 display, it opens up so many possibilities.

Does someone want to try and photoshop up a Voyager with the 40x2 display?

No need for the landscape Pioneer.

Quote:

Whichever we use, shall we call our form factor the Phoenix? I would dearly love to see a 4-line LCD!

4 line is easy on the Pioneer shape, and also possible on the Voyager as well.

Looks to be plenty of choice in LCD modules actually.

Phoenix is as good a name as any!

Dave.

*Edited: 6 Nov 2007, 7:11 a.m. after one or more responses were posted*

### **Re: Rendering 40x2 and 40x4 Voyager**

*Message #19 Posted by **Pavneet Arora** on 6 Nov 2007, 7:04 a.m.,  
in response to message #18 by DaveJ*

PalG, over to you...

Quote:

Does someone want to try and photoshop up a Voyager with the 40x2 display?

Can we mock up both a 40x2 and a 40x4, please?

### **Re: Rendering 40x2 and 40x4 Voyager**

*Message #20 Posted by **DaveJ** on 6 Nov 2007, 7:24 a.m.,  
in response to message #19 by Pavneet Arora*

Quote:

PalG, over to you...

Can we mock up both a 40x2 and a 40x4, please?

---

40x4 won't fit.

Just to consolidate the list, the ones suitable for the Voyager would be:

40x2 at 108mm x 20mm 24x2 at 100.1mm x 26.4mm 20x4 at 65mm x 28mm 20x2 at 65mm x 20mm

The 24 or 40 character ones are the pick. The shorter ones would look a bit funny I think.

The 20x4 is a sure bet for a Pioneer, but I haven't looked at alternatives for that form factor yet, been focusing on the Voyager.

The 40x2 display would put the design into the old pocket computer display category! The possibilities are quite exciting...

Dave.

### Re: Open45s: Display

Message #21 Posted by [DaveJ](#) on 6 Nov 2007, 7:10 a.m.,  
in response to message #8 by Walter B

Well, suitable LCD modules are coming thick and fast now. Powertip have a 24x2 module suitable for the Voyager. The PC2402-H at 100.1mm x 26.4mm Not as slim as the 40x2 module, but maybe a good option. RS components stock the brand, but haven't checked for actual stock of that part yet. [Powertip list](#)

Batron also have various 20x4 displays in the 65mm x 28mm x 8mm package, stocked by Farnell, with a choice of white or yellow background.

[Optrex](#) probably have something suitable too.

Plenty of choice for both the Voyager and Pioneer format, and I'm not even doing an exhaustive search.

I do hope Hugh's OpenRPN and Eric's DIY projects make use of these bigger displays. 16x2 just doesn't seem to cut the mustard any more.

Dave.

### Re: Open45s: Display

Message #22 Posted by [Maximilian Hohmann](#) on 6 Nov 2007, 8:22 a.m.,  
in response to message #1 by Pavneet Arora

Hi!

Quote:

---

3. OLED

---

To offer at least one suggestion for option three, how about one of those:

<http://www.densitron.com/Displays/Displays.aspx?nCategoryID=10>

The ones toward the end of the list seem most promising to me.

Greetings, Max

### **Re: Open45s: Display**

*Message #23 Posted by **Meenzer** on 6 Nov 2007, 9:31 a.m.,  
in response to message #22 by Maximilian Hohmann*

Quote:

\_\_\_\_\_

To offer at least one suggestion for option three, how about one of those:

<http://www.densitron.com/Displays/Displays.aspx?nCategoryID=10>

The ones toward the end of the list seem most promising to me.

\_\_\_\_\_

It certainly doesn't look like the HPs from the good old times... ;-)

But I must say especially the last one in the list is VERY attractive and won me over. My vote for it!

### **Re: Open45s: Display**

*Message #24 Posted by **Maximilian Hohmann** on 6 Nov 2007, 9:44 a.m.,  
in response to message #23 by Meenzer*

Hello!

Quote:

\_\_\_\_\_

It certainly doesn't look like the HPs from the good old times... ;-)

\_\_\_\_\_

If you only think about calculators, maybe. But I had the luck to work with HP laboratory equipment (for microwave imaging) during some years in the early nineties and I remember some displays, although being made of silicon (instead of polymer) LED matrices, looked not too different from that.

Greetings, Max

### **Re: Open45s: Display**

*Message #25 Posted by **Walter B** on 6 Nov 2007, 1:48 p.m.,  
in response to message #22 by Maximilian Hohmann*

The last one looks very promising indeed. Resolution of 256 x 64, so this would allow for 6 lines of more than 40 characters each. It comes within a module size of 88mm x 28mm, featuring a visible area of 78.8mm x 21.2mm. On our Voyager it would leave space for 36 keys...

Is there anything comparable in the LCD world?

*Edited: 6 Nov 2007, 1:51 p.m.*

### **Re: Open45s: Display**

*Message #26 Posted by **DaveJ** on 6 Nov 2007, 4:03 p.m.,*

*in response to message #25 by Walter B*

Quote:

---

The last one looks very promising indeed. Resolution of 256 x 64, so this would allow for 6 lines of more than 40 characters each. It comes within a module size of 88mm x 28mm, featuring a visible area of 78.8mm x 21.2mm. On our Voyager it would leave space for 36 keys...

Is there anything comparable in the LCD world?

---

That produces light output and draws at least 0.2W of power for 50% display? then the answer is no.

BTW, those who want the datasheet without having to register, [HERE IT IS](#).

It's very nice, but the battery solution is problematic, your software complexity has just gone up several orders of magnitude (the driver chip does not do the fonts for you), and people will want graphics and will fuss over the fonts and their size until the cows come home.

Dave.

### **Re: Open45s: Display**

*Message #27 Posted by [Mark Storkamp](#) on 6 Nov 2007, 4:09 p.m.,  
in response to message #26 by DaveJ*

I realize I'm coming very late to this discussion, but what's wrong with the display on the 28S? Unless you're doing a graphing calc, or displaying equations in a book form, why add all this cost, complexity, and power draw? (plus, I once broke the display on my 48sx, it's a very large and fragile surface area)

### **Re: Open45s: Display**

*Message #28 Posted by [DaveJ](#) on 6 Nov 2007, 4:23 p.m.,  
in response to message #27 by Mark Storkamp*

Quote:

---

I realize I'm coming very late to this discussion, but what's wrong with the display on the 28S?

---

It's a custom graphic dot matrix, so is in no way suitable.

Quote:

---

Unless you're doing a graphing calc, or displaying equations in a book form, why add all this cost, complexity, and power draw? (plus, I once broke the display on my 48sx, it's a very large and fragile surface area)

---

No one is talking about practically using the screen from a 48/49/50. But those points are precisely why I am recommending going for an off-the-shelf character LCD module. Everything is going to be a compromise, so you may as well choose a compromise that eases your development effort.

Dave.

### Re: Open45s: Display

Message #29 Posted by **Garth Wilson** on 6 Nov 2007, 4:43 p.m.,  
in response to message #28 by DaveJ

I'm coming to this topic late too (and I have not read the entire thread), but I will comment that every time this kind of thing comes up, a lot of people get all excited about OLED. Just forget about it! Those things are power hogs and are not at all suitable for calculators. Dave's recommendation for an off-the-shelf LCD is a very good one. They are made by lots of companies, and if for some reason your supplier goes belly-up, there are plenty of drop-in replacements available immediately from other companies and with no tooling charge. I have used several of the intelligent character LCD modules, and they're pretty easy softwarewise, and they mostly use the same instruction set so going from one brand to another does not require re-writing the software. So far I have not used the graphics ones, but I understand they mostly use one of only a couple of chip sets.

### Re: Open45s: Display

Message #30 Posted by **Walter B** on 6 Nov 2007, 4:36 p.m.,  
in response to message #26 by DaveJ

Quote:

Quote:

Is there anything comparable in the LCD world?

That produces light output and draws at least 0.2W of power for 50% display? then the answer is no.

:)) OK, but you know what I was asking, don't you? Please remember the objective as written above:

Quote:

...look for (displays) available on the market fitting into the dimensions of ...

- a Voyager
- ...

and **featuring enough dots to support 2.5 lines or more.**

So far only one display in our list meets this objective. There must be more!

### Re: Open45s: Display

Message #31 Posted by **DaveJ** on 6 Nov 2007, 6:50 p.m.,  
in response to message #30 by Walter B

Quote:

So far only one display in our list meets this objective. There must be more!

---

Why 2.5 lines? I assume it's because you want something for the soft menus or annunciators? Two character based lines is more than enough for a calculator.

Saying that a two line character display is not suitable because it does not fit some arbitrary "2.5 line" requirement seems overly restrictive and a bit pointless.

A 2x24 or 2x40 line LCD display would provide a lot of flexibility, with all sorts of various menu and annunciator systems being possible in software. Both are only 20mm high and almost perfect for a Voyager form factor.

Also, to get "2.5 lines" you either need a full dot-matrix graphic display, or a 4 line display. Both of those solutions have problems. Although the 4 line display module is not an entirely bad option.

Dave.

### Re: Open45s: Display

Message #32 Posted by **Walter B** on 7 Nov 2007, 12:29 a.m.,  
in response to message #31 by DaveJ

Quote:

---

Why 2.5 lines? I assume it's because you want something for the soft menus or annunciators? Two character based lines is more than enough for a calculator.

---

This would allow for displaying a soft menu for a longer time, until you select another menu or drop it explicitly. And you'll still have 2 lines for output of results. Please see [an example here](#). IMHO a permanent menu line would add a considerable benefit to a calculator.

BTW, that's why I left yellow shift "unused" at the top left 8 keys: E.g. press top left key to execute **SINH** while **f SQRT** lets you execute **SQRT** - so TOP.FCN became dispensable.

Nevertheless, I'll try with 2x40 line LCD.

*Edited: 7 Nov 2007, 12:35 a.m.*

### Re: Open45s: Display

Message #33 Posted by **DaveJ** on 7 Nov 2007, 1:33 a.m.,  
in response to message #32 by Walter B

Quote:

---

This would allow for displaying a soft menu for a longer time, until you select another menu or drop it explicitly. And you'll still have 2 lines for output of results. Please see [an example here](#). IMHO a permanent menu line would add a considerable benefit to a calculator.

---

No doubting that, more lines is better, but a 2 line display is still very capable, and there is absolutely no reason to exclude it. There are three choices here: 1) A 2 line display

module (great for a Voyager format) 2) A 4 line display module (less than ideal for a voyager form factor, more suited to a Pioneer) 3) A full dot matrix display that allows "2.5" or 3 lines. This has all sorts of issues as stated before. And no one has thus far presented a suitable low power LCD version. But I'm sure one is out there if someone cares to look.

You've gotta work with the components you can get in order to get a project off the ground.

Quote:

---

Nevertheless, I'll try with 2x40 line LCD.

---

No need to try, it's guaranteed do-able, it's just how you decide to go about it. There are plenty of ways to implement limitless functionality into a 2 line display (think 42S, 33S, 35S, my uWatch etc)

Dave.

### **Re: Open45s: Display**

*Message #34 Posted by [Pavneet Arora](#) on 7 Nov 2007, 5:24 a.m.,  
in response to message #33 by DaveJ*

When working with the 35s I keep wishing that I could just have more information at a glance rather than having to R v all the time. If we go with the standard x,y,z,t stack then having a 4 line display would in my mind be very desirable.

Cheers.

### **Re: Open45s: Display**

*Message #35 Posted by [Paul Guertin](#) on 7 Nov 2007, 11:06 p.m.,  
in response to message #34 by Pavneet Arora*

Quote:

---

When working with the 35s I keep wishing that I could just have more information at a glance rather than having to R v all the time. If we go with the standard x,y,z,t stack then having a 4 line display would in my mind be very desirable. Cheers.

---

A display mode could show 4 stack levels simultaneously, two per line. With a 40-character, 2-line display, there's enough room.

Don't know if it's easy to do, but another display mode could use the whole display to show just X in double-width, double-height characters, so I could use the calculator without reading glasses.

Paul Guertin

### **Re: Open45s: Display**

*Message #36 Posted by [DaveJ](#) on 7 Nov 2007, 11:39 p.m.,*

*in response to message #35 by Paul Guertin*

Quote:

Don't know if it's easy to do, but another display mode could use the whole display to show just X in double-width, double-height characters, so I could use the calculator without reading glasses.

That's not possible with the character based modules I'm afraid, one of their down-sides. Full dot-matrix would be needed for that.

Dave.

#### **4 line Pioneer display**

*Message #37 Posted by **DaveJ** on 7 Nov 2007, 8:28 p.m.,  
in response to message #1 by Pavneet Arora*

A 4x16 display at 72mm x 48mm, Everbouquet brand.

[Farnell Stock](#)

Dave.

#### **Re: Phoenix 45s: 2 and 4-line displays**

*Message #38 Posted by **Pavneet Arora** on 9 Nov 2007, 3:56 p.m.,  
in response to message #37 by DaveJ*

Having a look at this site, there seems to be some more options for displays:

[link:[http://www.gy-lcd.cn/readarticle/htm/class/C81\\_1.html](http://www.gy-lcd.cn/readarticle/htm/class/C81_1.html)]GY-LCD Mfg[/link]

Do we want to specify trans-reflective with back-lighting to our spec?

Cheers.

My, that PCM 4002A-FL-YBS looks nice (for a 2-liner)...

#### **Re: Phoenix 45s: 2 and 4-line displays**

*Message #39 Posted by **DaveJ** on 10 Nov 2007, 7:10 a.m.,  
in response to message #38 by Pavneet Arora*

Quote:

Having a look at this site, there seems to be some more options for displays:

[GY-LCD Mfg](#)

Do we want to specify trans-reflective with back-lighting to our spec?

Cheers.

My, that PCM 4002A-FL-YBS looks nice (for a 2-liner)...



---

That one is 33.5mm in height, compared with 20mm for the Varitronix unit. I believe that does not leave enough key space. BTW, many manufacturers do the same size 40x2 display, but only one does the 20mm version that I can find.

BTW, backlighting (LED) on these displays is usually quite poor. I probably wouldn't bother. No calculator I own has a backlight and I've never needed one. I added one to my uWatch because I could, and it's used as watch so should have one, but it's very ordinary indeed.

Dave.

*Edited: 10 Nov 2007, 7:12 a.m.*

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## HP Forum Archive 17

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### O.T.: Basic Transistor Engineering Question

Message #1 Posted by [Ed Look](#) on 3 Nov 2007, 10:06 p.m.

I am a chemist and really not at all any kind of engineer.

In regard to flash memory MOSFET configurations, why is the NOR (parallel or random access) setup designed to use hot electron (holes, too?) injection to program while the NAND version (serial, block access) exclusively uses Fowler-Nordheim injection?

The latter appears more efficient, seems to use less power, and spares the transistor of excess aging.

I would really like to know why the hot carrier injection design is still used.

### Re: O.T.: Basic Transistor Engineering Question

Message #2 Posted by [Gordon Dyer](#) on 4 Nov 2007, 6:44 p.m.,  
in response to message #1 by Ed Look

It is a complex battle of both technology trade-offs and vested interests by semiconductor manufacturers. See this article for applications in mobile handsets:  
[http://www.embedded.com/columns/technicalinsights/165701775?\\_requestid=82339](http://www.embedded.com/columns/technicalinsights/165701775?_requestid=82339)

Quoting from the end of the article: "Right now, NAND still lags NOR in read speed, while NOR is considerably behind NAND in density. Until one technology can bridge the advantage gap offered by the other, there will continue to be cases, such as in the NEC FOMA 900iL handset, where NAND and NOR can, and will, co-exist."

INTEL and ST are continuing to push their NOR technologies and now are competing better on density by using 4 levels in a cell to store 2 bits per cell.

<http://www.st.com/stonline/products/promlit/pdf/flnormob1005.pdf>

### Re: O.T.: Basic Transistor Engineering Question

Message #3 Posted by [Ed Look](#) on 5 Nov 2007, 1:38 p.m.,  
in response to message #2 by Gordon Dyer

Interesting!

But why even use the hot electron injection design in NOR cells?

### Re: O.T.: Basic Transistor Engineering Question

Message #4 Posted by [Eric Smith](#) on 5 Nov 2007, 2:55 p.m.,  
in response to message #1 by Ed Look

Some NOR flash parts do use Fowler-Nordheim tunneling for both program and erase (vs. the majority of

NOR flash that uses hot electron injection for program and Fowler-Nordheim tunneling for erase). I'm not sufficiently conversant with the issues to know why most NOR flash parts still use hot electron injection.

*Edited: 5 Nov 2007, 2:58 p.m.*

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## HP Forum Archive 17

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### HP35s Reinforced concrete beam design to BS8110

Message #1 Posted by [John Wasilewski](#) on 3 Nov 2007, 9:04 a.m.

Anyone who wants a copy of my fully working and tested program, 'BEAM 8110' please send your email address so that I can send you an M\$Word file of the formatted, commented listing.

It will take me too long to amend the listing to use only the displayable character-set in this forum so I'm offering only the downloadable listing. I also don't have a facility for posting a downloadable version.

Everyone please feel free either to put the downloadable file online on your own websites for the benefit of others or to port the listing to this restricted character-set and upload it to MoHPC.

The program has 564 lines, with loops within loops. It uses 25 variables and 3 flags. It uses only one LBL.

#### FUNCTIONALITY AND USE

(taken from the first page of the listing file):

Designs main reinforcement for rectangular reinforced concrete beams to BS 8110:Pt.1:1997. Singly or doubly reinforced (tension steel only or tension and compression steel). Parabolic-rectangular concrete compression stress block. Program assumes steel is high-yield (grade 460) but this can easily be altered in the code, optionally with a steel grade prompt for user-specified input.

#### Input

|   |                      |   |
|---|----------------------|---|
| Mu  | (N-mm)               | The required ultimate moment of resistance.                                     |
| Fcu   | (N/mm <sup>2</sup> ) | Characteristic cube strength  |
| C   | (mm)                 | Cover to main bars all round  |
| Program now suggests a suitable section size for a singly-reinforced section, which user can over-ride or accept. |                      |   |
| H   | (mm)                 | Section total depth (accept suggested/over-ride)                                |
| B   | (mm)                 | Section total breadth (accept suggested/over-ride)                              |
| Q   | (mm)                 | Bar diameter of compression<br>(optional entry - autogen input if left blank)   |
| O   | (mm)                 | Bar diameter of tension steel<br>(optional entry - autogen input if left blank) |

Bar diameters are entered into the two lines of screen display, compression then tension, before pressing R/S. After entering neither tensile nor compressive steel the program takes a minute or more to finish. Finishes more quickly if at least the tensile bar diameter is entered..

#### Output

|             |  |   |
|-------------|--|---|
| [NC, DiamC] | No. of compression bars needed, bar diameter |   |
| [NT, DiamT] | No. of tension bars needed, bar diameter     |   |
| Mu          | (N-mm)                                       | Mu for the rounded-up whole numbers of bars   |
| Mu          | (N-mm)                                       | Mu that the calculated exact area of steel actually needed would provide<br>The latter is re-calculated for the output steel so serves as a check of a correct result |
| E           | (kg/m)                                       | Tot steel wt. for rounded-up whole numbers of bars  |

E (kg/m) Total steel weight for the calculated exact are of steel actually  
needed (not a whole no. of bars)  
Users can assess the efficiency of the solution by  
comparing the two displayed steel weights.

#### Tension steel

Finds no.of bars needed for the user-specified bar size,  
increasing bar size if bar-spacing too close. Does not warn  
user if maximum bar diameter reached but tension bars still  
too close.

#### Compression steel

Always included if user enters a compression bar diameter and is  
automatically triggered if not entered but small section size  
makes it necessary. Adjusts compr. bar diameter for sensible  
min. bar spacing (assuming 20mm aggregate size).  
Also complies with min. 0.2% rule for compression steel.

#### Partial optimising

Program chooses the compression bar diameter that gives the least  
total steel weight for tens. + compr. steel.

#### REFERENCES

BS8110:Pt.1:1997  
Reynolds and Steadman: Reinforced concrete  
designer's handbook: 10th ed.

[John@Wasilewski.co.uk](mailto:John@Wasilewski.co.uk)

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## HP Forum Archive 17

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### DIY Voyager feet?

Message #1 Posted by [Igor Vilensky](#) on 2 Nov 2007, 8:37 p.m.

Any suggestions on using hardware store available materials to fashion Voyager series missing rubber feet replacements? Perhaps thin rubber with some sort of adhesive? There are available thin rubberized magnetic strips with one side already adhesive. Could these negatively affect the electronics?

Thank you.

### Re: DIY Voyager feet?

Message #2 Posted by [John Keith](#) on 2 Nov 2007, 9:21 p.m.,  
in response to message #1 by Igor Vilensky

You can buy black rubber gasket material at most hardware and auto supply stores. Just cut out the replacement foot and attach it with contact cement.

John

### Re: DIY Voyager feet?

Message #3 Posted by [Igor Vilensky](#) on 2 Nov 2007, 9:25 p.m.,  
in response to message #2 by John Keith

Thank you very much, John! I will try the auto supply store tomorrow.

### Re: DIY Voyager feet?

Message #4 Posted by [Bill \(Smithville, NJ\)](#) on 2 Nov 2007, 9:53 p.m.,  
in response to message #1 by Igor Vilensky

Hi Igor,

Randy gave an option for 1/16" 12" x 12" rubber sheet with adhesive - see last message in following link:

[Voyager Feet](#)

I just checked the model number and it's still available, slightly higher cost.

Bill

### Re: DIY Voyager feet?

Message #5 Posted by [Igor Vilensky](#) on 3 Nov 2007, 12:14 a.m.,  
in response to message #4 by Bill (Smithville, NJ)

Hmmmm.

this material is only rated to 1000 psi:

Durometer Hardness  $\pm 5$  70A Tensile Strength, psi 1000 Stretch Limit % 200 Density, lbs./cu. ft. 84

Will it suffice? And if the tensile strength is sufficient, what about the stretch limit?

Really, thank you for great info, it's great to know such stuff is available, it's ideal for the purpose.

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## HP Forum Archive 17

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### JIMROM

Message #1 Posted by [Gerry Schultz](#) on 2 Nov 2007, 4:23 p.m.

Before I pose my question, I want to mention that my copy of "A Guide to HP Handheld Calculators and Computers" by Wlodek Mier-Jedrzejowicz arived this morning and I haven't gotten a lick of work done since. I am really enjoying all the information it has about old HP calculators. It's a great read and a job well done. I first read about this book earlier this week here in the forum, so thanks.

Anyway, recently I spent way too much money and bought a bunch of HP-IL stuff to expand my 41C collection. It motivated me to go looking for a bunch of my old stuff buried away in boxes in my attic. To that end, I found my old HHP-16K 41C ROM Emulator made by Hand Held Products along with it's documentation. (As a side note, I also found my Port-X-tender, Model 4107 by AME Design along with all its documentation. Talk about memories!)

Now, the EPROMs that are in the ROM Emulator contain software called the JIMROM. I do have the documentation for the JIMROM that came with the Emulator but I would like to find more information as the documentation is pretty sketchy. There are routines mentioned like GTOROM, SXL, NSTO, NRCL, TP and VP. These routines look pretty simple but there is a long letter at the end of the documentation from John McGechie written on January 12, 1982 and goes into great detail about the JIMROM and I don't understand a lot of it.

If anyone has any more insight into this ROM, I would appreciate just being pointed in the right direction, and I'll go from there.

Thank you for your time.

Gerry

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### Restoring HP01

Message #1 Posted by [gileno](#) on 2 Nov 2007, 10:52 a.m.

[Restoring HP01 Link](#)

### Re: Restoring HP01

Message #2 Posted by [Don Shepherd](#) on 2 Nov 2007, 11:39 a.m.,  
in response to message #1 by [gileno](#)

Gileno, you are DA MAN!

### Re: Restoring HP01

Message #3 Posted by [Geir Isene](#) on 2 Nov 2007, 12:48 p.m.,  
in response to message #1 by [gileno](#)

WOW!

Could you fix mine? I have one that doesn't turn on - no idea what's wrong. It is in very nice condition otherwise.

### Re: Restoring HP01, the author was me ;-) 767geoff

Message #4 Posted by [geoff quickfall](#) on 3 Nov 2007, 2:38 a.m.,  
in response to message #1 by [gileno](#)

Actually, Gileno was sending you to an article and restoration I did this Summer.

I have now got 4 fully restored and fully functional HP 01 in the stable:

767Geoff

This one is a prototype, notice no serial numbers on the back case. I was told that actually this is a proto-prototype as the prototypes had one serial number inscribed:

[http://i45.photobucket.com/albums/f96/geoff\\_q/hp01proto.jpg](http://i45.photobucket.com/albums/f96/geoff_q/hp01proto.jpg)

[http://i45.photobucket.com/albums/f96/geoff\\_q/caseback.jpg](http://i45.photobucket.com/albums/f96/geoff_q/caseback.jpg)

Before and after on another steel type:

[http://i45.photobucket.com/albums/f96/geoff\\_q/beforeafterbronze.jpg](http://i45.photobucket.com/albums/f96/geoff_q/beforeafterbronze.jpg)

[http://i45.photobucket.com/albums/f96/geoff\\_q/groupa-1.jpg](http://i45.photobucket.com/albums/f96/geoff_q/groupa-1.jpg)

some others all lined up:

[http://i45.photobucket.com/albums/f96/geoff\\_q/closegroup.jpg](http://i45.photobucket.com/albums/f96/geoff_q/closegroup.jpg)

at work with a couple of HP:

[http://i45.photobucket.com/albums/f96/geoff\\_q/pair2-1.jpg](http://i45.photobucket.com/albums/f96/geoff_q/pair2-1.jpg)

[http://i45.photobucket.com/albums/f96/geoff\\_q/hp01b.jpg](http://i45.photobucket.com/albums/f96/geoff_q/hp01b.jpg)

[http://i45.photobucket.com/albums/f96/geoff\\_q/hp01a.jpg](http://i45.photobucket.com/albums/f96/geoff_q/hp01a.jpg)

[http://i45.photobucket.com/albums/f96/geoff\\_q/stop1.jpg](http://i45.photobucket.com/albums/f96/geoff_q/stop1.jpg)

**Re: Restoring HP01, the author was me ;-) 767geoff**

*Message #5 Posted by **Les Bell** on 3 Nov 2007, 8:29 a.m.,  
in response to message #4 by geoff quickfall*

Now *\*that's\** a first officer's watch!

;)

Best,

--- Les

[<http://www.lesbell.com.au>]

**Congrats, Geoff! Amazing! (N.T.)**

*Message #6 Posted by **Vieira, Luiz C. (Brazil)** on 3 Nov 2007, 8:40 a.m.,  
in response to message #4 by geoff quickfall*

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## HP Forum Archive 17

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### HP 35s Matrix Multi-Tool

Message #1 Posted by [Stefan Vorkoetter](#) on 2 Nov 2007, 10:05 a.m.

I've just posted an article to my web site, [A Matrix Multi-Tool for the HP 35s Programmable Calculator](#).

This is my second attempt at a large program for the HP 35s. My previous program ([Curve Fitting for the HP 35s Programmable Calculator](#)) addressed the curve fitting shortcomings of the 35s. This program is a start at doing the same for matrix functionality.

Given an  $N \times N$  matrix  $A$ , and an  $N$ -element vector  $b$ , the matrix multi-tool will do the following:

1. Compute  $A^{-1}$ .
2. Compute the determinant of  $A$ .
3. Solve the system of linear equations,  $Ax=b$ , giving column vector  $x$ .
4. Quickly solve additional  $Ax=b$  systems for different  $b$  vectors.

The program uses Gaussian elimination with partial pivoting to compute results 1, 2, and 3 simultaneously. It uses matrix-vector multiplication for operation 4.

Enjoy!

Stefan

### Re: HP 35s Matrix Multi-Tool

Message #2 Posted by [John Wasilewski](#) on 2 Nov 2007, 10:54 a.m.,  
in response to message #1 by [Stefan Vorkoetter](#)

Can you do a version of the equation solver that solves banded symmetrical equations where the only the halfbandwidth of coefficients plus the rhs vector are stored?

Just to make it difficult, can the solution progressively overwrite the original RHS vector, overwriting also the coefficient array space as working storage, and not use any additional storage?

I suggest the halfbandwidth storage be treated as if stored in a 1-D array with a simple algorithm for the offset that points to non-zero (i,j) terms of the full square matrix, in the 1-D compressed array.

I assume that you are fully familiar with all that I am talking about (just ask me if I am not being clear). I do not assume that you will be able to find time to do this, but if you could do so then it would be a major step towards the frame analysis program I am hoping someone will also do for HP35s engineer users!

----

John

### Re: HP 35s Matrix Multi-Tool

Message #3 Posted by [Stefan Vorkoetter](#) on 2 Nov 2007, 11:26 a.m.,  
in response to message #2 by [John Wasilewski](#)

I understand what you're talking about, but I can't really say I'm "fully familiar" with it. However, I think I'm done writing large programs for the 35s for now. I have too many other things on the go, but I had to get the calculator programming thing out of my system.

Stefan

**Re: HP 35s Matrix Multi-Tool**

*Message #4 Posted by [John Wasilewski](#) on 2 Nov 2007, 11:32 a.m.,  
in response to message #3 by Stefan Vorkoetter*

Understand perfectly. Thanks for posting this one.  
I'll save a copy. Very useful.

---

John

**Re: HP 35s Matrix Multi-Tool**

*Message #5 Posted by [Arne Halvorsen \(Norway\)](#) on 2 Nov 2007, 11:06 a.m.,  
in response to message #1 by Stefan Vorkoetter*

Good work! I may have to check this out :-)

**Re: HP 35s Matrix Multi-Tool**

*Message #6 Posted by [Rodger Rosenbaum](#) on 2 Nov 2007, 4:57 p.m.,  
in response to message #1 by Stefan Vorkoetter*

Stefan, you say on the website that it takes a *long* time for a loarge system. Would you tell how long it takes to invert an 18x18 matrix full of random numbers?

**Re: HP 35s Matrix Multi-Tool**

*Message #7 Posted by [Stefan Vorkoetter](#) on 3 Nov 2007, 6:43 a.m.,  
in response to message #6 by Rodger Rosenbaum*

I haven't tried such a large example yet, but I'd suspect somewhere between one and two hours.

Stefan

**Re: HP 35s Matrix Multi-Tool**

*Message #8 Posted by [Rodger Rosenbaum](#) on 3 Nov 2007, 10:02 a.m.,  
in response to message #7 by Stefan Vorkoetter*

Wow! That's longer than I would have expected. For comparison, the HP48G takes 23 seconds, and the HP50 takes 12 seconds.

Have you tried calculating the determinant of Hilbert matrices of order 5, 6 or 7 and comparing to the exact results? I wonder how the 35s does for accuracy on long calculations such as these.

I think you can find these tests done by Palmer on this forum.

**Re: HP 35s Matrix Multi-Tool**

*Message #9 Posted by [Stefan Vorkoetter](#) on 4 Nov 2007, 7:51 a.m.,  
in response to message #8 by Rodger Rosenbaum*

Don't forget that these are built-in operations on the 48/49/50 series, so they're likely coded in assembly language or compiled C code. I'm sure if you implemented them in RPL, they'd be quite a bit slower.

Anyway, I did some timing up to 7x7 just now, and based on those, and the fact that Gaussian elimination is  $O(N^3)$ , it's faster than I expected. 18x18 should take about 18 to 20 minutes.

Stefan

### **Re: HP 35s Matrix Multi-Tool**

*Message #10 Posted by [Rodger Rosenbaum](#) on 4 Nov 2007, 8:56 a.m.,  
in response to message #9 by Stefan Vorkoetter*

I haven't forgotten, and they are indeed coded in assembly. Paul McClellan recoded all the matrix operations in assembly using internal 15 form numbers.

The better estimate of timing is more like what I would have expected.

Have you tried the Hilbert matrices? If so, what kind of results did you get?

### **Re: HP 35s Matrix Multi-Tool**

*Message #11 Posted by [Stefan Vorkoetter](#) on 4 Nov 2007, 2:58 p.m.,  
in response to message #10 by Rodger Rosenbaum*

Just tried a 6x6 Hilbert matrix. The program comes up with a determinant of 5.3672816017e-18

Calculating the same determinant exactly (in Maple, using rational numbers) and then evaluating the resulting fraction to the same number of digits, I get 5.3672988874e-18

So the Matrix Multi-Tool's answer has a relative error of 3.2e-6.

How does the 48 do on this?

Stefan

*Edited: 4 Nov 2007, 2:59 p.m.*

### **Re: HP 35s Matrix Multi-Tool**

*Message #12 Posted by [Meenzer](#) on 4 Nov 2007, 3:58 p.m.,  
in response to message #11 by Stefan Vorkoetter*

The 50G creates a 6x6 Hilbert matrix with its own command in a fraction of a second and yields 5.36729988736E-18 or 1/186313420339200000 for the determinant in another fraction of a second.

### **Re: HP 35s Matrix Multi-Tool**

*Message #13 Posted by [Rodger Rosenbaum](#) on 5 Nov 2007, 2:32 a.m.,  
in response to message #11 by Stefan Vorkoetter*

Quote:

---

Just tried a 6x6 Hilbert matrix. The program comes up with a determinant of 5.3672816017e-18

Calculating the same determinant exactly (in Maple, using rational numbers) and then evaluating the resulting fraction to the same number of digits, I get 5.3672988874e-18

So the Matrix Multi-Tool's answer has a relative error of 3.2e-6.

How does the 48 do on this?

Stefan

---

The 48G gets 5.36728432771E-18, but beware, this result should not be compared to 5.36729988736E-18 because the calculator can't be expected to get that result. See my posting: <http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv015.cgi?read=72273#72273>

The correct value to use as the standard of comparison for a calculator that uses 12 digit numbers in its calculations is 5.36728432456E-18. Using this as a standard of comparison, the HP48G got 3 more correct digits than your 35S program. This is the expected result since the 48G uses 15 digit arithmetic for the calculation, 3 more than you're using.

The LCM of the denominators in a 6x6 Hilbert matrix, if you want to use the other method I mentioned in the earlier post, is 27720. The determinant in that case should be exactly 2435091120, but the HP48G gets 2435091119.56

## Re: HP 35s Matrix Multi-Tool

*Message #14 Posted by **Palmer O. Hanson, Jr.** on 8 Nov 2007, 9:10 p.m., in response to message #11 by Stefan Vorkoetter*

Quote:

---

Just tried a 6x6 Hilbert matrix. The program comes up with a determinant of 5.3672816017e-18

Calculating the same determinant exactly (in Maple, using rational numbers) and then evaluating the resulting fraction to the same number of digits, I get 5.3672988874e-18

So the Matrix Multi-Tool's answer has a relative error of 3.2e-6.

How does the 48 do on this?

Stefan

---

You might want to compare your results on the 35s with the results which are obtained with some classic machines. For the 6x6 Hilbert:

HP-41 Math Pak..... 5.367369294e-18  
 HP-28S..... 5.36728676731e-18

and for the modified 6x6 Hilbert (multiplied by 27720)

HP-41 Math Pak..... 2435060936  
 HP-28S..... 2435091046.63

I don't have a 35s but I understand that it offers a very large number of data registers. If that is so then I suggest that you find a way to preserve the input matrix so that it can be reviewed or modified if the user doesn't like his results and suspects that he may have made an entry error. This is particularly important when working with a machine which cannot print the input or store the input offline.

### **Re: HP 35s Matrix Multi-Tool**

*Message #15 Posted by [Stefan Vorkoetter](#) on 9 Nov 2007, 9:20 a.m.,  
 in response to message #14 by Palmer O. Hanson, Jr.*

It looks like my program's results are better than the 41C Math Pac and very slightly worse than the 28S.

Quote:

---

I don't have a 35s but I understand that it offers a very large number of data registers. If that is so then I suggest that you find a way to preserve the input matrix so that it can be reviewed or modified if the user doesn't like his results and suspects that he may have made an entry error. This is particularly important when working with a machine which cannot print the input or store the input offline.

---

Agreed, but I wanted to keep the program as simple as possible. At the moment, there is at least the Un-Solve feature, so you can get the original matrix (or a close facsimile thereof) back. Of course this doesn't work if your data entry error made the system singular, since the matrix is then left in a partially inverted state.

Stefan

### **Re: HP 35s Matrix Multi-Tool**

*Message #16 Posted by [Palmer O. Hanson, Jr.](#) on 9 Nov 2007, 10:47 p.m.,  
 in response to message #15 by Stefan Vorkoetter*

Quote:

---

It looks like my program's results are better than the 41C Math Pac and very slightly worse than the 28S.

---

If you go to the "Even More Results with Matrices" mentioned in my 4 November posting you will see that the matrix routines in the 41C Advantage module yield results for 7x7, 8x8 and 9x9 that are significantly better than those from the 41C MathPac. Some limited testing by myself and others indicates that the results from the Advantage module are very similar to those from the HP-15C. I don't have either th Advantage module or an HP-15C so I can't provide

the 6x6 results.

Quote:

---

... At the moment, there is at least the Un-Solve feature, so you can get the original matrix (or a close facsimile thereof)...

---

I still don't have a 35s. I do have a 28s which has an UNDO function. If one enters a matrix into the stack, inverts it and then uses the UNDO function one will get back the exact original matrix. If instead one does a second inversion one gets back a matrix that is close to the original matrix. The LAST function on the 28s will also bring back the original matrix. But if one has done some other work after the original inversion the original matrix is lost unless it has been stored. To me the ability to store the original matrix is one of the glorious features of all the graphic calculators whether made by HP or by TI.

The manual for either the HP-41C MathPac or Advantage Pac (I can't remember which one and I have neither available at this time) suggests that the user can get back his original matrix by doing a second invert and even offers an example to demonstrate that. Unfortunately the example is done in Fix 2 (or maybe it was Fix 4) and while the displayed result suggests an exact recovery switching to Fix 9 will show that only an approximate recovery was achieved.

## Re: HP 35s Matrix Multi-Tool

Message #17 Posted by **Palmer O. Hanson, Jr.** on 4 Nov 2007, 9:44 p.m.,  
in response to message #8 by Rodger Rosenbaum

Quote:

---

Wow! That's longer than I would have expected. For comparison, the HP48G takes 23 seconds, and the HP50 takes 12 seconds.

Have you tried calculating the determinant of Hilbert matrices of order 5, 6 or 7 and comparing to the exact results? I wonder how the 35s does for accuracy on long calculations such as these.

I think you can find these tests done by Palmer on this forum.

---

The test results Rodger mentioned can be found in Message No. 2 posted on 30 May 2005 in the thread "Even More Results with Matrices". It is toward the bottom of Archive 15 or can be found directly by going to <http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv015.cgi?read=74206>.

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## HP Forum Archive 17

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### HP35s 2-D frame analysis

Message #1 Posted by [John Wasilewski](#) on 2 Nov 2007, 8:09 a.m.

\*\*\*\*\*

This thread is not about which is the best calculator. Its about programming the HP35s with all its limitations. I don't doubt that an HP70, and HP50, an HP426-and-a-half or a Cray Bitz would be better but I don't have any of those and I'm not planning to buy one. I have an HP35s and I am interested in programs for THIS model. Please everyone, don't bang on about how much better it would be to use a different one!

\*\*\*\*\*

#### STRUCTURAL FRAME ANALYSIS FOR AN HP35s

-----

I would very much to write such a program.  
But I can't.  
(Explained below).

The HP35s seems to be limited to 26 direct and 100 indirect storage locations, which limits the maximum size of structure. I've just looked at this a little more closely and I estimate that the calculator could possible solve a structure with eg 4 lines of columns and 3 upper storeys, which is 16 nodes and 21 members.

This would be a seriously useful tool for structural engineers.

It would be possible only by three tricks.  
(1)Use a simple member numbering notation that eliminates node numbering.  
(2)Assuming infinite axial stiffness and analysing only shears and moments.  
(3)Storing only the equations halfbandwidth.

This would eliminate lengthy input routines (making for a short program). It would also need a clever equation solver with a simple algorithm to retrieve stiffness matrix terms from packed halfbandwidth storage. The solver would also need to solve the equations in-situ, by which I mean that the original coefficients become gradually over-written by the solution, and to do this entirely in the half bandwidth of a banded symmetrical matrix. Such solvers do exist in eg Fortran or c but would need porting to HP35s machine code (not hard to do).

All the above seems very tempting... but just when can I ever find the time to do it? Answer: I can't!

Would anyone else be interested in having a go at it? Probably we need a structural or aeronautical engineer who enjoys numerical modelling to tackle it. I would be happy to help with suggestions - in particular with the member numbering convention referred to above, which facilitates direct assembly of stiffness equations.

----  
John

### Re: HP35s 2-D frame analysis

Message #2 Posted by [Don Shepherd](#) on 2 Nov 2007, 8:44 a.m.,  
in response to message #1 by John Wasilewski

John, I think its 26 direct and 800 indirect.

### Re: HP35s 2-D frame analysis

Message #3 Posted by [John Wasilewski](#) on 2 Nov 2007, 9:32 a.m.,  
in response to message #2 by Don Shepherd

You're right. I've no idea where I got 100 from. Really must glance at the manual a little more often. This adds greatly to the need for a powerful program like frame analysis, which will really USE all that storage.

Even if, after allowing space for the code for this program and a few others, we only have 400 indirect storage registers remaining, this would still be ample for anything one would ever need to do on a calculator.

For example:

Plane frame

INPUT

No of members : 54

No of nodes : 30

DoF : 36

Halfbandwidth : 6

OUTPUT (for each loadcase)

30 node rotation angles

30 nodal sway displacements

108 member-end bending moments

108 member-end shear forces

5 support reactions

THE above problem would need 222 storage locations for the stiffness equations.

---

John

### Re: HP35s 2-D frame analysis

Message #4 Posted by [Brad Davis](#) on 2 Nov 2007, 9:41 p.m.,  
in response to message #1 by John Wasilewski

Good luck! I've written 2D and 3D linear and nonlinear analysis programs in Mathcad before and THAT was a chore. I can't imagine writing or using a frame analysis program on a HP50g, much less a HP35s. I saw one of these programs for the 49/50 on a website a while back, FWIW.

### Re: HP35s 2-D frame analysis

Message #5 Posted by [John Wasilewski](#) on 3 Nov 2007, 6:54 a.m.,  
in response to message #4 by Brad Davis

It is do-able. I did it on a TI-59 years ago. The program could solve structures with up to around 10 members and 9 nodes. Not a lot, but really useful from time to time. -- John

## Re: HP35s 2-D frame analysis

Message #6 Posted by **Rodger Rosenbaum** on 3 Nov 2007, 2:05 a.m.,  
in response to message #1 by John Wasilewski

Do you do these types of calculations in your current employment? What do use to do the calculations, something running on a PC, perhaps? If you had the software to run on a 35S, would you actually use it for work, or is this just for the fun of it?

I understand "for the fun of it", but I'm curious to know which it is for you.

## Re: HP35s 2-D frame analysis

Message #7 Posted by **John Wasilewski** on 3 Nov 2007, 6:43 a.m.,  
in response to message #6 by Rodger Rosenbaum

Quote:

\_\_\_\_\_

If you had the software to run on a 35S, would you actually use it for work, or is this just for the fun of it? I understand "for the fun of it", but I'm curious to know which it is for you.

\_\_\_\_\_

Fair question.

It is for both your suggested reasons, plus a third one.

All of these are significant contributors to my motivation.

In no particular order or priority:

Reason (1)

For the fun of it. Its a challenge, to try to do something complex and difficult with the very limited computational resources of a programmable calculator. Success is very rewarding, I suppose in the same way as some people (not me) find it rewarding to complete a large jigsaw or a Times crossword.

Reason (2)

Programming a complex theoretical procedure is a learning tool. Like when one is studying or revising, it is only when asked to explain the theory to someone else that I find out whether I really understand it myself. Programming it is the same kind of self-test. I finally learned in full how the stiffness method works only by writing a 7500-line Fortran program to solve structures using it. In a similar vein, I have recently RE-LEARNED how to do a rigorous parabolic rectangular analysis of reinforced concrete beams (which I only rarely need to do nowadays because there are more junior staff around to do it for me!).

Reason (3)

Yes, I really do have a use for such programs in my work. As I say above, it is not something I do frequently at work because I am 'too senior', and we employ many graduates in the firm to perform such basic analysis work on an everyday basis. Paradoxically, though, this means that I no longer have easy access to the necessary software, so when, sometimes, I actually do need a quick analysis of a simple frame or a quick design check of some reinforcement, the software isn't on my computer and its a pain in the arse to have to find someone else in the firm to do it for me because I do not have the time to do such canclulations by hand. I and other senior managers have a need, therefore, for some nifty analysis tools like this that we can use occasionally to solve such problems ourselves. Programs I have written for this purpose do get used in anger from time to time. How often? In my case, I'd say about once or twice a month as a long-term average. If that doesn't seem very much use, I agree, but the usefulness of having such tools available to me adds very greatly to the value of such occasional use.

Does that answer your question?

---

John

**Re: HP35s 2-D frame analysis**

*Message #8 Posted by [Rodger Rosenbaum](#) on 3 Nov 2007, 10:08 a.m.,  
in response to message #7 by John Wasilewski*

Yes, thank you.

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## HP Forum Archive 17

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### Who buys HPs these days?

Message #1 Posted by [Frank Rottgardt](#) on 1 Nov 2007, 7:45 a.m.

Hi,

looking at the calculators HP launched after the 48-series they left the path "from engineers for engineers". Rather flashy designs and cheap plastics. The 50g and 35s giving small indications for a change to the better. But RPN still going strong, at least.

So I sometimes wonder what type of customer are HP's marketing cracks aiming on?

Watching this forum one can say that the average age seems to be beyond 30. Many technicians and engineers in the middle of their career. The 48G / 50g is used by many, but sometimes I get the feeling it is a kind of toy to complete the collection and have fun with rather than the choice for daily number crunching on the job. Here most of us are looking for a good scientific with some easy programming in a small form factor. I/O in shape of a SD or the like would be welcome. Solver and numerical integration is a must. Graphics are of minor importance.

Then we have the freshman at college/university and kids at highschool learning their math etc. Here graphics are a must. These customers want? flashy colours. Doing your homework a capable machine like the 50g is a perfect companion. But then, during exams or tests the choice of calculators is limited. No I/O is allowed. The 33s ist a good example for this kind of stuff.

So there are a number of questions:

1) Are we "elder" engineers still a target group? One could say yes and no. Yes, since HP still supports the HP user conferences, and yes because RPN is alive after all. One could say no, since our dream calculator is still not there. Will say a machine like the HP-45s.

2) Will there ever be a chance to see a 45s from HP? I would say it is not likely. The 33s is a top seller. Why this? It is simply the best performing calculator among the ones allowed for exams (no I/O). Do students love it? Who knows? Many needed to learn RPN only some weeks before their exams. Can't be comfortable if one is used to its AOL/CAS TI.

Will be fun to share your thoughts.

### Re: Who buys HPs these days?

Message #2 Posted by [Don Shepherd](#) on 1 Nov 2007, 9:51 a.m.,  
in response to message #1 by [Frank Rottgardt](#)

Hi Frank. It's an interesting question. Other than the geeks who frequent this forum, who buys HP calcs?

If you look at the business supply stores that sell calculators, the only HPs I see there are the 12c (for the financial and real estate industry), the 17bii+ (also for the financial industry, probably the newer guys who aren't afraid to try something other than the 12c), I think a 10bii, maybe for the low-end financial, and that's it. No scientifics at all. No 33s, no 35s, no 50g. Walmart used to carry the 33s, but doesn't anymore. I have yet to see any 35's or 50's in a place where you can buy it off the shelf. I have often wondered about the number of

HP calculators sold. It seems the 12c and 17bii must sell reasonable numbers, but I can't believe that the scientifics sell that much, since they are only available on the Internet (and maybe stores like Fry's, we don't have those stores where I live).

As far as students, high school is strictly TI territory. I've never seen an HP in the public schools (other than my own!).

**Re: Who buys HPs these days?**

*Message #3 Posted by [Martin Pinckney](#) on 1 Nov 2007, 10:37 a.m.,  
in response to message #2 by Don Shepherd*

Yes, these questions are fascinating and knowing the answers would go a long way to explaining HP's decisions. A few things seem obvious to me:

1. The newer, flashy styles indicate HP decided either to market to younger customers, or they are trying (again) to siphon off some of TI's market share, or both.
2. The 35s is a "trial balloon" to see if there is still much market left among the traditionalist engineers out there (their original base).
3. Whether or not there is a 45s (or 55g?) largely depends on the outcome of the 35s experiment. I bet HP makes the 35s at least long enough to compare sales (including demographics) to the 33s.

Martin

**Re: Who buys HPs these days?**

*Message #4 Posted by [Chuck Sommer](#) on 1 Nov 2007, 11:07 a.m.,  
in response to message #2 by Don Shepherd*

Hi Don, I have seen the HP-50G on the floor of my local Circuit City (Manchester NH USA), and they also have a version of the HP-12C, as does my local Best Buy.

**Re: Who buys HPs these days?**

*Message #5 Posted by [Don Shepherd](#) on 1 Nov 2007, 2:33 p.m.,  
in response to message #4 by Chuck Sommer*

Hey Chuck, you're right, I looked online and my local Circuit City (Louisville, KY) has the 50g. I didn't know that. I've never seen it in Staples or Office Depot or Office Max, though.

I think I'll drive over and take a look.

**Re: Who buys HPs these days?**

*Message #6 Posted by [Bill \(Smithville, NJ\)](#) on 1 Nov 2007, 3:13 p.m.,  
in response to message #5 by Don Shepherd*

Hi Don,

Quote:

\_\_\_\_\_  
local Circuit City (Louisville, KY)  
\_\_\_\_\_

I grew up in Southern Indiana and worked many years in Louisville.

I'll be visiting my sisters in the week before Thanksgiving.

Maybe we could meet up and exchange HP stories?

Drop me an email and I'll let you know the exact dates.

Bill

### **Re: Who buys HPs these days?**

*Message #7 Posted by [Stefan Vorkoetter](#) on 1 Nov 2007, 3:46 p.m.,  
in response to message #5 by Don Shepherd*

Quote:

\_\_\_\_\_

I've never seen it in Staples or Office Depot or Office Max, though.

\_\_\_\_\_

Maybe you'll find it at "Test Tubes", "Lab Depot", or "Science Max"! :- ) :-)

I guess the 50g and 35s aren't really business calculators, so they probably wouldn't sell too well at those kinds of stores.

Stefan

### **Re: Who buys HPs these days?**

*Message #8 Posted by [Ed Look](#) on 1 Nov 2007, 6:12 p.m.,  
in response to message #7 by Stefan Vorkoetter*

LOL!

But I do know that OfficeMax, Office Depot in particular DID sell HP calculators at one time. They stopped carrying HP scientific or graphing calculators after the HP-48 series. Too bad!

### **Re: Who buys HPs these days?**

*Message #9 Posted by [Kiyoshi Akima](#) on 1 Nov 2007, 12:13 p.m.,  
in response to message #1 by Frank Rottgardt*

I bought an HP off the shelf yesterday. But it was a second-hand store and the calc was a 19C, so I suppose it won't affect HP's market research in any way.

### **Question is: what is to buy HPs these days?**

*Message #10 Posted by [Vieira, Luiz C. \(Brazil\)](#) on 1 Nov 2007, 12:31 p.m.,  
in response to message #1 by Frank Rottgardt*

Hi;

buying an HP calculator used to be more than simply spending some bucks and having a merchandise in return. Who actually does more than that these days? Buying an HP calculator used to be buying the tool for the job. And this used to be a serious choice. The chosen model was supposed to go ahead with usefulness. Hey, some of them went into space...

I must agree with the fact that I have most of mine for the pleasure of knowing how to use them and, if having the chance, explaining how to do that. Appart from the HP12C series, this nas not been so very often these days, though.

My 2¢.

Luiz (Brazil)

**Re: Question is: what is to buy HPs these days?**

*Message #11 Posted by **Ed Look** on 1 Nov 2007, 6:22 p.m.,  
in response to message #10 by Vieira, Luiz C. (Brazil)*

What you say is very true for students, who need to get a calculator with the capabilities they need to do well in certain courses. I bought a HP-34C to shorten my report writing time for physical chemistry lab.

Nowadays, I really DON'T have to use a programmable scientific (only a regular scientific), and especially not a graphing calculator, but they do make things easier and the programming especially makes things easier, but since we are now all progressed past our college or high school days, we can do what we need to do other ways, particularly with the PC. But I like having a small, light, eminently portable device that I can quickly program to make some tasks shorter or more pleasant. In my own case, I've calculated cubic x-ray reflections and used Arnold Moy's HP calculator periodic table and brief chemical database for the 48 or 49 series, for example, and prevented me from having to get up out of my seat to grab some book or reach over and navigate over to some software on my PC.

I don't know about engineers and surveyors however; I assume engineers stationed in the lab, office, or plant have access to more powerful, more standard computing and those on the field or surveyors may actually NEED something powerful, like a programmable or graphing HP calculator, outdoors.

**Re: Who buys HPs these days?**

*Message #12 Posted by **Tim Wessman** on 1 Nov 2007, 5:25 p.m.,  
in response to message #1 by Frank Rottgardt*

I've been at my university now for about 3 years or so. In the past 6 months the ratio of hp/ti calcs in the engineering department has increased quite a bit. Of course this is just my observation, but I've always kept a look out for this. It used to be until just recently about 1-2/10 of the students in the study areas would have ti's. It's increased to about 3-4/10 now.

I really don't know why, but they are definitely much more prevalent. About 1/3 are 49g+ units, and the other 50gs, with a spattering of "my brother's old 48g". Don't know if that means engineering students with HPs are just becoming stupider and need to study more, but I doubt it. :-)

TW

**Re: Who buys HPs these days?**

*Message #13 Posted by **Paul Ozog** on 1 Nov 2007, 10:13 p.m.,  
in response to message #12 by Tim Wessman*

I can confirm TW's observation. I have seen more engineering students either with 50g's or an interest in buying them than when I started at my university. Though I think, as was originally suggested, that this very slight increase I have seen is due to "getting older", and not because of an increased market appeal for college students.



**Re: Who buys HPs these days?**

Message #14 Posted by **Don Foster** on 2 Nov 2007, 1:49 a.m.,  
in response to message #13 by Paul Ozog

In Davis, Ca the book store at the college carries HP up to the 49G+ and TI up to the 200 voyage. There is more TI models in the store than HP. But at least there is a choice.

Don

**Re: Who buys HPs these days?**

Message #15 Posted by **Arne Halvorsen (Norway)** on 2 Nov 2007, 6:14 a.m.,  
in response to message #14 by Don Foster

Sigh... Remembering the old old days going to the Bergen University's book store. To get to the store you had to walk a corridor. The walls here were filled with posters of Einstein pushing HP calculators. When you entered, the first thing you met were the machines on a display in a glass cabinet. Placed so all could have a good look.

Last time I visited I did not see any calculators at first. Then I did see a small collection behind the counter so you can't really get to them. And all TI and Casio, except one single HP 17bII+. The last HP standing.... and it's a financial model...

**Re: Who buys HPs these days?**

Message #16 Posted by **Meenzer** on 2 Nov 2007, 6:38 a.m.,  
in response to message #15 by Arne Halvorsen (Norway)

Quote:

\_\_\_\_\_

The walls here were filled with posters of Einstein pushing HP calculators.

\_\_\_\_\_

Einstein died in 1955! So he must have had one REALLY EARLY prototype... ;-)

**Re: Who buys HPs these days?**

Message #17 Posted by **Arne Halvorsen (Norway)** on 2 Nov 2007, 6:55 a.m.,  
in response to message #16 by Meenzer

I always wondered about that! Surely HP would not take advantage of Him! So I always assumed him being The Master Of The Space Time Continuum did a time travel and grabbed a 15c...

Another one I liked was the one telling me the space shuttle was controlled by a 41.

**Re: Who buys HPs these days?**

Message #18 Posted by **Meenzer** on 2 Nov 2007, 7:41 a.m.,  
in response to message #17 by Arne Halvorsen (Norway)

Yeah, that space-time-thing must be the explanation ;-)

Quote:

\_\_\_\_\_

Another one I liked was the one telling me the space shuttle was controlled by a 41.

That one however is partially true, as far as I know. Not that the shuttle was controlled by 41's, but the crew was issued them. You may begin your reading [here](#).

### **Re: Who buys HPs these days?**

*Message #19 Posted by [Chris Haltiner](#) on 2 Nov 2007, 10:22 a.m., in response to message #17 by Arne Halvorsen (Norway)*

Quote:

Another one I liked was the one telling me the space shuttle was controlled by a 41.

If memory serves me (going back to junior high days!), the space shuttle design as of 1979 had 4 main computers--a primary and 3 back-ups. The crew had HP-41Cs for use in the event that *all* 4 computers failed. The idea in 1979 was that the HPs would assist the flight crew in piloting and navigating the shuttle in the event of multiple computer problems. So, it would not be untrue to say that the space shuttle could be "controlled" by an HP-41C.

### **Re: Who buys HPs these days?**

*Message #20 Posted by [Arne Halvorsen \(Norway\)](#) on 2 Nov 2007, 10:43 a.m., in response to message #19 by Chris Haltiner*

I know that ofcourse... But HP sure took advantage of the fact the 41 flew... Imagine a student going to shop calculator in those days: Gee, what to choose... I can have this cowboy thing over here or this one here that NASA uses. Hmmm, do I really have to eat next month?

*Edited: 2 Nov 2007, 10:59 a.m.*

### **Re: Who buys HPs these days?**

*Message #21 Posted by [Arne Halvorsen \(Norway\)](#) on 2 Nov 2007, 10:56 a.m., in response to message #19 by Chris Haltiner*

Actual while on the topic....

From the litle information there is on the topic I belive one can learn that the calculators where used in flight. It was the one particular 'center of gravity' program to be used during re-entry that luckily never had to be used (it would ofcourse have saved the day).

*Edited: 2 Nov 2007, 10:58 a.m.*

### **Re: Who buys HPs these days?**

*Message #22 Posted by [Maximilian Hohmann](#) on 2 Nov 2007, 10:59 a.m., in response to message #19 by Chris Haltiner*

Hello!

Quote:

---

The idea in 1979 was that the HPs would assist the flight crew in piloting and navigating the shuttle in the event of multiple computer problems.

---

The Space Shuttle has fly-by-wire controls like most of the modern airliners do. The inputs of the pilot's control sticks are fed into multiply redundant computers (5 in total) that calculate the necessary amount of control surface deflection required to achieve the response desired by the pilot. The control surfaces are activated hydraulically with no (zero!) direct link to the control sticks.

In case all flight computers should fail, the pilots can start playing with their hp-41 and continue to do so, as long as their oxygen lasts. However, no matter what they do with their pocket calculators, this will not move the control surfaces at all.

The control software of the Space Shuttle has a total of about 500.000 lines of code (written in "HAL/S", a dialect of PL/1, see here: <http://www.brouhaha.com/~eric/nasa/hal-s/> ). Again, no way to fit any useful part of it into an hp-41 I'm afraid...

Greetings, Max

## Re: Who buys HPs these days?

Message #23 Posted by [Frank Rottgardt](#) on 2 Nov 2007, 7:38 a.m.,  
in response to message #1 by Frank Rottgardt

According to an official HP-paper:

Quote:

---

According to the NPD Group:

HP Financial Calculators are rated No. 1 in U.S. dollar share sales;

The HP 33s Scientific Calculator is rated the "Best Seller" in the Scientific Programmable Calculator category in both units and dollar share;

All four HP Financial Calculators (10bII, 12c, 12c Platinum, 17bII+) are top ten "Best Sellers" in the Financial Calculator category in both units and dollar share.

---

After the rather massive critics in this forum concerning the 33s the biggest customer group seems to be students "forced" to buy it if they want to have access to a programable calculator during exams.

How many 33s might have been sold to professionals?

Adding I/O to the 33s or the 35s would have banned these calculators from the educational market. And that is why I don't think we will ever see such a feature either. I believe the times are over HP could make good money on calculators aiming at professionals. Now they have to keep track with TI and the educational market.

## Re: Who buys HPs these days?

Message #24 Posted by [Norris](#) on 2 Nov 2007, 12:35 p.m.,  
in response to message #23 by Frank Rottgardt

Quote:

---

After the rather massive critics in this forum concerning the 33s the biggest customer group seems to be students "forced" to buy it if they want to have access to a programmable calculator during exams.

How many 33s might have been sold to professionals?

---

It's true that the biggest market for the 33S is probably exam candidates, specifically for NCEES exams, which are required in the US for engineering and surveying licensure. For proof, simply look at the [33S page](#) at amazon.com, which is loaded with ads for FE/FS and PE/PS exam study guides.

But most of these exams are taken by professionals with several years of experience, not students. The FE/FS exams can be taken in the final year of school, but many people take them after leaving school. The PE/PS exams are taken after you have graduated from school and have several years of work experience.

So while it's probably true that most 33S sales are for exam purposes, it's also probably true that most buyers are working professionals, rather than university students. In the US, some engineers (particularly civils) and surveyors still have to take exams, even after they have been out of school for several years.

The NCEES exam market is real, but it is very small compared to the traditional university student market, which in the US is dominated by TI.

*Edited: 2 Nov 2007, 12:41 p.m.*

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## HP Forum Archive 17

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### **HP 50G - Single line w/ no reset ability**

Message #1 Posted by [Paul Ozog](#) on 31 Oct 2007, 11:18 p.m.

I turned on my calculator today and the screen froze and wouldn't respond to any keypresses. Replaced the batteries and tried holding the reset button and the screen now just has a single vertical line jumping about randomly. I didn't drop it or anything of the sort. Seriously - what the hell? I had it less than a year (so its still under warranty) but I through out the manual and packaging. Anyone have any technical advice or how to get HP to send me a new one?

### **Re: HP 50G - Single line w/ no reset ability**

Message #2 Posted by [Tim Wessman](#) on 1 Nov 2007, 12:03 a.m.,  
in response to message #1 by Paul Ozog

When you say "replaced the batteries" do you mean pulled out then back in or put fresh ones in. Really low batteries will generally cause a black line to jump across the screen randomly like you describe.

TW

*Edited: 1 Nov 2007, 12:04 a.m.*

### **Re: HP 50G - Single line w/ no reset ability**

Message #3 Posted by [Paul Ozog](#) on 1 Nov 2007, 12:48 p.m.,  
in response to message #2 by Tim Wessman

It turns out the batteries I put in as replacements were too low. Using \*new\* replacement batteries now and it works. My bad.

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## HP Forum Archive 17

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**Soviet programmable calculator**

Message #1 Posted by [Don Shepherd](#) on 31 Oct 2007, 7:49 p.m.

Soviet RPN programmable calculator on EBay. I know someone recently was interested in Soviet calculators.

[http://cgi.ebay.com/Mk61-soviet-programmable-calculator-1980s-Box-manual\\_W0QQitemZ120176429663QQihZ002QQcategoryZ11713QQssPageNameZWDVWQQrdZ1QQcmdZViewItem](http://cgi.ebay.com/Mk61-soviet-programmable-calculator-1980s-Box-manual_W0QQitemZ120176429663QQihZ002QQcategoryZ11713QQssPageNameZWDVWQQrdZ1QQcmdZViewItem)

**Re: Soviet programmable calculator**

Message #2 Posted by [Vieira, Luiz C. \(Brazil\)](#) on 31 Oct 2007, 9:23 p.m.,  
in response to message #1 by [Don Shepherd](#)

Hi, Don;

just to thank you for that. I had never seen any, first time to even know about it.

Best regards.

Luiz (Brazil)

**Re: Soviet programmable calculator**

Message #3 Posted by [Thor](#) on 1 Nov 2007, 6:42 a.m.,  
in response to message #2 by [Vieira, Luiz C. \(Brazil\)](#)

The MK-61 is neat, but check out the MK-52 with plug-in modules etc.

It is worth having one or two of these Soviet calculators. In many ways they're amazing, but perhaps even more amazing is seeing what the limits of soviet technology really were. It is not the quality of the electronics that are the biggest drawbacks, but the poor fitting plastic shells with 50s type plastic and manuals printed on poor newspaper paper.

If you can afford it, check out the amazing MK-90 that you can currently find on ebay intermittently.

There are a few good websites on these computers worth checking out, such as:

<http://www.taswegian.com/MOSCOW/soviet.html>

I've purchased a few soviet calculators from ebay dealers and have had top service and no problems. There is an outfit called westernbid that acts as a middle man accepting paypal. No problems there either.

**Re: Soviet programmable calculator**

Message #4 Posted by [hpnut](#) on 1 Nov 2007, 10:41 p.m.,  
in response to message #1 by [Don Shepherd](#)

Hi,

I successfully bid one Elektronika MK-61 programmable for a basement bargain US\$9.99. Hope to get the

calculator soon and do a short review here. Is OK right, although not HP, it is RPN calculator :-)

### **Re: Soviet programmable calculator**

*Message #5 Posted by [Chuck Sommer](#) on 2 Nov 2007, 8:42 a.m.,  
in response to message #4 by hpnut*

We allow people with TIs to post here, at least this one is RPN.

But really I would love to here about this. ... Chuck

### **Re: Soviet programmable calculator**

*Message #6 Posted by [Maximilian Hohmann](#) on 2 Nov 2007, 11:46 a.m.,  
in response to message #4 by hpnut*

Hello!

Quote:

Hope to get the calculator soon and do a short review here.

In case you also get it with a Russian manual (like mine...) you might find this website useful:

<http://members.tripod.com/GregEscov/keys.htm>

Without it, I wouldn't have found my way beyond +,-,\* and / :-)

Greetings, Max

### **Re: Soviet programmable calculator**

*Message #7 Posted by [Igor Vilensky](#) on 2 Nov 2007, 7:42 p.m.,  
in response to message #4 by hpnut*

I've been thinking about bidding on EBay for one of these calculators. I am a native russian speaker and we'll be happy to help anyone with any translating ( parts of manual? ) if wanted. Where did you find this calculator and how much is the shipping if I may ask?

### **Re: Soviet programmable calculator**

*Message #8 Posted by [hpnut](#) on 2 Nov 2007, 10:47 p.m.,  
in response to message #7 by Igor Vilensky*

Hi,

I got mine for USD9.99 but international shipping to Malaysia & insurance cost costs USD24 :-0 IMHO worth every penny.

unfortunately, mine doesn't come with the manual but I have found internet pages explaining how to use the MK-61.

currently there's one unit up for sale here <http://www.ebay.com.my/viItem?ItemId=250180856290>

good luck :-)

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## HP Forum Archive 17

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### [partially OT] Relief, relief, relief...

Message #1 Posted by [Olivier TREGER](#) on 31 Oct 2007, 2:02 p.m.

OK OK nobody cares but... I just want to share:

A friend of mine who fixes HP calcs (can't tell his name: he would be flooded with requests) just fixed my 29C and one of my 3 HP67.

It's a great feeling to see these calcs working again although they are more or less 30 years old for some of them.

Sometimes I think about my envy staring at HP dealers display window: this HP67 was the top of the cream and surely for confirmed engineers only.

This afternoon, I told my daughter: "look, it took me 30 years to get this". I'm stupid: why trying to explain... She'll understand in 30 years :)

Thanks for taking time to read this personal feeling

P.S.: for those who don't already know, my site is [here](#). Enjoy

### Re: [partially OT] Relief, relief, relief...

Message #2 Posted by [Richard Ottosen](#) on 31 Oct 2007, 2:43 p.m.,  
in response to message #1 by [Olivier TREGER](#)

Quote:

OK OK nobody cares but... I just want to share:

OK, me too:

My HP41C is serial number 2241S41904 so it just turned 25. It has been in continuous use since the day I bought it.

The only sign of age is wear on the rubber feet. A while back I cleaned it up so I could take some pictures of it. It was so pretty that I almost hated to touch it! Fortunately, I got over that quickly. :-)

-- Richard

### Exploit dropper on web page?

Message #3 Posted by [Frank Boehm \(Germany\)](#) on 1 Nov 2007, 5:09 a.m.,  
in response to message #1 by [Olivier TREGER](#)

My virus scanner alerted me on an possible (after examining the HTML source: very likely) exploit embedded into the page. Don't visit with Windows, unless you have updated Windows, Acrobat Reader and virus definitions. Sorry if this is false alarm, but better be safe than sorry...

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**Re: Exploit dropper on web page?**

*Message #4 Posted by [Olivier TREGER](#) on 1 Nov 2007, 6:54 a.m.,  
in response to message #3 by Frank Boehm (Germany)*

You seem to be right. I've changed the code but I think I'll add a htaccess file to get rid of this.

Thank you

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## HP Forum Archive 17

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**HP-12C Platinum 25th Anniversary Edition**

Message #1 Posted by [Daniel Diggelmann](#) on 31 Oct 2007, 1:09 p.m.

Dear fellow HP collectors,

I just bought above machine and overall I'm quite impressed by the quality, look and feel. Nevertheless I discovered an issue right from the beginning. Sometimes, mainly after the calc was off for a while, it seems that it doesn't recognise an ON click. If I press the ON button longer it switches on every time. It's not a big issue but I wonder whether it's a bad key or if it's a desing flaw in the electronics or software. Anyone had the same experience?

Regards, Daniel

**Re: HP-12C Platinum 25th Anniversary Edition**

Message #2 Posted by [Vieira, Luiz C. \(Brazil\)](#) on 31 Oct 2007, 1:14 p.m.,  
in response to message #1 by Daniel Diggelmann

Yeap! The same with the newer Platinum and Prestige (both seem to be internally identical to the HP12Cp 25th. Anniv. Edition). Either you quickly press the [ON] key twice or hold it.

Cheers.

Luiz (Brazil)

*Edited: 31 Oct 2007, 1:15 p.m.*

**Re: HP-12C Platinum 25th Anniversary Edition**

Message #3 Posted by [Daniel Diggelmann](#) on 31 Oct 2007, 1:20 p.m.,  
in response to message #2 by Vieira, Luiz C. (Brazil)

Hi Luiz,

That was quick! Thanks very much. I wonder if all the bancers can cope with that ;-) Sometimes I wonder if these products are ever tried for 5 minutes before being thrown on the market. We should keep sending the calcs back until they realise.

Regards, Daniel

*Edited: 1 Nov 2007, 2:12 a.m.*

**Re: HP-12C Platinum 25th Anniversary Edition**

Message #4 Posted by [Don Shepherd](#) on 31 Oct 2007, 2:16 p.m.,  
in response to message #2 by Vieira, Luiz C. (Brazil)

I can confirma that behavior on my 25th anniversary edition. Sometimes the first keypress just does not take.

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**Re: HP-12C Platinum 25th Anniversary Edition**

*Message #5 Posted by [Chris Haltiner](#) on 31 Oct 2007, 2:58 p.m.,  
in response to message #1 by Daniel Diggelmann*

Yup... drives me crazy. I'd reach for the 12C Platinum, turn it on, and start entering a calculation, only to realize that it never switched on. My old 12C doesn't have this problem.

Now, I just grab my 35s, knowing that it will register every keystroke without having to watch the calculator the entire time.

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**Re: HP-12C Platinum 25th Anniversary Edition**

*Message #6 Posted by [Daniel Diggelmann](#) on 1 Nov 2007, 1:21 a.m.,  
in response to message #5 by Chris Haltiner*

Dear colleagues,

Thanks for all your feedback. Does the issue only concern the ON button? I hope so. Anyway I haven't had any missed keystrokes.

Regards, Daniel

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**Re: HP-12C Platinum 25th Anniversary Edition**

*Message #7 Posted by [Raymond Del Tondo](#) on 1 Nov 2007, 1:45 a.m.,  
in response to message #6 by Daniel Diggelmann*

Hi Daniel,

when I received my first 12Cpt25A about a year ago, I experienced the same behaviour of the ON key. Since there seem to be many more of these units with the same effect, I consider it as a design flaw.

But on my first unit (the other one is still sealed) I also had some missed key strokes!  
They appeared when typing very fast, yet always having the machine giving the normal tactile feedback.

This effect was not always reproducible, but forced me to put the 12Cpt25A into the drawer of untrustworthy 'hp' calcs.

The 35s is much better in this respect.

I didn't have a missed key stroke on the 35s so far, and the unit seems to be able to do simple calculations correctly.

For the more advanced stuff, I'd consider the 35s as untrustworthy too, due to those unbelievable and silly bugs...

But at least they got the keyboard mechanism right this time, with the 35s;-)

Regards

Raymond

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**Re: HP-12C Platinum 25th Anniversary Edition**

*Message #8 Posted by [Daniel Diggelmann](#) on 1 Nov 2007, 2:04 a.m.,  
in response to message #7 by Raymond Del Tondo*

Good morning Raymond,

Good to hear from you. I also have a 35s and so far I'm happy with it. I like the form factor of the 12C and as I usually don't have to do technical stuff so I bought it. But I can't believe that they let us pay EUR 100 for a calc with such design flaws which are not present on any 5\$ crappy noname calc. I feel embarrassed to have been trapped again.

Regards, Daniel

*Edited: 1 Nov 2007, 2:08 a.m.*

### **Re: HP-12C Platinum 25th Anniversary Edition**

*Message #9 Posted by [Walter B](#) on 1 Nov 2007, 4:32 a.m.,  
in response to message #8 by Daniel Diggelmann*

Same procedure as with car brands every once and a while. They keep selling brand "B" expensively until every customer knows brand "A" gives you more for your money. Then they have to work hard to regain customer confidence ;)

### **Re: HP-12C Platinum 25th Anniversary Edition**

*Message #10 Posted by [Patrick Rendulic](#) on 1 Nov 2007, 8:07 a.m.,  
in response to message #5 by Chris Haltiner*

be cautious!

My 35s does not register every keystroke! That's why I no longer use it.

*Edited: 1 Nov 2007, 8:08 a.m.*

### **Re: HP-12C Platinum 25th Anniversary Edition**

*Message #11 Posted by [Daniel Diggelmann](#) on 1 Nov 2007, 8:51 a.m.,  
in response to message #10 by Patrick Rendulic*

Although I see that HP tries to do something on quality they seem to struggle. I know we are bunch of fans which look for high quality. But honestly is it too much to ask for a reliable keyboard? I work in the aircraft industry and know that it's not easy to get the human machine interface right in terms of tactile feel, colors etc. Anyone having contact to HP knows why they don't seem to have the proper engineering knowlegde anymore? Ist this ever discussed at HHC and is HP aware that they frustrate thousands of buyers? It took my one second to find out something wasn't ok with my new HP-12CPT as it didn't respond to the first click. Why doesn't this get noticed in the development of a new product? I would say that the tactile feel of the HP-35s and also of this HP-12CPT is good. So I guess the problem lays rather in the electronics hard- and software. Earlier HP had custom ICs with keyboard debounce electronics. Since they use off the shelf processors keys aren't registered properly anymore. You see I'm quite disappointed and as Raymond always tells us the last proper HP for now was the HP-48. Nevertheless I kept on buying HPs in the last years but I was never really satisfied. The HP-35s is pointing in the right direction. I'd like to see a HP-45s with all these issues solved. And if they even bring some new ideas I'd happily buy some more calcs. Diagnosis : HPAS!?! Hewlett Packard Acquirement Syndrome ;-)

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## HP Forum Archive 17

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**Should I also buy a Ti89?**

Message #1 Posted by [PhysicsNerd](#) on 31 Oct 2007, 2:30 a.m.

I'm not sure what to do here. I'm a high school student who is taking AP Calculus and will be taking the SATs shortly. I've only been using HP calcs for several months and I like the high-tech boost from my Ti-84+. However, I have not yet gotten a chance to try the Ti89. I know that there are a lot more programs available for it and that it is more widely used. Should I buy a Ti89 to accompany my hp 50g and see which I like better? (Please don't be biased, but which type of calc is better for AP Calculus and college level science/math/engineering courses?) Thanks.

**Re: Should I also buy a Ti89?**

Message #2 Posted by [Meenzer](#) on 31 Oct 2007, 4:23 a.m.,  
in response to message #1 by [PhysicsNerd](#)

I have both, the 89 Titanium and the 50G. They are both good and should both be able to do everything you want. I don't favor one over the other. If I had some weeks/months to go to take a test, I would randomly choose one and concentrate on the math and how to efficiently solve these problems with the picked calculator. I would never take both and probably get confused while taking the test - i.e. trying to use RPN on the TI or some such ;-)

**Re: Should I also buy a Ti89?**

Message #3 Posted by [Eric Smith](#) on 31 Oct 2007, 4:38 a.m.,  
in response to message #1 by [PhysicsNerd](#)

If you're referring to the SAT Reasoning Test, I took it three weeks ago. (About 25 years late, but that's another story.) I took an HP 49g+ to the test, but there were no problems for which I needed to do anything beyond basic arithmetic on it. I could have gotten by fine with pencil and paper, but then I might not have had time to both double-check all my answers and twiddle my thumbs for several minutes.

I did not take the SAT Subject Tests in Mathematics. From the test descriptions, it sounds like any scientific calculator should be adequate. You're not going to be asked to evaluate triple integrals or compute eigenvectors; there aren't any particular special functions of either the TI-89 or HP 50g that will give you a big edge.

If you're doing well in AP Calculus and have a little knowledge of basic statistics and probability, you should do fine on the math sections of the SAT Reasoning Test and on both of the SAT Subject Tests in mathematics. (And, for that matter, the quantitative part of the GRE, which I took this past August.)

Two years ago I took a linear algebra class for which the TI-85 or TI-86 were recommended. I was prepared to buy one if it proved necessary, but found that my HP 49g+ was more than adequate. The only drawback to not having the recommended calculator was that the professor would not have been able to show me how to solve problems on it, but I was able to work them all out myself without difficulty. Since the point of the class is to learn the math, not to learn the calculator, I'd claim that it doesn't make any difference which one you use, as long as you learn how to use it. So I wouldn't spend any money on buying yet another calculator of any sort,

unless you decide that you're not satisfied with the TI-84+ and HP 50g. (Or unless you just want another cool toy.)

My personal opinion is that any of the 48/49/50 series of calculators are fantastic for math, science, and engineering, and that I would have a harder time with the TI-89. I bought a TI-92 some years back, and IIRC the TI-89 is basically a subset of that. I didn't find it to be nearly as convenient to solve calculus problems as the HPs. That may be due to my years of experience with RPL, ever since getting an HP-28C back in 1987.

The main advice I would give anyone taking the SAT Reasoning Test has nothing to do with the math portion. Rather, I'd make a suggestion about the essay. They give you a topic and only 25 minutes to write on it. DON'T do what I did. I spent about five minutes organizing my thoughts and selecting three main points to write about. Then I wrote an introduction and thesis statement, and paragraphs about two of my main points. Time was called before I could write about my third point and a conclusion.

While I followed the correct process for writing a good essay, it's completely wrong for the SAT! I only scored 8 of 12 points for it, which dragged my overall writing score down considerably. I've since seen that Dr. Les Perelman of M.I.T. has studied SAT essays and found a near perfect correlation between essay length and SAT score, without regard to any normal quality metrics for the essay:

<http://www.nytimes.com/2005/05/04/education/04education.html>. This indicates that you should spend no time thinking, and all 25 minutes writing anything that pops into your head. Fill that paper up!

By comparison, I scored 5.5 out of 6 on the essays for the GRE, a test which has higher standards.

### **Re: Should I also buy a Ti89?**

*Message #4 Posted by [Jonathan Eisch](#) on 31 Oct 2007, 4:49 a.m.,  
in response to message #1 by PhysicsNerd*

For the AP test, you want to use whatever you're really good at using. As I recall, the calculator won't help you much except to get things done quicker than you can do in your head, or to check something that you weren't sure about. For both of those, you want speed. The level of mathematics on the AP isn't going to push either calculator too far.

Now that I think about it, the TI89 does pretty aggressive simplification, or converting your equation to some standard form, which often makes things more confusing. The HP typically gives a result closer to the form of the original equation (and therefor closer to whatever you did on your paper), and doesn't have so many of those crazy special functions that show up on the TI 89 (as I recall from before I sold my TI-89 to buy a HP-49g+)

For the SAT, it's pure speed. Use whatever you're fast with, where you know the keyboard well and you aren't going to make stupid mistakes.

That's my experience, at least.

-Jonathan

### **Re: Should I also buy a Ti89?**

*Message #5 Posted by [DaveJ](#) on 31 Oct 2007, 6:14 a.m.,  
in response to message #1 by PhysicsNerd*

The "best" calculator in this case is the one everyone else has. If they all have TI-89 then get the TI-89.

Also, I would not be switching to a new calc just before an important exam, that could be bad news.



Dave.

### **Re: Should I also buy a Ti89?**

*Message #6 Posted by [Dave Britten](#) on 31 Oct 2007, 7:37 a.m.,  
in response to message #1 by [PhysicsNerd](#)*

Speaking completely outside the context of an impending exam, I can't really recommend the 89, strictly for usability reasons. As I'm sure you already know, the 89 is really nothing more than a 92+ in an 83+ shell (with slightly reduced screen size). This is all fine and dandy capability-wise; the machine can pretty much run circles around any other TI in terms of what it can handle.

The problem is that the OS was created well before transitioning to the smaller form factor, and the designers relied heavily on the notion that the user would have the full QWERTY keyboard available at all times. This resulted in a lot of useful math functions being buried in a less-than-ideal menu system, because they either had direct key equivalents, or could be very quickly typed out by name.

Now, move that onto a unit with drastically fewer keys, and a layout not optimized for letter entry (Why are X, Y, Z, and T ABOVE all the other letters?), and usage becomes quite a bit more cumbersome. You're either going to hunt-and-peck functions like factor() or expand(), or you'll have to become very accustomed to spending time with the cursor keys. It's either that, or build some huge custom menus yourself (it at least gives you that option).

Consider that the 92 already had three different shift keys to get everything done, and that the 89 now has four with the addition of the ALPHA key, and it's pretty obvious that reducing the number of physical keys probably wasn't the best way to go with that particular system. :)

Now, as for the 92+, or its replacement, the Voyage 200, I think they're both pretty fantastic, and if you're going to use a TI, then those (and the 86) are both excellent choices. Most stores don't have them on display, or even available in stock, but you can always try out an 89 to see what it does, realizing that entry is a good deal easier on its larger siblings.

### **Re: Should I also buy a Ti89?**

*Message #7 Posted by [Eric Smith](#) on 31 Oct 2007, 3:07 p.m.,  
in response to message #6 by [Dave Britten](#)*

The 92, 92+, and Voyage 200 don't qualify under the [SAT calculator policy](#) due to the QWERTY keyboard.

### **Re: Should I also buy a Ti89?**

*Message #8 Posted by [Dave Britten](#) on 31 Oct 2007, 3:24 p.m.,  
in response to message #7 by [Eric Smith](#)*

Yup, I know, hence the preface of "Speaking completely outside the context of an impending exam." :) Certainly worth pointing out, though. I seem to recall having been in a similar position back when I took the ACT. Can't remember if I opted for my TI-83 or HP 49g... Heh.

### **Re: Should I also buy a Ti89?**

*Message #9 Posted by [Kelly Huckman](#) on 31 Oct 2007, 4:22 p.m.,  
in response to message #6 by [Dave Britten](#)*

Custom menus pretty much nullify your entire point. It took me about 15 minutes to pound out a custom

menu script on my computer and transfer it over to the calculator.

I never have to use alpha or the catalog/math menus. I just use the function keys and 0-9 to select the function I want. There are plenty of reasons to use an HP over a TI, I just don't think this is one of them.

### **Re: Should I also buy a Ti89?**

*Message #10 Posted by [Dave Britten](#) on 31 Oct 2007, 5:36 p.m.,  
in response to message #9 by Kelly Huckman*

I didn't say it was a reason to use an HP over a TI. I said it was a reason to use a TI-92 over a TI-89. I'd prefer the 92 any day! I'm not trying to start any brand loyalty debates here; there are fine machines from both manufacturers, and I own several from each.

### **Re: Should I also buy a Ti89?**

*Message #11 Posted by [Nick W.](#) on 1 Nov 2007, 3:22 a.m.,  
in response to message #1 by PhysicsNerd*

Unless you have a need for some specific feature in the 89, I don't see any reason for you to drop another hundred bucks on another calculator (Unless you can convince your parents to pay for it). I'm also currently in AP Calculus and am using the 50g that I bough last year for AP Stats when my 48gx proved too slow to punch in a bunch of data. It easily does everything we've learned so far and the answers are pretty and symbolic. Either should be able to do everything that comes up on the AP test.

As far as the SAT reasoning test, you barely need a calculator at all, as Eric mentioned. I did take the Math II subject test at the beginning of this month and there aren't really any calculus concepts on there. There's more calculus on the physics test, because they make you identify plots of velocity, acceleration, etc. given a plot of displacement or something along those lines. If you really understand your precalc and trig you'll do fine with any calculator. If you only sort of understood trig and precalc then a graphing calculator would help, but again, you don't need anything fancy. If I can offer you any advice for the math subject test, it's use whatever you are faster with. I only finished about the first 2/3 of my test, and had to leave the last chunk of questions blank. I somehow got an 800 still, which means that America as a whole must be pretty awful at math, since my friends who finished got a 670 and 710.

It probably just comes down to whatever you are faster with. I was lucky enough to start with a 41CV in 7th grade and I couldn't imagine using anything other than RPN now. If you were good with your TI-84, then you might like the TI-89, but I'd go to office max and try out one of the display models before shelling out the cash for one.

### **Re: Should I also buy a Ti89?**

*Message #12 Posted by [Massimo A. Santin](#) on 1 Nov 2007, 5:14 a.m.,  
in response to message #1 by PhysicsNerd*

I don't know if you need another calculator but I want to share with you my experience of using TI-89 Titanium screen. TI-89 Titanium is a very nice and powerful calculator (especially for students) but I found the screen dark and too small. And if I use a table lamp sometimes the shadows of characters are disturbing the reading. Except for that I like it. But I prefer my HP-50g.

### **Re: Should I also buy a Ti89?**

*Message #13 Posted by [Chan Tran](#) on 3 Nov 2007, 7:09 p.m.,  
in response to message #12 by Massimo A. Santin*

Buy them all. New calculators are cheap compared to the old classics.

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## HP Forum Archive 17

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### **(OT) Happy Halloween (a bit early)**

Message #1 Posted by **Chuck** on 30 Oct 2007, 8:12 p.m.

<http://home.wavecable.com/~stevensc/jacklant.gif>

<http://home.wavecable.com/~stevensc/jackeq.gif>

*Edited: 30 Oct 2007, 8:15 p.m.*

### **Re: (OT) Happy Halloween (a bit early)**

Message #2 Posted by **Klaus** on 31 Oct 2007, 3:19 a.m.,

in response to message #1 by Chuck

Why do HP-16C users get Halloween and Christmas mixed up? Because oct(31) = dec(25)!

### **Re: (OT) Happy Halloween (a bit early)**

Message #3 Posted by **Johnny Bjoern Rasmussen** on 31 Oct 2007, 6:40 a.m.,

in response to message #2 by Klaus

Very clever Klaus :-)))

Johnny

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## HP Forum Archive 17

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### Book(s) related to HP calculators history ?

Message #1 Posted by [Jean-Michel](#) on 30 Oct 2007, 5:21 p.m.

Hi all,

has anyone ever heard about one, or several, book(s) related to HP calculators, concerning essentially the history of the brand generally speaking, and essentially of its calculators products, and not only the HP programming "languages"? Of course, I mean a/some book(s) in English, because I don't even imagine it may exist in French...Or am I wrong ?

Thanks in advance.

Kind regards,

Jean-Michel.

### Re: Book(s) related to HP calculators history ?

Message #2 Posted by [Allen](#) on 30 Oct 2007, 5:46 p.m.,

in response to message #1 by [Jean-Michel](#)

<http://www.hpcalculatorguide.com/> is probably your best bet. There are some areas of the book that are not factual (e.g. subjective observations or authors opinion), but for the most part it is a very good historical reference. I have read nearly all of it, and would recommend it as part of any serious collector's library.

Edit: I should warn you, since it is a 5th edition, you will notice that the flow of the book is not smooth, since it is an expanded version, but not thoroughly revised. If you read it in one setting, you will notice the patch-work of chapters and will see some material repeated every 40 pages or so.

*Edited: 30 Oct 2007, 5:54 p.m.*

### Re: Book(s) related to HP calculators history ?

Message #3 Posted by [Walter B](#) on 30 Oct 2007, 9:03 p.m.,

in response to message #1 by [Jean-Michel](#)

Bonjour Jean-Michel,

I'd like to recommend "[The HP Way](#)". It covers HP's history up to the mid Nineties. Though not focussed on calculators, Dave Packard tells you a lot about the spirit of HP which IMHO is most important to understand the assets of "old HP" - after all, this was the company which created, developed and built all those nice tools we still admire today.

HTH,

Walter

*Edited: 30 Oct 2007, 9:04 p.m.*

**Re: Book(s) related to HP calculators history ?**

*Message #4 Posted by **Johnny Bjoern Rasmussen** on 31 Oct 2007, 2:44 a.m.,  
in response to message #3 by Walter B*

I am very happy to own "RCL 20: People, Dreams and HP Calculators" by Wlodek Mier-Jedzrejowicz and Frank Wales. The excellent book is available to members of the HPCC (<http://www.hpcc.org>) Handheld and Portable Computer Club at a discounted price. Contact Wlodek Mier-Jedzrejowicz for details.

Johnny

*Edited: 31 Oct 2007, 2:50 a.m.*

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## HP Forum Archive 17

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### HP-50 and Triple Integrals

Message #1 Posted by **Chuck** on 30 Oct 2007, 1:29 a.m.

I'm teaching 4th quarter calculus and recently began covering triple integrals. The students are able to set up the integrals just fine now; change the order of integration; calculate center of mass and moments of inertia, etc. Obviously the problems need to be "ricped" to be easily integrable by hand (I'm also having them number crunch harder ones with Mathematica). Several students want to try and have their calculators evaluate the integrals after they set them up...which brings me to the question,

It seems the TI-89 can numerically calculate most of the integrals in a few seconds. BUT, the HP50's are taking several minutes, if not hours. I had one running for two-plus hours and had to abort it. I set the 50G on approximate, and set the tolerance (error) down to .001, and still nothing after an hour.

Are there other settings I'm overlooking, or is the HP50 just not up to the task of triple integrals?

### Re: HP-50 and Triple Integrals

Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 30 Oct 2007, 5:05 a.m.,  
in response to message #1 by Chuck

HI;

do you have any on-line working material that can be shared, or any specific example? This way we (any of us) could try some of them and see what happens our own. Results would be post as they come out. Do you agree with this?

Cheers.

Luiz (Brazil)

### Re: HP-50 and Triple Integrals

Message #3 Posted by **Chuck** on 30 Oct 2007, 6:59 p.m.,  
in response to message #2 by Vieira, Luiz C. (Brazil)

Hi Luiz. I don't have the exact one in front of me (or my 50g either) but if I recall correctly this is the one the TI promptly calculated, and the 50g was aborted after 2 hours:

$$\int_0^2 \int_0^{4-2x} \int_0^{4-2x-y} 6xy \, dz \, dy \, dx = 64/5$$

It's much easier to do by hand than to get it all typed into a calculator (or computer) and wait.

Cheers,

CHUCK

**Re: HP-50 and Triple Integrals**

Message #4 Posted by [Khanh-Dang Nguyen Thu-Lam](#) on 30 Oct 2007, 7:49 p.m.,  
in response to message #3 by Chuck

Well, the example you gave just took 20 seconds on my old HP49G. I guess it would take much less on a HP50G.

**Re: HP-50 and Triple Integrals**

Message #5 Posted by [Meenzer](#) on 31 Oct 2007, 3:45 a.m.,  
in response to message #3 by Chuck

On the TI 89 Titanium it took me about 2 minutes to key it in, because I first had to remember the order of keying in the limits and variables. The calculation took maybe 2 seconds.

On my Casio Algebra FX 2.0 plus it's pretty much the same input syntax and response time.

On the HP 50G it was much easier to key in with the equation writer, maybe under 30 seconds. First I calculated in **approximate** mode and aborted it after some minutes. Then I changed to **exact** mode and the result came after 6 seconds.

As an aside: in the equation writer you have to key in  $6X*Y$ , explicitly multiplying X and Y, else you would have keyed in the variable "XY".

*Edited: 31 Oct 2007, 6:02 a.m.*

**Re: HP-50 and Triple Integrals**

Message #6 Posted by [Hal Bitton in Boise](#) on 31 Oct 2007, 4:47 a.m.,  
in response to message #3 by Chuck

Quote:

Hi Luiz. I don't have the exact one in front of me (or my 50g either) but if I recall correctly this is the one the TI promptly calculated, and the 50g was aborted after 2 hours:

$$\int_0^2 \int_{-4-2x}^{-4-2x-y} \int_0^y 6xy \, dz \, dy \, dx = 64/5$$

My 50G took about 8 seconds to evaluate the above integration to a solution of 64/5. Although I freely admit to a very limited understanding of triple integrations...namely, how can we integrate with respect to Z when Z doesn't appear in the expression being integrated. Also, do  $dz \, dy \, dx$  correspond to the three integrals from left to right, or in an innermost/innermost, outermost/outermost relationship. Any help appreciated.

Best regards, Hal

**Re: HP-50 and Triple Integrals**

Message #7 Posted by [Meenzer](#) on 31 Oct 2007, 5:25 a.m.,  
in response to message #6 by Hal Bitton in Boise



Quote:

namely, how can we integrate with respect to  $Z$  when  $Z$  doesn't appear in the expression being integrated. Also, do  $dz dy dx$  correspond to the three integrals from left to right, or in an innermost/innermost, outermost/outermost relationship. Any help appreciated.

- a) the integral of  $z dz$  would be  $1/2 z^2$ . By the same rule, the integral of  $1 dz$  would be just  $z$ .
- b) the integral sign and the  $d$  are like parentheses. Inner most intergral sign corresponds to inner most  $d$ , middle integral sign corresponds to middle  $d$  and outer most integral corresponds to outer most  $d$ .

*Edited: 31 Oct 2007, 5:25 a.m.*

### Re: HP-50 and Triple Integrals

Message #8 Posted by [dbatiz](#) on 31 Oct 2007, 9:24 a.m.,  
in response to message #3 by Chuck

With my 50g set to Exact mode, it processed the expression in approx 5 seconds and produced 64/5.

Then, with it set to approximate mode, Number Format FIX 1, it took about 13 seconds to produce the value 12.7.

With it set to FIX 2, it took approximately a minute to produce 12.8.

I don't understand the differences completely, but I understand that in exact mode it handles things symbolically but in approx mode it uses some kind of incremental loop to approximate the value. I think the step on the loop is determined by the resolution needed.

This is only my opinion, but I know there the folks in this forum have more insight to offer on this issue.

Very Respectfully,

David

### Re: HP-50 and Triple Integrals

Message #9 Posted by [Chuck](#) on 31 Oct 2007, 1:45 p.m.,  
in response to message #8 by dbatiz

Well, my 50g is still not integrating it. I have it set to FIX 3, approximate, tried both complex and real mode, modulo flags, etc. Still no answer after several minutes.....

[edit]

Ah Ha!!!!!! Taking it off approximate mode worked! 65/5 in 5 seconds!!!

Thanks everyone for trying this out. I find it odd that it will calculate the exact answer but not an approximate answer. Hmm. Suppose the integrand did not have an antiderivative. Would it not be able to give a 3-place approximate value in a respectable amount of time? I find this rather limiting.

**Re: HP-50 and Triple Integrals**

Message #10 Posted by [dbatiz](#) on 31 Oct 2007, 3:40 p.m.,  
in response to message #9 by Chuck

At first, I thought that was a limitation too. But, after donig some comparisons with a TI-83+, I started seeing the beauty of it. I found that the TI didn't maintain it's accuracy past 3 decimal places (for the inetgral I was attempting).

I'd much rather have slow and certain than fast and "best guess". I'll see if I can't dig up some examples to post here,

Very Respectfully,

David

**Re: HP-50 and Triple Integrals**

Message #11 Posted by [Valentin Albillo](#) on 31 Oct 2007, 9:49 a.m.,  
in response to message #3 by Chuck

Hi,

Just for the record, the following HP-71B code:

```
10 DEF FNF(X,Y,Z)=6*X*Y
20 DEF FNG(X,Y)=INTEGRAL(0,4-2*X-Y,H,FNF(X,Y,IVAR))
30 DEF FNH(X)=INTEGRAL(0,4-2*X,H,FNG(X,IVAR))
40 H=.01 @ DISP INTEGRAL(0,2,H,FNH(IVAR))
```

```
>RUN
12.80
```

produces the correct answer in FIX 2 in 0.76 seconds under Emu71 on an old laptop, or 3 minutes in a physical HP-71B.

The template used is general, just replace your f(x,y,z) and limits (shown in bold) in the above code to compute any other triple integral.

Best regards from V.

**Re: HP-50 and Triple Integrals**

Message #12 Posted by [Meenzer](#) on 31 Oct 2007, 10:16 a.m.,  
in response to message #11 by Valentin Albillo

Hi Valentin,

if we decide to use PC power (EMU71), the free [Eigenmath](#) will do it with this input

```
defint(defint(defint(6*x*y,z,0,4-2*x-y),y,0,4-2*x),x,0,2)
```

in about 0.00001 second. ;-)

**Re: HP-50 and Triple Integrals**

Message #13 Posted by [Frank Rottgardt](#) on 31 Oct 2007, 12:27 p.m.,

*in response to message #3 by Chuck*

on my 48GX it took 15 min at FIX4 to come out with 12.8000

amazing how fast these newer calcs actually are.

### **Re: HP-50 and Triple Integrals**

*Message #14 Posted by **Meenzer** on 31 Oct 2007, 12:50 p.m.,  
in response to message #13 by Frank Rottgardt*

Quote:

amazing how fast these newer calcs actually are.

I didn't find out how long the 50G takes in approximate mode and fix 4 because I interrupted it after 2 or 3 minutes. The 6 seconds from my post above were achieved in exact mode.

### **Re: HP-50 and Triple Integrals**

*Message #15 Posted by **Chuck** on 31 Oct 2007, 1:46 p.m.,  
in response to message #14 by Meenzer*

Thanks Meenzer. The approximate mode worked! Still a little frustrating that the algorithm for approximate mode takes an eternity.

---

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## HP Forum Archive 17

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### Iteration on 33s or 35s?

Message #1 Posted by [Howard Boardman](#) on 29 Oct 2007, 8:08 p.m.

Is it possible to use iteration to solve an equation with the 33s or 35s? For example if you have 3 variables in an equation (such as a polynomial) where there are multiple roots possible, and you know 2 of the variables and need to solve for the 3rd. The solver often returns the incorrect root, although it is mathematically correct. I've run into this with a few civil engineering problems. What I'd like to do is have a root returned and see if it returns the correct solution for the other variables and can iterate a solution until the correct result is obtained for all variables. Thanks for any info.

### Re: Iteration on 33s or 35s?

Message #2 Posted by [Karl Schneider](#) on 30 Oct 2007, 12:46 a.m.,  
in response to message #1 by Howard Boardman

Howard --

It sounds as though you are melding two different things:

- Polynomials having an order  $n$  and one variable for  $n$  possible roots (solutions)
- Multi-variable equations

However, I'm fairly sure that I know the gist of your question: You're wondering why you always get the same result when solving for the only unspecified variable, which appears only once in the equation.

The answer is that the HP-33s and HP-35s will provide a "direct solution" determined by internal algebraic methods, in cases where it deems possible. They will ignore your two initial guesses to provide this direct solution. This flawed logic was borrowed from the solver in the HP-19B/II and HP-27S.

The workaround is to add a mathematically inert term such as "+0\*X" to the equation in order to trick the calculator into concluding that the equation is algebraically intractable. Then, it will use numerical iteration with your initial guesses.

An archived thread and an article:

<http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv014.cgi?read=62608#62608>

[HP SOLVE-INTEG on all RPN-based models](#)

As for the last part of your query: There may be an infinite number of solutions for a single multi-variable equation. Solution for multi-input, multi-output systems of equations is not supported by the HP-33s or HP-35s. An HP-50g can be used for that purpose.

-- KS

*Edited: 30 Oct 2007, 1:27 a.m. after one or more responses were posted*

### **Re: Iteration on 33s or 35s?**

*Message #3 Posted by [Howard Boardman](#) on 30 Oct 2007, 1:10 a.m.,  
in response to message #2 by Karl Schneider*

Karl-

Very good point. I think you answered my question. I will give it a try. As much of an engineer I like to think I am, I am not a mathematician. I can only love math so far as it solves my problems :) Thanks for straightening out my logic. As many complaints as there are heard about the 33s and the like, they are very powerful little beasts. The ability to solve for any variable on the fly in an equation is something I wish I had known about in college.

### **Re: Iteration on 33s or 35s?**

*Message #4 Posted by [Martin Pinckney](#) on 30 Oct 2007, 2:20 p.m.,  
in response to message #3 by Howard Boardman*

Quote:

\_\_\_\_\_

The ability to solve for any variable on the fly in an equation is something I wish I had known about in college.

\_\_\_\_\_

Well, I've been out of college a **long** time (since slide rule days), but I agree about the Equation Solver, it's the best feature any calculator can have! Who needs keystroke programming?

### **Re: Iteration on 33s or 35s?**

*Message #5 Posted by [Don Shepherd](#) on 30 Oct 2007, 4:14 p.m.,  
in response to message #4 by Martin Pinckney*

Quote:

\_\_\_\_\_

Who needs keystroke programming?

\_\_\_\_\_

I do!

### **Re: Iteration on 33s or 35s?**

*Message #6 Posted by [Martin Pinckney](#) on 30 Oct 2007, 10:14 p.m.,  
in response to message #5 by Don Shepherd*

I used to do keystroke programming a lot back in the early 1980's, when I had a TI-59. Then along came personal computers, and calculator programming went out the window...

Someday soon I am going to re-teach myself to do programming, this time on my 35s... and incorporate equations into the programs.

---

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## HP Forum Archive 17

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### **The 45s gets closer to reality!**

Message #1 Posted by [Gene Wright](#) on 29 Oct 2007, 4:40 p.m.

Got my physical "print" back. Image is shown below next to a 32s2 for size comparisons.

One thing I have noticed is that the 3D model definition has the keys shifted a bit too much up toward the display. A real 45s would have the keys shifted down a few MM closer to the bottom.

Very cool. Now...how do I turn my blob of plastic into the cool colored version with symbols on my keys? :-)

<http://home.comcast.net/~genela/45sPhotoSetting.jpg>

### **Re: The 45s gets closer to reality!**

Message #2 Posted by [DaveJ](#) on 29 Oct 2007, 9:54 p.m.,  
in response to message #1 by Gene Wright

Quote:

Got my physical "print" back. Image is shown below next to a 32s2 for size comparisons.

One thing I have noticed is that the 3D model definition has the keys shifted a bit too much up toward the display. A real 45s would have the keys shifted down a few MM closer to the bottom.

Very cool. Now...how do I turn my blob of plastic into the cool colored version with symbols on my keys? :-)

I think the question should be "how do I turn my blob of plastic into something that calculates?"

Add one LCD, one PCB, some more plastic blobs for keys that push, a pinch of \*fix, and hello 1st OpenRPN prototype.

Dave.

### **The DIY gets closer to reality!**

Message #3 Posted by [Eric Smith](#) on 29 Oct 2007, 11:08 p.m.,  
in response to message #2 by DaveJ

At HHC 2007, I showed (and passed around) a DIY3 calculator in an ABS plastic case made by FDN (Fused Deposition Modeling, a 3D printing technology). I would have used black ABS for the case, but I was able to get slightly faster turnaround time with white. The electronics and software were almost the same as what Richard Ottosen and I have shown before in a laminated laser-cut case.

I designed the case top, case bottom, and button models in SolidWorks, exported them as STL files, and had them fabricated at TechShop. I'm having trouble with my old camera, but a few photos can be seen

[here](#).

It is a functional calculator that emulates the HP-21, HP-22, HP-25, HP-27, HP-33C, and HP-37E.

Unlike the laminated laser-cut case, there is no easy way to use an overlay to provide legends for the keys. A 41-style overlay that surrounded the keys is possible, but it would be nice to get the primary legends on the keys themselves. The 3D printer won't do multiple colors, and doesn't have enough resolution for key legends in any case. I did design in some labeling on the case back, which can be seen in one of the photos.

The top surface of the button as produced on the printer has an interesting texture to it, and is probably not suitable for silkscreening. However, it is possible to smooth the ABS with careful use of acetone. I have not yet tried this.

I expect that we will likely use injection molding for keys within the next year, but unfortunately not double-shot molding. However, we have a few tricks up our sleeves that I'm not yet ready to reveal.

**Re: The DIY gets closer to reality!**

*Message #4 Posted by [Hugh Evans](#) on 30 Oct 2007, 7:01 p.m.,  
in response to message #3 by Eric Smith*

Nice work. One of the better processes I found for key legends is laser etching followed by back-filling with a colored resin.

**Re: The 45s gets closer to reality!**

*Message #5 Posted by [Pal G.](#) on 29 Oct 2007, 10:36 p.m.,  
in response to message #1 by Gene Wright*

Quote:

One thing I have noticed is that the 3D model definition has the keys shifted a bit too much up toward the display

I noticed that too. Unfortunately I was very busy that week and I hoped no one would notice (or take me up on my offer when I said my CAD files were available! ;)

Looks pretty cool tho..

Regards, Pal

**Re: The 45s gets closer to reality!**

*Message #6 Posted by [Gene Wright](#) on 29 Oct 2007, 10:39 p.m.,  
in response to message #5 by Pal G.*

Yes, it does look good! Feels nice and solid too.

No problems...great job creating the cad files.

:-)

**Re: The 45s gets closer to reality!**

*Message #7 Posted by **Walter B** on 30 Oct 2007, 12:44 a.m.,  
in response to message #6 by Gene Wright*

Looks really promising! Run Fo... Gene run!! :)

Pal G., you have e-mail.

*Edited: 30 Oct 2007, 12:46 a.m.*

### **What will it take to create an OpenRPN 45s?**

*Message #8 Posted by **Pavneet Arora** on 30 Oct 2007, 8:03 p.m.,  
in response to message #7 by Walter B*

Seriously, though, what would it take to create an OpenRPN 45s?

It seems as if there is enough talent here to do it. If members are able to dissect the accuracy of algorithms, ferret out singularities in RPN programming, create functional calculators and enclosures, generate documentation do we really need to wait for HP to make our dream calculator?

Can we use the Free42 code base as a starting point for the OpenRPN 45? I would be certainly be willing to lend a hand in my small way if there is a quorum.

Cheers.

### **Re: What will it take to create an OpenRPN 45s?**

*Message #9 Posted by **Hugh Evans** on 30 Oct 2007, 8:17 p.m.,  
in response to message #8 by Pavneet Arora*

People with time and talent to contribute to software and hardware development. At the moment those seem to be scarce resources. Porting Free42 wouldn't be a bad way to get machines up and running, which is why it has been brought up before.

### **Re: What will it take to create an OpenRPN 45s?**

*Message #10 Posted by **Paul Dale** on 30 Oct 2007, 8:41 p.m.,  
in response to message #9 by Hugh Evans*

Free42 seems to eat a \*lot\* of memory which might hinder its use. On my desktop it uses about 18Mb of memory to start with only a little on it.

- Pauli

### **Re: What will it take to create an OpenRPN 45s?**

*Message #11 Posted by **DaveJ** on 30 Oct 2007, 10:27 p.m.,  
in response to message #8 by Pavneet Arora*

There are probably two main hurdles:

1) Money

Time is free, but someone has to pay for plastics, PCB's and parts. To get the electronics and PCB for the first prototype will at a minimum be several hundred dollars. You also have to factor in a second spin at the PCB just in case there is a little gotcha as murphy will always



ensure there is. \$500 is a realistic budget. You can save on cost by trying to get free samples for stuff, free boards through work etc, but often it's just easier to hand over the dollars and get your parts in a few days.

I have no idea what the plastics will cost, and you might need a second spin at those as well due to any number of reasons. Especially the keys, getting those right in the first spin might be tricky, but if someone has access to a rapid-prototype machine as some seem to do, then you can.

## 2) Motivation

Projects like this *\*always\** come down to just one person taking the reins and "just doing it". When you try involving multiple people with different skill sets, time gets frittered away, decisions don't get made, you loose focus, people eventually loose interest, and the project flops. You can solve some of this by not trying to collaborate too much. Have someone come up with the plastics and housing first (with some checking by the electronics person), and get it made. Then have someone design the electronics to fit. Only then worry about the software.

That first prototype in your hands is absolutely vital, and do try to avoid perfectionism. That first prototype just has to be good enough to play with, not perfect down to every last detail.

Software is the last thing that you should be concerned with. I have no doubt that if people had hardware in their hands, suitable software would come from all directions.

Remember, a calculator is a *\*hardware\** project.

A project like this is not hard. If I had the mechanical CAD skills and access to a rapid-prototype machine then I could have a complete calculator prototype in my hands in a matter of weeks.

Dave.

*Edited: 30 Oct 2007, 10:29 p.m.*

## **Re: What will it take to create an OpenRPN 45s?**

*Message #12 Posted by [Pavneet Arora](#) on 31 Oct 2007, 7:22 a.m.,  
in response to message #11 by DaveJ*

Alright. So let's say even \$750 as a budget. Do we have enough people here to contribute to such a project? Let's say donations of between \$25 and \$75 each?

We have such generous contributions made by forum members in response to questions, so I can easily imagine having their expertise for a project such as this. Now for the sake of argument let me throw some names out based on my "amateur" observations after being on this forum for only a few weeks; my infatuation with HP calcs runs into the decades, though. The people listed can, of course, opt in or opt out. Others can offer their own contributions:

Physical Design: Gene Wright, Jake Schwartz, Bruce, PalG, ???

CAD: Eric Smith, Richard Ottosen, PalG, Jean-Yves ???

Hardware: Eric Smith, Richard Ottosen, DaveJ, ???

Algorithms: Paul Dale, Allain Millen, Karl Schneider, ???

Layout/Labeling/Documentation: Walter Bonin, Pavneet Arora, ???

Who else wants to help out?

To my mind, at least, this sounds like a doable endeavour...

Quote:

There are probably two main hurdles:

1) Money

\$500 is a realistic budget.

...

2) Motivation

When you try involving multiple people with different skill sets, time gets frittered away, decisions don't get made, you loose focus, people eventually loose interest, and the project flops.

Dave.

...

*Edited: 1 Nov 2007, 7:13 a.m. after one or more responses were posted*

### **Re: What will it take to create an OpenRPN 45s?**

*Message #13 Posted by **Hugh Evans** on 31 Oct 2007, 9:15 a.m.,  
in response to message #12 by Pavneet Arora*

Since I founded the OpenRPN project a few years ago, I've already completed two enclosure designs down to details as specific as dome actuators.

For the past several months I've been leaning towards just getting the hardware out the door and to encourage software development.

If you have any further questions regarding OpenRPN I would be happy to address them here or via e-mail.

### **Re: What will it take to create an OpenRPN 45s?**

*Message #14 Posted by **Paul Dale** on 31 Oct 2007, 4:19 p.m.,  
in response to message #12 by Pavneet Arora*

What about Walter Bonin for the keyboard layout?

Alain Mellan and I contributed source code to OpenRPN. I think we were the only ones but I could be wrong on this. So we're decent bets for the firmware.

- Pauli

## **Re: What will it take to create an OpenRPN 45s?**

*Message #15 Posted by **Pavneet Arora** on 31 Oct 2007, 8:46 p.m.,  
in response to message #14 by Paul Dale*

Right on. I have adjusted the list. And besides, I was so completely floored with Walter quoting Cato in Latin that I was left trying to recall the Coles Notes version of Imperial Rome, i.e., Richard Harris' Imperium ;). Sorry I meant to write Robert Harris.

Cheers.

Quote:

---

What about Walter Bonin for the keyboard layout?

Alain Mellan and I contributed source code to OpenRPN. I think we were the only ones but I could be wrong on this. So we're decent bets for the firmware.

- Pauli

---

*Edited: 1 Nov 2007, 6:55 a.m. after one or more responses were posted*

## **Re: What will it take to create an OpenRPN 45s?**

*Message #16 Posted by **Walter B** on 31 Oct 2007, 9:36 p.m.,  
in response to message #15 by Pavneet Arora*

Hi Pavneet,

Quote:

---

I was left trying to recall the Coles Notes version of Imperial Rome, i.e., Richard Harris' Imperium ;)

---

?? I googled a bit but can't find a clue. Can you please explain this?

## **Re: What will it take to create an OpenRPN 45s?**

*Message #17 Posted by **Pavneet Arora** on 1 Nov 2007, 6:53 a.m.,  
in response to message #16 by Walter B*

Dear Walter,

High-school in Canada in the 70s meant that one would invariably see Coles Notes' versions of English Literature --- mainly Shakespeare --- being read/memorized in the hour before a test ;). Coles was a bookstore chain at the time. To quote from one site:

"Similar to classic notes or Cliff Notes, the books usually give quick summaries or an analysis on the subjects. Coles Notes are available on many different types of Literature topics including Shakespeare. They are easy to purchase online or even in bookstores. Prices are fairly reasonable if you are looking for that kind of help.

The largest problem with Coles Notes is students forget to cite these. Perhaps they are embarrassed because they chose to use Coles Notes or they think their instructors will never know. However, most instructors are aware of Coles Notes and they can recognize the use of these."

Imperium is a semi-fictionalized account of the life of Cicero:

[http://www.amazon.com/Imperium-Novel-Ancient-Robert-Harris/dp/074326603X/ref=pd\\_bbs\\_sr\\_1/105-3436687-1894809?ie=UTF8&s=books&qid=1193914047&sr=8-1](http://www.amazon.com/Imperium-Novel-Ancient-Robert-Harris/dp/074326603X/ref=pd_bbs_sr_1/105-3436687-1894809?ie=UTF8&s=books&qid=1193914047&sr=8-1)

Robert Harris has another one about Bletchley Park, called Enigma which was enjoyable as well.

Cheers.

Quote:

Hi Pavneet,

?? I googled a bit but can't find a clue. Can you please explain this?

### **Re: What will it take to create an OpenRPN 45s?**

*Message #18 Posted by [Geir Isene](#) on 1 Nov 2007, 4:38 a.m.,  
in response to message #12 by Pavneet Arora*

I'll be willing to fork out USD 750 up front easily for this. That is if someone picks up the glove, gets himself (or herself) in a dictatorial position and starts getting the things done.

### **Re: What will it take to create an OpenRPN 45s?**

*Message #19 Posted by [Maximilian Hohmann](#) on 31 Oct 2007, 11:18 a.m.,  
in response to message #11 by DaveJ*

Hello!

Quote:

There are probably two main hurdles:

1) Money ... 2) Motivation

I don't think so. When I read and see, what amounts of money people (me included) are ready to spend for vintage calculators, money should not be an issue here. And reading through some of the contributions here, I can see plenty of motivation too.

From my point of view, the project rather lacks the following items:

3) Consensus and 4) Leadership/Responsibility

Since full consensus will be impossible to reach ("Too many cooks spoil the broth"), at some point (now!) somebody must assume a leading role and boldly go ahead with what has been reached so far. Who wants to follow, follows, sends a down payment to cover development costs and contributes as good as he can towards completion of the software. The others wait for the next project that will suit their needs better.

As for me, I am not interested in a clone of an (any!) existing calculator since I could use the original one if I really needed it. Therefore, the OpenRPN calculators as they are now (all more or less hybrids between hp-15, hp-42 and hp-48) do not appeal to me at all. The calculator I would like to see (and contribute towards) is probably too different from anybody else's needs/wishes, that it will not materialise. At least not in hardware, but maybe as a software project on a device like an iPod Touch.

Nevertheless I would of course buy any available OpenRPN calculator out of solidarity with the developing team!

Greetings, Max

### **Re: What will it take to create an OpenRPN 45s?**

*Message #20 Posted by [Meenzer](#) on 31 Oct 2007, 11:39 a.m.,  
in response to message #19 by Maximilian Hohmann*

Quote:

---

At least not in hardware, but maybe as a software project on a device like an iPod Touch.

---

Remembering what your needs were as you described them elsewhere in other threads, I should say you would be best suited with a PocketPC (like the Loox N560) with an assortment of very nice mathematical software like Spacetime and MathTablet, which do CAS and even RPN...;-) Moreover, you even could navigate with the PPC!!!

Quote:

---

Nevertheless I would of course buy any available OpenRPN calculator out of solidarity with the developing team!

---

Depending on prize and quality, I second that! As long as it doesn't look like DIY and has the genuine feel of, say, the 15C or 35s - I'd pay the 35s's current prize.

*Edited: 31 Oct 2007, 12:02 p.m.*

### **Re: What will it take to create an OpenRPN 45s?**

*Message #21 Posted by [Jean-Michel](#) on 31 Oct 2007, 3:12 p.m.,  
in response to message #20 by Meenzer*

Hi all,

I would be pleased to collaborate to this project, in what concerns the design of the moulded plastic parts, by making the 3D CAD-files. You'll find [HERE](#) a previous thread where I told about the 3D virtual HP-41C I've drawn. Of course, it isn't a

"made on my own" calculator, but it shows my interest for such a project.

Kind regards.

Jean-Michel.

### **Re: What will it take to create an OpenRPN 45s?**

*Message #22 Posted by **DaveJ** on 31 Oct 2007, 4:25 p.m.,  
in response to message #20 by Meenzer*

Quote:

Depending on prize and quality, I second that! As long as it doesn't look like DIY and has the genuine feel of, say, the 15C or 35s - I'd pay the 35s's current prize.

As an (educated) ballpark figure, you would have make at least several hundred units up front to get a final price near to the 35S. And that would probably be at-cost.

Dave.

### **Re: What will it take to create an OpenRPN 45s?**

*Message #23 Posted by **Meenzer** on 1 Nov 2007, 4:20 a.m.,  
in response to message #22 by DaveJ*

Quote:

As an (educated) ballpark figure, you would have make at least several hundred units up front to get a final price near to the 35S. And that would probably be at-cost.

If I understand you right, you're telling me that the prize I'm willing to pay is to low - and you are probably right.

I just think that if you want to appeal to buyers outside the MoHPC, you can not surpass the 35s's current prize by very much.

Additionally, for outside-MoHPC-buyers, the 45s should be of at least the same build quality and look and feel as the 35s. I can't imagine anyone paying more for a slightly DIY-looking machine, even if it had all those cool 42s-features...

I just thought of something else, forgive me if it already has been mentioned. Has someone checked if it's OK to just *take* HP's design? Under European law this could be seen as product design piracy - at least as soon as you start to sell the thing.

*Edited: 1 Nov 2007, 5:17 a.m.*

### **Re: What will it take to create an OpenRPN 45s?**

*Message #24 Posted by **DaveJ** on 31 Oct 2007, 4:41 p.m.,  
in response to message #19 by Maximilian Hohmann*

Quote:

I don't think so. When I read and see, what amounts of money people (me included) are ready to spend for vintage calculators, money should not be an issue here. And reading through some of the contributions here, I can see plenty of motivation too.

From my point of view, the project rather lacks the following items:

3) Consensus and 4) Leadership/Responsibility

Since full consensus will be impossible to reach ("Too many cooks spoil the broth"), at some point (now!) somebody must assume a leading role and boldly go ahead with what has been reached so far.

---

That's what I'm saying, someone has to "just do it".

Plastics come first. If someone comes up with a set of plastics and keys, only then will the rest follow.

I tentatively tried to associate my uWatch calculator at one point with OpenRPN, and was left holding an empty bag. So I won't be quick to jump down the same path again. BUT, if magically I was presented with some real plastic in my hands, then maybe, just maybe, I might be tempted to design some electronics for it. But I'll believe it when I see it.

Quote:

---

Who wants to follow, follows, sends a down payment to cover development costs and contributes as good as he can towards completion of the software. The others wait for the next project that will suit their needs better.

---

Don't underestimate how much it will cost. And sharing cost around and/or trying to get any sort of contribution or up-front order is a very dangerous thing to do.

Quote:

---

As for me, I am not interested in a clone of an (any!) existing calculator since I could use the original one if I really needed it. Therefore, the OpenRPN calculators as they are now (all more or less hybrids between hp-15, hp-42 and hp-48) do not appeal to me at all. The calculator I would like to see (and contribute towards) is probably too different from anybody else's needs/wishes, that it will not materialise. At least not in hardware, but maybe as a software project on a device like an iPod Touch.

Nevertheless I would of course buy any available OpenRPN calculator out of solidarity with the developing team!

---

My own needs are probably different again. I don't want nor need a graphing or programmable calculator. Just a nice basic scientific calculator is all I want.

I'm not a big fan of "clones" either. I think a new calc should do its own thing.

Dave.

### **Re: What will it take to create an OpenRPN 45s?**

*Message #25 Posted by [Pavneet Arora](#) on 31 Oct 2007, 5:34 p.m.,  
in response to message #24 by DaveJ*

Let's consider the 45s design as presented thus far. To me, this is an incredibly appealing design. What is the opinion of us focusing just on this particular model and moving it along?

Quote:

---

My own needs are probably different again. I don't want nor need a graphing or programmable calculator. Just a nice basic scientific calculator is all I want.

I'm not a big fan of "clones" either. I think a new calc should do it's own thing.

Dave.

---

### **Re: What will it take to create an OpenRPN 45s?**

*Message #26 Posted by [DaveJ](#) on 31 Oct 2007, 5:43 p.m.,  
in response to message #25 by Pavneet Arora*

Quote:

---

Let's consider the 45s design as presented thus far. To me, this is an incredibly appealing design. What is the opinion of us focusing just on this particular model and moving it along?

---

The problem might be the LCD. A full graphic LCD of this size complicates things, a lot. I would recommend the screen be changed to a standard 2 or 4 line character dot-matrix LCD module. This might lower the cost, would increase your component sourcing options, and \*greatly\* reduce the complexity of the software and processing power required.

Dave.

### **To clear the fog (was: Re: What will it take to create an OpenRPN 45s? )**

*Message #27 Posted by [Walter B](#) on 1 Nov 2007, 12:04 a.m.,  
in response to message #25 by Pavneet Arora*

Quote:

---

Let's consider the 45s design as presented thus far. To me, this is an incredibly appealing design. What is the opinion of us focusing just on this particular model and moving it along?

---



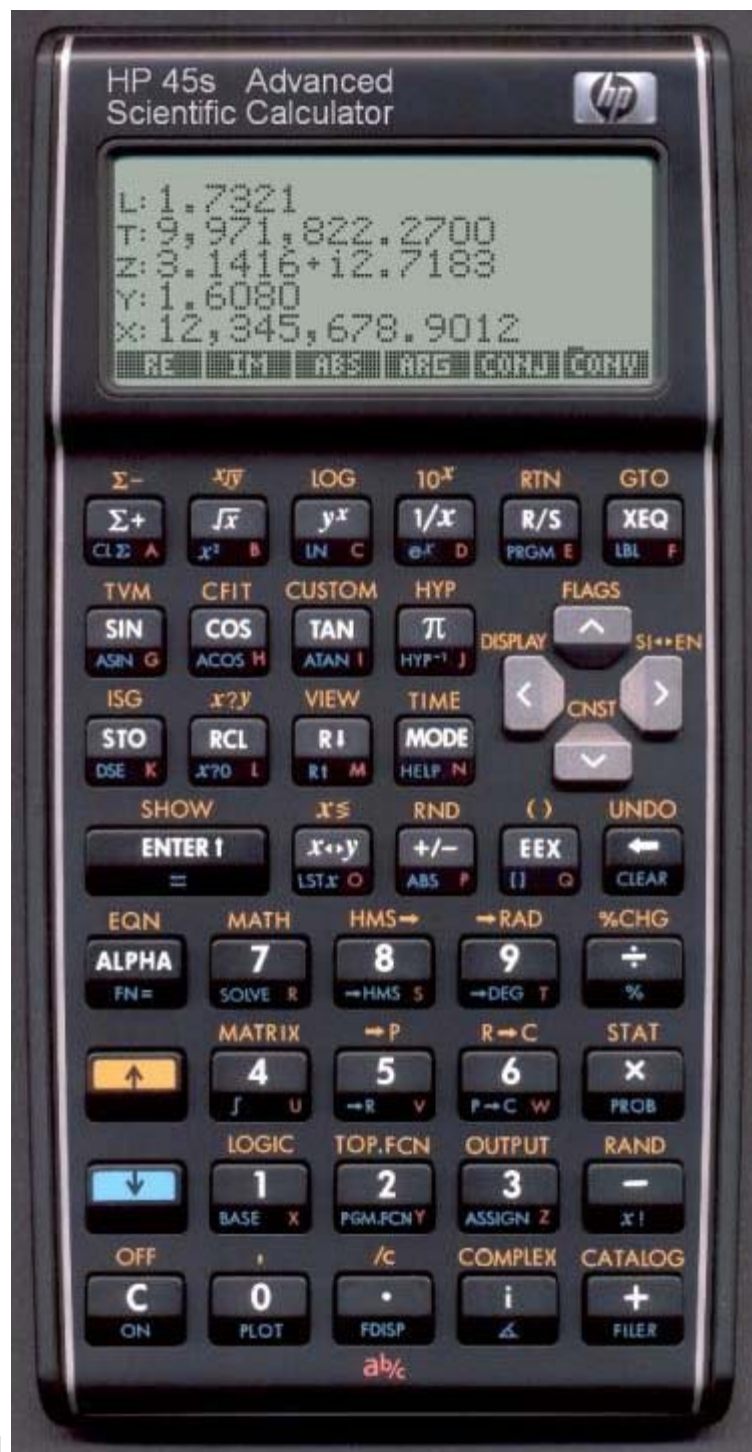
There were several **45s** designs presented here so far(in order of appearance in this forum:

2007/06/06: [The 45s started here](#), actually the name was created by Karl Schneider in message #7, the first design labeled "45s" shows up in message #31;

2007/06/24: [35s-based](#)

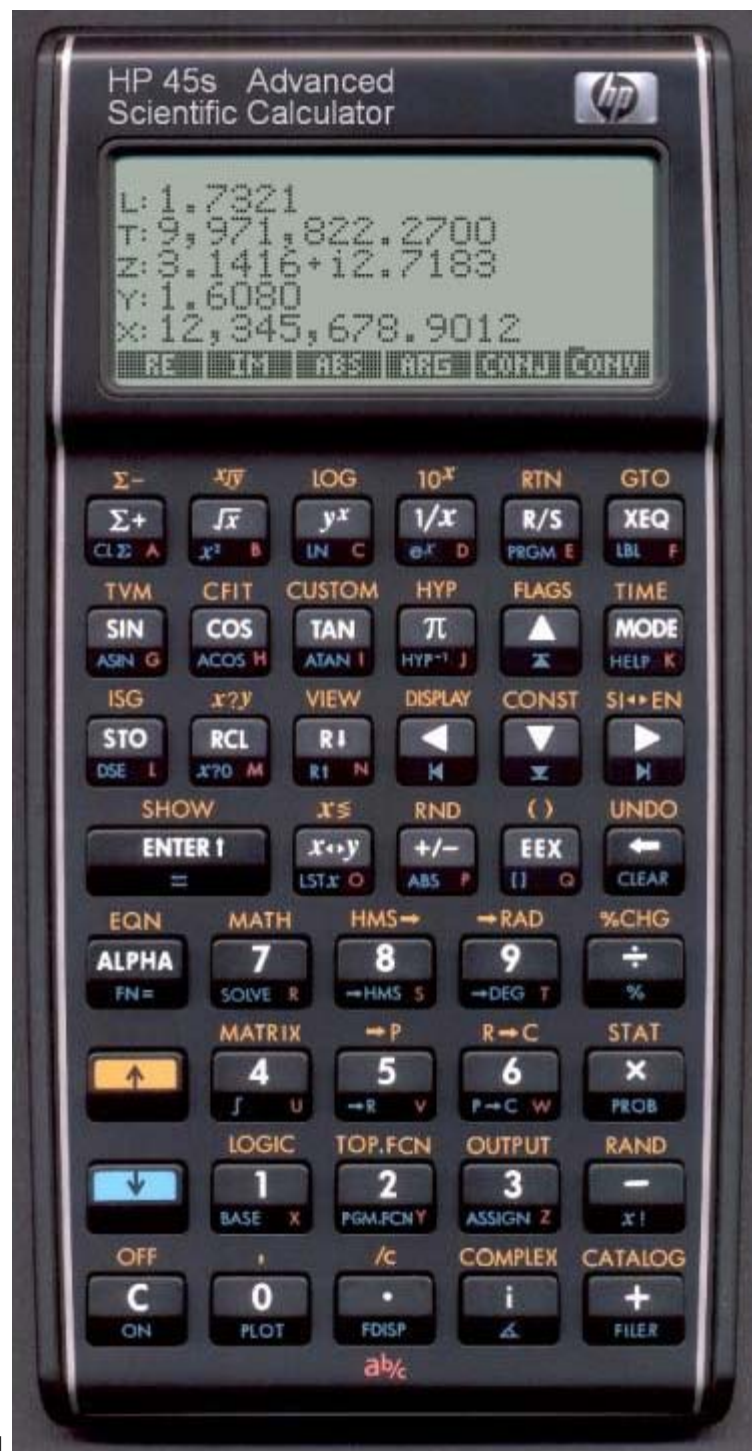
2007/10/11: [42s-based](#) (message #40 in this thread), image created by Pal G. is here: <http://www.gyore.com/downloads/hp45s-gc06.jpg> ,

2007/10/22: 35s-based <http://img2.putfile.com/main/10/29401530920.jpg> ,



2007/10/25: 35s-based

,



2007/10/26: 35s-based

Hope I didn't mess the line nor forgot any important contribution - took me some time to excavate - I skipped the 4-bangers). **Which 45s are you talking about?**

Further points:

I second Dave in the LCD issue. Let's try to eat the cake in pieces ;) -- we may turn to graphics later.

Alternatively, [Voyager-based design drafts](#) may be better for several reasons. Plastic parts are available at reasonable cost. Another advantage is true pocketability even if we'd need it a few mm thicker. Of the drafts shown here, the

15cx is my favourite, because it can do all a 42s can do, and features a better user interface with 8 soft keys you may access permanently and a wealth of functions directly accessible:

<http://img2.putfile.com/main/10/29301514763.jpg>

If people are afraid of the feature set, it can be cut down easily.

HTH a bit,

Walter

P.S. Since I'm in southern China right now, let me state any parts for a small run seem to be available everywhere at minimum cost. Impressive, but I did not go into negotiations :)

Edited for the post scriptum.

*Edited: 1 Nov 2007, 4:45 a.m.*

**Re: To clear the fog (was: Re: What will it take to create an OpenRPN 45s? )**

*Message #28 Posted by [Pavneet Arora](#) on 1 Nov 2007, 7:29 a.m.,  
in response to message #27 by Walter B*

I was referring to the design presented by Gene at HHC2007, but I am very happy to pursue a Voyager based design with the functionality of the 42s.

What do others think of honing in on this form factor?

Quote:

\_\_\_\_\_  
Hope I didn't mess the line nor forgot any important contribution  
- took me some time to excavate - I skipped the 4-bangers).  
**Which 45s are you talking about?**  
\_\_\_\_\_

**Re: To clear the fog (was: Re: What will it take to create an OpenRPN 45s? )**

*Message #29 Posted by [Paul Dale](#) on 1 Nov 2007, 6:05 p.m.,  
in response to message #28 by Pavneet Arora*

I'd definitely prefer a Voyager form factor.

- Pauli

**Re: To clear the fog (was: Re: What will it take to create an OpenRPN 45s? )**

*Message #30 Posted by [Maximilian Hohmann](#) on 2 Nov 2007, 9:44 a.m.,  
in response to message #27 by Walter B*

Hello!

Quote:

---

P.S. Since I'm in southern China right now, let me state any parts for a small run seem to be available everywhere at minimum cost. Impressive, but I did not go into negotiations :)

---

So let's get going... No, but you can also get very good quality parts in small batches made here in Europe! Just ask any company that does laser cutting and engraving of sheet metal (aluminium or stainless steel) for a quote and you will be surprised!

Why not get a real professional and rock-solid metal faceplate (absolutely nothing like DIY!) made? With a screen protector made from mineral glass (like in a good watch), which can also be cut by laser. And underneath one of those stunningly beautiful high-contrast, view-angle-independent multi-line dot-matrix OLED displays that can be found at every corner in Hong-Kong? (But I think I'm getting boring with my luminous displays, am I?)

Greetings, Max

*Edited: 2 Nov 2007, 9:45 a.m.*

**Re: To clear the fog (was: Re: What will it take to create an OpenRPN 45s? )**

*Message #31 Posted by **Ren** on 2 Nov 2007, 11:47 a.m., in response to message #30 by Maximilian Hohmann*

Quote:

---

Hello!

So let's get going... No, but you can also get very good quality parts in small batches made here in Europe!

Greetings, Max

---

Agreed. When our local Linux group had an LCD kit project, we were able to get a small run of PCB's from some place in Europe for a very good price (Hungary?). Granted a calc PCB would be more complex (multilayers) and cost more.

Ren

dona nobis pacem

**Re: To clear the fog (was: Re: What will it take to create an OpenRPN 45s? )**

*Message #32 Posted by **DaveJ** on 2 Nov 2007, 5:43 p.m., in response to message #31 by Ren*

Quote:

---

Agreed. When our local Linux group had an LCD kit project, we were able to get a small run of PCB's from some place in Europe for a very good price (Hungary?). Granted a calc PCB would be more complex (multilayers) and cost more.

---

The PCB will be fairly cheap, under \$100 for a few prototypes. I used PCB Cart [www.pcbcart.com](http://www.pcbcart.com) for my watch PCB and front panel. If you need more than 2 layers then you are doing it wrong.

Dave.

**Re: To clear the fog (was: Re: What will it take to create an OpenRPN 45s? )**

*Message #33 Posted by [DaveJ](#) on 2 Nov 2007, 6:13 p.m., in response to message #30 by Maximilian Hohmann*

Quote:

---

And underneath one of those stunningly beautiful high-contrast, view-angle-independent multi-line dot-matrix OLED displays that can be found at every corner in Hong-Kong? (But I think I'm getting boring with my luminous displays, am I?)

---

With an OLED display it would be bye-bye battery life.

Dave.

**Re: To clear the fog (was: Re: What will it take to create an OpenRPN 45s? )**

*Message #34 Posted by [Maximilian Hohmann](#) on 3 Nov 2007, 6:25 a.m., in response to message #33 by DaveJ*

Hello!

Quote:

---

With an OLED display it would be bye-bye battery life.

---

I wouldn't mind at all. This here (sorry for the link in German) is what I would like to see, a two line alphanumeric display:

<http://www.electronic-assembly.de/deu/pled/pled.htm>

The operating current is stated with "15mA typical", so with three rechargeable 1000 mAh AAA cells, the battery life would be around

50 hours. Use it one hour every working day and you will have to recharge the batteries every second month. Not really a problem, is it?

Greetings, Max

NB: I am just waiting for the delivery from HongKong of a lillte gadget that I bought last week from eBay: An "image tank" (called DigiMate III OTG), actually an enclosure for notebook hard disks with USB connction and slots for common types of memory cards. The housing is all-metal, it has an internal LiIon battery, a 2 1/2 inch colour OLED display and comes complete with charger and cables, but without hard drive. Replace the hard drive with a processor board and a keyboard and my "dream calculator" is almost there... The price? Two Euros and fifty cents.

**Re: To clear the fog (was: Re: What will it take to create an OpenRPN 45s? )**

*Message #35 Posted by **DaveJ** on 3 Nov 2007, 8:51 a.m., in response to message #34 by Maximilian Hohmann*

Quote:

---

I wouldn't mind at all. This here (sorry for the link in German) is what I would like to see, a two line alphanumeric display:

<http://www.electronic-assembly.de/deu/pled/pled.htm>

The operating current is stated with "15mA typical", so with three rechargeable 1000 mAh AAA cells, the battery life would be around 50 hours. Use it one hour every working day and you will have to recharge the batteries every second month. Not really a problem, is it?

---

Realistically you would use 2 AAA's or AA's which means the efficiency of your DC-DC converters plays a large part as well.

I would use AA's for that level of current, and you would use Alkaline/Lithium instead of rechargeable's. Unless you used your calc an awful lot of course. In any case, all the more reason to use AA's. A hand held calc should have plenty enough room inside for AA's

As much as I love LCD and looooong battery life, and even better, solar powered calcs (just from an engineering elegance point of view) - I gotta admit that an OLED display would set any DIY calc apart from the commercial models. In fact, the more I think about it, the more I think OLED it's gotta be. Hmm...

I have briefly thought about an OLD version of the uWatch.

Dave.

---

---

**Re: To clear the fog (was: Re: What will it take to create an OpenRPN 45s? )**

Message #36 Posted by *Maximilian Hohmann* on 3 Nov 2007, 1:16 p.m.,  
in response to message #35 by *DaveJ*

Hello!

Quote:

---

I would use AA's for that level of current, and you would use Alkaline/Lithium instead of rechargeable's. Unless you used your calc an awful lot of course. In any case, all the more reason to use AA's. A hand held calc should have plenty enough room inside for AA's

---

If room is not a problem, AA is the better choice of course! However, I am used to rechargeables for many, many years now, I even have one in our alarm clock, where it lasts for over a year between charges. It helps calm down my "environmental concience" :-) Here in Germany, rechargeable batteries (at least NiMH) are cheaper to buy than good alkalines!

Quote:

---

I gotta admit that an OLED display would set any DIY calc apart from the commercial models. In fact, the more I think about it, the more I think OLED it's gotta be.

---

I fell in love with OLED displays the moment I saw the first one. I can't imagine a better and more beautiful type of display. Early next year, the first OLED televisions and computer monitors will hit the market - can't wait to get one!

Quote:

---

I have briefly thought about an OLD version of the uWatch.

---

Oh yes, this would be it! On eBay, they already sell OLED watches but with no calculator of course.

When I get this image tank from Hongkong and the quality is right, I may contact the manufactures about deriving a calculator from it. Housing, battery, display, interfaces and processor (must be quite powerful since it handles disk, USB and memory card I/O as well as decompressing and displaying of images) are already there, all thats needed is a keyboard and

a way of programming the thing.

Greetings, Max

**Re: To clear the fog (was: Re: What will it take to create an OpenRPN 45s? )**

*Message #37 Posted by [Eric Smith](#) on 3 Nov 2007, 1:17 p.m., in response to message #34 by Maximilian Hohmann*

Quote:

\_\_\_\_\_

This here (sorry for the link in German) is what I would like to see, a two line alphanumeric display:

\_\_\_\_\_

Do you really want an 84mm wide display in your hand calculator? Power issues aside, I think that's a poor choice even for a horizontal (Voyager-like) calculator form factor.

**The HP45s.**

*Message #38 Posted by [Jake Schwartz](#) on 2 Nov 2007, 5:41 p.m., in response to message #27 by Walter B*

Quote:

\_\_\_\_\_

2007/06/06: The 45s started here, actually the name was created by Karl Schneider in message #7, the first design labeled "45s" shows up in message #31;

\_\_\_\_\_

For what it's worth, Gene and my "HP45S" was first created in February of 2006. It was named "45S" as a combination of the 15C and 42S, and originally was attempted to fit in a Voyager case.

[img:<http://www.pahhc.org/2007/HP45S-5 v20 -4 V17.jpg>]

The idea was to have a wide LCD with eight or ten soft keys and both are shown here. Richard Nelson got into the act soon after and suggested also attempting the same functionality in a Pioneer case, and the result was posted by Gene earlier.

Jake Schwartz

**Jake's voyager layout**

*Message #39 Posted by [Gene Wright](#) on 2 Nov 2007, 10:44 p.m., in response to message #38 by Jake Schwartz*

Gotta hate spaces in filenames!

<http://www.pahhc.org/2007/HP45S-5%20v20%20-4%20V17.jpg>

**Re: What will it take to create an OpenRPN 45s?**



*Message #40 Posted by **Ren** on 1 Nov 2007, 3:35 p.m.,  
in response to message #8 by Pavneet Arora*

Mmmmm-mmmmmM!

I like this thread!

May I interject? (at the possibility of derailing it)

DaveJ currently HAS a working LCD, CPU, keyboard...

and we've seen, (and some lucky ones have(!) (or touched)) the DIY calcs of the recent HPCC.

What would it take for DaveJ's prototype to be "un-smooshed" into the 45 form factor? (Or for the DIY calcs) to be produced as a kit?

Yes, I am sure "WE" will never reach a consensus on the keyboard (unless a dictatorial project head says something like, "it will have the exact layout/functions/size/colors/bla-bla-bla of the original 45")!

It looks to me like the pneumatic tire, steel rim, inflation valve, lugnuts, hubcap, and axle bearings have already been invented...

LET'S NOT RE-INVENT THE WHEEL!

What will it take? A decent (er...excellent) keyswitch!

As recent threads have shown, prototype cases (and keytops) have been built using CAD/CAM (Santa Claus) machinery.

The molds (moulds?) for the plastic injection parts (case, keytops) will be high cost items if we want the calculator to look less than uh.... how shall I say it? ..."prototypical".

But then again, for a small run, it might be just as economical to make the cases out of hand carved mahogany, teak, bubinga, ebony...

B^)

Ren

dona nobis pacem

### **Re: What will it take to create an OpenRPN 45s?**

*Message #41 Posted by **DaveJ** on 1 Nov 2007, 5:24 p.m.,  
in response to message #40 by Ren*

Quote:

\_\_\_\_\_  
DaveJ currently HAS a working LCD, CPU, keyboard...

and we've seen, (and some lucky ones have(!) (or touched)) the DIY calcs of the recent HPCC.

What would it take for DaveJ's prototype to be "un-smooshed" into the 45 form factor? (Or for the DIY calcs) to be produced as a kit?

---

From the electronics side, not much at all, just a new PCB. But the electronics side of a calculator is and has always been trivially easy. The hardware part is actually figuring out the mounting arrangement with the case and keys.

Quote:

---

What will it take? A decent (er...excellent) keyswitch!

As recent threads have shown, prototype cases (and keytops) have been built using CAD/CAM (Santa Claus) machinery.

The molds (moulds?) for the plastic injection parts (case, keytops) will be high cost items if we want the calculator to look less than uh.... how shall I say it? ..."prototypical".

But then again, for a small run, it might be just as economical to make the cases out of hand carved mahogany, teak, bubinga, ebony...

---

Hasn't Eric already done it all with the DIY-3 ?:

[http://gallery.brouhaha.com/albums/diy3f3/img\\_6873.sized.jpg](http://gallery.brouhaha.com/albums/diy3f3/img_6873.sized.jpg)

I don't know how good the keys work though.

Also, if you don't like Eric's "clone" firmware, then simply write your own. I believe he uses a PIC 18 series micro? (my watch is a PIC24F series micro)

If you want a "professional" looking calc, then I think it's worth at least investigating retrofitting a 12C/17BII+ with new electronics.

Dave.

*Edited: 1 Nov 2007, 5:31 p.m.*

---

### **Re: What will it take to create an OpenRPN 45s?**

*Message #42 Posted by [DaveJ](#) on 1 Nov 2007, 7:05 p.m.,  
in response to message #41 by DaveJ*

I don't know what plans Eric has for the DIY3, but perhaps he can share some details of how well it works from a point of view of the keys, LCD (what model?), PCB fit etc. Also, how much it cost to prototype the case, and how much it would cost to get say a dozen cases made in a less DIY looking colour like black?

Dave.

---

### **Re: What will it take to create an OpenRPN 45s?**

*Message #43 Posted by [Eric Smith](#) on 2 Nov 2007, 3:47 p.m.,  
in response to message #42 by DaveJ*

The full case (two halves and 40 keys) costs about \$70. Volume production is not likely to reduce this much; if I bought my own FDM machine (\$20K), the per-unit materials cost would still be around \$30, because it is not possible to refill the

material cartridges. (It's just like the inkjet printer cartridge racket.) FDM is great for prototyping but is just not suitable for production of inexpensive consumer goods.

I do have an earlier, much less refined case design made in black ABS, and the color is definitely better. Note that my camera did a terrible job with the photos of the white case. I'll have to get a better camera to get some photos that look more like the real thing.

### **Re: What will it take to create an OpenRPN 45s?**

*Message #44 Posted by [Meenzer](#) on 3 Nov 2007, 1:11 a.m.,  
in response to message #43 by Eric Smith*

Quote:

\_\_\_\_\_  
Note that my camera did a terrible job with the photos of the white case. I'll have to get a better camera to get some photos that look more like the real thing.

\_\_\_\_\_  
Don't buy a new camera, just white balance it properly. Switch it to the appropriate light source or do a manual white balance with a white sheet of paper (see the manual for details) ;-)  
Photoshop or Gimp would also be an option...

*Edited: 3 Nov 2007, 1:12 a.m.*

### **Re: What will it take to create an OpenRPN 45s?**

*Message #45 Posted by [Eric Smith](#) on 3 Nov 2007, 1:23 p.m.,  
in response to message #44 by Meenzer*

That was what the camera did with reasonably good direct illumination from a 26W CFL about 0.5m from the subject. The camera does offer manual white balance, but it used to do a much better job than this on auto. The autofocus no longer works properly either, after a friend dropped the camera, and the manual focus control is atrocious -- I need two hands to operate the manual focus, and a third to hold the camera (since it's not always convenient to use a tripod).

It's time for a new camera.

### **Re: What will it take to create an OpenRPN 45s?**

*Message #46 Posted by [Ren](#) on 2 Nov 2007, 11:33 a.m.,  
in response to message #41 by DaveJ*

DaveJ,

Thanks for letting me know the processor you're using. I was curious about that.

So you've helped make the point I was trying to convey...

We have a lot of individual and group contributions in designing a new calculator. (i.e. hardware, cases, key layout) we (this forum) just need to round up all those mavericks

and put our brand on 'em!

YeeHaw!

Ren

dona nobis pacem

### **Re: What will it take to create an OpenRPN 45s?**

*Message #47 Posted by [sylvandb](#) on 2 Nov 2007, 12:40 p.m.,  
in response to message #41 by DaveJ*

Quote:

\_\_\_\_\_

If you want a "professional" looking calc, then I think it's worth at least investigating retro-fitting a 12C/17BII+ with new electronics.

\_\_\_\_\_

What about a 35S with new electronics? The case has more room, and it is a less costly box than the other two.

sdb

### **Re: What will it take to create an OpenRPN 45s?**

*Message #48 Posted by [DaveJ](#) on 2 Nov 2007, 6:10 p.m.,  
in response to message #47 by sylvandb*

Quote:

\_\_\_\_\_

What about a 35S with new electronics? The case has more room, and it is a less costly box than the other two.

\_\_\_\_\_

I don't have a 35S to be able to tell you, but from seeing some inside shots it looked possible. The LCD however looked a bit difficult to re-attach to a new PCB.

Dave.

### **Re: What will it take to create an OpenRPN 45s?**

*Message #49 Posted by [Eric Smith](#) on 2 Nov 2007, 3:42 p.m.,  
in response to message #41 by DaveJ*

Quote:

\_\_\_\_\_

I don't know how good the keys work though.

\_\_\_\_\_

They're tact switches. With the laser-cut case, the top of the actuator protrudes slightly through a hole, and is just under the photo paper overlay. This works amazingly well.

With the FDM case, they have press-fit buttons. They work pretty well except for two things:

1. The button has too tight a fit on the switch shaft, so more force is needed to seat the button than is desirable. I think this has damaged the switches slightly, as they seem to have less consistent actuation force after assembly. I'm fairly sure that my latest button design will fix this problem, but I haven't had any fabricated yet.
2. On the current units, there is only one tact switch for the ENTER key, in the middle. If you press the left or right side of the ENTER key it doesn't work well. We plan to try using two tact switches, which should fix that problem but we're not sure whether that will make the ENTER key feel like it needs too much force to actuate.

---

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## HP Forum Archive 17

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### **Squeaky keys on 12c**

Message #1 Posted by [Igor Vilensky](#) on 29 Oct 2007, 2:14 p.m.

Greetings,

This is in reference to a 2826A HP 12c in excellent shape. This calculator appears to have been stored since its original purchase in 1989, seeing very little use. All keys work well with good tactile response. Sadly, the middle two rows squeek when touched even with lightest pressure. And of course, those keys make same rubbery sound when operated normally. I imagine something has happened to the rubber shield beneath the keys during its long storage. Could it have dried out? I took the calculator apart to find that its version does not allow direct access to the rubber shield. Any suggestions on how to remedy this 'squeaky' problem?

Thank you.

---

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## HP Forum Archive 17

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**Display cases**

Message #1 Posted by [Stefan Vorkoetter](#) on 29 Oct 2007, 1:10 p.m.

I have an opportunity to take my collection of HP calculators (and slide rules) out of a drawer and display them in our study in some sort of tasteful display case. The only problem is that I have no idea what would be a good way to display them. The attributes I'd want in a display case would be:

- 1) Contents clearly visible.
- 2) Protected from dust.
- 3) Easy to get one out to show it to someone or use it.

I'm thinking of something that mounts on a wall perhaps, but something on a bookshelf might work too.

How do you all store and/or display your calculator collections?

Note that my collection is not very big, and isn't likely to go much past eight or nine calculators and a dozen or so slide rules.

Thanks, Stefan

**Re: Display cases**

Message #2 Posted by [Martin Pinckney](#) on 29 Oct 2007, 4:04 p.m.,  
in response to message #1 by [Stefan Vorkoetter](#)

Since you mention slide rules, then may I assume your calculator collection includes some older classic models? I would probably choose something traditional-looking, made out of wood with glass front, unless that conflicts with your room decor.

Try Googling "collectible display cabinets and curio cases" or something like that.

**Re: Display cases**

Message #3 Posted by [Walter B](#) on 30 Oct 2007, 1:09 a.m.,  
in response to message #1 by [Stefan Vorkoetter](#)

Hallo Stefan,

depends on your location. IF - as your name suggests - you live in good old Central Europe, THEN take a look at your nearest IKEA store. They offer an unexpensive little wall mounted shelf called KLANG. I use its Aluminum edition to display my modest collection of a few slide rules and some HP scientific calcs of the Seventies and Eighties.

Why Aluminum? This edition features some elevated lines allowing to set the inclination of the calcs easily - not featured at the wooden edition. Direct access to your collection is guaranteed. If you have (small) kids,

mount it high enough. It is an open shelf, so there is no dust protection, however you will use your calcs and rules some times, won't you?

HTH, Walter (not affiliated with said company)

**Re: Display cases**

*Message #4 Posted by [Stefan Vorkoetter](#) on 30 Oct 2007, 9:55 a.m.,  
in response to message #3 by Walter B*

Thanks for the tip. I looked at the KLANG shelf (we have IKEA here in Canada too), and don't really like the looks of it, but it's something to keep in mind.

Stefan

**Re: Display cases**

*Message #5 Posted by [Bill \(Smithville, NJ\)](#) on 30 Oct 2007, 7:18 a.m.,  
in response to message #1 by Stefan Vorkoetter*

Hi Stefan,

It took me a little while to find it, but check out the photos of Katie's display cases in following thread:

[Display Cases](#)

Bill

*Edited: 30 Oct 2007, 7:21 a.m.*

**Re: Display cases**

*Message #6 Posted by [Stefan Vorkoetter](#) on 30 Oct 2007, 9:56 a.m.,  
in response to message #5 by Bill (Smithville, NJ)*

Katie's display cases are impressive. I forward a picture to my wife to see what she thinks. :-)

Fortunately, my calculator and slide rule collection isn't all that large.

Stefan

**Re: Display cases**

*Message #7 Posted by [jim creybohm](#) on 30 Oct 2007, 4:05 p.m.,  
in response to message #6 by Stefan Vorkoetter*

<http://www.ikea.com/ca/en/catalog/products/30119205>

A glass curio cabinet called a Detolf.

**Re: Display cases**

*Message #8 Posted by [Arne Halvorsen \(Norway\)](#) on 30 Oct 2007, 4:33 p.m.,  
in response to message #7 by jim creybohm*

That was nice! But propably to spacy for calc/sliderull collection. I guess not possible to put in



more levels. But perhaps...

At work we have started to place old hardware our company has an emotional relation to (now there may be some hp calcs there :-), configurable one of these caould be of interest. Ikea is next door :-)

### **Re: Display cases**

*Message #9 Posted by [Johnny Bjoern Rasmussen](#) on 31 Oct 2007, 8:27 a.m.,  
in response to message #8 by Arne Halvorsen (Norway)*

Hi Stefan

I use a rack called Bertby from IKEA. It's also available from IKEA Germany, according to [Ikea Germany](#). It's fairly dustproof (after I have added some kind of self adhesive "foamstripes" (as you use to make doors shut tight)). I can add or rearrange the shelves or even add more shelves. Next thing for me is to install IKEA's LED-lights... ;-)

My collection of 40 (40+?) HP-calcs have a nice home there including "big ones" as HP-71B, OmniGo 700 and HP-71B. I may add a picture here later today, when I get home from work...

Best regards! Johnny

*Edited: 31 Oct 2007, 8:36 a.m.*

### **Re: Display cases**

*Message #10 Posted by [Walter B](#) on 1 Nov 2007, 4:25 a.m.,  
in response to message #9 by Johnny Bjoern Rasmussen*

:) You'll find almost everything you need at this company - just have to know where to look for it :)

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## HP Forum Archive 17

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### MLDL2000 V2 update + questionnaire

Message #1 Posted by [Meindert Kuipers](#) on 29 Oct 2007, 10:46 a.m.

The MLDL2000V2 is a new version of the MLDL2000 with the addition of mass storage. I have been able to do some testing lately. The result is that I will not use USB for mass storage, due to the power consumption of the USB media itself. This turned out to be very unpredictable and would drain the HP41 batteries ver fast. This would only work with an external power source or with the MLDL connected to USB, and that is not really practical.

I have done experiments with SD cards using a different controller and the additional power can be much better controlled. Also the media use very limited power.

SO now I have a few other choices to make, and would like to have the feedback from the forum:

1. SD card or microSD?

Both are possible, even inside a cardreader shell.

2. Possible inside a cardreader shell or external housing?

The current MLDL2000 fits inside a cardreader shell. One issue is that there are no more shells available, unless users choose to sacrifice their cardreader. It also appears that it is not possible to upgrade the MLDL2000 to V2 by only replacing the USB print. I am afraid that at least also the CPLD print (the most expensive part) must be replaced due to the more complicated interface between the CPLD and the SD card controller. When I design the new MLDL2000V2 for an external housing only one PCB is needed and the cost will be less. I expect that the PCB will be about 60\*90 mm, so the housing will be slightly larger. Of course a cable with module connector (and module housing) is required for connection to the HP41.

Let me know your feedback about this. Whenever you have questions, ask them!

Meindert

### Re: MLDL2000 V2 update + questionnaire

Message #2 Posted by [Vieira, Luiz C. \(Brazil\)](#) on 29 Oct 2007, 1:44 p.m.,  
in response to message #1 by Meindert Kuipers

Hi, Meindert;

as you know, I am a fierce MLDL2000 enthusiast (have two already, one is still disassembled), and I have serious reasons to go ahead and have a third unit, the V2-series being the target, now. So:

Quote:

SD card or microSD?

Based on newer  $\mu$ SD cards, their prices and reliability (have a 1Gb  $\mu$ -SD with adapter running fine in my HP50G), I guess it would not be a bad choice. But I must consider that chances are other users prefer having a regular SD card shelter, so lower-capable, earlier SD cards may be used as well (I have two 256MB SD cards I

could use, too). In time: what would be the system capacity for such SD access? So, µSD card or regular SD card should not be an issue for me.

Quote:

\_\_\_\_\_  
Possible inside a cardreader shell or external housing?  
\_\_\_\_\_

I'd go for a external housing with the cable. The problem would be to design a trustable connector, or use a spare module taken from a single density memory module. The card reader shell has many advantages, mostly portability, but it does not allow the use of ports 1 and 2. Consider having a HEPAX emulator with 32KRAM, and you want the HPIL plus regular printer... although possible, you should use one or the other with the card reader shell. If using an external module, you could go ahead with them all.

My 2¢.

Cheers.

Luiz (Brazil)

### **Re: MLDL2000 V2 update + questionnaire**

*Message #3 Posted by [Geir Isene](#) on 29 Oct 2007, 1:56 p.m.,  
in response to message #1 by Meindert Kuipers*

Quote:

\_\_\_\_\_  
1. SD card or microSD?  
Both are possible, even inside a cardreader shell.  
\_\_\_\_\_

The one with the least power consumption. Battery life is my #1 priority.

Quote:

\_\_\_\_\_  
2. Possible inside a cardreader shell or external housing?  
The current MLDL2000 fits inside a cardreader shell. One issue is that there are no more shells available, unless users choose to sacrifice their cardreader. It also appears that it is not possible to upgrade the MLDL2000 to V2 by only replacing the USB print. I am afraid that at least also the CPLD print (the most expensive part) must be replaced due to the more complicated interface between the CPLD and the SD card controller. When I design the new MLDL2000V2 for an external housing only one PCB is needed and the cost will be less. I expect that the PCB will be about 60\*90 mm, so the housing will be slightly larger. Of course a cable with module connector (and module housing) is required for connection to the HP41.  
\_\_\_\_\_

Inside a card reader shell. Space of the whole system is my second priority.

My 2 øre.

### **Re: MLDL2000 V2 update + questionnaire**

*Message #4 Posted by [Prabhu Bhooplapur](#) on 29 Oct 2007, 11:18 p.m.,  
in response to message #1 by Meindert Kuipers*

Hi Meindert,

My preference is for a memory card with the least power consumption.

For the housing the first preference is for card reader shell.

Best regards,

Prabhu

### **Re: MLDL2000 V2 update + questionnaire**

*Message #5 Posted by **Daniel Diggelmann** on 30 Oct 2007, 12:29 a.m.,  
in response to message #1 by Meindert Kuipers*

Hi Meindert,

I haven't got an MLDL2000 yet but would like to buy the V2. I wish an external housing and SD card. I have an old MATH module to build the connector. Many thanks for your continued developments for the HP-41.

Regards from Switzerland, Daniel

### **Re: MLDL2000 V2 update + questionnaire**

*Message #6 Posted by **Garth Wilson** on 30 Oct 2007, 1:23 a.m.,  
in response to message #1 by Meindert Kuipers*

I have been looking for a card reader just for this purpose. How much would it cost to have the card-reader shell (or even a regular module shell) copied, both in NRE and the per-piece cost after that? I'm sure you could sell a lot of shells to people who want to use them for things other than the MLDL2000. I would guess the NRE would be about \$3000. How many MLDL2000's do you expect to sell, especially if availability of the card-reader shell is no longer an issue?

### **Re: MLDL2000 V2 update + questionnaire**

*Message #7 Posted by **Bram** on 31 Oct 2007, 8:41 a.m.,  
in response to message #1 by Meindert Kuipers*

Personally I'd prefer building it into a card reader shell (I didn't collect some shells for nothing you know ;-)  
As both microSD and miniSD can be converted into normalSD with an adapter, an interface for the latter may be more versatile. On the other hand, microSD already ranges up to 4GB (!), which seems way enough for an HP-41C to me.

Card reader housing + normalSD would be my choice.

### **Re: MLDL2000 V2 update + questionnaire**

*Message #8 Posted by **Meindert Kuipers** on 1 Nov 2007, 12:26 p.m.,  
in response to message #1 by Meindert Kuipers*

While on a plane earlier this week I had some time to think about this and make some sketches. It looks like it will be possible after all to only replace the USB controller and make everything fit inside a cardreader shell. SD or microSD is still open, but not very important at this time.

The changes in both firmware and software will not be trivial, but certainly not impossible.

The PCB's for the CPLD and Interface will be changed anyway, but can be 100% compatible, with a few errors fixed and one or two extra features. For those wishing to use an external box (if you do not have a

cradreader shell) I will provide a PCB that works as a carriercard for the other PCB's and provides the necessary interconnections.

As usual, comments are welcome!

Meindert

### **Re: MLDL2000 V2 update + questionnaire**

*Message #9 Posted by [Donald Leonard](#) on 9 Nov 2007, 6:09 a.m.,  
in response to message #8 by Meindert Kuipers*

I am not financially able to buy a whole new MLDL2000 V2, but a USB board replacement is still doable cost-wise. Based upon this still being a possibility, and this new board will STILL have USB connectivity to the computer for MLDL2000 data manipulation, my preferences are:

1. Card Reader Case installation. 2. uSD card, with adjustable/expandable addressing capable of accomodating future larger uSD cards. Reason for this preference over other SD sizes is strictly one of size - I'm sure Read/Write current drain is the same for all.

I would like to know what the "...few fixed errors.." and "...one or two extra features..." are. If these are significant and will make V1 systems outdated and incompatible with future ML2K PC software and features/capability, then I may have to give up on this project - I won't be able to keep up with the additional upgrade costs. If however, these are truly insignificant upgrades and ONLY being incorporated due to a new production run requiring different parts/board layouts caused by parts nonavailability, with no impact on support software compatibility between versions, then I am fully behind this project. I will gladly purchase the new, upgraded USB board when available.

I am very excited about the possibility of having Mass Storage capability added to the MLDL2000, and the uSD card is an excellent, compact storage unit.

Donald

### **Re: MLDL2000 V2 update + questionnaire**

*Message #10 Posted by [Meindert Kuipers](#) on 9 Nov 2007, 8:05 a.m.,  
in response to message #9 by Donald Leonard*

The V2 will be possible with the USB board only (pending some tests that I have to do). The updates on the other boards that I have planned are fixing some mistakes, but certainly not big functional changes, just a few minor things. These will include slightly better power management, LED's and extra I/O (for which no functions are defined yet). The V1 systems will be fully compatible with the V2 units if the mass storage is not used.

Meindert

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## HP Forum Archive 17

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### **HP82161A DIGITAL CASSETTE DRIVE PROBLEM**

Message #1 Posted by [Francis Showering](#) on 29 Oct 2007, 6:58 a.m.

I have two HP82161A Cassette drives that have not been used for many years. When trying to read the cassettes both seem to communicate with my HP41C but both drives display "DRIVE ERR" when trying to format or read from the cassettes. Can anyone help or does anyone know how I can get one/both repaired?

Regards

Francis Showering (England)

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## HP Forum Archive 17

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### HP35S version of existing HP41 prgm: an example

Message #1 Posted by [Vieira, Luiz C. \(Brazil\)](#) on 29 Oct 2007, 6:41 a.m.

Hi, all;

The listings below refer to two possible HP35S versions of a program designed to help analyzing the performance of (single stage?) transistor amplifiers. The original is a 169-step application program found in the HP41 User's Library Solution, Electrical Engineering (pages 12 to 19). Indirect addressing and subroutines dedicated to complex operations were not used in these HP35S versions because the program could be shortened if using the original equations (instead of matrix operations) and I decided to take the advantage of using the HP35S built-in complex handling. I decided to post the listing because it might be of use as examples of writing your own HP35S versions from other calculators. Both listings are RPN-based, I actually did not try the algebraic ones.

Input and output data are as follows: (complex data can be directly input with [i] or [theta])

| R# | Value |
|----|-------|
| H  | hi    |
| R  | hr    |
| F  | hf    |
| O  | ho    |
| Z  | Zs    |
| L  | Zl    |
| A  | Ai    |
| V  | Av    |
| S  | Avs   |
| N  | Zin   |
| T  | Zout  |

The first listing uses equations and takes advantage over values already in the stack (REGX, REGY, etc). The one shown here is slightly different of the one I posted recently: some variables had their names changed.

```

H001  LBL H
H002  INPUT H
H003  INPUT R
H004  INPUT F
H005  INPUT O
H006  INPUT Z
H007  INPUT L
Z001  LBL Z
Z002  CF 10
Z003  -F÷(1+O×L)»A
Z004  VIEW A
Z005  RCL× L
Z006  ENTER
Z007  ENTER
Z008  ENTER
Z009  REGX×R+H»N
Z010  REGY÷(REGX+Z)»S
Z011  REGZ÷REGY»V
Z012  VIEW V
Z013  VIEW S
Z014  VIEW N
Z015  (H+Z)÷(O×H+O×Z-F×R)»T
Z016  VIEW T

```

The second listing does not use equations, only stack manipulation.

```

H001  LBL H
H002  INPUT H

```

```

H003 INPUT R
H004 INPUT F
H005 INPUT O
H006 INPUT Z
H007 INPUT L
Z001 LBL Z
Z002 RCL F
Z003 RCL O
Z004 RCL× L
Z005 1
Z006 +
Z007 ÷
Z008 +/-
Z009 STO A
Z010 VIEW A
Z011 RCL× L
Z012 ENTER
Z013 ENTER
Z014 ENTER
Z015 RCL× R
Z016 RCL+ H
Z017 STO N
Z018 ÷
Z019 STO V
Z020 R^ (roll up)
Z021 LASTx
Z022 RCL+ Z
Z023 +
Z024 STO S
Z025 VIEW V
Z026 VIEW S
Z027 VIEW N
Z028 RCL H
Z029 RCL+ Z
Z030 RCL O
Z031 RCL× H
Z032 LASTx
Z033 RCL× Z
Z034 +
Z035 RCL F
Z036 RCL× R
Z037 -
Z038 ÷
Z039 STO T
Z040 VIEW T

```

I'd suggest following the example in the original, HP41 version to test the program:

| Keystrokes        | LCD       | comments |
|-------------------|-----------|----------|
| [XEQ] [H]         | H=        | (hi)     |
| 1100 [R/S]        | R=        | (hr)     |
| 250[E]6[+/-][R/S] | F=        | (hf)     |
| 50[R/S]           | O=        | (ho)     |
| 25[E]6[+/-][R/S]  | Z=        | (Zs)     |
| 1000[R/S]         | L=        | (Zl)     |
| 10000[R/S]        | A=        |          |
|                   | -40.00    | (Ai)     |
| [R/S]             | V=        |          |
|                   | -400,00   | (Av)     |
| [R/S]             | S=        |          |
|                   | -200,00   | (Avs)    |
| [R/S]             | N=        |          |
|                   | 1000,00   | (Zin)    |
| [R/S]             | T=        |          |
|                   | 52,500.00 | (Zout)   |

Although having different step numbers, both listings differ only in one byte concerning memory usage.

Please, let me know if there is anything wrong or that could be changed.

Hope it is useful.

Luiz (Brazil)

*Edited: 29 Oct 2007, 6:43 a.m.*



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## HP Forum Archive 17

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### Are Matrices Relevant?

Message #1 Posted by [designnut](#) on 28 Oct 2007, 2:51 p.m.

I see complaints about matrix solving ability. Explain the real life relevance of matrices. Where do they arise? Sam

### What is the matrix?

Message #2 Posted by [Allen](#) on 28 Oct 2007, 3:22 p.m.,  
in response to message #1 by [designnut](#)

GRIN... Actually, there are many a'ffine use for [matricies](#). If I wanted to [dot](#) my "i's" and [cross](#) my "t's", I would say there is no [upper](#) limit to their utility.

If I had to [rank](#) some of the tools that have [transformed](#) my mathematics experience, I would say that [matricies](#) have given me an [identity](#) and life just wouldn't be [normal](#) without them. :-)

Edited: 28 Oct 2007, 3:23 p.m.

### Re: What is the matrix?

Message #3 Posted by [Ed Look](#) on 28 Oct 2007, 3:30 p.m.,  
in response to message #2 by [Allen](#)

Very simplistically, you can think back to high school and consider it a way to work with systems of (more than one) equations.

And historically, the presently more commonly encountered form of quantum mechanics, wave mechanics, got its start from matrices, in matrix mechanics.

Oh, how I wish I got a HP-15C.

Edited: 28 Oct 2007, 3:31 p.m.

### Re: Are Matrices Relevant?

Message #4 Posted by [Eric Smith](#) on 28 Oct 2007, 3:28 p.m.,  
in response to message #1 by [designnut](#)

Quote:

Explain the real life relevance of matrices. Where do they arise?

- vector rotations
- coordinate transformations
- systems of linear equations
- curve fitting

And many more, but that's what came to mind thinking about it for five seconds.

## Re: Are Matrices Relevant?

Message #5 Posted by [Maximilian Hohmann](#) on 28 Oct 2007, 3:57 p.m.,  
in response to message #1 by designnut

Hello!

Quote:

Where do they arise?

Just two examples from my world:

- 3D CAD/CAM consists to 95 percent of vectors and matrices. Our customers (we supply them with auxiliary software plugins for their CAD system) design (very) large aircraft where millions of matrix operations are performed every second on every single workstation. They have more than 1.000 of those in operation. I have been doing this work for over ten years now, but have never performed a single matrix calculation on a pocket calculator. If I have to check a result, it is quicker to write a little program on my workstation, where I can copy & paste the necessary input values, than to type all the figures into a calculator.

- In my other job, I am getting GPS position and speed readouts updated several times per second, that are again the result of matrix operations used to solve the necessary equations. Again, a pocket calculator might just be able to perform the necessary calculations (but not the much more computationally intensive task of receiving and decoding the pseudo-random signals transmitted by the satellites), but we would long have run out of fuel before the necessary input figures were typed into the machine...

Greetings, Max

## Re: Are Matrices Relevant?

Message #6 Posted by [Garth Wilson](#) on 29 Oct 2007, 12:07 a.m.,  
in response to message #5 by Maximilian Hohmann

Quote:

it is quicker to write a little program on my workstation, where I can copy & paste the necessary input values, than to type all the figures into a calculator.

That's partly why HPIL was valuable. It was practical to connect lots of lab instruments to the calculator at once. I did a lot of FFTs in the late 1980's on my HP-71, up to 8192-point, but you can bet I did not type the data in! It came in over HPIL, through the HP82169A HPIL-HPIB (IEEE-488) interface converter.

Edited: 29 Oct 2007, 12:08 a.m.

## Also, for solving electric/electronic circuits (N.T.)

Message #7 Posted by [Vieira, Luiz C. \(Brazil\)](#) on 28 Oct 2007, 11:37 p.m.,  
in response to message #1 by designnut

## Re: Are Matrices Relevant?

Message #8 Posted by [Jonathan Eisch](#) on 29 Oct 2007, 1:22 a.m.,  
in response to message #1 by designnut

Quote:

Explain the real life relevance of matrices.

In physical situations, matrices arise when you want to work with and describe real world (multi-dimensional) objects. While there are other ways, using a matrix is often very convenient.

An example?

Let's say you're programming a robot. You tell it that there is an obstacle five meters ahead, and two meters to the right. Now your robot then turns in place 't' degrees to the left. So, how do you calculate the location relative to the robot after the turn?

If you want to use matrices, you'd describe the original coordinates of the obstacle with the matrix

$$\begin{bmatrix} 5 \\ 2 \end{bmatrix} = C$$

and the rotation matrix:

$$\begin{bmatrix} \cos(t) & -\sin(t) \\ \sin(t) & \cos(t) \end{bmatrix} = R$$

To get your new coordinates, perform the matrix multiplication:  $C' = R * C$

and you're done! Of course, you could have used two equations, but this is more compact and readable if you have the matrix functionality already built in.

This is a very simple example, but if you write out the equations that you'd need you can see that as you scale dimensions, and the complexity of your operations, using matrices becomes more and more useful. (For example, you can multiply rotation matrices again and again to get the final rotation, and then apply that to all of your coordinates.)

I'm sure someone else can give a better example of using matrices, but this is mine.

## Re: Are Matrices Relevant?

Message #9 Posted by [Namir](#) on 29 Oct 2007, 5:29 a.m.,  
in response to message #1 by designnut

The availability of matrix operations in a calculator, programming language, and an extension of a programming language offers valuable shortcut to the user/programmer. Matrix operations make us very easy, for example, to set up statistical summations for multiple regression and then solving for the regression coefficients and other statistics. Such operations absolve the user/programmer from having to manage the matrices element by element.

## Re: Are Matrices Relevant?

Message #10 Posted by [BruceH](#) on 29 Oct 2007, 6:47 p.m.,  
in response to message #1 by designnut

Try and get hold of a copy of Bradley & Meeks' book "Matrices and Society". It's quite slim, an easy non-technical read, and has some quite surprising examples.

## Re: Are Matrices Relevant?

Message #11 Posted by [John Wasilewski](#) on 29 Oct 2007, 9:09 p.m.,  
in response to message #1 by designnut

In 1980 I programmed my TI-59 to analyse structural building frames. For example, a frame with three lines of columns and two upper floors would have six nodal intersections. Each node of a plane frame can drift to L or R, stretch/squash up/down, or rotate. That is, it has 3 degrees of freedom ('DoF').

A plane frame structure with 6 nodes has 18 DoF.

When external actions are applied to a structure (eg point loads, uniformly distributed loads such as weight and applied floor loads etc), each DoF deflects and rotates, and develops a corresponding internal action (axial force, shear force and bending moment).

All internal actions are related linearly to the external actions and to member stiffnesses and all of the displacements at the nearest DoF. These relationships can be expressed as a series of equations.

Nobody who writes down 18 equations bothers to keep repeating all the same variables on every line. Just write a list of the variables then for each line write a list of the coefficients. We call these shorthand forms, "matrices". Solving 18 equations by hand would NEVER be done in real life but with computers and flash calculators we can automate the process.

Without the neat timesaver form of matrices for teh equations this would be ludicrously cumbersome. Alas, here we are, 27 years later with an HP35s calculator that has, what, thirty six times as much memory as the TI-59? Yet I could not easily replicate the above because there are no large-scale matrix functions.

Its a marvellous calculator but I so-oo wish it had either a USB port of removable flash memory cards from which I could save backups on a PC, print etc.. I also am very, very wary about accidental screen lock-up when debugging any rough-and-ready code not prepared with v great care because this fault can leave one having to erase ALL work to date on the machine.

----

John Wasilewski

## Re: Are Matrices Relevant?

Message #12 Posted by [bill platt](#) on 29 Oct 2007, 9:37 p.m.,  
in response to message #11 by John Wasilewski

50G.....50G.....50G:-)

## Re: Are Matrices Relevant?

Message #13 Posted by [Gene Wright](#) on 29 Oct 2007, 9:38 p.m.,  
in response to message #11 by John Wasilewski

Just for the record, you couldn't solve those 18 equations on the TI-59 either, I think.

It did not have matrix equations built-in. It did have a matrix program as one of the master library programs on the plug-in CROM, but that was certainly not written with subroutines in mind. There were no large scale matrix functions in that program that would apply to this stated problem, since it had limits of a 9x9 system.

If you did ever solve such a beast on the TI-59, then you had to write some sort of program for it using other techniques, just as you would the HP-35s.

Of course, if you want to use matrices on a calculator today, then either use an HP42s or a graphing series model such as the HP48, HP49, or HP50g.

But, FYI on the old TI-59 for any readers who aren't familiar with it.

## Re: Are Matrices Relevant?

Message #14 Posted by [John Wasilewski](#) on 30 Oct 2007, 3:16 a.m.,  
in response to message #13 by Gene Wright

Ouch, you think I'm making it up!

I used a matrix inversion subroutine from the ML module, which was INEFFICIENT (an equation solver would have been better but there wasn't one I think). Also inefficiently, the program did not store the matrix as a packed half bandwidth but stored the whole square matrix, because you have to do this if solving the equations by in-situ matrix inversion (I think!).

I invented a structure labelling notation that didn't number the nodes and members but numbered only the DoF and then entered members using their nodal DoF as identifiers. See example below.

It's a long time ago and I don't remember the matrix size limit of the ML module but I assure you I most certainly DID analyse a structure with 3 lines of cols and 2 upper floors, because that was one of my test structures and I analysed it dozens of times in final testing of the program. If the ML module was limited to 9x9 as you say then what I must have done is to treat members as axially rigid so that nodal DoF were limited to L/R translation plus rotation and each floor level shared translation DoF.

DoF will thus have been:

Three rotations at 2nd floor

- 1
- 2
- 3

L/R translation at 2nd floor

- 4

Three rotations at 1st floor

- 5
- 6
- 7

L/R translation at 1st floor

- 8

Members will thus have been entered as

2nd floor beams 4142 4243

1st-2nd floor cols 8541 8642 8743

1st floor beams 8586 8687

grd-1st floor cols 0085 0086 0087

This member notation allowed the program to add stiffnesses directly into DoF locations. The program then solved the equations for all rotation and translation displacements, then added displacement actions (displacements x stiffnesses) to the original fixity actions (fixed-end moments and shears), obtaining all member-end moments and shears throughout the structure.

Input was extremely quick and easy. If you number DoF instead of nodes and members, using a diagram, you can reel off member DoF designators in an instant.

I am sorry that I didn't (and still don't) remember the matrix size limits of the ML module, so my number of equations may have been wrong for this particular example structure but I hope the above convinces you that I really DID DO what I said I did in all other respects! If anyone still has a working TI59, I have a copy of teh code somewhere that I can send out.

---

John

### **Re: Are Matrices Relevant?**

*Message #15 Posted by [Gene Wright](#) on 30 Oct 2007, 8:36 a.m.,  
in response to message #14 by John Wasilewski*

And what I am primarily saying is that the TI-59 matrix systems program in the TI-59 was limited to 9x9 systems.

Equation solvers were nearly 10 years in the future from the 1977 TI-59 introduction dates.

And, no, I don't suggest you're making it up, but that you might have either mis-remembered (possible, of course) or that you had to use some other technique (which you did since you say you "invented" an approach.

Well, you can certainly invent an approach to the problem on the HP35s if you want.

Seems a bit much to take a whack at the HP35s for not doing something out of the box because a calculator form 30 years ago gave you the ability to invent a way to solve a problem on it.

So, you could write a program to do this on the HP 35s as well. That's all.

### **Re: Are Matrices Relevant?**

*Message #16 Posted by [John Wasilewski](#) on 30 Oct 2007, 6:40 p.m.,  
in response to message #15 by Gene Wright*

You're right - I remembered the ML module and matrix ops but I did not remember its equation limit. I seem to recall that the TI-59 had storage registers 00 to 99 so an 81-field array would not leave a lot of space for other variables or program code.

I had fun compressing the frame analysis program and maximising the structural problem size, and my 3 rows of cols by 2 storey heights was either at the limit or nearly at it. (I actually also did use the program for my work, btw!).

This thread arose solely in reply to a challenge about, iirr, whether matrices have any practical use in the real world. I hope the original poster is now content with assurances from many of us, expressed and implied, that the answer is a resounding 'yes', and that significant matrix handling facilities can be very useful in a good calculator.

---

John

### **Re: Are Matrices Relevant?**

*Message #17 Posted by [John Wasilewski](#) on 30 Oct 2007, 6:53 p.m.,  
in response to message #15 by Gene Wright*

What I claim to have "invented" is a member designation system that is easy to use and eliminates a huge amount of housekeeping code from computer applications to get the program to work out which member-end actions are associated with which global structure DoF - hence feasible in the tiny storage capacity of a calculator.

Instead of numbering nodes, numbering members and listing connectivity by member-end node numbers like this, I just labelled each member with a 4-integer number representing the moments and shear DoF at each end. This allowed member stiffnesses to be added directly to the four DoF making the member's 'name'.

---  
John

### **Re: Are Matrices Relevant?**

*Message #18 Posted by **John Wasilewski** on 30 Oct 2007, 7:00 p.m.,  
in response to message #15 by Gene Wright*

I'd be delighted to tackle this in the HP35s. Would need to write a matrix equation solver though (which would be far more efficient than matrix inversion).

Obviously it would be good to find a way of packing the stiffness matrix by storing only the symmetrical halfbandwidth of the coefficients array, but I can't immediately see how to do that when using the member DoF-designator device to avoid 'housekeeping' code.

Also I suspect that the HP35s might run just a bit too slowly for an application like this with maybe 10 or 20 equations to solve and having to use an algorithm to locate every non-zero array coefficient in the packed storage.

Also, alas, there's no realistic prospect at all that I could find the time to take it on, for the foreseeable future (sigh).

---  
John

### **Re: Are Matrices Relevant?**

*Message #19 Posted by **Palmer O. Hanson, Jr.** on 30 Oct 2007, 11:11 p.m.,  
in response to message #15 by Gene Wright*

Quote:

\_\_\_\_\_

And what I am primarily saying is that the TI-59 matrix systems program in the TI-59 was limited to 9x9 systems.

\_\_\_\_\_

The ML-02 program in the Master Library for the TI-59 would solve eighth order simultaneous equation problems or ninth order determinants and matrix inversion problems. It should have been possible to solve a ninth order simultaneous equation problem by entering the matrix, inverting the matrix with ML-02, and then using a user program to enter the vector and multiply the inverted matrix by the vector. I am not aware that anyone ever did that. I made a run at it one time but got hung up with the pivoting index.

A TI-59 program which would solve sixteenth order simultaneous equation problems appeared in the 81-2 issue of the Swedish newsletter *Programbiten*. Last year I translated that program for my sixth, seventh and eighth order linear equation solutions for the hp-33s which appear in the Articles section of this forum.



Those who don't have access to the old issues of *Programbitten* can find discussions of the program in V8N6P14 ff and V9N1P16 ff of *TI PPC Notes* including conversions of the program for fast mode. You can find those documents at Viktor Toth's site. I have solved 16x16 systems with the programs.

A program of the same genre for the HP-41 by Valentin Albillo appeared in V7N5P64 of the *PPC Calculator Journal* would solve up to a 14x14 system with a single memory module and a 30x30 system with all four memory modules in place. I have entered the program in an HP-41 but have only solved up to 9x9 systems.

It would seem to me to be fairly straightforward to convert Valentin's program for use with the hp-35s. I didn't use Valentin's program as the basis for my programs for the hp-33s because I had counted the required number of registers for Valentin's program and found that a direct translation couldn't do an 8x8 considering memory limitations of the hp-33s. I couldn't see a way to reduce the number of registers for Valentin's program. That doesn't mean that there isn't one. I just couldn't push it through. I did find a way to squeeze in a modification of the *Programbitten* program. Memory limitations shouldn't be a problem on the hp-35s.

### **Why not an HP-71B ? (Re: Are Matrices Relevant?)**

Message #20 Posted by [Valentin Albillo](#) on 30 Oct 2007, 7:14 a.m.,  
in response to message #13 by Gene Wright

Hi, Gene:

Gene posted:

*"Of course, if you want to use matrices on a calculator today, then either use an HP42s or a graphing series model such as the HP48, HP49, or HP50g."*

I fail to understand why knowledgeable old-timers like you and many other expert people in this Forum consistently fail to recommend the HP-71B for most any purpose at all, always going for some other models instead.

In the particular, important case of matrix handling, it's been my experience that an HP-71B/Math ROM combination beats anything out there in terms of ease of use and sheer productivity. Its excellent classic keyboard with separate numeric pad, plus the convenience of assembly-language matrix keywords makes entering matrices and doing complicated operations with them as easy as pie.

This is further enhanced if you've got peripherals for your HP-71B such as printer, mass storage, or 80-column external display, or else if you're using Emu71 running on your PC, which brings in all these capabilities plus 350x speed to boot.

Even if restricted to the physical, handheld model, I'm pretty sure the HP-71B is a very strong contender for matrix handling on the field, even if just doing manual computations (which can utilize key assignments for even greater productivity), without resorting to programming. If some programming involving matrices is necessary, then the HP-71B allegedly wins hands down.

### **Re: Why not an HP-71B ? (Re: Are Matrices Relevant?)**

Message #21 Posted by [bill platt](#) on 30 Oct 2007, 7:45 a.m.,  
in response to message #20 by Valentin Albillo

The 71-b is out of production. The OP is using currently available technology--he isn't shopping for antiques. Yes, some of the old tools are better, but overall they are less supported day by day.

But as this is a museum, interest and awareness of the 71B and its capabilities is of great interest and I for one am very glad for your posts on the subject. I never would have known of these gems of the past otherwise!

**Re: Why not an HP-71B ? (Re: Are Matrices Relevant?)**

Message #22 Posted by [Valentin Albillo](#) on 30 Oct 2007, 9:52 a.m.,  
in response to message #21 by bill platt

Hi, Bill:

Bill posted:

*"The 71-b is out of production. The OP is using currently available technology--he isn't shopping for antiques."*

What "original poster" ? John Wasilewski ? designnut ?

Also, the HP-71B is "currently available technology": you can get any number of them right now in eBay and other places. It's just that you don't want to pay the asked price or shop for it at other places, but it's certainly anything but rare.

Anyway, I'm not complaining about this particular thread or "original poster" (whomever he might be) but on the perceived fact that *not even once* does anyone recommend getting an HP-71B for *any* purpose. You can find the RPL models recommended, the HP35S, the HP-41C, 42S, 11C, 15C, 17BII, *most any* model at all ... *except* for the HP-71B.

*"But as this is a museum, interest and awareness of the 71B and its capabilities is of great interest and I for one am very glad for your posts on the subject. I never would have known of these gems of the past otherwise!"*

Thank you very much, I'll buy you a drink or two for that.

Best regards from V.

**Re: Why not an HP-71B ? (Re: Are Matrices Relevant?)**

Message #23 Posted by [Gene Wright](#) on 30 Oct 2007, 10:10 a.m.,  
in response to message #22 by Valentin Albillo

*Valentin wrote: "Anyway, I'm not complaining about this particular thread or "original poster" (whomever he might be) but on the perceived fact that not even once does anyone recommend getting an HP-71B for any purpose. You can find the RPL models recommended, the HP35S, the HP-41C, 42S, 11C, 15C, 17BII, most any model at all ... except for the HP-71B."*

Gene: Ok! I'll do penance by actually getting my HP71B out and using it in the next week. It IS a beauty.

Internally wired 144MB of ram AND internally wired MATH rom. 32K EEPROM containing the X-version of the JPC rom (which I **\*\*really\*\*** like), and more. :-)

And, my other piece of penance will be to make sure a marvel such as the 71B comes to mind next time I have a chance to recommend a task at which it excels!

Will that do? :-)

**Re: Why not an HP-71B ? (Re: Are Matrices Relevant?)**

Message #24 Posted by [Valentin Albillo](#) on 30 Oct 2007, 10:31 a.m.,  
in response to message #23 by Gene Wright

Hi, Gene:

Gene posted:

*"Will that do? :-)"*

YESSSS ! Oh, yesss !! Have a cigar, my friend :-)

And congratulations for your really beefed-up HP-71B. My best one (I own 3) does have 160 Kb RAM + Math ROM + HP-IL ROM plus I also have its Card Reader, but none or them are internally wired.

I do have a curiosity regarding that physical JPC ROM of yours: does it appreciably *slow down* the machine while it's plugged in ?

This is: do programs (which don't use any of its keywords) run slower than they do if JPC ROM isn't plugged in ? Do interactive execution of command lines slow as well ? Does parsing and executing statements either interactively or in a running program proceed noticeably slower ?

Another question: did you ever get to try and write some programs for your SHARP EL-5510/PC-1421 handheld making use of its built-in financial BASIC statements and functions ? At the very least, did you ever wrote some kind of review, even if in scratch status ? You being an experienced financial guy I would be very specially interested in your opinion, as I've told you before.

Thanks and best regards from V.

**Re: Why not an HP-71B ? (Re: Are Matrices Relevant?)**

Message #25 Posted by [Gene Wright](#) on 30 Oct 2007, 8:31 a.m.,  
in response to message #20 by Valentin Albillo

Valentin is of course correct, the 71B with the MATH rom is another great alternative.

However, I am expecting to hear a reply that John only wants an RPN model that can do matrices, which is why I suggested the 42s.

The "proper" way to do matrix work on a handheld today is, IMO, the 48/49/50 graphing series for several reasons...cost and ease of replacing a broken unit being the primary one.

I have picked up HP48gII models off ebay for less than \$30. Same for older 49g models.

You could buy and use 8-10 of these for the usual price of a 42s.

Going with the 71B would be more expensive and require programming in BASIC rather than in an interactive way, such as can be done on the 42s and graphing series.

Given that the lament is that the \$60 HP35s doesn't have all these complicated matrix functions, I was expecting the need to suggest an RPN model (hence the 42s) and given the \$60 price, I was expecting the need to suggest a relatively cheap alternative (hence the graphing models). I just didn't think the 71B fit either of those categories. :-)

BTW, great articles, Valentin, in the latest Datafile issue!

## Re: Why not an HP-71B ? (Re: Are Matrices Relevant?)

Message #26 Posted by **Valentin Albillo** on 30 Oct 2007, 10:17 a.m.,  
in response to message #25 by Gene Wright

Hi again, Gene:

Gene posted:

*"Going with the 71B would be more expensive and require programming in BASIC rather than in an interactive way, such as can be done on the 42s and graphing series."*

I don't concur with what you're saying, at all. What do you mean "require programming in BASIC rather than in an interactive way" ?

You don't need *any programming at all* to use most of the HP-71B capabilities right from the keyword, interactively. That includes matrix capabilities, of course: you don't need to write a single line of code to declare, input and output matrices, to invert them, perform arithmetic with them, solve linear systems, or whatever, be they real- or complex-valued.

Just for instance, to solve a typical 3x3 system, say, you'd key in:

```
DIM A(3,3),B(3),X(3)           [ENTER] (declare matrices)
MAT INPUT A,B                 [ENTER] (input values)
    2,1,3,5,-1,4,-3,2,-1,6,8,-2 [ENTER]

MAT X=SYS(A,B)                 [ENTER] (solve the system)
MAT DISP X                     [ENTER] (output results)
```

and as you can see, everything's been done *interactively*, right from the keyboard, without ever entering even a *single* program line.

*"I just didn't think the 71B fit either of those categories. :-)"*

Lame excuses won't save you this time, just simply recognize that you *\*hate\** the HP-71B because it hasn't built-in financial functions like the SHARP EL-5510 handheld does ... :-) :-)

*"BTW, great articles, Valentin, in the latest Datafile issue!"*

Thank you very much, glad you liked them. Depending on how the incoming HPCC AGM comes out next 10th November 2007, they might turn out to be my last articles for Datafile in the foreseeable future, so keep them for collectible value.

Best regards from V.

---

**Re: Are Matrices Relevant?**

*Message #27 Posted by [Walter B](#) on 30 Oct 2007, 1:18 a.m.,  
in response to message #11 by John Wasilewski*

Hi John,

you remind me of good ol' Cato (the Roman), who repeated "ceterum censeo Carthaginem esse delendam" ad nauseam some 200 B.C. Eventually, Carthago was destroyed. So you seem to run the same strategy to push HP to launch a pocket calc with I/O and matrix support, don't you? Good luck :) (me, too, will appreciate your success)

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## HP Forum Archive 17

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### **Aurora FN1000 calculator**

Message #1 Posted by [hpnut](#) on 27 Oct 2007, 7:40 p.m.

Hi.

The Aurora FN1000 calculator is believed to be a clone of the HP 12C.

[IMG][http://i167.photobucket.com/albums/u151/topoguy/aurora\\_fn1000.jpg](http://i167.photobucket.com/albums/u151/topoguy/aurora_fn1000.jpg)[/IMG]

It has an alpha key, which the HP 12C does not. any idea how the alpha key is used?

### **Re: Aurora FN1000 calculator**

Message #2 Posted by [Allen](#) on 27 Oct 2007, 8:17 p.m.,  
in response to message #1 by [hpnut](#)

The usage of the alpha key is explained (at least in part) in the picture you posted- See the right half of the case where the examples are. In the example it is the shift function for the orange legends.

[http://i167.photobucket.com/albums/u151/topoguy/aurora\\_fn1000.jpg](http://i167.photobucket.com/albums/u151/topoguy/aurora_fn1000.jpg)

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## HP Forum Archive 17

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### A programmer's HP-35s review

Message #1 Posted by [Arne Halvorsen \(Norway\)](#) on 27 Oct 2007, 1:16 p.m.

After been doing some coding on the HP-35s I wrote what I called 'A programmer's HP-35s review' in my blog:

<http://aha-hp-calcs.blogspot.com/2007/10/programmers-hp-35s-review.html>

Main message: Found RPN, vector type and equations in programs to be very powerfull.

I am not familiar with RPL (yet, there is a 50g out there with my name on it :-), but I have the feeling that the possibility of using equation in programs on the HP-35s perhaps makes its programming language something between pure RPN and RPL, RPN+ :-)?

Anyway, its been an interesting 'return to HPHC programming' since the long, long gone days of HP-41 hacking!

### Re: A programmer's HP-35s review

Message #2 Posted by [marais](#) on 27 Oct 2007, 4:20 p.m.,  
in response to message #1 by Arne Halvorsen (Norway)

Don't let me be misunderstood, I am going to buy the 35s once it's available in Europe, but the lack of a cross product while at the same time providing vectors seems somewhat ridiculous from the perspective of somebody who uses a 28C/S on a daily basis. That's really hard to believe.

A.

### Re: A programmer's HP-35s review

Message #3 Posted by [Arne Halvorsen \(Norway\)](#) on 27 Oct 2007, 4:40 p.m.,  
in response to message #2 by marais

Yep! What where they thinking!

Actual I may get my hands on a 28C, I am looking forward if to compare...

*Edited: 27 Oct 2007, 4:43 p.m.*

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**HP41**

Message #1 Posted by [stevereiner](#) on 26 Oct 2007, 6:32 p.m.

I somehow have a comma on my screen instead of a decimal point. I'm not sure how it got there, but I did something. I don't know how to return my screen to the decimal point. Can anybody help? I would suspect that the manual (that I don't have) would have the answer.

**Re: HP41**

Message #2 Posted by [Jeff Davis](#) on 26 Oct 2007, 6:36 p.m.,  
in response to message #1 by [stevereiner](#)

Please send me an e-mail we can discuss this. Thanks, Jeff

**Re: HP41**

Message #3 Posted by [stevereiner](#) on 26 Oct 2007, 6:41 p.m.,  
in response to message #2 by [Jeff Davis](#)

Need an email address.

**Re: HP41**

Message #4 Posted by [Jeff Davis](#) on 26 Oct 2007, 7:12 p.m.,  
in response to message #3 by [stevereiner](#)

I have a pdf of the few pages of the manual regarding this. Click my name above and send me an e-mail.

**Re: HP41**

Message #5 Posted by [gileno](#) on 26 Oct 2007, 6:38 p.m.,  
in response to message #1 by [stevereiner](#)

SF 28 :-)

**Re: HP41**

Message #6 Posted by [stevereiner](#) on 26 Oct 2007, 6:42 p.m.,  
in response to message #5 by [gileno](#)

Thank you very, very much.

**Re: HP41**

Message #7 Posted by [stevereiner](#) on 26 Oct 2007, 6:43 p.m.,  
in response to message #5 by [gileno](#)



Got the decimal point, but what about the comma for when it goes past one thousand? Sorry for all the trouble.

**Re: HP41**

Message #8 Posted by [Vieira, Luiz C. \(Brazil\)](#) on 26 Oct 2007, 6:49 p.m.,  
in response to message #7 by [stevereiner](#)

SF 29.

**Re: HP41**

Message #9 Posted by [stevereiner](#) on 26 Oct 2007, 6:50 p.m.,  
in response to message #8 by [Vieira, Luiz C. \(Brazil\)](#)

Thanks very much.

**Re: HP41**

Message #10 Posted by [Thomas Klemm](#) on 5 Nov 2007, 1:47 p.m.,  
in response to message #1 by [stevereiner](#)

Quote:

\_\_\_\_\_

I would suspect that the manual (that I don't have) would have the answer.

\_\_\_\_\_

cf. [OWNER'S HANDBOOK AND PROGRAMMING GUIDE HP-41C](#)

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## HP Forum Archive 17

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### HP 33S - Chemistry Student Needs Programs

Message #1 Posted by [Rhyleigh](#) on 26 Oct 2007, 5:44 p.m.

Does anyone have an idea of where I can find programs written for the HP 33S that will help me to solve some of the math formula questions in my Chemistry Lab?

I have already bought the 33S but I cannot figure out how to write a program for de Broglie's Equation, or Bohr's Equation, etc.

Your feedback is greatly appreciated.

### Re: HP 33S - Chemistry Student Needs Programs

Message #2 Posted by [Ed Look](#) on 26 Oct 2007, 7:00 p.m.,  
in response to message #1 by [Rhyleigh](#)

Hmmmm... do you know or have you done any programming?

If not, read the programming sections of the 33S manual thoroughly, and practice a few easy tasks while you're at it.

But basically, you first choose a label letter and then begin your program steps from there.

Let me first recommend you follow the three fundamental steps in this order:

pseudocode- just scribble down, in bad English or whatever language even, your basic ideas of what you want your program to do and a little of how you might want to get it there.

flowchart- look up... I guess these days you can use Google or some such... the symbols that represent the various types of computer program execution steps, i.e., I/O, formatting, math or other (like storage, etc.) operation, branching, and testing. Then use your pseudocode as a guide to draw your flowchart, which is a skeletal diagram of your program.

program- finally, using your flowchart, write your program in the steps of your chosen computer language, which I suppose, in this case is RPN keystroke programming.

Now, I think keystroke programming on a HP scientific calculator is easier than writing a program for a minicomputer or mainframe or even the PC. This is because each keypress expresses your desired instruction step in the program.

Incidentally, his name was Louis de Broglie, and most likely you are referring to his famous "matterwave" equation which linked solid matter with wave properties,

wavelength = Planck's constant / momentum

(I apologize- I don't know how nor even if I can insert Greek letters or mathematical symbols here)

If this equation is what you want, it is at the simplest level, a division problem. If so, then left shift (green arrow) PRGM (R/S key) will get in into the programming space. Then left shift LBL (+ key) and choose a letter from the alphabet that you would like. Now, you are fortunate, since Planck's constant,  $h$ , is a part of the 33S constants library. Access that by right shift (purple arrow) MODES (on the top right below the display panel) and use the navigation key in the middle to scroll around and find  $h$ . Then hit ENTER to choose it and insert it in your program. Now you will have to use an inputting step that will halt your calculator so you can put in your momentum value when you run the program: key in R/S, which should read, "STOP". (When you run the program, after keying in your momentum value, you'll have to hit R/S to continue the program execution.) At this point, key in divide and then right shift RTN (+ key), and you're done.

Now, I leave it to you to figure you how to program in the Rydberg equation (it's not called Bohr's equation, though it is based on Bohr's model). But I think you're in luck again, as I suspect the Rydberg constant for the hydrogen atom,  $R$ , (and this is not the gas constant  $R$ )... well, they may call it something else, you'll have to check, but look up the value of the Rydberg constant in your textbook and you can then identify it in your 33S constants library.

Study hard.

### Re: HP 33S - Chemistry Student Needs Programs

Message #3 Posted by [Dave Shaffer \(Arizona\)](#) on 26 Oct 2007, 10:56 p.m.,  
in response to message #1 by Rhyleigh

If you are trying to evaluate an equation by looking for the value of an unknown quantity while you have all the other quantities, you can use the solver.

Basically, you enter the equation, give it the variables you know and it will return the value of the unknown.

You can also just enter an equation to be evaluated for various input values.

As Ed suggested, read the appropriate chapters (6 and 7) and try the examples in the manual.

### Re: HP 33S - Chemistry Student Needs Programs

Message #4 Posted by [Ed Look](#) on 27 Oct 2007, 1:20 a.m.,  
in response to message #3 by Dave Shaffer (Arizona)

If he's going to type in the equation and use the solver, he might as well save it to the Equation Library (right shift EQN [the STO key]). To me, that accomplishes the same thing, to have it stored in memory somewhere in some form to be used over again.

Wait'll he gets to p-chem.

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## HP Forum Archive 17

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**50g - edit existing equation in EQW**

Message #1 Posted by [Adam Price](#) on 26 Oct 2007, 12:52 a.m.

Suppose I have entered a long, complex equation with equation writer and tried it out with a known case and found that it is functioning as expected. I would like to take another look at the equation from within EQW - since it looks so nice there. How do I reopen it for editing? I know how to edit it as a standard line of text, but that EQW is so enticing!

(50g)

**Re: 50g - edit existing equation in EQW**

Message #2 Posted by [James M. Prange \(Michigan\)](#) on 26 Oct 2007, 1:21 a.m.,  
in response to message #1 by Adam Price

With the equation on stack level 1, just press the CursorDown key to invoke EDITB, which, for an algebraic object, puts it into the equation writer editor.

Regards,  
James

**Re: 50g - edit existing equation in EQW**

Message #3 Posted by [Adam Price](#) on 26 Oct 2007, 10:49 a.m.,  
in response to message #2 by James M. Prange (Michigan)

Well. That is easy enough, I think I can remember it - thank you very much!

**Re: 50g - edit existing equation in EQW**

Message #4 Posted by [James M. Prange \(Michigan\)](#) on 26 Oct 2007, 12:16 p.m.,  
in response to message #3 by Adam Price

PS:

If anyone would rather edit the object in the command line editor, just use LeftShift CursorDown to invoke EDIT.

Personally, I find it easier to edit algebraic objects in the command line editor, although I do like the equation writer for viewing algebraic objects.

Regards,  
James

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## HP Forum Archive 17

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### Do HP owners use Algebraic entry?

Message #1 Posted by [designnut](#) on 26 Oct 2007, 12:35 a.m.

I ask whether Algebraic entry is useful for HP owners. I also wonder if fractions are useful. Some conversions seem trivial, degrees C to F and cm to inches. Could these be eliminated? Sam

### Re: Do HP owners use Algebraic entry?

Message #2 Posted by [DaveJ](#) on 26 Oct 2007, 1:06 a.m.,  
in response to message #1 by [designnut](#)

Quote:

I ask whether Algebraic entry is useful for HP owners.

It is for me, in fact I prefer it over RPN (I can hear the gasps now...) I like having the choice.

Quote:

I also wonder if fractions are useful.

I only use them when entering a number. e.g. Sometimes I might use a formula that has fractions in it like  $Y=(2/5*X)/\text{SQRT}(2)$  So a fraction key helps occasionally.

But I can't recall ever needing fractions as a result though.

Quote:

Some conversions seem trivial, degrees C to F and cm to inches. Could these be eliminated? Sam

I like conversions, they are handy. But the ones included on most calcs are often useless for me. e.g. I need inches<>mm not inches<>cm

Dave.

### Re: Do HP owners use Algebraic entry?

Message #3 Posted by [bt\\_schmidt](#) on 27 Oct 2007, 5:57 p.m.,  
in response to message #2 by [DaveJ](#)

Quote:

I like conversions, they are handy. But the ones included on most calcs are often useless for me. e.g. I need inches<>mm not inches<>cm Dave.

umm, move the decimal point 1 place?

### Re: Do HP owners use Algebraic entry?

Message #4 Posted by [DaveJ](#) on 27 Oct 2007, 6:20 p.m.,  
in response to message #3 by [bt\\_schmidt](#)

Quote:

umm, move the decimal point 1 place?

I expect my calculator to give me \*exactly\* what I want. So I shouldn't have to think about moving the decimal point one place. And it becomes even more ridiculous when you want to perform further operations on the number.

Dave.

### Re: Do HP owners use Algebraic entry?

Message #5 Posted by [Garth Wilson](#) on 27 Oct 2007, 8:08 p.m.,  
in response to message #4 by [DaveJ](#)

Quote:

I expect my calculator to give me \*exactly\* what I want. So I shouldn't have to think about moving the decimal point one place.

That sounds dangerous. Hopefully you could tell if an input error put you off by a power of ten! When we used slide rules, the decimal place was usually kept in one's head. They were good for helping one's understanding of number relations. Students nowadays can get an answer way off and not realize it, thinking "the calculator is always right."

### Re: Do HP owners use Algebraic entry?

Message #6 Posted by [DaveJ](#) on 28 Oct 2007, 1:43 a.m.,  
in response to message #5 by [Garth Wilson](#)

Quote:

That sounds dangerous. Hopefully you could tell if an input error put you off by a power of ten! When we used slide rules, the decimal place was usually kept in one's head. They were good for helping one's understanding of number relations. Students nowadays can get an answer way off and not realize it, thinking "the calculator is always right."

No I don't think the "calculator is always right". What I meant was that I want to use my calculator to give me the result I expect. I do not want it to be off by an order of magnitude and then have to correct it in my head or with extra keystrokes. To me, using an in<>cm conversion when I really want in<>mm is what is dangerous, and it's not elegant, so I won't use it. Instead I'll do it manually. My HP20S has in<>cm and I've never used it even though I do in<>mm conversions on a daily basis.

Dave.

## Re: Do HP owners use Algebraic entry?

Message #7 Posted by [Meenzer](#) on 26 Oct 2007, 2:35 a.m.,  
in response to message #1 by designnut

Quote:

I ask whether Algebraic entry is useful for HP owners.

I very seldomly switch my HPs to algebraic mode. In case I want algebraic entry I grab a Casio.

Quote:

I also wonder if fractions are useful.

Very useful for me when checking my kids' homework. But again, I mostly grab a Casio with much more convenient fractions input.

Quote:

Some conversions seem trivial, degrees C to F and cm to inches. Could these be eliminated? Sam

Living and working in Europe, I have no use at all for metric/US conversions. I don't need dedicated keys for units conversions. If it was in some menu to use it at times I would be glad. I could even live without that. Had I really to do some conversions, I would look it up in my "Mythbuster's Thomas J. Glover Pocket Ref" (!, Har Har!!) and easily write a short program and purge it afterwards ;-)

*Edited: 26 Oct 2007, 7:07 a.m. after one or more responses were posted*

## Re: Do HP owners use Algebraic entry?

Message #8 Posted by [Lyuka](#) on 26 Oct 2007, 6:53 a.m.,  
in response to message #7 by Meenzer

I'd like to have HP->kW conversion instead of lb->kg conversion, and wish if these conversion keys were user definable.

## Re: Do HP owners use Algebraic entry?

Message #9 Posted by [Craig Webster](#) on 26 Oct 2007, 10:30 a.m.,  
in response to message #8 by Lyuka

Quote:

if these conversion keys were user definable.

For the conversion issue, I think you've hit the nail on the head. being able to define them would be



useful. I could have barrels to litres and MPa to psi, oh and lb-ft to N-m.

As for the algebraic mode, it's useful if one of the spasm's of organic matter sitting next to me need to use my calculator.

## Re: Do HP owners use Algebraic entry?

Message #10 Posted by [Mark Storkamp](#) on 26 Oct 2007, 10:58 a.m.,  
in response to message #1 by [designnut](#)

Quote:

I ask whether Algebraic entry is useful for HP owners

I never use algebraic entry. Only RPN.

Quote:

I also wonder if fractions are useful

I often use my 35s set to display in 64ths, or factors of 64 (32, 16, 8, &c).

Quote:

Some conversions seem trivial, degrees C to F and cm to inches. Could these be eliminated?

Absolutely. Every day I'm converting from inch to mm and back, but I don't need a dedicated key for it (and I never use the inch to cm key the 35s has since it's more trouble to try to remember whether to multiply or divide by 10 depending upon which way I'm converting). I have no use whatsoever for the other metric/imperial conversions. I would much rather have had polar/rect or hms+ and hms-, or even just an A &/ B key that would begin executing programs A & B (maybe the shifts for A could execute C & D)

## Re: Do HP owners use Algebraic entry?

Message #11 Posted by [bill platt](#) on 26 Oct 2007, 12:33 p.m.,  
in response to message #1 by [designnut](#)

Once I discovered Algebraic methods on HP, I became a pretty enthusiastic user. Even with the unary minus confusion of the 32sii, I very quickly found that I could use equations for a huge amount of stuff that I used to program in RPN.

Similarly, when opened my eyes to the other models (17bii, 48GX, 27s) I became a strong supporter of the algebraic solvers and algebraic objects.

Back in the early 90s, if only I'd bothered to look at the Algebraic 27s, I might have left RPN behind forever.

And the 48GX (and 49 and 50) is totally cool with the ability to use agebraics and stack-based manipulation together. The holy grail.

(BTW I am the quintessential HP profile customer: 1st in my school with one, used hp exclusively for over two decades, looked only for hp and rpn when I lost my 11c way back when...preferred (and used!) a slide rule rather than a Ti when I had a repair being made!)

Fractions: I was an instant enthusiastic user of fraction input (but not display) on the 32sii. It goes with the

territory (U.S. engineering).

Similarly, I found the unit conversions useful. They save keystrokes which is the whole point. On the 11c, they were printed on the back, which I also think is good.

*Edited: 26 Oct 2007, 12:35 p.m.*

## **Re: Do HP owners use Algebraic entry?**

*Message #12 Posted by [Martin Pinckney](#) on 26 Oct 2007, 4:11 p.m.,  
in response to message #1 by designnut*

Quote:

I ask whether Algebraic entry is useful for HP owners. I also wonder if fractions are useful. Some conversions seem trivial, degrees C to F and cm to inches. Could these be eliminated? Sam

I use algebraic entry for most calculations. Started on TI, only switched to HP after: a) multiple TI's keyboards and displays went awry, and b) HP started making algebraic Pioneers. I do often switch to RPN for unary functions (that's the way the older TI's and most HP Pioneers work), and units conversions.

I do use fractions a lot. That's one reason I bought the 35s.

I like conversions, but I agree with the sentiment that it seems that the ones provided are not the ones you need. I, too wish that HP would make the units conversions customizeable, and in fact I suggested that to HP recently.

## **Re: Do HP owners use Algebraic entry?**

*Message #13 Posted by [Jim Creybohm](#) on 26 Oct 2007, 4:55 p.m.,  
in response to message #1 by designnut*

Unit conversions are useful, but not in->mm etc., but rather like the 41 or 48's unit conversions. I need stuff like btu/hour -> J/sec.

As for Algebraic, because I have been using a 20s, I have become more familiar with the AOS method. Now that the 35 is back, I am slowly getting more accustomed to thinking in RPN.

Lastly although not related, the 35 is for me, a programmers calculator. It is not yet my engineering programming calculator of choice. I would like to have greater control over textual input before it becomes my "main play".

## **Re: Do HP owners use Algebraic entry?**

*Message #14 Posted by [Garth Wilson](#) on 27 Oct 2007, 1:06 a.m.,  
in response to message #1 by designnut*

My HP-71 has algebraic entry, and even the CALC mode which was supposed to be so great, but I don't like that part of it. The 71 is an outstanding little computer, vastly underestimated and scorned by HP's own marketing department; but for a calculator, I usually reach for my 41cx. I have the tiny programs for converting between mm and inches and between °C and °F assigned to keys. No other conversions. Fractions are just unfinished division problems that I have no use for as calculation results in my circuit design work.

## **Re: Do HP owners use Algebraic entry?**

*Message #15 Posted by **Ed Look** on 27 Oct 2007, 1:38 a.m.,  
in response to message #1 by designmut*

Well, I don't.

I am so used to and prefer using RPN that I really never even touch the HP-20S (an algebraic only machine) my wife got me a long time ago, even if it's beautiful to look at. I continued to use my HP-34C until I couldn't take it anymore (the display began to get rather erratic) and replaced it with the RPN 32SII.

I've never used equation entry, either. I program in any repetitive or lengthier calculation I need with the RPN keystroke programming. I have also a rather nice old Casio, the fx-4200p, now for quite a few years. It too, is very prettily designed, slim, lightweight, with a very nice dot matrix LCD display. But it's algebraic and only has formula memory, not keystroke program memory... and I have very rarely used it.

It's hard for me to imagine how anyone, once smitten by RPN (though I admit when I first encountered it, I resisted it, but was drawn in by the power and quality and solidity of the HP product) can go back and use algebraic entry. (Ask a Met fan if he cares about what's going on with Joe Torre; it's much the same thing, I guess.)

**Re: Do HP owners use Algebraic entry?**

*Message #16 Posted by **Meenzer** on 27 Oct 2007, 1:42 a.m.,  
in response to message #15 by Ed Look*

Quote:

... my **wife** got me a long time ago, even if it's **beautiful to look at**.

Congratulations for having a beautiful wife ;-)

**Re: Do HP owners use Algebraic entry?**

*Message #17 Posted by **Ed Look** on 27 Oct 2007, 1:49 a.m.,  
in response to message #16 by Meenzer*

Why, thank you! Oh, and my HP-20S and Casio fx-4200p thank you too.

**Re: Do HP owners use Algebraic entry?**

*Message #18 Posted by **Meenzer** on 27 Oct 2007, 2:14 a.m.,  
in response to message #17 by Ed Look*

;-)

**Re: Do HP owners use Algebraic entry?**

*Message #19 Posted by **DaveJ** on 27 Oct 2007, 3:52 a.m.,  
in response to message #16 by Meenzer*

Quote:

Congratulations for having a beautiful wife ;-)

My wife is WONDERful and lets me me play with my electronic gizmo's. But she has her own tech

toys too!

<http://www.alternatezone.com/ecoteam/images/NicWWgps1-85.jpg>

Dave.

## It's a religious issue!

Message #20 Posted by **Palmer O. Hanson, Jr.** on 27 Oct 2007, 3:57 a.m.,  
in response to message #15 by Ed Look

Quote:

---

It's hard for me to imagine how anyone, once smitten by RPN (though I admit when I first encountered it, I resisted it, but was drawn in by the power and quality and solidity of the HP product) can go back and use algebraic entry. (Ask a Met fan if he cares about what's going on with Joe Torre; it's much the same thing, I guess.)

---

Just like Mets fans and Yankee fans the HP/RPN and TI/AOS/EOS communities are not only different but, more importantly, are each insular and provincial. That isn't just my idea. When Wozniak wrote of finding that the famous (or maybe infamous) Mach number equation was easily solved with one of TI's early scientific machines he reported that "... My colleagues couldn't believe it. I told them that you just copy the formula from left to right but not one of them could see through their postfix fog. ... None of them could do what I had done, forget that they have to be smart." It isn't just the HP/RPN community that is like that. The TI/AOS/EOS community is just as provincial. They "know" that RPN doesn't really stand for Reverse Polish Notation but rather for Really Pathetic Notation. Why would anyone want to evaluate an equation other than by simply entering it as one sees it on paper?

In a sense the RPN vs AOS debate has always been more of a religious issue than a technical issue. The problem with religions is that they can become cult-like and corrupt. A book on that subject *When Religion Becomes Evil* by Charles Kimball lists warning signs of corruption in religion where two of the signs are "Absolute Truth Claims" and "Blind Obedience." Doesn't that sound like the long standing RPN vs AOS debate

## Re: It's a religious issue!

Message #21 Posted by **Meenzer** on 27 Oct 2007, 4:10 a.m.,  
in response to message #20 by Palmer O. Hanson, Jr.

Quote:

---

In a sense the RPN vs AOS debate has always been more of a **religious** issue than a technical issue.

---

For some things I use a HP and my brain.  
For some things I use a Casio and my brain.  
For some things I use a TI and my brain.  
For some things I use a Sharp and my brain.  
For some things I use a Win-PC and my brain.  
For some things I use a Linux-Box and my brain.  
For some things I use ... damn, I don't own a MAC  
For some things I use only my brain.

Do you think this may be related to me being an atheist? ;-)

## Re: It's a religious issue!

Message #22 Posted by **Palmer O. Hanson, Jr.** on 27 Oct 2007, 10:23 a.m.,  
in response to message #21 by Meenzer

Quote:

For some things I use a HP and my brain.  
For some things I use a Casio and my brain.  
For some things I use a TI and my brain.  
For some things I use a Sharp and my brain.  
For some things I use a Win-PC and my brain.  
For some things I use a Linux-Box and my brain.  
For some things I use ... damn, I don't own a MAC  
For some things I use only my brain.

Do you think this may be related to me being an atheist? ;-)

Richard Vanderburg who was the editor/publisher of *52 Notes* and Maurice Swinnen who was the first editor/publisher of *TI PPC Notes* used the term "bilingual" for those rare individuals who were competent and comfortable using both RPN and AOS. I suspect that they would have described you as "multilingual".

## Re: It's a religious issue!

Message #23 Posted by **Valentin Albillo** on 27 Oct 2007, 11:15 a.m.,  
in response to message #20 by Palmer O. Hanson, Jr.

Hi, Palmer:

Palmer wrote:

*"They "know" that RPN doesn't really stand for Reverse Polish Notation but rather for Really Pathetic Notation."*

I'd say "**R**idiculously **P**rehistoric **N**otation" :-)

*"Why would anyone want to evaluate an equation other than by simply entering it as one sees it on paper? "*

It might be useful if you need to see or check intermediate results, else it makes no sense.

*"The problem with religions is that they can become cult-like and corrupt. A book on that subject *When Religion Becomes Evil* by Charles Kimball lists warning signs of corruption in religion where two of the signs are "Absolute Truth Claims" and "Blind Obedience"."*

Freedom of speech in the United States is protected by the First Amendment to the United States Constitution, assuming you live in the US, but if I were you I would refrain from unnecessarily bringing in *off-topic religious issues* in this forum, even if in good humor or for fun. You can easily offend someone else's sensibilities and in any case experience shows that it has the potential to be a thorny issue. Caveat emptor.

As for me, now I never use RPN in real life. If I'm at some computer, I use Emu71 to perform all kinds of simple and complex numeric computations with utmost speed and ease. If I'm in the field, I use a vintage SHARP handheld which is as small as an HP-15C, provides BASIC programming and algebraic evaluation, and is much faster and convenient.

For playing a little, having a fond remembrance of the good old days, concocting challenges, and writing articles, I resort to RPN frequently. But apart from that, I never use it, and now that the new HP 35s does include convenient, editable, arbitrary-length equations which can be seamlessly embedded in RPN programs making them much shorter and easier to write, and which can be integrated and solved for any variable, I expect to see power users slowly getting accustomed and migrating to a mixed paradigm and ultimately to a modern, essentially algebraic one.

Best regards from V.

### **Re: It's a religious issue!**

*Message #24 Posted by **Palmer O. Hanson, Jr.** on 27 Oct 2007, 10:45 p.m.,  
in response to message #23 by Valentin Albillo*

I wrote:

Quote:

They "know" that RPN doesn't really stand for Reverse Polish Notation but rather for Really Pathetic Notation

You wrote:

Quote:

I'd say "**R**idiculously **P**rehistoric **N**otation"

In fairness I should note that Richard Nelson prefers Really Productive Notation.

I wrote:

Quote:

Why would anyone want to evaluate an equation other than by simply entering it as one sees it on paper?

You wrote:

Quote:

It might be useful if you need to see or check intermediate results, else it makes no sense.

With A.O.S. it was possible to see most of the intermediate results. That's not so with E.O.S. But with E.O.S. the user sees the entire equation as it is entered and typically has the playback option.

I apologize if I offended you or anyone else by characterizing the RPN/AOS debate as a religious

issue. But, the facts are that many of the statements of the adherents of each side exhibit many the characteristics of the phenomenon known in the USA as a religious cult.

### **Re: It's a religious issue!**

*Message #25 Posted by **Garth Wilson** on 27 Oct 2007, 1:47 p.m.,  
in response to message #20 by Palmer O. Hanson, Jr.*

Quote:

Why would anyone want to evaluate an equation other than by simply entering it as one sees it on paper?

Because in real life, the equation is seldom on paper first. At each step, I'm thinking about what to do to the numbers next. When I do come up with an equation and write it down, I follow the same procedure, and often end up forming it from the inside out, sometimes meaning I didn't leave myself enough blank paper on the left or the top to "grow" the equation to completion. In my programming, I quit looking for new languages when I met Forth. It was great to finally get rid of the piles of parentheses.

*Edited: 27 Oct 2007, 1:48 p.m.*

### **Re: It's a religious issue!**

*Message #26 Posted by **Ed Look** on 27 Oct 2007, 5:39 p.m.,  
in response to message #20 by Palmer O. Hanson, Jr.*

Okay, okay- I'll admit that I love RPN because of its power in the earlier days of calculators. But it's still a generally very efficient entry method and even programming method in these small, handheld... well, if a PC or a Mac is a microcomputer, I guess calcs are semimicrocomputers (I suspect we won't have nanoscale circuits commercially in the foreseeable future... and little nanoparticles or nanowires don't yet count, as they are still lab toys).

Anyway, for a machine so small, which constrains still to this day its power, for you can't have a monitor sized screen and a Selectric sized keyboard and an external flash hard drive (or you'd have a laptop, and it suddenly is less useful for what we want calcs for- lightness and compactness), and despite the gigantic leaps we have made in the sizes of calculator memories, a way to save keystrokes in programming (or even just "off the [key]board calculating".

Besides, I just LOOOOVE not having to press an "=" key.

And, Palmer, I'm a city boy, but as someone once told me, and I totally agree, sometimes big city boys are the most provincial because of their smugness. This afflicts even or especially the very educated, like HP RPN users.

### **Re: It's a religious issue!**

*Message #27 Posted by **Palmer O. Hanson, Jr.** on 28 Oct 2007, 3:59 a.m.,  
in response to message #26 by Ed Look*

Quote:

And, Palmer, I'm a city boy, but as someone once told me, and I totally agree, sometimes big city boys are the most provincial because of their smugness. This afflicts even or especially the very educated, like HP RPN users.

---

That comment takes me back to my boot camp days in 1951. About half of our company was from Brooklyn. The other half, my half if you will, was from small towns in Minnesota and Wisconsin. The Brooklynites couldn't believe that we couldn't name the five boroughs of NYC. We couldn't believe that some of them had never been beyond NYC and Long Island. They thought that we lived "way out west". We said that "way out west" to them meant the other side of the Hudson River. The amazing thing is that the company commander managed to get us to work together.

**Re: It's a religious issue!**

Message #28 Posted by [Don Shepherd](#) on 28 Oct 2007, 11:06 a.m.,  
in response to message #27 by Palmer O. Hanson, Jr.

Palmer, that reminds me of the movie "Sergeant York". He was a country boy from Tennessee who was in a World War I unit with a fellow from the Bronx, as I recall. That fellow described the subway as a "train that runs under the ground." Poor Sgt. York could not fathom that. A great movie (now on DVD) about a real American hero.

**Re: It's a religious issue!**

Message #29 Posted by [Ren](#) on 7 Nov 2007, 11:48 a.m.,  
in response to message #27 by Palmer O. Hanson, Jr.

Quote:

---

That comment takes me back to my boot camp days in 1951. About half of our company was from Brooklyn. The other half, my half if you will, was from small towns in Minnesota and Wisconsin. The Brooklynites couldn't believe that we couldn't name the five boroughs of NYC. We couldn't believe that some of them had never been beyond NYC and Long Island. They thought that we lived "way out west". We said that "way out west" to them meant the other side of the Hudson River. The amazing thing is that the company commander managed to get us to work together.

---

This bonding of humanity has been called "human cement" by an author/speaker. It grows out of the circumstances of Basic Training /Boot Camp. Young men(?) are thrown together, separated from their family/friends support group, they are "torn down" and "built back up" through the intensity of the training. And working together to get through the situation they learn to trust and respect each other as they learn about their own and others weaknesses and strengths. At the completion of BT, the "us/them" paradigm has been replaced by "we".

And because the intensity of USMC Basic is greater than the average sailor/soldier/airman, their bond is stronger throughout life. ("Once a Marine, always a Marine")

Ren

dona nobis pacem

**Re: It's a religious issue!**

Message #30 Posted by [Ken Shaw](#) on 6 Nov 2007, 11:51 a.m.,  
in response to message #20 by Palmer O. Hanson, Jr.



Quote:

Why would anyone want to evaluate an equation other than by simply entering it as one sees it on paper?

My reason is that I most often use a calculator when I am exploring a problem that hasn't been formulated on paper. RPN just seems more efficient to use because you can easily undo steps and recover previous work without re-entering the numbers. I went through a physics education using a Radio Shack-badged TI, and didn't encounter RPN until the working world (HP12C), but once I'd adapted, I never wanted to go back.

## Re: Do HP owners use Algebraic entry?

Message #31 Posted by [Maximilian Hohmann](#) on 27 Oct 2007, 5:21 a.m.,  
in response to message #1 by designnut

Good morning,

Quote:

I ask whether Algebraic entry is useful for HP owners.

For me, it is as useful (or useless, see the thread about economist vs. engineer) as RPN. I owe a lot to AOS because Ti calculators helped me through school and university (HPs were prohibitively expensive then). Probably, I am not a "true RPN" user anyway because I never press keys like Roll-Up Roll-Down or  $x \leftarrow y$  :-) But I wouldn't go so far as to switch an HP calculator to algebraic mode.

Quote:

I also wonder if fractions are useful.

Fractions are completely unheard-of in my part of the world. You learn it a school long before you are allowed to use a calculator, and thereafter you never ever encounter them again. Our metric world is "decimal places only".

Quote:

Some conversions seem trivial, degrees C to F and cm to inches. Could these be eliminated?

As far as I am concerned: Yes, get rid of trivial conversions. I need a lot of conversions in one of my jobs (aviation), but they are much more complicated. User-defineable conversions would be greatly appreciated!

Greetings, Max

*Edited: 27 Oct 2007, 5:23 a.m.*

## Re: Do HP owners use Algebraic entry?

Message #32 Posted by [DaveJ](#) on 27 Oct 2007, 6:48 a.m.,  
in response to message #31 by Maximilian Hohmann

Quote:

Probably, I am not a "true RPN" user anyway because I never press keys like Roll-Up Roll-Down or  $x \leftrightarrow y$  :-)

I use X-Y excessively on both RPN and algebraic calcs, more so on the algebraic calcs I think. Seems like almost every calculation I do needs the X-Y key. I seem to have little use for ROLL while using RPN though.

Dave.

### Re: Do HP owners use Algebraic entry?

Message #33 Posted by [Arne Halvorsen \(Norway\)](#) on 27 Oct 2007, 10:44 a.m.,  
in response to message #32 by DaveJ

Hehe, I love the  $x \leftrightarrow y$  when in user mode, probably for the wrong reason!: When happen to entered the numbers in wrong sequence when to use operations where operand order matters :-) Thats HP for you, looking out for the not to sober engineer!

### "Roll down" and "roll up"

Message #34 Posted by [Karl Schneider](#) on 27 Oct 2007, 1:59 p.m.,  
in response to message #32 by DaveJ

Hi, Dave --

Quote:

I seem to have little use for ROLL while using RPN though.

One stack-roll function must be provided to give the user convenient and complete stack control and viewing of contents. "Roll down" is more appropriate for that purpose.

VIEW and direct storage/retrieval of stack registers can also fulfill those purposes, but those functions are not available on all models.

"Roll up" is mainly a convenience for programming -- tidier than three roll-downs -- and is useful for checking the stack-t register without the VIEW function. It's noteworthy that the HP-32S doesn't have "roll up" at all; it is not on the keyboard on the HP-41 and HP-42S.

-- KS

### Re: "Roll down" and "roll up"

Message #35 Posted by [Ed Look](#) on 27 Oct 2007, 5:20 p.m.,  
in response to message #34 by Karl Schneider

Yes I agree, Karl- the rolling functions are rather useful in programming. It helps to save STO and subsequent RCL steps.

### Re: "Roll down" and "roll up"

Message #36 Posted by [Trent Moseley](#) on 27 Oct 2007, 10:50 p.m.,  
in response to message #34 by Karl Schneider

Karl,

I agree on the availability of the "roll up" feature being used mostly in programing. But having it buried on the 42S in a menu was a mistake.

I learned RPN programing on my 25C, three "roll downs" took up a lot of program lines when there were only 49 available.

tm

### Access of HP-42S functions

Message #37 Posted by **Karl Schneider** on 28 Oct 2007, 3:04 p.m.,  
in response to message #36 by Trent Moseley

Hi, Trent --

Quote:

.. having ("roll up") buried on the 42S in a menu was a mistake.

Ah, but "roll up" -- and a number of other useful functions on the HP-42S -- aren't even included within menus. They must be accessed through the function catalog or be spelled out, HP-41 style. Other functions might be accessed repeatedly in succession, making them tedious to execute through their menus. It's helpful to assign these functions to positions in the user's three-level CUSTOM menu.

Other examples: %CH, CLV, VIEW, and the six hyperbolic functions (which do have their own menu on the HP-27S).

Each HP-42S function with its assigned key and menu (if any) is listed in the orange-tabbed Operation Index of the Owner's Manual, pp. 310-335.

-- KS

### Re: "Roll down" and "roll up"

Message #38 Posted by **Vieira, Luiz C. (Brazil)** on 28 Oct 2007, 11:47 p.m.,  
in response to message #36 by Trent Moseley

Quote:

But having it buried (*the "roll up" feature*) on the 42S in a menu was a mistake.

In the HP41 it must be spelled out or assigned to a key, as you may know.

Quote:

(...)three "roll downs" took up a lot of program lines when there were only 49 available.

Also, the HP12C (and the newer versions) does not have it, neither the other financial models with RPN features. Indeed, 'roll-up' has its better usage in programs. Keeping track of Y-register contents demands some practice. T-register contents sometimes can only be known after

some full-stack tracking.

Cheers.

Luiz (Brazil)

## **Re: Do HP owners use Algebraic entry?**

*Message #39 Posted by **Walter B** on 27 Oct 2007, 11:47 a.m.,  
in response to message #1 by designnut*

Algebraic entry: For me, though started with a TI SR50 far ago, RPN formed my way of thinking calculations. For number crunching or even easier stuff, I'm lost with an algebraic calc. Always tend to type postfix and lose the results. Equation mode may be a different story -- I didn't use it so far but expect it to be easy, thus helpful.

Fractions: I don't need them. The decimal equivalents of the most common fractions I know by heart. And everyone knows half a cm are 5mm, and a quarter of a km are 250m.

Conversions: Not needed at all. Easy to program if they should become necessary. See other thread and posts above.

Edited to correct a typo

*Edited: 28 Oct 2007, 10:13 p.m.*

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## HP Forum Archive 17

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### AMS Calls for open source mathematical software

Message #1 Posted by [BruceH](#) on 25 Oct 2007, 10:35 a.m.

An [editorial](#) in the current Notices of the American Mathematical Society calls for only open source mathematical software to be used.

Quote:

I think we need a symbolic standard to make computer manipulations easier to document and verify. And with all due respect to the free market, perhaps we should not be dependent on commercial software here. An open source project could, perhaps, find better answers to the obvious problems such as availability, bugs, backward compatibility, platform independence, standard libraries, etc. One can learn from the success of TEX and more specialized software like Macaulay2. I do hope that funding agencies are looking into this.

*Andrei Okounkov, 2006 Fields medalist.*

### Re: AMS Calls for open source mathematical software

Message #2 Posted by [Namir](#) on 25 Oct 2007, 11:16 a.m.,

in response to message #1 by BruceH

The French have SciLab which is a freeware MatLab-like software. there is also R, an open source clone of the S-Plus statistical language.

A better clone of MatLab is certainly welcome.

Namir

### Re: AMS Calls for open source mathematical software

Message #3 Posted by [Eric Smith](#) on 25 Oct 2007, 1:29 p.m.,

in response to message #2 by Namir

Don't you like [Octave](#)?

### Re: AMS Calls for open source mathematical software

Message #4 Posted by [Namir](#) on 25 Oct 2007, 1:32 p.m.,

in response to message #3 by Eric Smith

Octave is good too!!!

:=)

Namir

**Re: AMS Calls for open source mathematical software**

*Message #5 Posted by [Eric Smith](#) on 25 Oct 2007, 1:52 p.m.,  
in response to message #4 by Namir*

But doesn't it qualify as "a better clone of MATLAB"?

**Re: AMS Calls for open source mathematical software**

*Message #6 Posted by [Namir](#) on 25 Oct 2007, 2:04 p.m.,  
in response to message #5 by Eric Smith*

I don't know for sure. Has anyone used Octave and can give a first-hand testimony?

Namir

**Re: AMS Calls for open source mathematical software**

*Message #7 Posted by [Eric Smith](#) on 25 Oct 2007, 4:49 p.m.,  
in response to message #6 by Namir*

I've used Octave, but I've never used MATLAB, so I can't offer a comparison. The Octave web site says that it is mostly compatible, and describes the areas in which Octave differs from MATLAB. It has some features MATLAB doesn't, but is also missing some MATLAB features.

**Re: AMS Calls for open source mathematical software**

*Message #8 Posted by [Thomas Chrapkiewicz](#) on 25 Oct 2007, 10:04 p.m.,  
in response to message #7 by Eric Smith*

I had repeatedly attempted to use Octave (a couple years ago), but it was missing some very key features, such as having two plots open simultaneously. I contacted the author, who indicated that it could be fixed, but he did not yet have time to dedicate to the fix.  
TomCee

**Re: AMS Calls for open source mathematical software**

*Message #9 Posted by [Alain Mellan](#) on 25 Oct 2007, 11:16 p.m.,  
in response to message #8 by Thomas Chrapkiewicz*

Depending on what you need to do, Pylab <http://matplotlib.sourceforge.net/> may be a good alternative. Python's syntax is close enough to Matlab, and it has a number of scientific libraries. I can't comment too much on that part, as I'm using mostly the plotting libraries.

-- alain.

*Edited: 25 Oct 2007, 11:17 p.m.*

**Re: AMS Calls for open source mathematical software**

*Message #10 Posted by [Khanh-Dang Nguyen Thu-Lam](#) on 30 Oct 2007, 7:41 p.m.,  
in response to message #8 by Thomas Chrapkiewicz*

I use both Matlab and Octave (just take care to use a recent version of the 2.9.x

branch), through not as an advanced user. They are very similar, even for graphic commands. The Octave I tested can open two plots simultaneously.

Actually, I even find Octave better, e.g. the sinc command is already available in the default distribution of Octave, whereas you have to rewrite it when using Matlab (to avoid the issue of  $\text{sinc}(x)=\sin(\pi \cdot x)/(\pi \cdot x)$  when  $x=0$ ).

**Re: AMS Calls for open source mathematical software**

*Message #11 Posted by [Namir](#) on 25 Oct 2007, 2:48 p.m.,  
in response to message #5 by Eric Smith*

Here is a [link](#) to a list of numerical analysis software.

Namir

---

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## HP Forum Archive 17

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### Retooling a HP 12C

Message #1 Posted by [DaveJ](#) on 24 Oct 2007, 11:07 p.m.

I was just taking a look at some of Eric Smith's internal photos of a 12C: <http://gallery.brouhaha.com/romsucker-voyager>

Looks like it may be pretty easy to do a new PCB for this and turn it back into a 15C, or whatever you like.

How hard and expensive would it be to get new blank keytops molded I wonder...

Anyone considered it?

Dave.

### Re: Retooling a HP 12C

Message #2 Posted by [Hugh Evans](#) on 25 Oct 2007, 12:49 a.m.,  
in response to message #1 by [DaveJ](#)

Easier said than done. For one thing, the heat stakes are designed to be a one-way fastening process. The blank keytops are already there, just strip off the silk-screening and you'll have a fresh canvas.

All around it's a far from cost-effective process. You're investing \$70 for plastic and an LCD that's worth less than 1/10 as much.

### Re: Retooling a HP 12C

Message #3 Posted by [DaveJ](#) on 25 Oct 2007, 1:13 a.m.,  
in response to message #2 by [Hugh Evans](#)

Quote:

\_\_\_\_\_

Easier said than done. For one thing, the heat stakes are designed to be a one-way fastening process.

\_\_\_\_\_

You only need them to be removed and rejoined once.

Quote:

\_\_\_\_\_

The blank keytops are already there, just strip off the silk-screening and you'll have a fresh canvas.

\_\_\_\_\_

Ok, nice.

Quote:

\_\_\_\_\_



All around it's a far from cost-effective process. You're investing \$70 for plastic and an LCD that's worth less than 1/10 as much.

Cost effectiveness has nothing to do with a fun DIY project.

Yes, the LCD is limited, but that potentially makes it easier to interface using a new DIY PCB, as opposed to the dot matrix used in the new 35S for example, that looks rather more difficult. Perhaps the LCD could be replaced as well...

Dave.

### **Re: Retooling a HP 12C**

*Message #4 Posted by **Paul Dale** on 25 Oct 2007, 4:43 p.m.,  
in response to message #3 by DaveJ*

I can envisage a forthcoming price rise in non-working Voyager models :-)

- Pauli

### **Re: Retooling a HP 12C**

*Message #5 Posted by **Hugh Evans** on 26 Oct 2007, 11:46 a.m.,  
in response to message #3 by DaveJ*

If you're able to reuse the LCD, even low-volume production could be relatively cheap. You should be able to get away with a simple 2-layer PCB, it should only need an inexpensive MCU. As long as the PCB is being changed I think it would be worthwhile to put in some better tactile domes.

### **Re: Retooling a HP 12C**

*Message #6 Posted by **Eric Smith** on 26 Oct 2007, 6:22 p.m.,  
in response to message #5 by Hugh Evans*

Quote:

As long as the PCB is being changed I think it would be worthwhile to put in some better tactile domes.

Do recent 12Cs have worse domes than the earlier ones? Do you have any specific dome vendor or part number in mind?

### **Re: Retooling a HP 12C**

*Message #7 Posted by **Hugh Evans** on 26 Oct 2007, 10:37 p.m.,  
in response to message #6 by Eric Smith*

Actually, I've even found old voyagers that don't feel quite as good as others. The company I chose for OpenRPN is Snaptron. For a double sided PCB domes from their "P" series are ideal (rated to 5M cycles, and can be ordered with gold plating).

### **Re: Retooling a HP 12C**

*Message #8 Posted by **Eric Smith** on 28 Oct 2007, 3:47 p.m.,*

*in response to message #7 by Hugh Evans*

Quote:

---

I've even found old voyagers that don't feel quite as good as others.

---

That's not surprising, if one has had more wear than another. The life of the domes isn't n cycles without no change and then sudden abrupt failure. They degrade (wear) with use.

The question is how much variability was there when the Voyagers were new, and I think the answer is "not much". I used perhaps two dozen Voyagers before 1986, and there were no noticeable differences in key feel at the time.

But is the performance of the domes in a new 12C (not 12c Platinum) significantly different than the original dome performance of a 12C made in the early 1980s? If they have been redesigned using different domes (or no metal domes), they could be noticeably different. I haven't used any new 12Cs in a long time. The 12c Platinum keyboard does not feel quite the same to me as the original Voyagers.

Quote:

---

The company I chose for OpenRPN is Snaptron.

---

Based on experience, or just on the published specifications? Most if not all of the dome vendors offer similar specifications. As it happens, I was considering Snaptron as well, though I haven't yet evaluated their products.

---

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## HP Forum Archive 17

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### **HP Guide now available!**

Message #1 Posted by **Guy Ball** on 24 Oct 2007, 11:03 p.m.

Wlodek has updated his HP Guide to Calculators and Computers to include the latest HPs. 224 pages! Visit [www.hpcalculatorguide.com](http://www.hpcalculatorguide.com) to get more information. Guy

*Edited: 24 Oct 2007, 11:04 p.m.*

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## HP Forum Archive 17

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### JPC Rom Legacy for the HP-71B

Message #1 Posted by [J-F Garnier](#) on 24 Oct 2007, 3:33 p.m.

Hello HP71 fans,

Finally, here is the JPC Rom Legacy version, aka version F. We will find it on my [JPC Rom page](#).

This version is special in the sense that it was built about 18 years after the last official JPC Rom from PPC Paris (version E, 1989). Version F mainly merges the fixes and improvements of both version X (from Rodger Rosenbaum) and version E, but it doesn't include the editor and the graphic module of version E in order to fit into a 32kb module. Version F also adds a few changes or fixes.

It is based on the source files I collected during the past years to rebuild the original versions X and E. This is the opportunity for me to thank Gene Wright and Andy Delano who made the version X public on the Web, Rodger Rosenbaum who provided me his version X "source" file, and finally Claude Marcoin who provided me the version E binary and suggested a few fixes for version F.

Kind regards.

Jean-Francois

### Re: JPC Rom Legacy for the HP-71B

Message #2 Posted by [Rodger Rosenbaum](#) on 24 Oct 2007, 7:36 p.m.,  
in response to message #1 by J-F Garnier

Way to go, J-F!

Quelle pièce de résistance!

### Re: JPC Rom Legacy for the HP-71B

Message #3 Posted by [Antoine M. Couëtte](#) on 30 Oct 2007, 4:01 a.m.,  
in response to message #1 by J-F Garnier

Congratulations Jean-François, again and again !!!

Best Regards from Antoine

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## HP Forum Archive 17

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### Summation on HP48G?

Message #1 Posted by [Ren](#) on 24 Oct 2007, 3:03 p.m.

Hello,

In my Software Testing class, the text said that a graph with 5 possible paths and up to 18 iterations(loop) could equal 4.77 Trillion test cases.

Our assignment was to figure out how the author arrived at that figure.

Well, I didn't get it figured out before the deadline... but a couple of classmates said it was a Summation problem.

18 on top of the Sigma, 5<sup>i</sup> right of the Sigma and i = 1 on the bottom of the Sigma.

My HP48G has a Sigma (Green shift TAN) but I haven't figured out how to use it.

Could someone show me how?

Sincerely,

the Klutzy Math Groupie,

Ren

dona nobis pacem

### Re: Summation on HP48G?

Message #2 Posted by [Alex L](#) on 24 Oct 2007, 3:26 p.m.,  
in response to message #1 by Ren

Here are the keystrokes to accomplish this with the equation editor, so it looks just like you'd see in the textbook:

```
EQUATION (Left-shift ENTER)
SIGMA (Right-shift TAN)
I=1
-> (right arrow)
18
->
5 y^x I
ENTER
```

That puts the sum on the stack as an algebraic object, which also shows you how to type it in directly without the equation editor.

To then get the sum, use EVAL.

**Thanks! WAS: Re: Summation on HP48G?**

*Message #3 Posted by [Ren](#) on 24 Oct 2007, 4:00 p.m.,  
in response to message #2 by Alex L*

Yippee!

I was paging through the HP48 pdf and when I saw the references to Equation writer, something in my head said, "it's gotta be easier than that, it's right there on the keyboard".

Thanks again!

Ren

dona nobis pacem

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## HP Forum Archive 17

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### **Pictures of DIY-RPN calculator in a Mylar case**

Message #1 Posted by [Richard Ottosen](#) on 24 Oct 2007, 2:31 p.m.

Here are pictures of the DIY-RPN in the bent Mylar case:

<http://i242.photobucket.com/albums/ff152/ottosenpb/Unbent.jpg>

This is the Laser-cut sheet of mylar before cleaning and bending. Note the small circles at each of the key locations. These are small holes to give tactile feedback for the position of the switch.

<http://i242.photobucket.com/albums/ff152/ottosenpb/bent.jpg>

The bent Mylar before installing the calculator circuit board and case bottom.

<http://i242.photobucket.com/albums/ff152/ottosenpb/bottom.jpg>

The Laser-cut case bottom for the bent Mylar case. It has Laser engraved lettering and recesses for rubber feet.

[http://i242.photobucket.com/albums/ff152/ottosenpb/no\\_over-2.jpg](http://i242.photobucket.com/albums/ff152/ottosenpb/no_over-2.jpg)

The DIY-RPN circuit board installed in the mylar case but without the graphic overlay installed.

[http://i242.photobucket.com/albums/ff152/ottosenpb/33l\\_over.jpg](http://i242.photobucket.com/albums/ff152/ottosenpb/33l_over.jpg)

The complete DIY-RPN in a bent Mylar case with a 33L overlay.

-- Richard

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## HP Forum Archive 17

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**Economist vs. Engineer**

Message #1 Posted by [Mvdn](#) on 24 Oct 2007, 6:48 a.m.

Just a side remark,

However HP did a great thing to build the HP 35s I still believe the engineers amongs us are still harmed against the economists. I still prefer, for simple calculations, my 12C. That device, commercially available almost 30 years has still the 'real' touch.

**Re: Economist vs. Engineer**

Message #2 Posted by [Maximilian Hohmann](#) on 24 Oct 2007, 8:18 a.m.,  
in response to message #1 by [Mvdn](#)

Hello!

Quote:

\_\_\_\_\_

I still prefer, for simple calculations, my 12C.

\_\_\_\_\_

Me too, and I'm an engineer. Since all engineering calculations are done on larger computers anyway, at least as far as I am concerned (\*), the only keys I really use in a pocket calculator are '+' '-' '\*' and '/'. And for this purpose, the 12C is much nicer to handle. Even more so the 25 and that's why I carry that one along most of the time :-)

Greetings, Max

(\* ) NB: Ever looked at eBay descriptions of "complicated" calculators like HP-48 or Ti-89? Most of the descriptions contain a phrase like this: " ... this calculator helped me through school/college/university but now I'm finished and at work I don't need it any more ...!" If I wouldn't collect them, I wouldn't keep my calculators either.

**Re: Economist vs. Engineer**

Message #3 Posted by [DaveJ](#) on 24 Oct 2007, 8:37 a.m.,  
in response to message #2 by [Maximilian Hohmann](#)

Quote:

\_\_\_\_\_

Hello!

Me too, and I'm an engineer. Since all engineering calculations are done on larger computers anyway, at least as far as I am concerned (\*), the only keys I really use in a pocket calculator are '+' '-' '\*' and '/'. And for this purpose, the 12C is much nicer to handle. Even more so the 25 and that's why I carry that one along most of the time :-)



Greetings, Max

---

I'm a design engineer and I do practically zero calculations on a computer!, and the most I ever need to do on a calculator are the usual trig and log functions etc. I have essentially zero need for a fully programmable and/or graphic calculator. The same goes for almost every engineer I know.

This is why I was disappointed in the 35S, it's a calculator for programmers.

Quote:

---

(\* ) NB: Ever looked at eBay descriptions of "complicated" calculators like HP-48 or Ti-89? Most of the descriptions contain a phrase like this: " ... this calculator helped me through school/college/university but now I'm finished and at work I don't need it any more ...!" If I wouldn't collect them, I wouldn't keep my calculators either.

---

All the engineers at work say exactly the same thing! My HP-28 and HP-48 gather dust, while my classic non-programmable scientifics do all the real work.

Dave.

### **Re: Economist vs. Engineer**

*Message #4 Posted by [Jack Neely](#) on 24 Oct 2007, 2:03 p.m.,  
in response to message #3 by [DaveJ](#)*

I am a Civil Engineer and use my HP calculator's everyday in the course of my work. I also use a computer on a daily basis to perform various design tasks.

What people are failing to mention in regards to calculators is that they are small and portable. Using a calculator (my personal favorite in the HP 48GX, with 1 MB memory card with a vast equation library) to check calculations in the field or on the shop floor, design things on the fly in the case of an emergency (I live in San Diego and with the current fires being able to run a quick hydraulic calculation on a water system has been a godsend!) and not have to carry around trig and log tables is priceless. In addition, not having to wait for the calculator to boot up or worry about the state of the batteries is a major plus.

Computers are better at performing calculations except how do you verify that your output is correct? Pull out the old HP and spot check.

I just think that calculators still have a place in the modern engineering office, especially when you are away from the office. It is time to give the HP a little credit where credit is due.

Any thoughts?

### **Re: Economist vs. Engineer**

*Message #5 Posted by [Massimo A. Santin](#) on 24 Oct 2007, 5:14 p.m.,  
in response to message #4 by [Jack Neely](#)*

Quote:

---

I just think that calculators still have a place in the modern engineering office, especially when you are away from the office. It is time to give the HP a little credit

where credit is due.

Any thoughts?

---

Today I showed a 35s to a civil engineer (an old HP calculators user). He asked me to buy some of them for the office.

By the way he just bought a big server and several powerful workstations but he surely see some place for these calculators.

---

### **Re: Economist vs. Engineer**

*Message #6 Posted by [DaveJ](#) on 24 Oct 2007, 6:08 p.m.,  
in response to message #4 by Jack Neely*

Quote:

---

I am a Civil Engineer and use my HP calculator's everyday in the course of my work. I also use a computer on a daily basis to perform various design tasks.

What people are failing to mention in regards to calculators is that they are small and portable. Using a calculator (my personal favorite in the HP 48GX, with 1 MB memory card with a vast equation library) to check calculations in the field or on the shop floor, design things on the fly in the case of an emergency (I live in San Diego and with the current fires being able to run a quick hydraulic calculation on a water system has been a godsend!) and not have to carry around trig and log tables is priceless. In addition, not having to wait for the calculator to boot up or worry about the state of the batteries is a major plus.

Computers are better at performing calculations except how do you verify that your output is correct? Pull out the old HP and spot check.

I just think that calculators still have a place in the modern engineering office, especially when you are away from the office. It is time to give the HP a little credit where credit is due.

---

Sure, there will always be those people who will need the power of a 48/50 out in the field.

I'm an electronics engineer and have dealt with mostly with mechanical, acoustics, and production engineers in the past, and not one of them that I can remember at any company I have worked for has ever had a programmable calculator on their desk or in their pocket. Every one of them however does have a non-programmable Casio or TI, they are essential for everyday calcs. Most still prefer a calc on their desk to the Windows calculator. A different world entirely.

Dave.

---

### **Re: Economist vs. Engineer**

*Message #7 Posted by [papaknush](#) on 25 Oct 2007, 2:04 p.m.,  
in response to message #6 by DaveJ*

There is an interesting observation at our office, which is an engineering company specializing in chemical plant design.

Every chemical engineer at our office has an HP48, 49, or 50g on their desk. There are a few TI-\*?'s out there as well, but all programmable. Then, I notice that the other engineering disciplines in our office, which don't get out to plant start-up's and troubleshooting nearly as much as the chemical engineers do (like structural, vessel, mechanical, instrument) which, for the most part, just have a simpler HP calculator on their desk. In the office, sure, I use the computer for most of the design calculations I need to do (though I still use my HP for quick checks and stuff). But when I'm out on a new plant start-up or troubleshooting trip, I lean heavily on my HP50g. I have a lot of the heat capacity correlations I need, steam properties, equipment rating and some specialty programs, etc. that are real convenient for me when I'm out at a plant. Sure, I still have my lap-top with me, but the HP is nice to quickly pull out and check something without having to break out the laptop, boot it up, worry how long before I've got to plug it in somewhere, etc.

Over the years I used the HP34C, 42S, 48G, (all programmable, which I used on the job when I worked in chemical plant operations) and now my HP 50g is a great tool for me personally. If someone else wants a simpler calculator, fine. But it is presumptuous to assume that no engineers use the programmable capability. If you don't see any, you just need to get out more.

### **Re: Economist vs. Engineer**

*Message #8 Posted by [DaveJ](#) on 25 Oct 2007, 6:00 p.m.,  
in response to message #7 by papakanush*

Quote:

---

If someone else wants a simpler calculator, fine. But it is presumptuous to assume that no engineers use the programmable capability. If you don't see any, you just need to get out more.

---

I wasn't saying that at all, just observing what I see in my fields of engineering. There is most definitely a market for high end programmable calcs.

This forum is obviously dominated by those who need a programmable calc, so I thought it interesting to share the "other side".

Dave.

### **Re: Economist vs. Engineer**

*Message #9 Posted by [Vieira, Luiz C. \(Brazil\)](#) on 25 Oct 2007, 6:32 p.m.,  
in response to message #8 by DaveJ*

Hi, Dave;

Quote:

---

This forum is obviously dominated by those who need a programmable calc, so I thought it interesting to share the "other side".

---

I'd not say 'need', instead 'wish' or 'want'. I actually program any of the calculators I have in order to exercise my braincells. And yeah, I use the program to compute my own stuff.

This weekend it took me about half an hour to generate two HP35S versions of the

original HP41C program to design small signal amplifiers. It is available with the Electrical Engineering application programs. Having the built-in resources in mind, I reduced the original 170 steps to a 34-step listing (RPN with algebraic expressions) and another with 51 steps (all RPN, to be refined). The reduced number of steps is due to the original having complex subroutines, while the HP35S has the built-in capabilities. I did not count the memory usage in bytes, because the HP41C would be a lot less. On the other hand, if we consider the percentage of use given the available memory...

The HP35S listing is like this: (no step# in this list; the symbol » refers to the symbol generated after [STO] key in EQN mode)

```

LBL H
INPUT H
INPUT R
INPUT F
INPUT O
INPUT S
INPUT L
LBL Z
CF 10
-F ÷ (1+O×L) »A
VIEW A
RCL× L
ENTER
ENTER
ENTER
REGX×R+H»Z
REGY÷(REGX+S)»C
REGZ÷REGY»V
VIEW V
VIEW C
VIEW Z
(H+S)÷(O×H+O×S-F×R)»T
VIEW T

```

If anyone wants the all-RPN version, let me know. I'll refine it to reduce two, three steps (it seems to be possible, though). I just had my brain cells exercised...

Cheers.

Luiz (Brazil)

*Edited: 26 Oct 2007, 5:37 a.m.*

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## HP Forum Archive 17

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### **The 15CG is moving along..**

Message #1 Posted by [Pal G.](#) on 24 Oct 2007, 1:12 a.m.

<http://www.gyore.com/downloads/hp15xx-gc03.jpg>

To see more, direct your browser to:

[Directory](#)

Should be done soon enough. In between work, school, kids, hp 35s programming..

Cheers,

Pal

### **Re: The 15CG is moving along..**

Message #2 Posted by [Walter B](#) on 24 Oct 2007, 4:15 a.m.,  
in response to message #1 by [Pal G.](#)

Hi, Pal,

you are simply great! And fast! Only one small point: Please give the orange m-key the normal shape (i.e. like the other keys). IMO we can save a separate mold because we have an elevated edge next to it.

Best regards,

Walter

### **Re: The 15CG is moving along..**

Message #3 Posted by [Pal G.](#) on 24 Oct 2007, 9:56 a.m.,  
in response to message #2 by [Walter B](#)

Walter,

Quote:

\_\_\_\_\_

Please give the orange m-key the normal shape (i.e. like the other keys).

\_\_\_\_\_

No problem. At one point I had a normal shape key in there, but suddenly remembered your rendering (and my 12c) have that square-ish key in there. I will replace it today.

Cheers, Pal

**I want both!**

*Message #4 Posted by [Vieira, Luiz C. \(Brazil\)](#) on 24 Oct 2007, 5:17 a.m.,  
in response to message #1 by Pal G.*

Hi, Paul;

simply working with 3D software is nothing when mastering a good feel for things, inovative thinking and subject perception. Not all guys that know how to use a 3D software can generate such images. And the ornaments slightly suggest X-mas to come...

Cheers. And congrats! Gave me something else to wish for...

Luiz (Brazil)

**Re: I want both!**

*Message #5 Posted by [Pal G.](#) on 24 Oct 2007, 10:03 a.m.,  
in response to message #4 by Vieira, Luiz C. (Brazil)*

Thank you for your kind words, Luiz. I am my most serious critic. For example, Walter suggested the red key (on the end) be converted to a standard chamfered key. This is good, because I thought my ON button looks too square compared to the real one. I was going to redo that button, but now I don't have to :)

Cheers, Pal

**Re: The 15CG is DONE.**

*Message #6 Posted by [Pal G.](#) on 24 Oct 2007, 2:17 p.m.,  
in response to message #1 by Pal G.*

Here we go..

<http://www.gyore.com/downloads/hp15xx-gc06.jpg> <http://www.gyore.com/downloads/hp15xx-gc07.jpg>

I don't know how soon I can get to the next model. Life is piling up a bit...

Enjoy, Pal

*Edited: 24 Oct 2007, 3:53 p.m.*

**Re: The 15CG is DONE.**

*Message #7 Posted by [Paul Guertin](#) on 24 Oct 2007, 7:34 p.m.,  
in response to message #6 by Pal G.*

I like it. Actually, I really like it. With a high-definition, backlit screen similar to today's PDAs, and of course some means of I/O (micro-SD?) this could be a very usable machine. The key placement you chose seems very ergonomic, too -- finger travel is minimal for frequent operations, and the keyboard is optimized for basic calculator functions. It reminds me of the HP 32Sii in that way (still my favorite HP calc).

A few questions/remarks...

1. Is it the same size as a classic Voyager?
2. How do the menus work? It doesn't look like the keys under the screen can be used to select items, so does a menu window appear on the screen with options like "1 -- nCr 2 -- nPr", etc.?

3. It is lacking the alphabetic labels (except for A-F, but I guess those are for hexadecimal entry).

Paul Guertin

**Re: The 15CG is DONE.**

Message #8 Posted by **Walter B** on 25 Oct 2007, 6:35 a.m.,  
in response to message #7 by Paul Guertin

Hi, Paul,

thanks for your kind words. Here are some answers to your questions:

Quote:

1. Is it the same size as a classic Voyager?

Yes, exactly.

Quote:

2. How do the menus work? It doesn't look like the keys under the screen can be used to select items, so does a menu window appear on the screen with options like "1 -- nCr 2 -- nPr", etc.?

You're right. Personally, I like softkeys better (please see HP-15CX), but I could not get softkeys \*and\* a 40G-LCD into a Voyager.

Quote:

3. It is lacking the alphabetic labels (except for A-F, but I guess those are for hexadecimal entry).

You are right again. Alpha labels may be added easily but would increase the clutter on the keyplate, so I chose a menu-based access as in the 42S. Nevertheless, you are free to use ASN for customizing e.g. your alpha keyboard, and you may SAVE the custom keyboard in a status variable for later recalling.

Best regards, Walter

---

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## HP Forum Archive 17

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### 35s indirect addressing

Message #1 Posted by [Bill Colisch](#) on 23 Oct 2007, 9:41 p.m.

First, Thank You to all the patient folks that help others on this site.

In the manual (at 14-20 et seq)it talks about indirectly addressing variables & LABELS. I would like to GTO (J)(ie: branch execution to a line number contained in register J). Is this possible?

### No. Best regards from V. [NT]

Message #2 Posted by [Valentin Albillo](#) on 24 Oct 2007, 3:47 a.m.,  
in response to message #1 by Bill Colisch

.

### Re: 35s indirect addressing

Message #3 Posted by [Meenzer](#) on 24 Oct 2007, 4:29 a.m.,  
in response to message #1 by Bill Colisch

To elaborate a bit on this: the German manual of the 35s also says you could do indirect addressing of variables AND labels - but only in the chapter's headline and a corresponding table. The functions that actually can use (I) don't list GTO or XEQ anymore. This was however possible with the 33s - the now wrong parts of that manual must have been copied by HP. What a shame!

### Re: 35s indirect addressing

Message #4 Posted by [Gene Wright](#) on 24 Oct 2007, 7:52 a.m.,  
in response to message #1 by Bill Colisch

No, it is a typo in the manual.

### Re: 35s indirect addressing

Message #5 Posted by [Meenzer](#) on 24 Oct 2007, 9:39 a.m.,  
in response to message #4 by Gene Wright

Quote:

\_\_\_\_\_  
No, it is a typo in the manual.  
\_\_\_\_\_

Gene, do you mean that it's a typo in the 35s' manual? That is what I meant.

Or do you mean that it was a typo in the 33s' manual and doesn't even work on that machine?



**Re: 35s indirect addressing**

Message #6 Posted by [Gene Wright](#) on 24 Oct 2007, 10:36 a.m.,  
in response to message #5 by Meenzer

Typo in the 35s manual.

**Re: 35s indirect addressing**

Message #7 Posted by [Stefan Vorkoetter](#) on 24 Oct 2007, 11:14 a.m.,  
in response to message #4 by Gene Wright

It's odd that they dropped this feature from the 35s. It could have been really useful, especially if they'd extended it so that the value in I (or J) could be M.NNN, where M is 1..26 (or -1..-26) and NNN is 000 to 999.

Stefan

**Re: 35s indirect addressing**

Message #8 Posted by [Namir](#) on 24 Oct 2007, 12:37 p.m.,  
in response to message #7 by Stefan Vorkoetter

So you are suggesting a syntax like this:

GTO I.J XEQ I.J

So that teh value of register I points to the label and the value of J points to teh step number.

I guess it is doable.

One can have a hybrid syntax such that:

GTO B.(I)

To jum tp line number (I) in label B. And also:

GTO I.(I)

To jump tp label I, line (I).

Namir

*Edited: 24 Oct 2007, 12:39 p.m.*

**Re: 35s indirect addressing**

Message #9 Posted by [Stefan Vorkoetter](#) on 24 Oct 2007, 2:54 p.m.,  
in response to message #8 by Namir

No, I'm just suggesting that GTO (I) works, like it does on the 33s.

But as an extension (since the 35s has line number addressing), the value in I can have a fractional part, and that fractional part will refer to the line number.

Stefan

Edited: 24 Oct 2007, 2:56 p.m.

**Re: 35s indirect addressing**

Message #10 Posted by **Bill Colisch** on 24 Oct 2007, 8:38 p.m.,  
in response to message #9 by Stefan Vorkoetter

Thank you all.

What a shame, it could have been a very powerful feature.

BTW, I'm a land surveyor. What do you guys do with these?

Bill :-)

**Just toy with it. Best regards from V. [NT]**

Message #11 Posted by **Valentin Albillo** on 25 Oct 2007, 1:07 a.m.,  
in response to message #10 by Bill Colisch

,

**Re: 35s indirect addressing**

Message #12 Posted by **srayb** on 31 Oct 2007, 4:32 p.m.,  
in response to message #10 by Bill Colisch

Quote:

Thank you all.

What a shame, it could have been a very powerful feature.

BTW, I'm a land surveyor. What do you guys do with these?

Bill :-)

I originally bought it to write larger programs than was possible on my 32SII (to facilitate more sub-routines), but haven't gotten around to that yet. However I've really enjoyed using the built-in equation solver, using it for some astronomy formulas.

I'm really glad it has the same RPN programming language as my 32SII. I considered getting the 50g, but it was more expensive, bigger, and I'd have to learn RPL programming. The 35s is perfect for my needs.

---

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**hp 32s keyboard problem**

Message #1 Posted by [siegman](#) on 23 Oct 2007, 6:41 p.m.

Batteries ran low on my hp 32S (or seemed to, anyway). Took batteries out, left the calculator without power for 2 weeks until new ones arrived. After battery replacement, rightmost column of keys (+, -, X, etc) now seem to be nonfunctional; rest of keys seem to work OK. Self-tests seem to run OK, except I can't step the step-by-step test forward using any of the keys in the right column.

Any hope here?

Email cc of any replies to "siegman at stanford.edu" appreciated.

**Re: hp 32s keyboard problem**

Message #2 Posted by [Namir](#) on 23 Oct 2007, 8:12 p.m.,  
in response to message #1 by siegman

The kind of failure you describe is very common with the HP-32s. Two out of the first three HP-32s that I bought had that problem. The failure does not seem to have much with changing batteries IMHO. I don't know if Randy (at FixThatCalc.com) can help and fix it. You can go that site and write him.

Namir

**Re: hp 32s keyboard problem**

Message #3 Posted by [Paul Brogger](#) on 24 Oct 2007, 10:34 a.m.,  
in response to message #1 by siegman

This is a common problem with aging Pioneer machines. There is a rubbery strip inside, just below the display, that applies pressure to keep the mylar keyboard edge connector in contact with pads on the circuit board. As that strip ages, it shrinks, and no longer provides enough pressure.

The simple test is to carefully but firmly pinch the calculator front-to-back, just beneath the display, and roughly above the affected key column. You should notice restored function while applying this "pinch pressure". (It may even temporarily fix the problem, though it will return.)

The fix is to take apart the calculator, detach the PCB, pull out the rubber strip, and bolster it from behind with something to make it "thicker" -- I've use a rolled-up strip of cellophane tape, of all things. (That is, a strip of Scotch tape, as long as the rubber strip, and rolled tightly around itself along its long axis, creating a roughly toothpick-sized tube of tape.) Whatever you use, put it in the rubbery strip's slot (molded into the front half of the case (again, just below the display), beneath the rubber strip itself. Upon proper reassembly, the thing should work fine.

The whole process is non-trivial, but very doable. It's documented in some articles in the Articles Forum. (Look for "Pioneer Internals" or whatever -- I don't remember now.) Read whatever you can find, and ask advice before proceeding.

Or, as suggested above, keep it simple and let the expert handle it. (Randy at fixthatcalc.com, I think.)

Good luck!

---

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### **HP 33s: Addressing registers at the "Top" of the program list.**

Message #1 Posted by [Ted Madson](#) on 23 Oct 2007, 5:11 p.m.

The registers at the top of the calculator (above the "A" program) are available manually. Are they available programmatically? I need to store a large number of data registers from an index algorithm. Any suggestions? Thanks in advance.

---

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### 9866 printer troubleshooting help...

Message #1 Posted by [Keith Lueck](#) on 23 Oct 2007, 3:41 p.m.

I am working on a 9866a that's paired with my 9810a.

The printer accepts data and acknowledges it, but, no print action. Motor drive & power supplies are fine, manual feed works, all the status lines (e.g. paper out) are valid...

The little state machine that controls the thing seems to be running and getting data strobes, but, it's waiting on something else - I can't figure out what...

Does anyone have any documentation on the state machine, or detailed info. on its operation? I have the hp service manual and Tony Duell's schematics, but, I'm still banging my head on this one.

Also searched for a patent on the 9866, but had no luck...

BTW, I've created a card extender for this unit which will also work for the 9810a (and prollly the 20 & 30 as well). If you'd like artwork for the pc board and p/n's for the connectors (you'll need 2 for the calculator) I'll email them for free...

### Re: 9866 printer troubleshooting help...

Message #2 Posted by [Keith Lueck](#) on 24 Oct 2007, 10:19 a.m.,  
in response to message #1 by [Keith Lueck](#)

Well, I figured it out. Answering myself here in hopes that it'll help someone else... I've been chasing my tail over this one for a week! There's absolutely nothing wrong w/ the printer.

The printer was looking for a LF character. I thought this would be provided by the PRINT/SPACE key, but it is not. There is a gate that decodes the LF character and that signal was never being asserted. I momentarily shorted it (it's active low - s/b /LF on the schematic) to ground and got a print output. Reading further I discovered how to explicitly generate a LF on the calculator, and once I added that to my test code - voilla!

The examples in the printer interface manual are for a typewriter - not the 9866a. Apparently the typewriter produces output w/o needing a discrete LF. Not so for the thermal line printer.

### Re: 9866 printer troubleshooting help...

Message #3 Posted by [Tony Duell](#) on 24 Oct 2007, 1:17 p.m.,  
in response to message #2 by [Keith Lueck](#)

Quote:

Well, I figured it out. Answering myself here in hopes that it'll help someone else... I've been chasing my tail over this one for a week! There's absolutely nothing wrong w/ the printer.

The printer was looking for a LF character. I thought this would be provided by the

PRINT/SPACE key, but it is not. There is a gate that decodes the LF character and that signal was never being asserted. I momentarily shorted it (it's active low - s/b /LF on the schematic) to ground and got a print output. Reading further I discovered how to explicitly generate a LF on the calculator, and once I added that to my test code - voilla!

---

If it's any consolation I was going to ask 2 questions :

- 1) Did it ever work? My point was to ensure you were sending LFs, etc
- 2) Check the Linefeed-detect circuitry. There's a NAND gate to detect Linefeeds on the data path PCB, the output goes low when an LF is sent. This is actually an input to the state machine on the control board of course. If you weren't seeing LFs detected here, I would have suggested you checked you were sending them and then debugged the 9810's interface.

Yes, I realised (too late) I left the inverting bar (consistently) off the LF signal on all pages of the schematic!

Quote:

---

The examples in the printer interface manual are for a typewriter - not the 9866a. Apparently the typewriter produces output w/o needing a discrete LF. Not so for the thermal line printer.

---

It is of course a true line printer. It buffers a line of text in the shift registers on the data path PCB (only 6 bits are stored in the upper-case only 9866A) and then when it prints a line of text it converts those characters into the dot pattern for the top dot-line of that row, stores that in shift registers on the printhead driver board, prints it, moves the paper up, then goes on to the next dot-line, etc. Actually, it's even more complicated than that, since each dot-line is printed in 4 (I think) interleaved sections.

### **Re: 9866 printer troubleshooting help...**

*Message #4 Posted by **Keith Lueck** on 24 Oct 2007, 2:16 p.m.,  
in response to message #3 by Tony Duell*

Hey Tony - thanks for the help. It would've been impossible to work on w/o your schematics - I only mentioned the LF signal thing in case someone else was confused by it.

Yeah, I realized that either the 7430 LF detect gate was bad, or, it wasn't getting any LF characters - it turned out to be the latter... I'd also assumed that the printer would automatically print when its line buffer was full, but that's apparently not true either.

Basically, it was my own bone-headed misunderstanding of the equipment. Oh well, it was worth hours of entertainment (and heating my house w/ my Tek 547 o-scope...<g>).

All I need to do now is clean it up a bit and make some other cosmetic repairs...

Do you happen to know if the 9866 can be used to list programs from the calculator's memory? - my 2nd 9810a has no internal printer option....

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### Dave Cochran Video Interview

Message #1 Posted by [Steve Leibson](#) on 23 Oct 2007, 3:31 p.m.

Dave Cochran wrote the code for the HP 9100 desktop calculator and HP 35 pocket scientific calculator. I interviewed him in honor of the HP 35's 35th birthday. It's a 1-hour video interview that premiered at the recent HPCC event in San Diego. It's now online at:

<http://www.viddler.com/explore/sleibson/videos/2/>

I hope you enjoy it.

Steve

### Re: Dave Cochran Video Interview

Message #2 Posted by [John Limpert](#) on 23 Oct 2007, 7:20 p.m.,  
in response to message #1 by Steve Leibson

Thanks for posting the video. It was very informative and interesting.

### Re: Dave Cochran Video Interview

Message #3 Posted by [Namir](#) on 23 Oct 2007, 8:14 p.m.,  
in response to message #1 by Steve Leibson

What's the HPCC?? Did I miss a conference between catching airplanes?

### Re: Dave Cochran Video Interview

Message #4 Posted by [Jake Schwartz](#) on 24 Oct 2007, 4:18 p.m.,  
in response to message #3 by Namir

Quote:

What's the HPCC?? Did I miss a conference between catching airplanes?

Hi Namir,

I think we have a slight misnomer here. The U.S. conferences have been nicknamed "HHC200x" and the British every-5-year conferences in London (including the one which happened eleven days ago) were nicknamed "HPCC 200x". So this year, we had HHC2007 in San Diego in September and HPCC 2007 at the Imperial College in London in October. I was the only attendee from the U.S. and enjoyed the two-day event thoroughly. There were just shy of 30 attendees and we were treated to some great hospitality and presentations, as usual. (It was my 4th time to an HPCC conference, going back to the 1992 Tenth-Anniversary bash...) I did videotape the entire event and will edit those tapes as soon as I'm done with the San Diego one (which is underway). (By the way, I wonder if the HP facility at Rancho Bernardo is



affected by the fires...?)

Jake Schwartz

**Re: Dave Cochran Video Interview**

*Message #5 Posted by [Namir](#) on 25 Oct 2007, 1:36 a.m.,  
in response to message #4 by Jake Schwartz*

Thanks Jake. I have seen the HPCC in several threads with the assumption that the rader knew what it was.

Sounds like your trip to the UK was fun. I look forward to seeing the videos when they become available.

Namir

*Edited: 25 Oct 2007, 1:36 a.m.*

**Re: Dave Cochran Video Interview**

*Message #6 Posted by [Stefan Vorkoetter](#) on 24 Oct 2007, 9:56 a.m.,  
in response to message #1 by Steve Leibson*

Is there a way to get an audio-only version of this? I'd like to listen to it in the car, since that's the only time I've got where I can listen to a one-hour interview.

Thanks, Stefan

*Edited: 24 Oct 2007, 10:18 p.m.*

**Re: Dave Cochran Video Interview**

*Message #7 Posted by [JoeFrisco](#) on 24 Oct 2007, 8:58 p.m.,  
in response to message #1 by Steve Leibson*

Stumble - I just gave it the first Thumbs Up - Expect the hits to come rolling in

**Re: Dave Cochran Video Interview**

*Message #8 Posted by [Steve Leibson](#) on 24 Oct 2007, 11:24 p.m.,  
in response to message #7 by JoeFrisco*

I'll look into making an audio file available. Meanwhile, I must apologize for mixing up the HHC and HPCC.

Steve

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### [OT] San Diego Fires

Message #1 Posted by [Seth Morabito](#) on 23 Oct 2007, 12:58 a.m.

Hello everyone,

As some of you no doubt have already read, there are widespread major wildfires throughout Southern California today. I've just discovered [from this interactive Google map of the San Diego fires](#) that the area immediately surrounding and including the HP campus where HHC 2007 was held is under evacuation notice today, and that there is a great danger that the fire will spread through the Rancho Bernardo area.

I am deeply saddened, it was a very beautiful area when we gathered there last month for HHC. I wish everyone there well, and I hope for the best. I'm also concerned for the friends and family of the local HP people we met. Please take good care!

-Seth, concerned

### Re: [OT] San Diego Fires

Message #2 Posted by [Karl Schneider](#) on 23 Oct 2007, 1:20 a.m.,  
in response to message #1 by Seth Morabito

Seth --

Yes, I too had noticed on CNN.com that the evacuation area included Rancho Bernardo and the hilly parts of northern San Diego. I hope that the campus and its workers come through unscathed, but no doubt, those who live in vulnerable areas will suffer some damage, if not worse...

-- KS

### Re: [OT] San Diego Fires

Message #3 Posted by [John Noble](#) on 23 Oct 2007, 2:09 a.m.,  
in response to message #1 by Seth Morabito

*Writing from smoky Sandy Eggo...*

The fire already went through Rancho Bernardo as far as I know. These fires are fed by dry brush and dead/dying trees. Structures burn when either or both are too near, though there are cases when embers get blown under roof tiles, etc., and start a house on fire.

Since the industrial parks around here don't have too much vegetation (and what they do have is watered) and are mostly built of concrete with steel roofs, I doubt they will have too much trouble. I could be wrong, but it's usually the houses that get hit around here.

That map is better than what the local newspaper posted, by the way. Every time something like this happens around, the local media completely fail to put the pieces together.

**Re: [OT] San Diego Fires**

*Message #4 Posted by **Bruce Bergman** on 23 Oct 2007, 2:29 p.m.,  
in response to message #3 by John Noble*

Agreed. The HP campus is in a pretty safe area. Put it this way, if HP's facility burned down, everything around it will be gone too.

The greater issue is all the HP employees who might be affected by this. I believe Sam Kim lives out here.

We live in Rancho Penasquitos, the next community south of RB, and we've evacuated to Qualcomm Stadium (with our travel trailer), so we're safe. And our house is still safe too, for now. Hopefully the fire will die down and the Santa Ana will die down too.

Among all the things we took with us is all my HP calcs. ;-)

Everyone in San Diego, stay safe!

thanks, bruce

**Re: [OT] San Diego Fires**

*Message #5 Posted by **Jake Schwartz** on 24 Oct 2007, 4:24 p.m.,  
in response to message #4 by Bruce Bergman*

Quote:

\_\_\_\_\_

I believe Sam Kim lives out here.

\_\_\_\_\_

Hi Bruce,

Sam's permanent residence is in Vancouver, WA and he "commutes" to San Diego for two weeks per month (if I remember correctly). Perhaps he has a temporary residence which might be affected, though.

Jake Schwartz

**Re: [OT] San Diego Fires**

*Message #6 Posted by **Bruce Bergman** on 25 Oct 2007, 11:20 a.m.,  
in response to message #4 by Bruce Bergman*

We're back in our home, and seemingly safe (assuming no weather and wind changes). Thanks for the supportive emails, friends!

thanks, bruce

**Re: [OT] San Diego Fires**

*Message #7 Posted by **Paul Brogger** on 24 Oct 2007, 10:59 a.m.,  
in response to message #1 by Seth Morabito*

The creator of that map references [a map from KPBS](#) which seems more up-to-date and comprehensive.

FWIW ...

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### Voyager series odds and ends

Message #1 Posted by [DanE](#) on 22 Oct 2007, 6:07 p.m.

Hello everyone, this is my first post here although I've been visiting the museum regularly for several years. I have a couple of observations and questions about the Voyager series of HP calcs, e.g. the 11C, 15C, 16C and 10C.

I own an old beat up HP-11C that has survived more than 20 years on 2 sets of batteries. It's been through the mill and even got run over once in the driveway (in deep snow) but it keeps on ticking. Recently the ON key started to act funny. All of a sudden it has to be pressed really hard to turn the calc on or off. Very strange that it started happening all at once. I checked around the net (and here) to see what it would take to fix the key for whatever problem it has. I decided against doing a self-repair job, and opted instead to buy a new one.

I did that on ye olde auction site this past summer. The calc I bought is nice and clean and works well, but I noticed a few differences between it and my own. For one, the battery compartment has a coil spring in it instead of 2 flat spring tabs. The second is the VDE logo (f in a circle) on the back near the battery compartment. The third is the color of the printing used on the front of the calculator.

Research here at the museum revealed that HP went to the coiled spring battery contact in later production runs of the 11C. Is that true for the entire Voyager series? Lately I've been seeing more and more on ye olde auction site with the f-in-a-circle logo on the back, and not just 11Cs. Does that logo automatically imply a coiled spring battery contact? Other reading has given me the impression that the coiled spring is less reliable than the flat spring contacts, and is prone to breaking off. Is that true?

As for the color of the printing on the front, the f-shift function labels are more orange than yellow, like on my old 11C. It's a darker shade and IMO more difficult to see, although it may just be a case of getting used to it.

Do those 3 things - battery contact spring, VDE logo, and face printing color - all go together? If I find a calculator with one of the 3 things (say on the auction site) is it reasonable to assume all 3 are present?

My other question involves the keys on my original 11C. Is it possible to get to the key contact sheet (for cleaning) without breaking any of the heat strakes? I still like my old calc better, missing logo, missing rubber feet, dented bezel and all, and if it's possible I want to try to fix the wonky ON key.

(Speaking of ye olde auction site, has anyone figured if the ripoff-artist not to be named uses a different ID for buying than he does for selling? I see him selling a lot more than buying.)

### Re: Voyager series odds and ends

Message #2 Posted by [Karl Schneider](#) on 23 Oct 2007, 12:31 a.m.,  
in response to message #1 by [DanE](#)

Welcome, Dan --

A lotta questions, there!

I have six USA-made Voyagers from the 1980's and two non-USA Voyagers from the 1990's:

1983 (HP-15C, HP-10C)  
1985 (HP-11C S/N 2508Axxxxx, HP-16C 2538Axxxxx, HP-15C 2543Axxxxx)  
1986 (HP-11C)  
1990 (HP-12C, Brazil)  
1994 (HP-12C, Singapore)

The 1985 HP-15C and 1986 HP-11C have the VDE logo "871B". I've also seen HP-15C's from 1988-89 with a similar logo. My two 1983 and other two 1985 models do not have it.

All my 1985 and later models have the spring battery contacts. I would believe that they are more robust.

My 1983 models have yellow legends that seem to have faded to tan. The later models have legends that are still bright yellow.

Some cost-cutting measures were taken in 1986 that persisted in later models -- chromoplastic logos that wear and shear off (they probably didn't bond to the metal case as well as the earlier chrome metal logos), and some simplification of the electronics.

-- KS

### Re: Voyager series odds and ends

Message #3 Posted by **DanE** on 23 Oct 2007, 2:56 a.m.,  
in response to message #2 by Karl Schneider

Thanks, Karl. My original 11C is S/N 2213Axxxxx so I guess it was made in the 13th week of 1982. I think the logo was lost in the driveway incident. The bezel got a few dents and scratches in it that day, but luckily the LCD display itself was not damaged and has always worked flawlessly. Maybe it's just because I'm so used to it, but I found the coil spring battery compartment harder to get the batteries in and out of. Not that they need replacing very often. I don't have the "new" one with me at the moment so I can't check the S/N, but it most definitely has the double-shot molded keys which I read about here. They're re-used from a 12C just like the collector's page says. I'm not a serious collector by any means but I always wanted a 15C and a 16C so maybe I'll test those waters. I actually do a fair amount of hexadecimal arithmetic now and then so it would be more than a novelty. The PC hex calculators I have tried are all a little wonky. Too bad the new 35S has its own wonky hex number problems. At any rate, if I decide to take the plunge on a 15C and/or a 16C I want to avoid the later manufacturing runs if at all possible, so that's the real reason behind my asking.

### Re: Voyager series odds and ends

Message #4 Posted by **Jeff O.** on 23 Oct 2007, 1:55 p.m.,  
in response to message #1 by DanE

Quote:

\_\_\_\_\_

Is it possible to get to the key contact sheet (for cleaning) without breaking any of the heat stakes?

\_\_\_\_\_

That contact sheet is sandwiched between a circuit board on one side and the front of the calculator on the other, and that sandwich is held together by the heat stakes, so, no. To disassemble, you would not actually break the heat stakes. You would trim the "mushroomed" portion away, leaving the shaft of the stake protruding through the circuit board. Some have reported that the calculator can then be re-assembled by either melting over the remaining portion of the stakes, or putting some sort of cement around each stake, all while somehow clamping the whole assembly together. (The name that comes to mind is "RC 2000 tire cement" or similar that is some sort of rubberized superglue used for radio controlled car tires, sold in hobby shops, if I recall correctly.)

[This message](#) provides advice for cleaning individual keys on a 41C, don't know if it applies to the voyagers.

**Re: Voyager series odds and ends**

Message #5 Posted by **DanE** on 23 Oct 2007, 6:12 p.m.,  
in response to message #4 by Jeff O.

I think it was that description that dissuaded me from doing it in the first place. I took the back off, looked around, saw that description, and put the cover back on. The button looks and feels the same way it always did. There's no odd sound or anything else when pressed. I can't imagine what could have gotten in there to cause the problem.

**Re: Voyager series odds and ends**

Message #6 Posted by **Randy** on 23 Oct 2007, 7:56 p.m.,  
in response to message #5 by DanE

Quote:

\_\_\_\_\_

I can't imagine what could have gotten in there to cause the problem.

\_\_\_\_\_

To quote an old Ronny Graham commercial: It's dirty, dirt, dirt... and it's your car I want to hurt.

In this case it happens to be your calculator :^(

Voyager keyboards are very easy to clean from the back. No cutting anything apart, no damage of any kind.

**Re: Voyager series odds and ends**

Message #7 Posted by **DanE** on 24 Oct 2007, 12:25 a.m.,  
in response to message #6 by Randy

That sounds very encouraging. Would you care to elaborate a bit? Are there holes or something that allow access to the contact pads?

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## HP Forum Archive 17

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### Power consumption versus contrast?

Message #1 Posted by [Dave Shaffer \(Arizona\)](#) on 22 Oct 2007, 6:02 p.m.

I was playing with the 10BII that I got as a door prize at HHC2007, and cranked up the contrast of the display to make it more readable on the airplane. i.e. the displayed numbers seemed much darker with respect to the background.

Then, I wondered if I had changed, for the better or worse, the power being used from the battery.

Does anybody know if or how the contrast affects power use by the display? I am under the impression that LCD characters are basically a static response to an electric field, so I'd guess that there is not much affect on power consumption. But, how do they actually change the contrast - a +/- voltage effect, or a phase effect (due to voltage?) in (one of) the polarizer(s)??

### Re: Power consumption versus contrast?

Message #2 Posted by [Randy](#) on 23 Oct 2007, 8:57 a.m.,  
in response to message #1 by [Dave Shaffer \(Arizona\)](#)

Quote:

Does anybody know if or how the contrast affects power use by the display?

For all practical purposes, there is no difference in power consumption at various contrast settings.

Quote:

But, how do they actually change the contrast - a +/- voltage effect, or a phase effect (due to voltage?) in (one of) the polarizer(s)??

The displays are multiplexed so the voltage applied to the elements is pulsed. Varying the pulse width changes the RMS voltage level which in turn affects the contrast. Not all LCD's are the same but this is the general method used in most HP's that I have seen (passive-matrix addressed).

[Wikipedia LCD article](#)

*Edited: 23 Oct 2007, 8:59 a.m.*

### Re: Power consumption versus contrast?

Message #3 Posted by [Dave Shaffer \(Arizona\)](#) on 23 Oct 2007, 10:59 a.m.,  
in response to message #2 by [Randy](#)

Quote:

Varying the pulse width changes the RMS voltage level which in turn affects the contrast



---

Makes sense.

Thanks, Dave

---

**Re: Power consumption versus contrast?**

*Message #4 Posted by [Garth Wilson](#) on 23 Oct 2007, 1:43 p.m.,  
in response to message #1 by Dave Shaffer (Arizona)*

The off-the-shelf LCDs I've worked with have a backplane voltage pin that takes an extremely small current. Although it's called "contrast," what it's really adjusting is the viewing angle that gives the best contrast.

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## HP Forum Archive 17

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### **Los Angeles help to reclaim HP32SII**

Message #1 Posted by *designnut* on 22 Oct 2007, 5:15 p.m.

I lost an HP calculator on a recent trip to LA. It is at their lost and found at 700 State Drive in Exposition Park. It must be picked up in person. I will gladly repay anyone who can mail it to me. Sam Levy San Diego  
designnut2cox.net (shift the 2)

---

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## HP Forum Archive 17

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**41CX problem**

Message #1 Posted by [JDonley](#) on 22 Oct 2007, 1:31 p.m.

Having problems with a 41CX (sometimes just quits working. I usually hit it against the palm of my hand a couple of times and it wakes up). It has given me this problem for several years.

Who does repair work on these?

Thanks

Don

**Re: 41CX problem**

Message #2 Posted by [Namir](#) on 22 Oct 2007, 1:37 p.m.,  
in response to message #1 by [JDonley](#)

Try [Fix that Calc](#) and please stop beating up on your HP-41CX <grin>

Namir

*Edited: 22 Oct 2007, 1:38 p.m.*

**Re: 41CX problem**

Message #3 Posted by [JDonley](#) on 22 Oct 2007, 3:35 p.m.,  
in response to message #2 by [Namir](#)

Thanks Namir....I prefer to think of it as "tough love". will try [Fix that Calc](#).

Don

---

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## HP Forum Archive 17

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**HP71B HP-IL Question**

Message #1 Posted by [Jerry Kovacs](#) on 22 Oct 2007, 12:51 p.m.

Hello,

I am without documentation for my HP71B. It has a dual HP-IL 82402A unit and have no documentation for it either.

I was wondering if any of you knew a HP71B command to verify the operation of the HP-IL plug in? I have a digital drive I could test it on if necessary.

Thanks for your help.

Jerry

**Re: HP71B HP-IL Question**

Message #2 Posted by [Raymond Del Tondo](#) on 22 Oct 2007, 2:08 p.m.,  
in response to message #1 by Jerry Kovacs

Hello,

with the tape drive attached and powered up, and a cassette inserted  
just type 'CAT :TAPE' w/o the quotes, followed by pressing ENDLINE .

If the tape drive responds somehow, the loop works;-)

HTH

Raymond

**Re: HP71B HP-IL Question**

Message #3 Posted by [Jerry Kovacs](#) on 22 Oct 2007, 3:23 p.m.,  
in response to message #2 by Raymond Del Tondo

Raymond,

That did the trick...

Many thanks! Jerry

---

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## HP Forum Archive 17

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### New Datafile article online (and Erratum)

Message #1 Posted by [Valentin Albillo](#) on 22 Oct 2007, 6:26 a.m.

Hi, all:

I have made freely available online a new Datafile article of mine, which can be downloaded in PDF format from [my calculator web site](#), namely:

#### *HP 35s Storing Lotsa Lotsa Numbers*

Datafile V26N4 included a 77-line routine by Gene Wright demonstrating how to pack three full-precision real numbers into a single HP35s variable thus making it possible to store and recall in excess of 2300 floating point values in HP 35s' indirect variables.

This 4-page article discusses my new, completely different, 16-line implementation consisting of three main, externally callable routines which implement the essential Initialization, Store, and Recall functionalities.

#### **Erratum:**

This article was recently published in the current Datafile issue, V26N5, but most regrettably the printed version *contains a show-stopper error in the listing*, which of course wasn't present in the original Word document I submitted.

I discovered the error as part of my protocol of proofreading and checking my articles in the actual, paper-printed issue, as soon as I received it (two days ago). I also do the same with the actual Word document I submit for publication, which I first print and then proofread, including keying in the programs from the printed listing and trying out every example. This *guarantees* that the programs and examples will be keyable and will run as printed.

Unfortunately, while the Word document I submitted was indeed *error-free*, the article as it appears in Datafile is *not* and will result in a **SYNTAX ERROR** when you try to run it, so I've uploaded the correct, original article to my web site to try and help remedy the situation.

Please download the correct, original article from my web site and though it's none of my fault I nevertheless wish to apologize for any inconvenience, which I deeply regret.

Best regards from V.

### Re: New Datafile article online (and Erratum)

Message #2 Posted by [Meenzer](#) on 22 Oct 2007, 8:18 a.m.,  
in response to message #1 by Valentin Albillo

Pardon me for asking silly questions...

What does "IP" in

P009 (IP(I/3)>...  
mean?

EDIT: Ok, found it out. It's Yellow Shift-INTG-6

*Edited: 22 Oct 2007, 9:00 a.m.*

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## HP Forum Archive 17

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**HP 35s question**

Message #1 Posted by [Bill Colisch](#) on 21 Oct 2007, 11:26 p.m.

Is it possible to recall from the stack (RCL stack T, Z, Y)?

Thanks for your help.

Bill :-)

**Re: HP 35s question**

Message #2 Posted by [Meenzer](#) on 22 Oct 2007, 12:03 a.m.,  
in response to message #1 by Bill Colisch

While programming (ALG, RPN), just use the "R down" key and you'll be presented with a choice for X, Y, Z and T. Use left and right arrows and ENTER to choose. In RPN calculator mode you only have "R down". In ALG you'll see the X,Y,Z and T choice after pressing "R down".

*Edited: 22 Oct 2007, 5:09 a.m.*

**Re: HP 35s question**

Message #3 Posted by [Stefan Vorkoetter](#) on 22 Oct 2007, 9:25 a.m.,  
in response to message #2 by Meenzer

If I remember correctly (my 35s isn't in front of me at the moment), in RPN mode, press any key that brings up a menu (e.g. Flags) and then press RollDown, and you'll get a menu of stack registers. Pressing one recalls that register (or inserts a REG\_ instruction if you're in PRGM mode).

Stefan

**Re: HP 35s question**

Message #4 Posted by [Miguel Toro](#) on 22 Oct 2007, 9:49 a.m.,  
in response to message #3 by Stefan Vorkoetter

In RPN, if you are in PRGM mode this method allows to review the stack content and insert a REG\_ instruction without needing to press the EQN key. In RUN mode, it only allows to review the content of the stack, not to recall the values, unfortunately.

Look at this [link](#) for more details.

Regards,

Miguel

**Re: HP 35s question**

*Message #5 Posted by **Bill Colisch** on 22 Oct 2007, 9:46 p.m.,  
in response to message #4 by Miguel Toro*

Thanks to all, that did it.

Bill :-)

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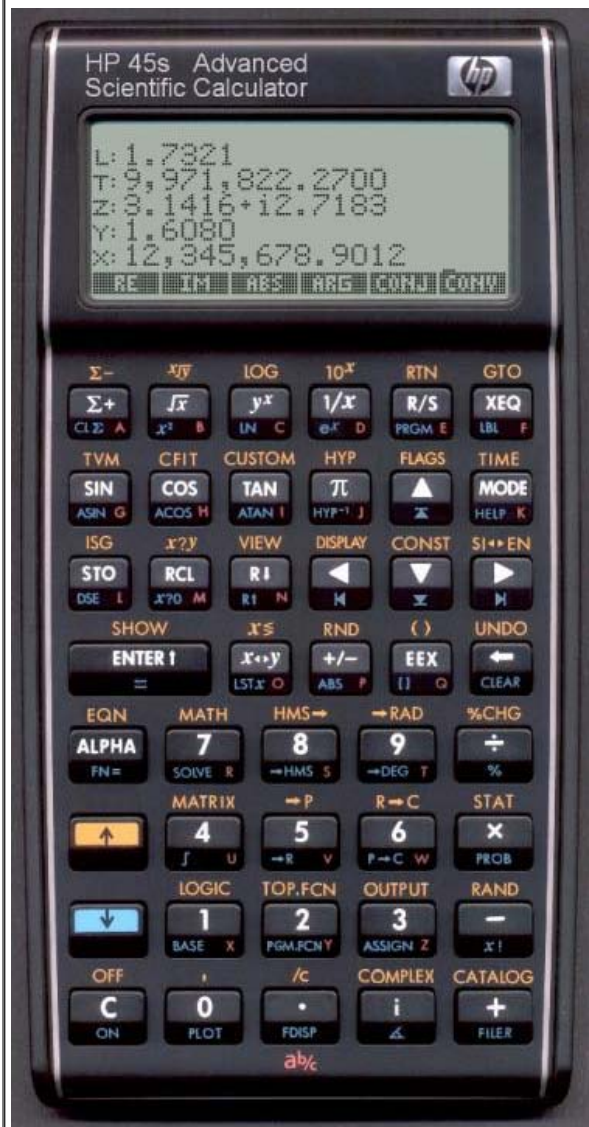
## HP Forum Archive 17

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### An Alternative 45s Concept

Message #1 Posted by [Jeff O.](#) on 21 Oct 2007, 10:09 p.m.

Like many others, I found Gene and Jake's vision for a 45s to be exceptional. However, as I understand, it was based on fitting everything inside a pioneer-sized case. As such, it would require HP to basically start from scratch at this point, since the pioneer series is long gone from the perspective of current manufacturing capability. I believe they began their effort prior to the 35s being released, so basing their design on a pioneer made perfect sense, as there was no current model worth using as a basis prior to the 35s. The 35s does a lot of things right, so Gene and Jake's effort inspired me to see what might be possible using the 35s as a starting point. Borrowing heavily from their design, and also from the 35s and of course the 42s, my vision for a 45s would look a lot like this:



The above fits in the 35s case. Originally, like G&J, I proposed using the current 48gii display. However, due to concerns expressed in subsequent messages regarding LCD size and lack of a label and logo, I changed the display to a 48 x 131 array. This is basically an expanded version of the 45s display that would allow the soft menus plus X, Y, Z, T and Last X to always be displayed. (I think the screen could look better than the above depiction in an actual implementation, but that's the best I could create.)

Most functions and labels are self-explanatory. I would propose that I/O be only by SD, or even better, micro-SD card. I would not propose the use of IR, so I dispensed with the PRINT menu. I replaced it with an OUTPUT menu, which would basically provide all of the functions of the PRINT menu, but would output to files on the SD card. The FILER menu would take care of uploading and downloading programs onto the card. The  $\rightarrow P$  function would have two functions: 1) with real numbers in the X and Y registers representing real and imaginary parts of a complex number, it would transform them into magnitude and angle, still in the X and Y registers; 2) with a complex number in the X register, it would break it into the

magnitude and angle of the polar representation, placing those values in the X and Y registers. The ->R function would perform similarly. R->C would take real and imaginary components in the X and Y registers and form a complex number in X register. P->C would take magnitude and angle in the X and Y and convert them to a complex number.

With the original large display, the only thing I couldn't fit on the keyboard was an "HP 45s" label or the HP logo. The new smaller display allows for these.

To me, the above looks like something HP could produce, if they wanted to. I have no idea if they do, but they are free to use any and all concepts I have presented :-)

Pal G., I'd love to see this one rendered in 3D.

Jeff

edited to present a new design with a smaller LCD screen size to address concerns raised by Gene and Eric below.

*Edited: 26 Oct 2007, 12:17 p.m. after one or more responses were posted*

### **Re: An Alternative 45s Concept**

*Message #2 Posted by **Walter B** on 22 Oct 2007, 1:57 a.m.,  
in response to message #1 by Jeff O.*

Thanks, Jeff, for sharing your fine design with us. Just to complete the row (and to add on those drafts presented in my contribution to HHC2007 and recently in another thread) I'd like to show you this:

<http://img2.putfile.com/main/10/29401530920.jpg>

The fundamental thoughts are as presented to HHC2007.

Best regards,

Walter

*Edited: 22 Oct 2007, 1:59 a.m.*

### **Re: An Alternative 45s Concept**

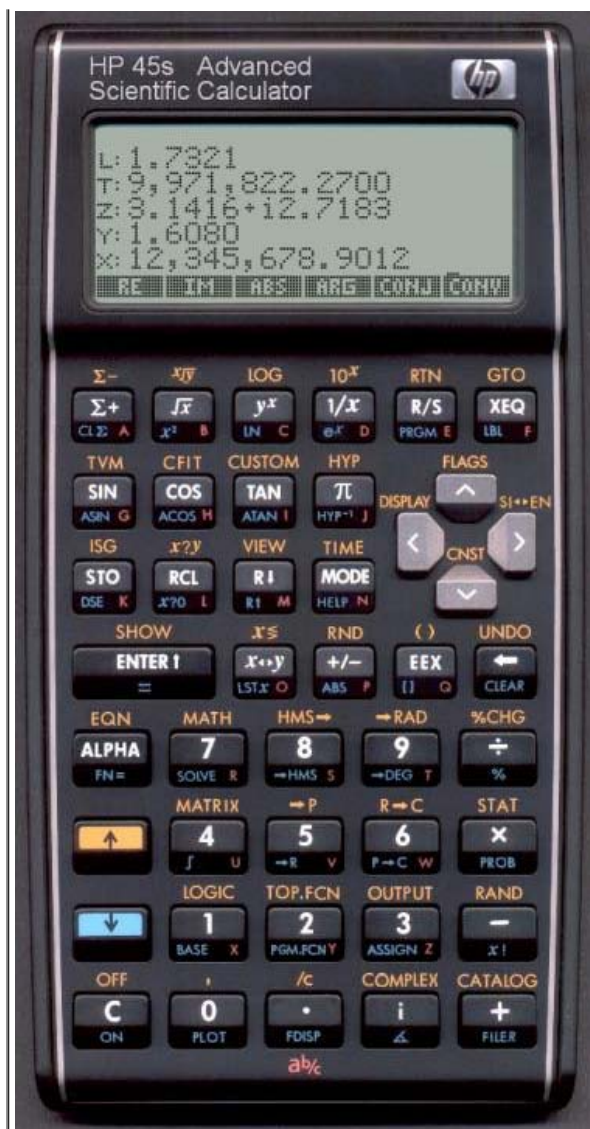
*Message #3 Posted by **Arne Halvorsen (Norway)** on 22 Oct 2007, 3:37 a.m.,  
in response to message #2 by Walter B*

Just silly ofcourse, but as this shows there is no reason why cursor keys should not be black... Looks much better then on the 35s.

### **Re: An Alternative 45s Concept**

*Message #4 Posted by **Jeff O.** on 22 Oct 2007, 1:13 p.m.,  
in response to message #2 by Walter B*

Using the existing cursor key design of the 35s (but moved down one row to give a full row on top for soft-menus as you have done) could look like this:



design changed to address Gene's concerns regarding label and logo.

*Edited: 25 Oct 2007, 11:00 p.m. after one or more responses were posted*

### Re: An Alternative 45s Concept

Message #5 Posted by **Gene Wright** on 22 Oct 2007, 3:09 p.m.,  
in response to message #4 by Jeff O.

Of course, this has the problem that it doesn't say HP anywhere on it. :-)

I doubt HP would sell it unless it conforms to HP corporate guidelines...which I imagine are presently reflected in the 35s in terms of logo, size of company name on the product, etc.

### Re: An Alternative 45s Concept

Message #6 Posted by **Jeff O.** on 22 Oct 2007, 9:11 p.m.,  
in response to message #5 by Gene Wright

Gene,

Seems like we ought to be able to fit the name and logo on there somewhere. I'm thinking the flat surface on the bottom edge of the calculator, ala the original classics.

If that wouldn't fit the guidelines, if we abandon the concept of using the 48gii display, I'm sure that a new display could be designed that could display enough information, plus leave room above for a name and logo, along the lines of Walter's design three messages up. Given my 'druthers, I'd like to see a display that would enable the soft-key labels to be "up" all of the time, plus lines for the X, Y, Z, T and Last X registers. I could do without the top line I depicted showing time and date. If necessary, perhaps one line of the display could be eliminated, possibly by going to the 42S display style in which the soft menus are not always active, and when active, one line of the display is lost.

Another less desirable option would be to lose the top row of keys. That would provide the same number of keys as the original 42S. I actually started down that path, but, when I added a second shift key and left-right cursor control keys, I started running out of keys pretty fast. So I checked to see if the 48gii display would fit in the available real estate above the 35s keyboard, and found that there is barely enough room - if the model name and logo can be eliminated from that area.

Let's not give up for want of a logo!

To address Gene's concerns, I edited my original post to present a new design with a smaller display that provides sufficient room for a label and logo.

Jeff

*Edited: 25 Oct 2007, 12:55 p.m.*

### Re: An Alternative 45s Concept

Message #7 Posted by **charognard** on 22 Oct 2007, 9:55 a.m.,  
in response to message #1 by Jeff O.

I'am waiting for her !!!!  
but the Sharp Pc 1700 is more efficient with his hard disk and his multi color 800x480 screen!!! 8-)  
so i hesitate <http://fr.normand.free.fr/sili/1700seul.jpg>

*Edited: 22 Oct 2007, 10:10 a.m.*

### Re: An Alternative 45s Concept

Message #8 Posted by **Chris Foley** on 22 Oct 2007, 3:17 p.m.,  
in response to message #7 by charognard

Quote:

I'am waiting for her !!!!  
but the Sharp Pc 1700 is more efficient with his hard disk and his multi color 800x480 screen!!! 8-)

It's funny, I saw this picture this morning via MP ;-) !

### Re: An Alternative 45s Concept

Message #9 Posted by **Paul Dale** on 22 Oct 2007, 8:59 p.m.,  
in response to message #7 by charognard

Is this the most elaborate four banger of all time? :-)

- Pauli

### Re: An Alternative 45s Concept

Message #10 Posted by **charognard** on 23 Oct 2007, 4:40 a.m.,  
in response to message #9 by Paul Dale

Yes, you know it ? <http://fr.normand.free.fr/sili/pers1700.jpg>

### Re: An Alternative 45s Concept

Message #11 Posted by **sjthomas** on 22 Oct 2007, 8:53 p.m.,  
in response to message #1 by Jeff O.

But the 35s is too large.

### Re: An Alternative 45s Concept

Message #12 Posted by **Jeff O.** on 22 Oct 2007, 9:16 p.m.,  
in response to message #11 by sjthomas

Yes, smaller would be better. But if using the 35s as a base would allow a 45s to be produced, I could live with the size.

### LCD display limitations

Message #13 Posted by **Eric Smith** on 22 Oct 2007, 9:00 p.m.,  
in response to message #1 by Jeff O.

I hate to rain on anyone's parade, but none of these new designs that have active LCD area (pixels and/or annunciators) extending to very near the edge of the case are likely to be practical for manufacture (or even prototyping), for two reasons:

1. The physical LCD display has margins that extend beyond the pixels and annunciators by a non-trivial amount. I don't know specifically about the 48/49/50 series LCDs that everyone seems to want, but a typical LCD has 8mm or more of border on each side.
2. If the LCD extends nearly to the edge of the case, it is more likely to be damaged by rough handling of the calculator.

### Re: LCD display limitations

Message #14 Posted by **Jeff O.** on 22 Oct 2007, 9:35 p.m.,  
in response to message #13 by Eric Smith

Eric,

Feel free to inject practicality (or rain on our parade, if you prefer.) It's not like I figured Sam and Cyrille would see my design and decide to have it produced exactly as presented. Mostly just having fun and maybe hoping to provide a nudge to HP in a certain direction. Judging by the positive aspects of the 35s compared to the opinions voiced in this forum and directly to HP at the HH Conferences after the 33s was released, I have to think such nudges can help.

In any case, I have now edited my original post to present a new design with a smaller display size to hopefully address your concerns.

Jeff

*Edited: 25 Oct 2007, 12:53 p.m.*

### Re: LCD display limitations

Message #15 Posted by **Walter B** on 23 Oct 2007, 1:45 a.m.,  
in response to message #13 by Eric Smith

Lying before me is a Nokia E50 featuring a brilliant dot matrix LCD. While there is major space above this display, there are a mere 5mm at the other sides till the top edge of keys or the outside of the housing.

In my draft presented above you get 8mm left, right, and below of the LCD, 14mm above of it. Without knowing your 8mm claim, Eric, it was met quite well :)

And, most important ;) , you find sufficient space above of the display to show the model name and the HP logo.

Best regards,

Walter

P.S.: My 2 Voyager-based drafts [shown in this other thread](#) feature 6mm space above and below, 8mm left and right of the LCD.

Edited to add the post scriptum.

*Edited: 23 Oct 2007, 1:59 a.m.*

### Re: LCD display limitations

Message #16 Posted by **DaveJ** on 23 Oct 2007, 2:51 a.m.,  
in response to message #13 by Eric Smith

Quote:

I hate to rain on anyone's parade, but none of these new designs that have active LCD area (pixels and/or annunciators) extending to very near the edge of the case are likely to be practical for manufacture (or even prototyping), for two reasons:

[ol]

- The physical LCD display has margins that extend beyond the pixels and annunciators by a non-trivial amount. I don't know specifically about the 48/49/50 series LCDs that everyone seems to want, but a typical LCD has 8mm or more of border on each side.

That's for a very typical off-the-shelf LCD, but it's easy to get one speced at a lot less than that.

My Nokia 6300 phone for example has only 6mm on either side from the visible area to the outside case. No idea how thick the case is. I've seen other displays with only several mm clearance on the sides.

The LCD on my calculator watch has only 4mm on the sides, but granted it's not a full X-Y dot matrix.

So it's certainly possible to do what has been proposed.

BTW, has anyone actually opened a 48/50 to see what screen is used?

Quote:

- If the LCD extends nearly to the edge of the case, it is more likely to be damaged by rough handling of the calculator.

That's what the case is for. Design it right and it's not a problem.

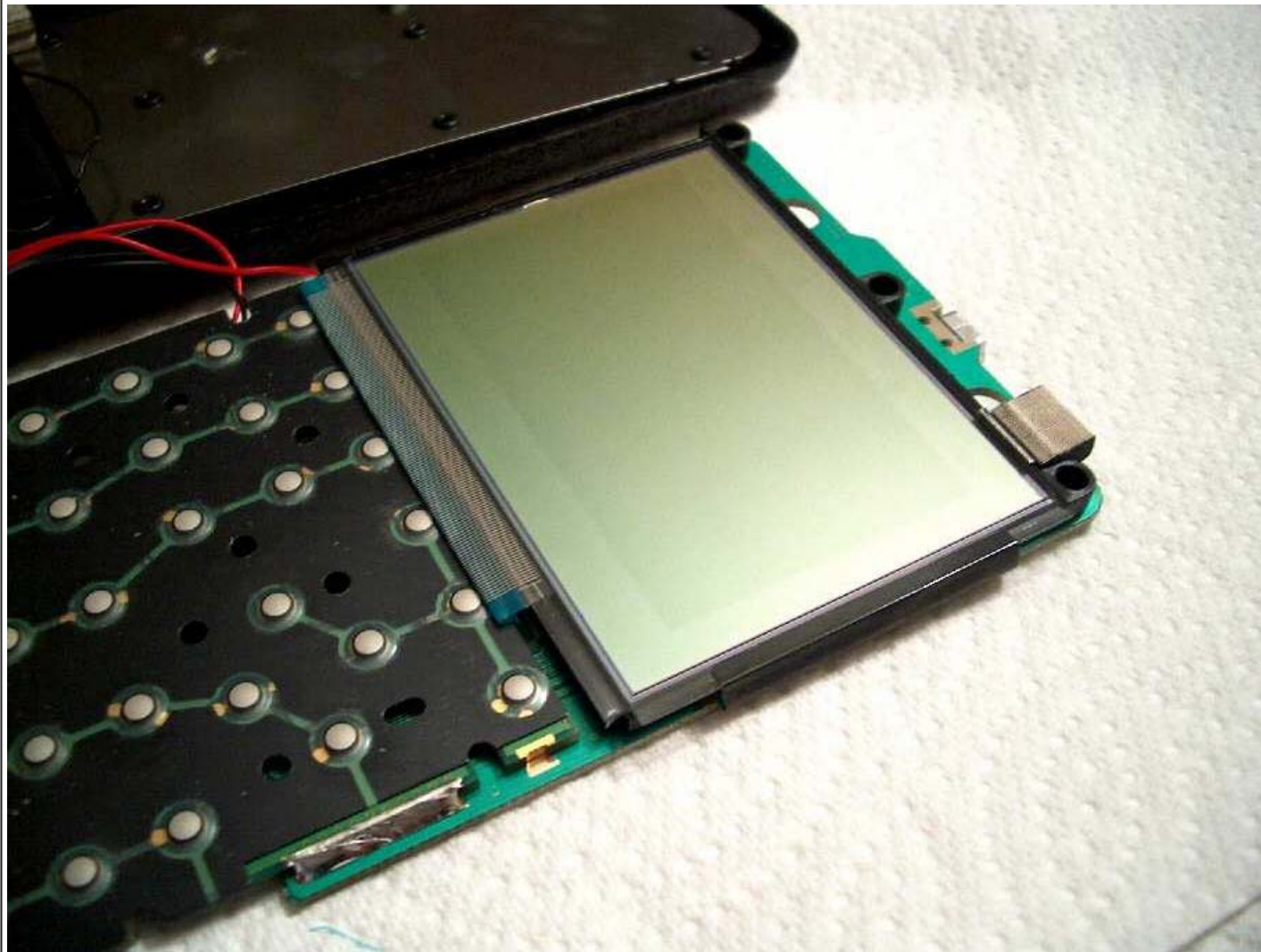
Dave.

*Edited: 23 Oct 2007, 2:54 a.m.*

### **Re: LCD display limitations**

*Message #17 Posted by [DaveJ](#) on 23 Oct 2007, 2:57 a.m.,  
in response to message #16 by DaveJ*

Here is the screen in the 49G:



Dave.

### **Re: LCD display limitations**

*Message #18 Posted by [Eric Smith](#) on 23 Oct 2007, 3:32 a.m.,  
in response to message #16 by DaveJ*

Quote:

That's what the case is for. Design it right and it's not a problem.

---

No, that's exactly why the cell phone companies offer NO WARRANTY for the display, even if it fails due to their poor design. When the display extends to within a few mm of the edge of the case, it's not possible to design in any reasonable shock protection.

Given how many people on c.s.hp48 bitch about having broken their 48 display, I expect having very narrow margins would be a disaster.

But I'd be delighted to be proven wrong.

---

### Re: LCD display limitations

Message #19 Posted by **DaveJ** on 23 Oct 2007, 6:19 a.m.,  
in response to message #18 by Eric Smith

Quote:

---

No, that's exactly why the cell phone companies offer NO WARRANTY for the display, even if it fails due to their poor design. When the display extends to within a few mm of the edge of the case, it's not possible to design in any reasonable shock protection.

Given how many people on c.s.hp48 bitch about having broken their 48 display, I expect having very narrow margins would be a disaster.

But I'd be delighted to be proven wrong.

---

Be careful using words like "not possible" and "disaster".

You only ever hear from the people who bitch about something, so the argument always gets one-sided. You don't hear from the millions of people who don't have any problems.

I just opened one of the new 6th generation iPods the other day, and it's amazing what shock protection you can build in for the hard drive and screen into such a slim package.

I've designed (and environmentally tested) delicate and tight margin stuff like this before for very harsh environments, and it certainly is possible.

All of my mobile phones with margins much less than 8mm have survived pretty horrendous abuse - dropped onto concrete, thrown down cliffs and waterfalls in the pursuit of adventure, you name it.

None of my calculators get anywhere near the level of abuse consumer items like phones and iPods get. I'm happy with slightly less protection if it means the difference between having a cool product or not having it.

Dave.

---

### Re: LCD limitations

Message #20 Posted by **Garth Wilson** on 23 Oct 2007, 4:30 a.m.,  
in response to message #13 by Eric Smith

Quote:

---

I hate to rain on anyone's parade, but none of these new designs that have...

---

I have not been following this thread closely, but I will add another "parade rain." If you want color, you can kiss your two-year (or even two-month) battery life good-bye. You'll have to be replacing or recharging batteries quite frequently. Color displays always have to put out their own light, so they are always power hogs. IMO, they are not compatible with calculators, and it is only the "cool" factor that puts this unnecessary item on so many calculator wish lists.

---

### Re: LCD limitations

Message #21 Posted by **Walter B** on 23 Oct 2007, 4:54 a.m.,  
in response to message #20 by Garth Wilson

FYI, Garth, no one wanted nor wants a color display in this thread so far.

---

### Re: LCD limitations

Message #22 Posted by **DaveJ** on 23 Oct 2007, 6:23 a.m.,  
in response to message #21 by Walter B

I'd be happy with just a nice high contrast multi line monochrome 7 segment display, thanks! I use my calculator for numbers, not pretty pictures.

Some of the low end Casio's/Sharp's et.al have the right idea in the dual 7 segment dot matrix display. Real numbers in high contrast on the bottom line, and more versatile but not as clear dot matrix on the top line.

Dave.

### Re: LCD limitations

Message #23 Posted by [Garth Wilson](#) on 23 Oct 2007, 1:35 p.m.,  
in response to message #21 by Walter B

Quote:

FYI, Garth, no one wanted nor wants a color display in this thread so far.

I was referring to the big picture of a Sharp PC-1700 above. I figured I might as well mention it before it gets out of hand like other threads I've been in on.

### Re: An Alternative 45s Concept

Message #24 Posted by [Patrick Rendulic](#) on 23 Oct 2007, 1:21 a.m.,  
in response to message #1 by Jeff O.

Hello. All the shown concepts are wonderful! I would add these additional features:

A scratchproof anti-reflective display like those from the 48 series. I have cleaned them many times and they show no single scratch. My 35s screen is horrible although I just have wiped it twice.

Flash-ROM! The only way to get a bug free machine.

### Re: An Alternative 45s Concept

Message #25 Posted by [John Noble](#) on 23 Oct 2007, 2:23 a.m.,  
in response to message #1 by Jeff O.

I'd settle for an 11C reissue running gen-u-wine 11C firmware in emulation on 12CP hardware. No retooling required except for the logo.

I really hate dot matrix displays, which is why my 33S is gathering dust. I also think anything beyond what a 11C can do cries out for a full-fledged computer.

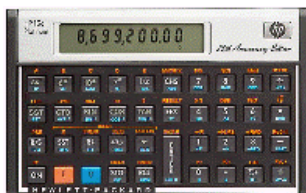
But that's just me.

Neanderthal preferences aside, it's interesting that HP's fanbase consistently comes out with nicer looking designs than HP themselves.

### Re: An Alternative 45s Concept

Message #26 Posted by [Jeff O.](#) on 23 Oct 2007, 7:51 a.m.,  
in response to message #25 by John Noble

If we're going to ask for or propose a re-issue, let's at least go for the 15C. It does everything the 11C does, plus a whole lot more, without presenting a complex keyboard or user interface. Something like this, maybe:



(The 25th anniversary of the 15C has already passed, so the above is not likely to be produced.)

Edited: 29 Oct 2007, 8:40 p.m. after one or more responses were posted

### Re: An Alternative 45s Concept

Message #27 Posted by [DaveJ](#) on 23 Oct 2007, 8:08 a.m.,  
in response to message #26 by Jeff O.

Too bad it would be crippled with that lousy 10 digit display :-)



Dave.

### Re: An Alternative 45s Concept

Message #28 Posted by [Chris McCormack](#) on 23 Oct 2007, 8:36 a.m.,  
in response to message #27 by [DaveJ](#)

Quote:

Too bad it would be crippled with that lousy 10 digit display :-(

Dave.

I'm not so sure a simple display is such a bad thing. I still have the 15C I bought as an undergrad, complete with various scrapes and dings, including a nice dig into the frame just above the display. My daughter, on the other hand, came back after only a few weeks of college with the display of her HP49G+ totally trashed (half blank, half purple, totally dysfunctional). She has no idea when or how it happened.

Along with (possibly) being more robust, the seven segment display on my 15C is larger and clearer than the 49G+, so there's a tradeoff. Granted, it's a little clumsy when trying to manipulate matrices, and it won't allow any graphics, but when do you simply punt and move the job over to a computer?

### Re: An Alternative 45s Concept

Message #29 Posted by [DaveJ](#) on 23 Oct 2007, 9:25 a.m.,  
in response to message #28 by [Chris McCormack](#)

Quote:

I'm not so sure a simple display is such a bad thing. I still have the 15C I bought as an undergrad, complete with various scrapes and dings, including a nice dig into the frame just above the display. My daughter, on the other hand, came back after only a few weeks of college with the display of her HP49G+ totally trashed (half blank, half purple, totally dysfunctional). She has no idea when or how it happened.

Along with (possibly) being more robust, the seven segment display on my 15C is larger and clearer than the 49G+, so there's a tradeoff. Granted, it's a little clumsy when trying to manipulate matrices, and it won't allow any graphics, but when do you simply punt and move the job over to a computer?

I agree, simple is better. But in the case of the Voyager series, the 10 digit display is very limiting, especially when displaying exponents. 10 digits plus an exponent is the minimum needed (and expected) in a modern calculator, even \$2 scientifics have that.

I'm all for large 7 segment displays on calculators. And I like a clearly defined and differentiated exponent display. The Voyagers and calcs like the 20S have never made the grade in this respect IMHO. Time to get it right I think.

The 12C gets away with it because it's a financial calc where you don't often deal in exponents.

Dave.

### Re: An Alternative 45s Concept

Message #30 Posted by [John Noble](#) on 23 Oct 2007, 2:57 p.m.,  
in response to message #29 by [DaveJ](#)

Combining responses:

Quote:

I'm not so sure a simple display is such a bad thing. I still have the 15C I bought as an undergrad, complete with various scrapes and dings, including a nice dig into the frame just above the display. My daughter, on the other hand, came back after only a few weeks of college with the display of her HP49G+ totally trashed (half blank, half purple, totally dysfunctional). She has no idea when or how it happened.

I hope the new one has a longer life. :-)

Quote:

I agree, simple is better. But in the case of the Voyager series, the 10 digit display is very limiting, especially when displaying exponents. 10 digits plus an exponent is the minimum needed (and expected) in a modern calculator, even \$2 scientifics have that.

As long as the number is carried with full precision internally, I'd argue that for nearly all purposes 4-5 significant display figures is enough; that's an order of magnitude better than you'll get with a ten inch slide rule. You get seven *unambiguous easy to read* figures plus exponent on a Voyager, which gives you one part in ten million. If for some strange reason you need the whole 10 figure mantissa (to display, say, the distance to Pluto to the nearest few hundred meters), it's just a keystroke or two away.

*Edited: 23 Oct 2007, 2:58 p.m.*

## **Re: An Alternative 45s Concept**

Message #31 Posted by [Chuck Sommer](#) on 23 Oct 2007, 6:07 p.m.,  
in response to message #1 by Jeff O.

Hi Gang,

This is great stuff and a lot of fun.

But let me say some things that may get me expelled. The current line of HP Scientific RPN calculators are driving me a little crazy.

I started in 1975 as an engineering (EE/CS) student with the HP-45. What a great calculator. The Polar/Rectangular conversion function blasted me through my servo-controls class and AC analysis class. It lasted me until the AC adapter broke at the connector and I did not replace it, I don't even remember when that happened, but I was well out of college at the time. In 1983 I replaced it with an HP-41CV. I did a little programming with it until it broke about 4 years later. At that point I went to the algebraic calculator, Casio I think because they were cheap ... and so was I. When I saw a HP6s calculator at WalMart, I grabbed it up only to be disappointed when I got it home as it was an algebraic calculator. About 2 years ago I saw on 'that other auction site' the HP48G available so I picked one up for about for about \$60.00, and then another. I thought this was great for what I needed. Great button feel, big ENTER key, RPN and it did BASE math, which I could use, and my old HP-45 did not. And I liked the big screen also. I saw the HP49G on 'that other auction site' and picked up 2 of those as well. Picked up the HP33S around that time but did not like it's keyboard layout. About a year ago I picked up the 49G+ about 2 months before the 50G came out, and of course I had to have the 50G also. The screen on the 49G was an improvement over the 48G, and the 49G+/50G screen is the best yet. And now I have the HP35S also. For scientific calculations the layout of the HP35S is similar to the HP48G.

So here is the point: I have become accustom to the layout of the 49G+/50G keyboard, but don't like the size and weight. I am trying to like the 35s, but it now requires too much thinking to do quick calculations on that keyboard, and believe it or not I am now using my 33s for doing calculations when I don't carry my 50G around. The 3 RPN calculators available for scientific work (for this discussion the 48GII is a less expensive version of the 50G) (the 33s, 35s and 50G) all have vastly different keyboard layouts. I don't need a programmable calculator; I have Microsoft Excel, and Python for programming. I need a calculator for doing scientific calculations like the HP45 with the addition of BASE conversion (don't even need logic functions like AND and XOR). The feel of the HP6s keyboard was fine, if only it was RPN I would be happy.

Chuck

## **Re: An Alternative 45s Concept**

Message #32 Posted by [Hugh Evans](#) on 25 Oct 2007, 12:57 a.m.,  
in response to message #1 by Jeff O.

As much fun as these threads have been, much of the LCD glass I've seen would either be exceptionally expensive or virtually impossible to fabricate using modern technology.

Yes, I understand this is essentially a thought experiment.

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## HP Forum Archive 17

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### 17bii+ solver workaround

Message #1 Posted by [Don Shepherd](#) on 21 Oct 2007, 5:11 p.m.

The solver in the 17bii+ is different than the solver in the original 17bii. It always solves equations using the iterative solver, never the direct solver. As a result, every equation is evaluated twice (at least). This causes problems if you change the value of an input variable using the L() function. For example, the equation  $A=L(B:B+1)$  returns  $A=1$ , as expected, but if you RCL B you see that it is 2.

For new equations, you can stay out of trouble if you initialize variables and never update an input variable with the L() function. Older equations, that worked on the original 17bii, may not work on the + if they don't abide by these rules.

The Technical Applications Manual for the 27S and 19B contains a solver equation to determine the prime factors of a number. As written, the equation does not work on the 17bii+, because it updates input variable N at the end of the equation. Experimentation with this equation revealed that it finds every other prime factor of a given number. For example, the prime factors of 510510 are 2, 3, 5, 7, 11, 13, 17. On the 17bii+, the equation finds every other factor: 2, 5, 11, and 17. So I needed to find a way to trick the solver into not evaluating the equation on even numbered iterations.

This was the solution I found that worked. At the beginning of the equation, add the following:

```
FACT=0xL(B$$:G(B$$)+1)+IF(MOD(G(B$$):2)=1:
```

at the very end of the equation, add :0)

This essentially only executes the bulk of the equation code during odd iterations, and the correct factors are derived. I used B\$\$ since it is unlikely to be used in other equations, and it is necessary for B\$\$ to be 0 or an even number for this workaround to work.

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### Get a single value from row C1 from statistic applet

Message #1 Posted by [Dominique](#) on 21 Oct 2007, 10:19 a.m.

Hi

Is it possilbe to get a single value from the row C1 in the statistics applet?

Like: I want value n2 from row C1.

How can i put this in a programm?

I need it to make a short programm to calculate the Gini coefficient. (if there is a programm somewhere please give me a link thank you).

Thanks Dom

### Re: Get a single value from row C1 from statistic applet

Message #2 Posted by [Tim Wessman](#) on 21 Oct 2007, 11:41 a.m.,  
in response to message #1 by [Dominique](#)

If you are talking about a 38/39/40 (which it sounds like) then you just need to do C2(2) unless I am remembering wrong.

TW

### Re: Get a single value from row C1 from statistic applet

Message #3 Posted by [Dominique](#) on 22 Oct 2007, 1:32 p.m.,  
in response to message #2 by [Tim Wessman](#)

hi

thank you very much :D It's like what you said :) you made my day ;)

(it was for hp 40gs)

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## HP Forum Archive 17

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**uWatch Keypad**

Message #1 Posted by [DaveJ](#) on 21 Oct 2007, 4:14 a.m.

My current watch keypad looks like this: <http://www.alternatezone.com/stuff/KeypadOriginal.jpg>

But after using it for a while I'm doubting my (Voyager/Pioneer/48 style) placement of the operator keys on the left, it was a bit of a gamble on my part I thought. So I've come up with the following new layout:

<http://www.alternatezone.com/stuff/KeypadAlternate.jpg>

Yes, it's more Casio-like.

I could swap the operator keys to the right, as per the Voyager/Pioneer/48, but for some reason I really like having the ENTER/= key in the bottom right and the cancel key in the top right. So I'm kinda fixated on that. The MODE and RCL/STO key also need to stay put.

I'm interested in other people's opinions and what they would do with such a limited layout...

Dave.

**Re: uWatch Keypad**

Message #2 Posted by [Jonathan Eisch](#) on 21 Oct 2007, 5:30 a.m.,  
in response to message #1 by [DaveJ](#)

I like your original layout **much** better! I'm much more used to the -+\*/ being in a line. With the second layout, my eyes don't know where to look to find the rest, if that describes it.

I'd like having swap and roll near clear and enter. I also like menu near enter, to give my finger a "home base" so to speak.

Is there some reason that you don't like the operators on the left?

-Jonathan

**Re: uWatch Keypad**

Message #3 Posted by [DaveJ](#) on 21 Oct 2007, 6:39 a.m.,  
in response to message #2 by [Jonathan Eisch](#)

Quote:

I like your original layout **much** better! I'm much more used to the -+\*/ being in a line. With the second layout, my eyes don't know where to look to find the rest, if that describes it.

I'd like having swap and roll near clear and enter. I also like menu near enter, to give my finger a "home base" so to speak.

Is there some reason that you don't like the operators on the left?

I've been using it for a few weeks now and somehow it just doesn't feel right. That's probably because all of my calculators (Casio's Pioneer, 48, 28) all have the operators on the right.

But I just know that if I put them in a column on the right, the ENTER/= and CLEAR placement will bug me. Like this one maybe:

<http://www.alternatezone.com/stuff/KeypadAlternate2.jpg>

I don't think ENTER/= can go in top left as it's slightly more difficult to access the top row of buttons due to the lcd, and I've never liked that placement anyway.

I just love having ENTER/= in the bottom right.

Dave.

### Re: uWatch Keypad

Message #4 Posted by [Jonathan Eisch](#) on 21 Oct 2007, 2:50 p.m.,  
in response to message #3 by [DaveJ](#)

Well, at least *someone* has wanted enter in the bottom right, and the operators on the right also; looking at the number pad on my keyboard. Why not do that? Sounds good to me.

So, the right two columns would be:

|   |     |
|---|-----|
| / | *   |
| c | -   |
| e | +   |
|   | ENT |

### Re: uWatch Keypad

Message #5 Posted by [Pavneet Arora](#) on 21 Oct 2007, 10:49 p.m.,  
in response to message #3 by [DaveJ](#)

Personally, I would like the operators and the ENTER key as well as CLS near to each other and both on the left.

I have mocked up the keys in different sans serif typefaces using just OpenOffice Calc and have the PDF available at

[uWatch\\_Keypad\\_Fonts](#)

for review by the forum members. I haven't done anything too fancy with the key for `x <> y', but I have changed the hyphen in your `+/-' to an n-dash. Also, the function keys are set in italics, except for Eras which already is a slanted font. The document is set in 8 point type so should give some fair indication of what the key labels might look like. I would like the uWatch to go out with something other than Arial ;).

For those who may be interested, upon my return from HHC2007, I wrote two articles using the 35s as a starting point, and sent them off to HP:

[Typography of Documentation](#)

## Typography of Keys

I do believe that there is an opportunity here to reconsider and standardize on typeface, nomenclature, as well as user manual layout.

Cheers.

FWIW, my vote goes for standardizing on Stone Humanist ITC Std Semi! For more on Sumner Stone, you can check out:

[www.stonetypefoundry.com](http://www.stonetypefoundry.com)

*Edited: 21 Oct 2007, 11:11 p.m.*

## Re: uWatch Keypad

Message #6 Posted by **Robert Graulich** on 21 Oct 2007, 8:57 a.m.,  
in response to message #1 by DaveJ

Hi Dave,

May I suggest to remove F1-F6 from the faceplate? They just clutter it up. And the benefit of having them is low for the kind of people using this watch. Perhaps you change the color of the rectangle around the keys to make them special?

More important, will the keyboard have a 'user' mode?

Regards, Robert

## Re: uWatch Keypad

Message #7 Posted by **DaveJ** on 21 Oct 2007, 9:08 a.m.,  
in response to message #6 by Robert Graulich

Quote:

May I suggest to remove F1-F6 from the faceplate? They just clutter it up. And the benefit of having them is low for the kind of people using this watch. Perhaps you change the color of the rectangle around the keys to make them special?

There is no coloured rectangle around the keys. The image shown is from my CAD file, and the rectangle is the actual cutout for the button.

It's true that F1-F6 don't need to be there for normal operation, as the keys physically map to the menu items. But I added them so that it's possible to have long menu names if need, where the menu items won't physically map to the keys below. For example: "F1=Option 1 Text" "F2=Option 2 Text" Could be useful for future software options.

Quote:

More important, will the keyboard have a 'user' mode?

What do you mean by "user" mode?

Dave.

**Re: uWatch Keypad**

Message #8 Posted by **Robert Graulich** on 21 Oct 2007, 9:26 a.m.,  
in response to message #7 by DaveJ

Quote:

What do you mean by "user" mode?

Well, I thought about HP-41 "user" mode. I agree that there are not many keys to re-map. But you never know. This of course opens the question about "real" programming like a 41. Not just macro recording as shown in the video.

With a "user" mode, there is no need for F1-F6. You could just write "8:Option 2 Text" instead of "F2=Option 2 Text". This saves a character on the small display, too.

Another thought: Instead of "(ROLL" and ")" we could have "( UP" and ") DOWN", where UP and DOWN are arrows. They can represent ROLL UP and ROLL DOWN, if the stack is active. In MENU mode, they could operate like the UP and DOWN arrows on the 42. There would be a lot of use for them.

Robert

**Re: uWatch Keypad**

Message #9 Posted by **DaveJ** on 21 Oct 2007, 9:59 p.m.,  
in response to message #8 by Robert Graulich

Quote:

Well, I thought about HP-41 "user" mode. I agree that there are not many keys to re-map. But you never know. This of course opens the question about "real" programming like a 41. Not just macro recording as shown in the video.

I don't think I'll be adding "real" programming any time soon. Makes the firmware a \*lot\* more complicated, and it's probably not warranted in a calculator watch.

But I fully expect someone will be keen enough to write their own firmware to do just that (and many other things). Other OS's like Free42 or \*Fix could even be ported if there is sufficient hardware capability.

I plan on providing a small "software toolkit" to make this easier. Stuff like the LCD driver, EEPROM read/write routines, key scan routines etc.

Quote:

Another thought: Instead of "(ROLL" and ")" we could have "( UP" and ") DOWN", where UP and DOWN are arrows. They can represent ROLL UP and ROLL DOWN, if the stack is active. In MENU mode, they could operate like the UP and DOWN arrows on the 42. There would be a lot of use for them.

Yes, I was originally going to include up/down arrow key, but didn't see an immediate need for the them so didn't add them. But your idea to combine it with the roll down key is a good one. Doesn't



cost anything, and it might be useful in the future.

Thanks. Dave.

### Re: uWatch Keypad

Message #10 Posted by [Jonathan Eisch](#) on 21 Oct 2007, 2:46 p.m.,  
in response to message #7 by [DaveJ](#)

Quote:

What do you mean by "user" mode?

well, I'd much rather have "y^x" than ")".

-Jonathan

### Re: uWatch Keypad

Message #11 Posted by [Walter B](#) on 21 Oct 2007, 4:52 p.m.,  
in response to message #7 by [DaveJ](#)

Dave,

may I propose to map F1-F6 to 1-6? Then there will be no need to print any extra labels on the faceplate.

There may be more suggestions for other parts of your keypad but I'll need some more time to think about it. If I understand you correctly, then only the positions of MODE and STO/RCL are fixed.

Regards,

Walter

### Re: uWatch Keypad

Message #12 Posted by [DaveJ](#) on 21 Oct 2007, 5:45 p.m.,  
in response to message #11 by [Walter B](#)

Quote:

may I propose to map F1-F6 to 1-6? Then there will be no need to print any extra labels on the faceplate.

Sounds reasonable. I assume you'd still like to keep the physical mapping though? e.g. Menu functions "Func1 Func2 Func3" "Func4 Func5 Func6" map to keys "4 5 6" "1 2 3"

Quote:

There may be more suggestions for other parts of your keypad but I'll need some more time to think about it. If I understand you correctly, then only the positions of MODE and STO/RCL are fixed.

Well, technically nothing is fixed, I can map any key to anywhere with only a single line of

firmware. But the MODE button is important because it's the main button which you don't want to accidentally press. So makes sense to leave that.

Dave.

### Re: uWatch Keypad

Message #13 Posted by **Walter B** on 21 Oct 2007, 6:35 p.m.,  
in response to message #12 by DaveJ

For sake of clarity: my proposal is to map F1 to 1, F2 to 2, etc. until F6 to 6.

### Re: uWatch Keypad

Message #14 Posted by **DaveJ** on 21 Oct 2007, 8:05 p.m.,  
in response to message #13 by Walter B

Quote:

For sake of clarity: my proposal is to map F1 to 1, F2 to 2, etc. until F6 to 6.

In that case the soft menu prompts no longer physically map to the function keys below, which would be very confusing. This is not a good thing as my menus don't have label prompts like "1:1/X 2:X^2 3:SQRT" instead they are simply "1/X X^2 SQRT"

To add labels would mean adding more menus you have to cycle through to get to your desired function.

Dave.

### Re: uWatch Keypad

Message #15 Posted by **Robert Graulich** on 22 Oct 2007, 3:49 a.m.,  
in response to message #14 by DaveJ

Dave,

just keep it simple. If the menu has no labels, use the keys that are physically arranged below it, which you have labeled F1-F6.

If the menu entries got labels due to some program, the user knows, which key he has to press, because he made the decision.

Robert

### Re: uWatch Keypad

Message #16 Posted by **Mike T.** on 22 Oct 2007, 6:05 p.m.,  
in response to message #1 by DaveJ

Which wrist do you wear your watch on?

Yes I know outside of left wrist is 'normal' but long ago I started to wear my watch (when I still had one) on the inside of my right wrist. I know that this is a bit odd but it stopped me smashing the watch against the nearest hard surface - and gave me an excuse if I ever threw coffee over anyone (oops I was just looking at my

watch...)

Intuitively in this position or with the 'watch' in front of me the left hand side seems right for the main operators as per your original layout - however when worn on the left wrist I agree that the operators feel more normal when placed on the right. (I tried the different positions out by holding a voyager against each wrist and operating it my free index finger).

I like some other readers I might also find not having the operator keys to be in a line (column) a little different however keeping them in a line gives obvious problems with the position of the enter key, so for what is is worth I think you have come up with a very good compromise given the limited space available.

Mike T.

### **Re: uWatch Keypad**

*Message #17 Posted by **DaveJ** on 22 Oct 2007, 6:17 p.m.,  
in response to message #16 by Mike T.*

Quote:

Which wrist do you wear your watch on?

Yes I know outside of left wrist is 'normal' but long ago I started to wear my watch (when I still had one) on the inside of my right wrist. I know that this is a bit odd but it stopped me smashing the watch against the nearest hard surface - and gave me an excuse if I ever threw coffee over anyone (oops I was just looking at my watch...)

I'm an outside left wrist man, anything else feels super freaky.

Even on the outside I have no problem when wearing a watch through say a canyon with lots of hard cliff faces and other objects to bang and scrape against. Never seems to be a problem. Then again, I don't wear a Rolex through a canyon.

I know an inside left man. And he's got a solar powered job and complains that it never gets enough charge. Weirdo! :->

Dave.

### **Re: uWatch Keypad**

*Message #18 Posted by **Eddie W. Shore** on 24 Oct 2007, 11:48 p.m.,  
in response to message #1 by DaveJ*

1. The keypad needs a  $y^x$  key - or at least a power function in the menu. Is a Shift Key feasible - given the limited amount of keys.

2. I'm used to having the operators to the right, but your original keyboard is like the 41 series. I'd prefer the second only because I am used to having the operators on the right.

The STO/RCL key: how does that work? How many memories does the watch have? Finally, do you plan on putting an "if-then-else" function for comparisons?

### **Re: uWatch Keypad**

*Message #19 Posted by [DaveJ](#) on 25 Oct 2007, 1:33 a.m.,  
in response to message #18 by [Eddie W. Shore](#)*

Quote:

---

1. The keypad needs a  $y^x$  key - or at least a power function in the menu. Is a Shift Key feasible - given the limited amount of keys.

---

You must have missed the previous discussions on this. The watch has a "rolling menu key" system to map the other functions onto the keys. No need for a shift key. I just happen to have a video of how this works:

### [Menu Video](#)

Yes, there is a  $Y^X$  function.

Quote:

---

The STO/RCL key: how does that work? How many memories does the watch have?

---

Press once and you get the recall menu which prompts for memory register 0-9, you then press the appropriate number key. So only two key presses to recall any one of the 10 registers.

Press the key twice in a row takes you into the Store menu which works the same as the recall menu. So 3 key presses to store a value into any of the 10 registers.

The watch only has 10 constant memory registers, but that's a purely arbitrary limit, I could give it several thousand if I wanted.

Quote:

---

Finally, do you plan on putting an "if-then-else" function for comparisons?

---

No plan to do that yet.

Dave.

## **Re: uWatch Keypad**

*Message #20 Posted by [Eddie W. Shore](#) on 24 Oct 2007, 11:48 p.m.,  
in response to message #1 by [DaveJ](#)*

1. The keypad needs a  $y^x$  key - or at least a power function in the menu. Is a Shift Key feasible - given the limited amount of keys.

2. I'm used to having the operators to the right, but your original keyboard is like the 41 series. I'd prefer the second only because I am used to having the operators on the right.

The STO/RCL key: how does that work? How many memories does the watch have? Finally, do you plan on putting an "if-then-else" function for comparisons?

## HP Forum Archive 17

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### formula

Message #1 Posted by [stafford](#) on 21 Oct 2007, 1:44 a.m.

Would someone show me the formula(s) for these financial calculations so I can put them in a math program!

Such as.. how to solve for each one of these given the value of the others

Present Value =

Future Value =

Interest Rate =

Term =

Payment =

Thanks in advance :)

### Re: formula

Message #2 Posted by [Allen](#) on 21 Oct 2007, 2:00 a.m.,  
in response to message #1 by [stafford](#)

May I recommend that you google [present value formula](#) first. There are plenty of articles with these formulas already posted, all of them are very easy to find, no need to re-type them all here or ask for help.

Edited: 21 Oct 2007, 2:03 a.m.

### Re: formula

Message #3 Posted by [Namir](#) on 21 Oct 2007, 9:31 a.m.,  
in response to message #1 by [stafford](#)

You need the manual for the HP-12C. It answers all your questions. The manual has an appendix containing all the financial formulas regarding present value, future values, periodic payments, and so on.

Namir

### Re: formula

Message #4 Posted by [Chris McCormack](#) on 21 Oct 2007, 2:44 p.m.,  
in response to message #1 by [stafford](#)

Quote:

Would someone show me the formula(s) for these financial calculations so I can put them in a math program!

Such as.. how to solve for each one of these given the value of the others : Present Value, Future Value, Interest Rate, Term, Payment

Thanks in advance :)

---

I've had this program sitting in my HP15C for a long time now. I've also used close relatives on the HP11C and HP33S. Not as fancy as some of the TVM programs people use, but nice to have ready when trying to talk turkey at a car dealership!

Time Value of Money Calculations for HP-15C

Chris McCormack - 21 Oct 2007

These routine perform loan calculations using the present value annuity factor, or PVAf. This relates the present value (loan amount) to the periodic payments necessary to pay it off.

$$PVAf(r,N) = (1/r)[1-1/(1+r)^N]$$

In this equation, r is the decimal interest per payment period (.01 would represent a monthly loan with a 12% rate) and N in the number of payments (48 would work for a four-year car loan).

Note - Labels 9 and 6 were used because 9 is next to the divide key (breaking the loan down into payments) and 6 is next to the multiply key (building up the total loan amount).

Memory Usage: 21 steps

Register usage: R0 = interest rate per period  
R1 = number of periods

Label Usage: LBL 9 : calculate payment for a given amount borrowed  
LBL 6 : calculate amount borrowed for a given payment  
LBL.9 : (internal) determine PVAf

```

001      LBL 9                // ( LoanAmt -- Payment )
002      GSB .9 /            // divide PV by PVAf
004      RTN

005      LBL 6                // ( Payment -- LoanAmt )
006      GSB .9 *            // multiply payment by PVAf
008      RTN

009      LBL .9              // ( -- PFAV )
010      RCL 0 1 +           // R0 holds interest per period
013      RCL 1 CHS y^x       // R1 holds number of periods
016      1 x<>y -
019      RCL 0 /
021      RTN

```

Sample calculations:

\$5000 borrowed at 10% with 36 monthly payments  
--> \$161.34 / month

\$1500/month on a 30 year mortgage at 7.5%  
 --> \$215,526.44 borrowed

## Re: formula

Message #5 Posted by **Chuck** on 22 Oct 2007, 12:35 a.m.,  
 in response to message #1 by stafford

Here's the one I have memorized. The first part is the compound interest formula; the second is an ordinary annuity formula. Usually you set them equal to each other for annuities, loan payments, sinking funds, etc. Taking the difference gives you the balance on a loan, or set it to 0 for the above calculations.

$$P(1 + r/n)^{nt} - \text{Pmt} \frac{(1 + r/n)^{nt} - 1}{r/n} = \text{bal}$$

P = principal  
 n = compoundings (or payments) per year  
 t = time in years  
 r = annual interest rates  
 pmt = periodic payment  
 bal = balance

This formula resides in most of my HP's.

---

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## HP Forum Archive 17

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### General thoughts on buying an hp calculator

Message #1 Posted by [Craig Webster](#) on 20 Oct 2007, 9:10 a.m.

I am an engineer in the oil and gas industry here in the UK. I've noticed that every time I change jobs, I buy a new calculator. When I moved to my present company I bought my first hp, a 33s. While I don't use it to its full potential, it still gives me a lot of satisfaction - especially handing it to those who can't use RPN and waiting 5 minutes while they try to find the equals button.

Anyway, I am on the move again soon and since the batteries have gone on the 33s I am in the market for anew calculator. Initially I was interested in an 11c or 15c, and have been watching them on e-bay. But today on your site I see there is a new 35s, which has the retro look and build quality of the older models. My question is what are your opinions of these three (or any other).

Thanks in anticipation,

Craig.

### PLEASE not another HP35S discussion!!!

Message #2 Posted by [Allen](#) on 20 Oct 2007, 10:38 a.m.,  
in response to message #1 by [Craig Webster](#)

If you are Age 38-44 you will likely prefer the 11c or 15c, but if bidding prices are a concern, buy a 35S. By the time the batteries are dead on that one, HP will likely have released another model.

If you are looking for a model to fit your needs: Consider the 17bii/17bii+ for financial, HP48GX for expandability, 42S for lots or matrix/complex power in a small box (and few/no bugs), 15c for matrix operations in Voyager form-factor. 32S/32Sii for general FAST key presses and +-\* / operations.

The 35s does not exceed any of the above calculators in function or longevity.

There is already 100's of recent pages of HP35s' thoughts, so lets not beat a dead horse on that topic, PLEASE!!!! Read through the archives if you want opinions on that model.

### Re: PLEASE not another HP35S discussion!!!

Message #3 Posted by [Craig Webster](#) on 20 Oct 2007, 10:51 a.m.,  
in response to message #2 by [Allen](#)

Quote:

\_\_\_\_\_

If you are looking for a model to fit your needs: Consider the 17bii/17bii+ for financial, HP48GX for expandability, 42S for lots or matrix/complex power in a small box (and few/no bugs), 15c for matrix operations in Voyager form-factor. 32S/32Sii for general FAST key presses and +-\* / operations.

\_\_\_\_\_



Wasn't meant to be another 35s discussion. I have read the reviews and know the pros and cons. Was just looking for an overall opinion. The above quote is exactly what I need so that I can look in earnest.

Thanks.

CW

**Re: PLEASE not another HP35S discussion!!!**

Message #4 Posted by **Allen** on 20 Oct 2007, 11:52 a.m.,  
in response to message #3 by Craig Webster

Quote:

I have read the reviews and know the pros and cons. Was just looking for an overall opinion.

Pardon the anecdotal picture, but I think the general consensus is that the 35S is a critical turning point. (Nevermind it's merits as a buggy little devil of a calculator!) It represents future promise for an industry, art, and science nearly killed by poor marketing and worse quality.

The recent HP35S release shows that the new management is looking back to the original roots of the Corvallis Division, and breathing new life into a part of their company that for decades helped make "HP" synonymous with quality and dependability.

[http://www.enterhp.com/images/HP\\_quality.jpg](http://www.enterhp.com/images/HP_quality.jpg)

**Re: PLEASE not another HP35S discussion!!!**

Message #5 Posted by **Walter B** on 20 Oct 2007, 1:15 p.m.,  
in response to message #4 by Allen

Allen,

assume your diagram shall show a function  $f$  (though not so clear at  $x = 35A$  and  $(48GX+33S)/2$ ). Assume further the horizontal axis shall be "time". Now what is  $f(t)$ ? "Quality" came into my mind first, but which kind of? Why the steep increase before 35A? Was quality zero before?? And why is  $f(48GX) > f(42S)$ ? What forms the minimum before the 33S? Or did you mean "# of functions per micro-gallon"? But then  $f(33S)$  must be  $> f(35A)$  :-/

Oh, so many questions! Thanks for enlightening (and please remember basic rule #1 of diagrams: always label your axes! :)

*Edited: 20 Oct 2007, 1:17 p.m.*

**Re: PLEASE not another HP35S discussion!!!**

Message #6 Posted by **Allen** on 20 Oct 2007, 2:22 p.m.,  
in response to message #5 by Walter B

The axis labels are implicit from the preceding paragraph. GRIN! Please see definition #3 of the word **anecdotal**. (used on purpose!!) That is: "Information based on casual observations or indications rather than rigorous or scientific analysis."

**Re: PLEASE not another HP35S discussion!!!**

Message #7 Posted by **Walter B** on 21 Oct 2007, 2:40 a.m.,  
in response to message #6 by Allen

:D

Ok, Allen, one point for you! But this doesn't answer my questions :)

**Re: PLEASE not another HP35S discussion!!!**

Message #8 Posted by **Allen** on 21 Oct 2007, 8:57 a.m.,  
in response to message #7 by Walter B

Quote:

not so clear at  $x = 35A$  and  $(48GX+33S)/2$

Sorry, hard to draw strict functions with a Microsoft Mouse (I mouse left handed, while I am right handed. this allows my right hand to control data entry e.g. on the number keypad or pressing keys like ALT+E F this is around 15% faster than using the mouse on the dominant hand.)

Quote:

Assume further the horizontal axis shall be "time". Now what is  $f(t)$ ?  
"Quality" came into my mind first, but which kind of?

Correct... Probably the  $f(t)$  is closer to 'popularity' which is a product of quality and utility.  $P=Q*U$ . :) To that end, There should be a significant DIP for the SPICE series, all of which are poor.

Quote:

Why the steep increase before 35A? Was quality zero before??

The Y-axis crossing should be at 35A.. sorry I was in a hurry.

Quote:

And why is  $f(48GX) > f(42S)$ ?

See my comments on  $P=Q*U$ .. same quality, more utility.

Quote:

What forms the minimum before the 33S?

I assume the minimum since the 33S is not the bottom so they had to have built up to it.. Really it should be undefined for that time period, but since there are no data points, we must infer.

It is part joking, but I like Craig's idea about exploring it further. :)

**Re: PLEASE not another HP35S discussion!!!**

Message #9 Posted by **Walter B** on 21 Oct 2007, 5:10 p.m.,  
in response to message #8 by Allen

Thanks, Allen, for your explanations.

Quote:

Probably the f(t) is closer to 'popularity' which is a product of quality and utility.  $P=Q*U$ . :)

No, I will not comment on this definition of popularity. No, no! But perhaps the product  $P=Q*U$  shall be called "power"?

Quote:

I assume the minimum since the 33S is not the bottom **so they had to have built up to it..** Really it should be undefined for **that time period**, but since there are no data points, we must infer.

(Emphases by me)

Sorry my limited English is not sufficient to detect what you meant.

Let's see what Craig will find in his exploration :)

**Re: PLEASE not another HP35S discussion!!!**

Message #10 Posted by **Craig Webster** on 21 Oct 2007, 6:09 a.m.,  
in response to message #4 by Allen

I love this graph. Do you mind if I try this concept and take it a bit further? Will need to do a bit more research.

CW

**Re: General thoughts on buying an hp calculator**

Message #11 Posted by **DavidB** on 20 Oct 2007, 3:42 p.m.,  
in response to message #1 by Craig Webster

Quote:

Anyway, I am on the move again soon and since the batteries have gone on the 33s I am in the market for anew calculator.

Craig,

Any reason why you need a new calculator if you can change out the batteries? I never owned a 33s, but can't you put in new batteries?

David Bailey HP 35s owner

---

**Re: General thoughts on buying an hp calculator**

Message #12 Posted by [Craig Webster](#) on 21 Oct 2007, 6:07 a.m.,  
in response to message #11 by DavidB

David,

I sure can and probably will. A new calculator is not a need, it's a simple want. Tying it in to what has so far been a happy coincidence by saying it's a tradition salves my conscience about spending a bunch of money on something I don't really need.

I'm probably going to go with the 35s, since it's half the price of a second hand 15s, and I don't need to do matrix calcs or complex numbers. That being said in the long run I may try and get a 15s to add to the collection.

Thanks,

Craig.

---

**Re: General thoughts on buying an hp calculator**

Message #13 Posted by [vq](#) on 21 Oct 2007, 9:02 a.m.,  
in response to message #12 by Craig Webster

Quote:

\_\_\_\_\_

A new calculator is not a need, it's a simple want.

\_\_\_\_\_

Craig, I was in exactly the same position as you about 2 months ago - a first time owner of a HP calc, HP33S. I bought HP35S because I like the retro look. It is nice calc, but to be fair, for simple calculations (like your *I don't use it to its full potential*, the HP33S is probably as good as HP35S. As a 33S user, you probably have got used to the keyboard layout, which was much criticised here earlier by users of older HP calcs, so the keyboard is not an issue for you.

On the contrary, you're likely to find some features of HP35S quite annoying. Some problems are described [here](#)

So, if you want to program your calc (especially longer programs), HP35S is MUCH better, get one. For hand calculations, not a big improvement over 33S. Still, it really looks nice... :-)

Regards, Vaclav

---

**Re: General thoughts on buying an hp calculator**

Message #14 Posted by [DaveJ](#) on 21 Oct 2007, 9:12 a.m.,  
in response to message #13 by vq

Quote:

\_\_\_\_\_

So, if you want to program your calc (especially longer programs), HP35S is MUCH better, get one. For hand calculations, not a big improvement over 33S. Still, it really looks nice... :-)

\_\_\_\_\_

If you aren't programming then I'd say the 35S is a big step backward from the 33S as far as the

keypad layout is concerned. The layout on the 33S was optimised for hand calculations, but the 35S is optimised for programming.

Dave.

### **Re: General thoughts on buying an hp calculator**

*Message #15 Posted by **DaveJ** on 21 Oct 2007, 9:23 a.m.,  
in response to message #14 by DaveJ*

Speaking of the 33S key layout. Does anyone know why HP changed the key layout on the 33S?, and without changing the model number.

[http://www.taschenrechner.ch/b/HP33S\\_gross.jpg](http://www.taschenrechner.ch/b/HP33S_gross.jpg) <http://www.hpcalc.org/images/33s.jpg>

Have they done this on any other calculator?

Dave.

*Edited: 21 Oct 2007, 9:26 a.m.*

### **HP-33s layout changes**

*Message #16 Posted by **Karl Schneider** on 21 Oct 2007, 5:12 p.m.,  
in response to message #15 by DaveJ*

Hi, Dave --

Quote:

Does anyone know why HP changed the key layout on the 33S?, and without changing the model number.

The one on the right must be the improved HP-33s with the known bugs fixed and more conspicuous radix points. I wasn't aware of the rearrangements. Most of the changes I see make sense. On exception:  $x^2$  -- originally an unshifted key -- should have remained in its original place along with square root, with  $x^3$  shifted above  $x^2$ , and cube root shifted above square root.

Quote:

Have they done this on any other calculator?

Probably not. The "old HP" tended to "get it right" the first time and particularly valued continuity, even when some bugs were subsequently fixed and internal hardware was updated (e.g., HP-41 and HP-12C). Significant upgrades were accompanied by a change in model designation (e.g., HP-41CV to HP-41CX, HP-32S to HP-32SII, HP-48S to HP-48G).

-- KS

*Edited: 21 Oct 2007, 5:41 p.m.*

**No change to 33s layout - pic on right was never sold draft**

*Message #17 Posted by **Gene Wright** on 21 Oct 2007, 5:50 p.m.,  
in response to message #16 by Karl Schneider*

The 33s having INT divide on a key top was never sold.

And, no, I have no beta unit that is that way either.

The keys on all 33s models I have are all in the same locations as the ones sold. There is no other model.

**Re: No change to 33s layout - pic on right was never sold draft**

*Message #18 Posted by **Karl Schneider** on 21 Oct 2007, 6:45 p.m.,  
in response to message #17 by Gene Wright*

Thanks, Gene.

Maybe it was the work of someone with Photoshop. I got a bit suspicious when the displayed numerals didn't seem any narrower, as they are on the HP-35s.

-- KS

**Re: No change to 33s layout - pic on right was never sold draft**

*Message #19 Posted by **DaveJ** on 21 Oct 2007, 8:08 p.m.,  
in response to message #18 by Karl Schneider*

Quote:

Thanks, Gene.

Maybe it was the work of someone with Photoshop. I got a bit suspicious when the displayed numerals didn't seem any narrower, as they are on the HP-35s.

If it is a photoshop job then it's spread a long way. Seems like about half the ads out there for the 33S show the one that has supposedly never been released.

Dave.

**Re: No change to 33s layout - pic on right was never sold draft**

*Message #20 Posted by **bill platt** on 22 Oct 2007, 9:07 a.m.,  
in response to message #19 by DaveJ*

It all goes back to the initial press release. That one had a different key layout. The final released model was refined from that.

I remember this coming up here at MoHPC back then.

**Re: General thoughts on buying an hp calculator**

*Message #21 Posted by **Brad Davis** on 21 Oct 2007, 12:21 a.m.,*

*in response to message #1 by Craig Webster*

I've tried out a couple of 15c models and didn't like the feel of the key presses, especially the Enter Key--fairly stiff with less of a tactile click than I like. These were fairly old calculators, though. I really like the 35s. Feels about perfect to me.

### **Re: General thoughts on buying an hp calculator**

*Message #22 Posted by [bill platt](#) on 22 Oct 2007, 9:12 a.m.,  
in response to message #21 by Brad Davis*

Back when all I had was an 11c, I thought it was perfect. Then I lost it and bought a 32sii. I was pleasantly surprised to find that even though the model seemed less expensive in appearance, it was actually better with the key action. This was of course a Singapore 32sii, way back in the early days of the model.

I still like the Voyagers, (in layout logic, and functions per square inches, they are just beautiful) but I do feel that the Pioneers are even better in key action. The very best of all: Champagne (Singapore, not Indonesia).

But it is a personal preference. Some people really prefer the Voyager feel and that is OK:-)

### **Re: General thoughts on buying an hp calculator**

*Message #23 Posted by [Ed Look](#) on 22 Oct 2007, 11:45 p.m.,  
in response to message #22 by bill platt*

None of them felt as good to press as the keys of a Spice in its prime. You can feel, barely hear the keypress and the kid next to you taking the chemistry or physics exam won't hear them, and your brother wasn't awakened by your fevered programming of some Byzantine, derived expression to calculate some number of grams or electron volts, but you still felt the key's feedback through your fingertips with just the right amount of mechanical resistance.

Totally satisfying... even at four in the morning (well, this last part maybe if you're still nineteen or twenty.)

---

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## HP Forum Archive 17

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### Gene and Richard's HP-45s.

Message #1 Posted by [Pal G.](#) on 19 Oct 2007, 6:02 p.m.

Virtualized..

<http://www.gyore.com/downloads/hp45s-gc03.jpg>

<http://www.gyore.com/downloads/hp45s-gc04.jpg>

...

Cheers, Pal

*Edited: 19 Oct 2007, 7:59 p.m. after one or more responses were posted*

### Re: Gene and Richard's HP-45s.

Message #2 Posted by [DaveJ](#) on 19 Oct 2007, 6:28 p.m.,  
in response to message #1 by [Pal G.](#)

Damn, that's nice! Just what a good calculator should be - thin, no wasted space, high contrast keys, and a decent set of dedicated keys.

Dave.

### Re: Gene and Richard's HP-45s.

Message #3 Posted by [Namir](#) on 19 Oct 2007, 6:37 p.m.,  
in response to message #1 by [Pal G.](#)

Wow!!! Very nice model. I hope HP is listening (and watching)/

Good job!!!

Namir

### Gene and Jake's 45s :-)

Message #4 Posted by [Gene Wright](#) on 19 Oct 2007, 7:08 p.m.,  
in response to message #1 by [Pal G.](#)

Looks great, but Jake worked on this not Richard.

### Re: Gene and Jake's 45s :-)

Message #5 Posted by [Jake Schwartz](#) on 19 Oct 2007, 7:19 p.m.,  
in response to message #4 by [Gene Wright](#)



I could cry! This thing looks reeeeeeeecal good! I'd even settle for a 3D non-working model.. :-)

Jake

**Re: Gene and Jake's 45s :-)**

*Message #6 Posted by **Pal G.** on 19 Oct 2007, 8:08 p.m.,  
in response to message #5 by Jake Schwartz*

Jake,

Sorry I listed Richard as an author. I was working so hard I missed a fundamental.

...

Regarding a non-working 3d model, if you know anyone with a 3d printer I'll be more than happy to send you my CAD file.

:) Pal

**Re: Gene and Jake's 45s :-)**

*Message #7 Posted by **Gene Wright** on 19 Oct 2007, 8:27 p.m.,  
in response to message #6 by Pal G.*

I have a 3d printer at work. What type of 3D file do you have?

How large is it?

Gene

**Re: Gene and Jake's 45s :-)**

*Message #8 Posted by **Pal G.** on 19 Oct 2007, 10:30 p.m.,  
in response to message #7 by Gene Wright*

I modeled it in AutoCAD 2007. The file size is 800k. I also exported an .STL file from AutoCAD, which came in at 1.54mb. (Both files combined into a single zip came to 973k).

I will email any of the above if you would like.

(If anyone is curious, the AutoCAD file is just a plain, grey, 3d model. All of the texturing, lighting, and final rendering was done in Lightwave).

Regards,

Pal

**Re: Gene and Jake's 45s :-)**

*Message #9 Posted by **Trent Moseley** on 19 Oct 2007, 9:52 p.m.,  
in response to message #5 by Jake Schwartz*

WOW!

tm

**Re: Gene and Richard's HP-45s.**

*Message #10 Posted by [Jonathan Eisch](#) on 19 Oct 2007, 8:05 p.m.,  
in response to message #1 by Pal G.*

Pretty, but I think you should flip the blue arrow around so it's pointing down.

-Jonathan

**Re: Gene and Richard's HP-45s.**

*Message #11 Posted by [Gene Wright](#) on 19 Oct 2007, 8:28 p.m.,  
in response to message #10 by Jonathan Eisch*

Our original design had them pointing up and down, not left and right. :-)

**Re: Gene and Richard's HP-45s.**

*Message #12 Posted by [Pal G.](#) on 19 Oct 2007, 10:42 p.m.,  
in response to message #11 by Gene Wright*

Ya, I cut a few corners to get the renderings done before the original hp 45s thread fell off the MoHPC forum horizon. Plus last week I wrote a 16 page paper on Itanium 2, and tomorrow I have a final. I probably should have waited a few weeks for school to calm down, but seeing the hp 45s pics motivated me.

As soon as I have time I will go and fix things on the hp 45s. Plus, I also happened to save that jpeg of the HP80B...

; ) Pal

**Re: Gene and Richard's HP-45s.**

*Message #13 Posted by [Ed Look](#) on 19 Oct 2007, 8:39 p.m.,  
in response to message #1 by Pal G.*

Um...

... how long is it? If it is as long as a 48G or 49G, it's too long!

**Re: Gene and Richard's HP-45s.**

*Message #14 Posted by [sjthomas](#) on 19 Oct 2007, 9:28 p.m.,  
in response to message #13 by Ed Look*

Quote:

\_\_\_\_\_

Um...

... how long is it? If it is as long as a 48G or 49G, it's too long!

\_\_\_\_\_

Pioneer- (42s-)size -- possible by eliminating dead space above and below the display.

**Re: Gene and Richard's HP-45s.**

*Message #15 Posted by **Gene Wright** on 19 Oct 2007, 9:29 p.m.,  
in response to message #13 by Ed Look*

Same exact size as the 42s. Screen from the 48GX or 48GII fits. We measured it.

**Re: Gene and Richard's HP-45s.**

*Message #16 Posted by **Ed Look** on 19 Oct 2007, 9:31 p.m.,  
in response to message #15 by Gene Wright*

Impressive work, then!

**Gene and Jake's HP45s.**

*Message #17 Posted by **Jake Schwartz** on 19 Oct 2007, 10:15 p.m.,  
in response to message #16 by Ed Look*

...Now all that has to be added is the SD card slot and the USB port which we envisioned to be on one end or the other....but we never got as far as deciding exactly where.

Next, if a 3D model is built, perhaps we can recruit Eric Smith to do a PC board :-). Well, one can fantasize anyway....

Jake

**Re: Gene and Jake's HP45s.**

*Message #18 Posted by **Namir** on 20 Oct 2007, 7:42 a.m.,  
in response to message #17 by Jake Schwartz*

I think HP should hire Eric ... he will be an excellent resource for HP, assuming Eric is interested.

Namir

**Re: Gene and Jake's HP-45s.**

*Message #19 Posted by **Walter B** on 19 Oct 2007, 11:05 p.m.,  
in response to message #1 by Pal G.*

Hi Pal,

really great artwork! How many hours did it take you to make this?

@Gene & Jake:

Please look at both pictures. The beveled keys hide parts of the yellow labels. That's why I suggest labels printed below of the respective keys.

Best regards, Walter

**Re: Gene and Jake's HP-45s.**

*Message #20 Posted by **Gene Wright** on 19 Oct 2007, 11:29 p.m.,  
in response to message #19 by Walter B*

They hide no more than any keys ever hid of functions written above them on the 11c, 12c, 15c, 16c, 41c, 67, 65, 22, 25, 27, 29, etc.

Above and below the keys worked fine for several generations of HP calculators and they would work fine on these models.

Any hiding of the yellow functions is from the translation to 3D modeling done very well but in a hurry.

Get an 11c, 12c, 15c, etc, and look at the yellow functions yourself. It works. :-)

### **Re: Gene and Jake's HP-45s.**

*Message #21 Posted by **Ed Look** on 20 Oct 2007, 12:04 a.m.,  
in response to message #20 by Gene Wright*

Gene and Jake, this is in no way a criticism or anything negative, just I getting... wistful... but boy, if it looked like a Spice! I don't mind three shift keys and a myriad of functions. Oh, to have the heft and feel of a 34C in my hands again, to see it sitting squarely on my desk... albeit with a black LCD, green backgrounded display. Now, gentlemen, THOSE were keys!

But, hey, a Pioneer is a (very) close second in beauty, and looks more, well, "modern" maybe even futuristic in its own plain (which is very good) way. The Spice just looks more commanding and somehow, more powerful to me, without having to look like a graphing calculator.

### **Re: Gene and Jake's HP-45s.**

*Message #22 Posted by **Pal G.** on 20 Oct 2007, 12:27 a.m.,  
in response to message #20 by Gene Wright*

Quote:

Any hiding of the yellow functions is from the translation to 3D modeling done very well but in a hurry.

Plus I think my buttons are a bit too tall. I used calipers for some measurements, but I eyeballed the buttons height.

@Walter: Here are some estimates..

AutoCAD: 1.5 hours. Photoshop: 1.25 hours. Lightwave (texturing, etc): 1.5 hours. Lightwave (lights, camera, rendering): 2-6 hours.

Once the scene is done, I have fun rendering various angles, which takes time, so I'm doing other things during..

Thanks, Pal

### **Re: Gene and Jake's HP-45s.**

*Message #23 Posted by **Walter B** on 20 Oct 2007, 3:47 a.m.,  
in response to message #22 by Pal G.*

Hi all,

some remarks: First of all -- my post above was not intended to offend anybody, it was a mere suggestion to support the development of our dream calc.

Gene wrote:

Quote:

\_\_\_\_\_  
Above and below the keys worked fine for several generations of HP calculators and they would work fine on these models.  
\_\_\_\_\_

Gene, this is the best reason ever as you know for sure ;) Do you have a better offer?

Ed wrote:

Quote:

\_\_\_\_\_  
... but boy, if it looked like a Spice! I don't mind three shift keys and a myriad of functions. Oh, to have the heft and feel of a 34C in my hands again, to see it sitting squarely on my desk... albeit with a black LCD, green backgrounded display. Now, gentlemen, THOSE were keys!  
\_\_\_\_\_

Such drafts are available already. They were part of the documentation of HHC2007 and will show up on the DVD a latest. To give you an idea I'll upload a sample within the dimensions of the HP12C later today.

@Pal: You may get mail, if interested.

HTH, Walter

### **Re: Gene and Jake's HP-45s.**

*Message #24 Posted by [Pal G.](#) on 20 Oct 2007, 12:33 p.m.,  
in response to message #23 by Walter B*

Hi Walter,

I'd be willing to create more virtual HP calculators, time permitting. Just let me know what you're thinking and I'll see what I can do.

I did rush this one a bit, but for the next one I'll create all the artwork labels myself, from scratch, in Photoshop.

I used Gene and Jake's original artwork out of respect for the time it took for them to create it ;)

Best regards, Pal

### **Pal G .... Can you email me the 3d files?**

*Message #25 Posted by [Gene Wright](#) on 20 Oct 2007, 1:24 p.m.,  
in response to message #24 by Pal G.*

I'd like to try putting them through our 3D printer.

Thanks!

Gene

**Re: Pal G .... Can you email me the 3d files?**

*Message #26 Posted by [Pal G.](#) on 20 Oct 2007, 2:23 p.m.,  
in response to message #25 by Gene Wright*

Gmail or Hotmail?

I have both for you, but I haven't sent you anything lately.

**Re: Pal G .... Can you email me the 3d files?**

*Message #27 Posted by [Gene Wright](#) on 20 Oct 2007, 2:54 p.m.,  
in response to message #26 by Pal G.*

hotmail please.

**Re: Pal G .... Can you email me the 3d files?**

*Message #28 Posted by [Pal G.](#) on 20 Oct 2007, 10:48 p.m.,  
in response to message #27 by Gene Wright*

email with attachments sent @ 13:47 PDT.

**2 More Opportunities (was Re: Gene and Jake's HP-45s)**

*Message #29 Posted by [Walter B](#) on 21 Oct 2007, 2:12 a.m.,  
in response to message #24 by Pal G.*

Hi all,

[here we are](#). This draft is within Voyager dimensions. Keys are of HP-15C. There are 8 softkeys in the top row. Let's call it HP-15CX. Please apologize for the poor graphics.

Of course, a similar draft can be made using the LCD of a HP-40G. You find it [here](#). Just call it HP-15CG. Also this stays within the dimensions of a HP-12C.

Best regards,

Walter

Edited to include the second draft.

*Edited: 21 Oct 2007, 6:44 p.m. after one or more responses were posted*

**Re: 2 More Opportunities (was Re: Gene and Jake's HP-45s)**

*Message #30 Posted by [DaveJ](#) on 21 Oct 2007, 3:48 a.m.,  
in response to message #29 by Walter B*

<http://img2.putfile.com/main/10/29301514763.jpg>

Now that's very nice indeed! As always, the key layout will be the controversial thing I suspect, so I'll have my 2 cents worth. I'd love a non-programming version with more dedicated scientific function keys. Given that it has a nice looking menu system, you

could probably drop the 2nd yellow shift key. That wouldn't make it as "busy", and you gain an extra key.

Dave.

**Re: 2 More Opportunities (was Re: Gene and Jake's HP-45s)**

*Message #31 Posted by **Pal G.** on 21 Oct 2007, 5:12 p.m.,  
in response to message #29 by Walter B*

Walter,

VERY nice concepts. I'll get started right away.

Cheers,  
Pal

**Re: 2 More Opportunities**

*Message #32 Posted by **Walter B** on 21 Oct 2007, 7:02 p.m.,  
in response to message #29 by Walter B*

For sake of clarity, this is the second draft:

<http://img2.putfile.com/main/10/29318430475.jpg>

**Re: 2 More Opportunities**

*Message #33 Posted by **Meenzer** on 22 Oct 2007, 2:21 a.m.,  
in response to message #32 by Walter B*

WOOOW, that' my new favorite calculator. I take one 15CX and one 15CG!!!! Just GREAT!

**Re: Gene and Richard's HP-45s.**

*Message #34 Posted by **Arne Halvorsen (Norway)** on 20 Oct 2007, 5:54 a.m.,  
in response to message #1 by Pal G.*

What a brutal thing to do! Showing what one desires but can not get in colors and all. Whats next? An animated series about engineer Jim and his trusted HP-45s?

Actual I would not mind some more renderings, perhaps squarely from above and closer so easily can read and admire the labels... :-)

*Edited: 20 Oct 2007, 5:57 a.m.*

**Re: Gene and Richard's HP-45s.**

*Message #35 Posted by **Pal G.** on 20 Oct 2007, 1:06 p.m.,  
in response to message #34 by Arne Halvorsen (Norway)*

Here you go, Arne..

<http://www.gyore.com/downloads/hp45s-gc06.jpg>

**Re: Gene and Richard's HP-45s.**

*Message #36 Posted by [Arne Halvorsen \(Norway\)](#) on 21 Oct 2007, 1:25 p.m.,  
in response to message #35 by Pal G.*

Thanks :-), hope you get a call from HP soon them asking how much your design gonna cost them!

**What would you pay for the "45s"??**

*Message #37 Posted by [sjthomas](#) on 20 Oct 2007, 7:34 p.m.,  
in response to message #1 by Pal G.*

What would you pay for the "45s"?? Assuming there was an SD slot and I/R, I'd pay \$200 without a second thought.

**Re: What would you pay for the "45s"??**

*Message #38 Posted by [sylvandb](#) on 20 Oct 2007, 9:54 p.m.,  
in response to message #37 by sjthomas*

Quote:

What would you pay for the "45s"?? Assuming there was an SD slot and I/R, I'd pay \$200 without a second thought.

\$200 seems about right. double-shot keys, and etc? Probably have to be more.

What do you do with IR? Two-way to exchange with another calculator? One-way for printing?

Anybody have schematics and source code for PC IR interface to receive 'redeye' (28s, 17b)? I should play around with this old Extended Systems interface... I think it might do it.

sdb

---

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## HP Forum Archive 17

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### **A quick, simple and possibly dumb question on the 50g**

Message #1 Posted by [Ken Ratkevich](#) on 19 Oct 2007, 12:39 p.m.

Hi,

I'm in the middle of writing a term paper and trying to get it in under the wire or else I would scan the manual for the answer.

My 50g rounds off base conversions AND, when I switch to engineering notation it does some extreme rounding off.

What config do I need to change and how?

Thanks in advance for any and all replies,

Ken

### **Re: A quick, simple and possibly dumb question on the 50g**

Message #2 Posted by [Jandro Kirkish](#) on 19 Oct 2007, 1:39 p.m.,  
in response to message #1 by Ken Ratkevich

Hi Ken,

I'm not sure about your 2nd question but I do know that all HPs that I have used perform base conversions on integers only, which can give you a major rounding off, if you input a decimal number with fractional parts . Hope this helps,

Regards, Jandro

### **Re: A quick, simple and possibly dumb question on the 50g**

Message #3 Posted by [Dave Britten](#) on 19 Oct 2007, 2:29 p.m.,  
in response to message #1 by Ken Ratkevich

As for the engineering rounding issue, press Modes, then check the Number Format details. You'll probably see something like Eng 8, with the number representing the number of decimal places. Change that number as necessary. (Note that I'm referring to my 48GX at the moment, so the 50g might look a little different in regards to menus).

### **Re: A quick, simple and possibly dumb question on the 50g**

Message #4 Posted by [Ken Ratkevich](#) on 19 Oct 2007, 3:32 p.m.,  
in response to message #3 by Dave Britten

Got it!

Thanks a million,

Ken

**Re: A quick, simple and possibly dumb question on the 50g**

*Message #5 Posted by **Ken Ratkevich** on 19 Oct 2007, 3:43 p.m.,  
in response to message #3 by Dave Britten*

One more question.

When I try to convert anything over FFFF hex to decimal I get a wrong result. ???

Ken

**Re: A quick, simple and possibly dumb question on the 50g**

*Message #6 Posted by **Dave Boyd** on 19 Oct 2007, 4:43 p.m.,  
in response to message #5 by Ken Ratkevich*

Quote:

When I try to convert anything over FFFF hex to decimal I get a wrong result. ???

Wrong how? Example? How are you doing the conversion?

**Re: A quick, simple and possibly dumb question on the 50g**

*Message #7 Posted by **Ken Ratkevich** on 19 Oct 2007, 5:41 p.m.,  
in response to message #6 by Dave Boyd*

1. RS BASE and set to decimal
2. LS #FFFFh (using ALPHA properly)
3. ENTER
4. Result is #65535d. Yeah!
5. Key in #FFFFFFh
6. Enter
7. Result is #65535d. Huh?

Ken

**Re: A quick, simple and possibly dumb question on the 50g**

*Message #8 Posted by **Dave Britten** on 19 Oct 2007, 5:32 p.m.,  
in response to message #5 by Ken Ratkevich*

Try checking your word size: RCWS

If it's only 16, then there's your answer. To change the word size (bit length) for base operations, use STWS, e.g. 32 STWS. You can do anywhere from 1 to 64 bits, I believe.

---

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**Re: A quick, simple and possibly dumb question on the 50g**

*Message #9 Posted by [Ken Ratkevich](#) on 19 Oct 2007, 5:47 p.m.,  
in response to message #8 by Dave Britten*

BINGO!

You da man!

Thanks Much,

Ken

---

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## HP Forum Archive 17

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### HP 35S User's Guide available as a PDF?

Message #1 Posted by [hpnut](#) on 19 Oct 2007, 11:40 a.m.

Is the HP 35S User's Guide available as a PDF? i know there are training modules on HP's site  
<http://h20331.www2.hp.com/hpsub/cache/532056-0-0-225-121.html>

but these are not the user manual per se.

Thanks.

### Re: HP 35S User's Guide available as a PDF?

Message #2 Posted by [Meenzer](#) on 19 Oct 2007, 2:02 p.m.,  
in response to message #1 by [hpnut](#)

As far as I know, it's not available to the public as of now. But you can use the HP 33s' pdf manual for most of your questions in the meantime.

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## HP Forum Archive 17

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**Chemically removing oxydation?**

Message #1 Posted by [RJvM](#) on 19 Oct 2007, 3:50 a.m.

Hi,

I own an HP-45 with battery terminals which keep oxydizing, even after I have scraped off most of the "mold" (it is green on one terminal and blue on the other). The calculator works fine with the power cord.

Please advise on the use of chemicals to remove the oxydation. My own chemistry knowledge is somewhat rusty (seems appropriate in this case), I think maybe an acid would work, but that will pose other problems with the calculator.

Sincerely, RJvM

**Re: Chemically removing oxydation?**

Message #2 Posted by [sylvandb](#) on 19 Oct 2007, 10:40 a.m.,  
in response to message #1 by RJvM

Quote:

I own an HP-45 with battery terminals which keep oxydizing, even after I have scraped off most of the "mold" (it is green on one terminal and blue on the other).

You did good by starting with mechanically removing off as much corrosion as practical. Dump and vacuum or blow it out.

This is from rechargeable (NiCad or NiMH) batteries? Use regular household vinegar. Some dilute it several times. For small parts (like a classic battery case with cells removed) I soak in an inch or so of vinegar in a 10oz glass. I then mostly fill the glass with hot water and use that solution on a cotton swab to clean out the battery compartment and terminals and stuff I don't/can't soak. You will probably see some foaming as the vinegar neutralizes the battery leakage.

Vinegar also works for alkaline cells, but a baking soda solution is the key for the older style.

It doesn't hurt to try the soda solution and if you don't see the foaming effect, and the deposits don't seem to dissolve, use vinegar instead.

Final step is best to do a total wash with distilled water, but frankly, wiping off the solution will 99.9% of the time be fine.

sdb

**Re: Chemically removing oxydation?**

Message #3 Posted by [Allen](#) on 20 Oct 2007, 10:00 p.m.,

*in response to message #1 by RJvM*

Try Deoxit from Caig industries.. Their new line of Deoxit Gold is both a cleaner and a protector against future oxidation.. you won't get that with a vinegar solution.

## **Re: Chemically removing oxydation?**

*Message #4 Posted by [sylvandb](#) on 21 Oct 2007, 10:44 a.m.,  
in response to message #3 by Allen*

Quote:

Try Deoxit from Caig industries.. Their new line of Deoxit Gold is both a cleaner and a protector against future oxidation.. you won't get that with a vinegar solution.

Deoxit is for true oxidation (combination with oxygen) and dirt. It is less effective against deposits from leaking batteries, IMHO.

It would be good to apply Deoxit after cleaning and neutralizing the deposits as described.

sdb

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## HP Forum Archive 17

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**HP 67**

Message #1 Posted by [Marcello Montisci](#) on 19 Oct 2007, 3:25 a.m.

I have an HP 67 which did work perfectly until suddenly by switching it on it start showing a display with all zeros in uneven brightness and no reaction to any command. On and off repeatedly does not do anything to the status of all zeros.

Anybody can help me?

May be there is still some repair shop around.

Thanks Marcello

**Re: HP 67**

Message #2 Posted by [Wayne Brown](#) on 19 Oct 2007, 8:51 p.m.,  
in response to message #1 by [Marcello Montisci](#)

[Fix That Calc](#) says they repair the HP-67.

**Re: HP 67**

Message #3 Posted by [Ignazio Cara \(Italy\)](#) on 20 Oct 2007, 6:22 a.m.,  
in response to message #1 by [Marcello Montisci](#)

Hi Marcello.

You have a message in your mail box.

Best regards from Sardinian Isle, Italy.

Ignazio

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## HP Forum Archive 17

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### HP35s - Cause of Blank Screen Problem?

Message #1 Posted by [Jeff O.](#) on 18 Oct 2007, 10:24 p.m.

The blank screen during a running program which is not interruptible seems to be caused by simply using an equation as a prompt to stop the program (i.e. without following the equation immediately by a PSE instruction) and wait for you to press R/S to proceed. Enter the following simple program (the label letter is unimportant):

```
X001 LABEL X
X002 SF 10
X003 eqn BLANKING DEMO
X004 100
X005 STO I
X006 DSE I
X007 GTO X006
X008 STOP
X009 1
X010 STOP
X011 2
X012 STOP
X013 3
X014 STOP
X015 4
X016 STOP
X017 5
X018 STOP
X019 6
X020 STOP
X021 7
X022 STOP
X023 8
X024 STOP
X025 9
X026 STOP
X027 10
X028 STOP
```

Now execute the program\*. The program will display "BLANKING DEMO" and wait for you to press R/S. Press R/S, and the display will go blank, and it will not respond to R/S, C, or any other key. The program will stop after the DSE loop counts down from 100. If you press R/S while it is blank, it will execute the R/S commands from a buffer, which will execute the sequence of digit entry and STOP commands that start in line X009. (These are necessary to prevent the sequence of R/S commands that you entered from jumping into other programs.) If you press R/S less than 5 times, the x register will present the number of times you pressed it. If you press R/S 5 or more times, the x register will present a 5, as the buffer apparently holds up to five R/S commands. (The steps after line X019 are just there for insurance, I guess.)

As Seth and John reported, if you single-step once from the keyboard at the equation prompt, then press R/S, everything is fine. The program proceeds with the "RUNNING" display, and it can be interrupted with R/S or C.

So, if you use an equation as a prompt to display a message and wait for you to enter data and press R/S to proceed, and the program following the prompt does not terminate naturally, it will run with a blank display until the batteries run out or you press the reset through the hole in the back. For example, in the above program if instruction X008 was a GTO X004, the machine will be stuck in a loop from which you would be unable to break it out of. (I did not try this as I don't want to lock up my calculator and lose all programs.) I'm guessing that this is what happened in John W's original program; his rather complex, un-debugged program had such a loop.

Using equations as prompts to pause a program and give instructions or wait for data entry is a very handy feature.



Just make sure the code that follows cannot enter an unending loop. A safe alternative is to put a STOP after the equation. The message will stay up until you press R/S once, then you will have to press it again to get going. Not ideal, but it beats locking up your calculator.

Hope this helps,  
Best regards  
Jeff

\* - Enter and run at your own risk, as you may lock-up your calculator and lose all memory. It shouldn't if you enter it as listed, but....

edited to correct a typo and add a little clarification.

*Edited: 19 Oct 2007, 11:24 a.m. after one or more responses were posted*

## **Re: HP35s - Cause of Blank Screen Problem? [Yes. And bonus lockup!]**

*Message #2 Posted by [Seth Morabito](#) on 18 Oct 2007, 10:47 p.m.,  
in response to message #1 by Jeff O.*

Brilliant! You've found it alright. This is a perfect test case.

For fun, I wrote the following program that I can guarantee will lock up your calculator until you do a hardware reset. It does not display "RUNNING" while it's working:

```
A001 LBL A
A002 SF 10
A003 LOCKUP DEMO
A004 0
A005 GTO A004
```

**CAUTION: DO NOT RUN THIS PROGRAM ON ANY CALCULATOR THAT CONTAINS DATA YOU WISH TO KEEP. IT CAUSES A TOTALLY UNBREAKABLE INFINITE LOOP.**

In contrast, here's a program that does NOT lock up, and displays 'RUNNING'.

```
B001 LBL B
B002 SF 10
B003 0
B004 GTO B003
```

The only difference is displaying an equation. The fact that Flag 10 is set seems not to matter.

Very interesting. Thank you so much for finding this, Jeff!

*Edited: 18 Oct 2007, 10:54 p.m.*

## **Re: HP35s - Cause of Blank Screen Problem? [Yes. And bonus lockup!]**

*Message #3 Posted by [Seth Morabito](#) on 18 Oct 2007, 10:57 p.m.,  
in response to message #2 by Seth Morabito*

OK, this is definitely it.

I've confirmed that if you run Program A, as above, and instead of pressing "R/S" after 'LOCKUP DEMO' is displayed, you press the down arrow to step to the next line, and THEN press "R/S", you can break out of the loop, and "RUNNING" is displayed.

Bingo, this is it. We have a good, small, repeatable test case we can send to HP. Thanks to all who helped!

**Re: HP35s - Cause of Blank Screen Problem? [Yes. And bonus lockup!]**

Message #4 Posted by **John Wasilewski** on 19 Oct 2007, 9:44 a.m.,  
in response to message #3 by Seth Morabito

Very, very good work everyone.  
Thank you all.

---

John

**Re: HP35s - Cause of Blank Screen Problem?**

Message #5 Posted by **Gene Wright** on 18 Oct 2007, 10:57 p.m.,  
in response to message #1 by Jeff O.

Good job and great detective work!

FYI..HP now knows about the problem.

Gene

**Re: HP35s - Cause of Blank Screen Problem?**

Message #6 Posted by **Seth Morabito** on 18 Oct 2007, 10:59 p.m.,  
in response to message #5 by Gene Wright

Good news, Gene. Thanks for letting us know! If they need a small test case, the above programs should work. They take only a few seconds to key in.

*Edited: 18 Oct 2007, 10:59 p.m.*

**Problem also exists on 33s**

Message #7 Posted by **Seth Morabito** on 19 Oct 2007, 12:05 a.m.,  
in response to message #1 by Jeff O.

This bug is repeatable on the 33s. Nobody ever noticed.

On my 33s, I keyed in this program:

```
A0001 LBL A
A0002 SF 10
A0003 LOCKUP DEMO
B0001 LBL B
B0002 GTO B
```

To run, XEQ A, press R/S after "LOCKUP DEMO" is displayed. Just like on the 35s, the HP-33s goes into an infinite loop without displaying "RUNNING". There is no way to break out of it without pressing the reset button on the back.

Also just like the 35s, single-stepping past the EQN display, and then pressing R/S, results in normal behavior. "RUNNING" is displayed, and the loop can be broken by pressing R/S.

**UNLIKE** the 35s, however, pressing the reset button on the back for just a moment does not seem to erase my program memory. That's a key difference between the 33s and the 35s, apparently.

*Edited: 19 Oct 2007, 12:07 a.m.*

### Re: HP35s - Cause of Blank Screen Problem?

Message #8 Posted by [Stefan Vorkoetter](#) on 19 Oct 2007, 7:55 a.m.,  
in response to message #1 by Jeff O.

Interesting additional information:

If I put a PSE instruction after X003 in the original program at the top of this thread, the behaviour changes as follows:

- 1) "RUNNING" does appear while the loop is executing.
- 2) But you still can't break out of it.

Stefan

### Re: HP35s - Cause of Blank Screen Problem?

Message #9 Posted by [Jeff O.](#) on 19 Oct 2007, 9:55 a.m.,  
in response to message #8 by Stefan Vorkoetter

Hmmmm....

If I put the PSE instruction in, the program displays the message briefly, then continues, displaying "RUNNING". It responds immediately to a R/S or C keypress and stops as it should. It works fine on both of my units, which have CNA734 and CNA721 serial numbers.

Jeff

### Re: HP35s - Cause of Blank Screen Problem?

Message #10 Posted by [Stefan Vorkoetter](#) on 19 Oct 2007, 10:03 a.m.,  
in response to message #9 by Jeff O.

Very odd (that it's different). I don't have the calc in front of me right now, so can't experiment further at the moment. However, for what it's worth, I also had a CF 10 instruction after the PSE.

Stefan

### Re: HP35s - Cause of Blank Screen Problem?

Message #11 Posted by [Jeff O.](#) on 19 Oct 2007, 11:17 a.m.,  
in response to message #10 by Stefan Vorkoetter

If I put the CF 10 after the PSE, the program pauses to display the message, then continues with the "RUNNING" display, and can be interrupted with R/S or C. If I put the CF 10 **before** the PSE, the program stops to display the message, then you must press R/S, then it pauses briefly and then continues with the "RUNNING" display. It now behaves as you describe, it is **unresponsive** to R/S or C even though "RUNNING" is in the display. It also unresponsive to R/S or C during the brief pause after pressing R/S to proceed after the prompt.

Jeff

### Re: HP35s - Cause of Blank Screen Problem?

*Message #12 Posted by [Stefan Vorkoetter](#) on 19 Oct 2007, 11:23 a.m.,  
in response to message #11 by Jeff O.*

Yes, you're right. I had the CF 10 instruction **before** the PSE. My intent wasn't to display the EQN in pause mode, but rather to just introduce a "speed bump" after the user pressed R/S in response to the prompt, in hopes that it would reset whatever silly state the calculator got into that made it uninterruptible (i.e. I was experimenting to find a workable workaround).

Apparently, I managed to reset the "don't-display-RUNNING" state, but not the "I-can't-hear-you!" state, which of course isn't much help. I wonder if resetting the calculator while RUNNING is in the display might be less destructive than when the screen is blank. I don't want to try this, because I don't want to wipe out the stuff I've got programmed.

Stefan

### **Re: HP35s - Cause of Blank Screen Problem?**

*Message #13 Posted by [Meenzer](#) on 19 Oct 2007, 11:08 a.m.,  
in response to message #9 by Jeff O.*

With a PSE in it after the EQN I can break out with C or R/S. Without the PSE I'm stuck and have to do a hard reset. Serial is CNA 726...

EDIT: The User's Guide of the 35s shows a program for "Controlling the Fraction Display" (similar to the one with the same name in the 33s' guide, conveniently available as pdf). This program uses EQN for message display. And guess what?! There's a PSE -A N D- a STOP statement after every message. I guess as I couldn't find any example encouraging John's creative usage of the EQN messages **without** PSE or R/S after it, the so induced unbreakable loop shouldn't be called a bug ;-)

*Edited: 19 Oct 2007, 12:01 p.m.*

### **Re: HP35s - Cause of Blank Screen Problem?**

*Message #14 Posted by [John Wasilewski](#) on 20 Oct 2007, 7:05 a.m.,  
in response to message #13 by Meenzer*

This is getting hard to follow!

Also, my unit has a large amount of code in it so I don't want to take any risks with my own experimenting if possible.

Ideally I should like a prompt string to appear in StackY, stopping the processor and inviting the user to enter data in StackX of the display. If this can't be done then I want a prompt string to appear in StackX, stopping the processor and inviting the user to overwrite it with data entry.

I then want it to be safe to press R/S.

The reason why I want to do this is to prompt for two data entry values, entered as data-ENTER-data-R/S.

Do we now know how to achieve this functionality?

Could someone summarise for me?

What is the latest advice on the sequence of SF 10, CF 10, PSE, R/S steps that I should use above and below an EQN PROMPT STRING, please?

-----  
John

### Re: HP35s - Cause of Blank Screen Problem?

Message #15 Posted by [Meenzer](#) on 20 Oct 2007, 9:02 a.m.,  
in response to message #14 by John Wasilewski

Quote:

-----  
Could someone summarise for me?  
What is the latest advice on the sequence of  
SF 10, CF 10, PSE, R/S steps that I should use  
above and below an EQN PROMPT STRING, please?

-----  
John

As my understanding of the handbook goes, displaying an EQN after SF 10 is NOT a prompt, it's just and only a text message.

So my approach to show a message and have the user input data in x and y registers could be as follows:

```
LBL A
SF 10
EQN "Y= ENTER X= RS" \* or whatever you wish
PSE
STOP
STO X
R down
STO Y
VIEW X
PSE
VIEW Y
PSE
CF 10
RTN
```

### Re: HP35s - Cause of Blank Screen Problem?

Message #16 Posted by [Stefan Vorkoetter](#) on 20 Oct 2007, 9:16 a.m.,  
in response to message #14 by John Wasilewski

We don't know how to achieve this functionality.

SF 10 / EQN / CF 10 / PSE / ... will give you a "RUNNING" message, but you still can't interrupt it.

SF 10 / EQN / CF10 / ... will give you a blank screen after the user responds to the prompt, and you can't interrupt it.

SF 10 / EQN / PSE / CF 10 / ... works fine, but the program doesn't stop; it only pauses.

SF 10 / EQN / CF10 / R/S / ... will stop once more after the user enters the data. The user then

has to press R/S a second time to continue, you'll get a "RUNNING" message, and you can interrupt it.

### **Re: HP35s - Cause of Blank Screen Problem?**

*Message #17 Posted by [John Wasilewski](#) on 20 Oct 2007, 10:33 a.m.,  
in response to message #16 by [Stefan Vorkoetter](#)*

Thanks Stefan. Clear and concise.

I note the point made by Menzeer in defence of the HP35s interpreter and he may be right that

SF 10 / EQN / CF10 / ...

..stops the calculator and displays a message but is undocumented as a way of supplying a prompt. However, what is the use of a facility to display a message and stop the calculator if we cannot permit users to do stuff while it is stopped (like calculate a value then enter it), and is it not the case that using this method even to stop with a message in the display, and not actually enter data, produces an uninterruptible condition as soon as the user presses R/S ?

Menzeer, I am not happy with closing this as an issue, on the basis that it is the user's fault when the calculator locks up and he loses all his work. I know you are not saying exactly that but your point about this not being the 'proper' way to issue a prompt does nothing to encourage HP to eliminate the problem.

---

John

### **Re: HP35s - Cause of Blank Screen Problem?**

*Message #18 Posted by [Meenzer](#) on 20 Oct 2007, 10:53 a.m.,  
in response to message #17 by [John Wasilewski](#)*

John,

maybe I'm not too much of a programmer to understand your point.

I can only say that the programming languages I recall some bits of (FORTRAN 77, BASIC, C, C++) have two different statements for input and output. If you must, you can combine input and output in some way like:

Input "A=",A

But those are "higher" languages. The 35s also provides you with a separate method for each input and output, which will work properly to my present knowledge. Your way of prompting for an input is quite creative and works most of the times, saving even some bytes. But it's more kind of a hack and has its limitations. All I'm saying is that limitations of a hack shouldn't be called a bug.

### **Re: HP35s - Cause of Blank Screen Problem?**

*Message #19 Posted by [Stefan Vorkoetter](#) on 20 Oct 2007, 11:06 a.m.,  
in response to message #18 by [Meenzer](#)*

I disagree with you assessment that this is a hack. The manual clearly states that one can use EQN for displaying messages. Whether or not one uses this for input too, the program will become uninterruptible after such a message is displayed and the user press R/S to continue.

Every HP calculator ever made has let you do whatever you want while the program is stopped due to hitting a STOP instruction or a prompt on those calculators that have a prompting facility, and will then continue with whatever is in the stack when it is resumed using R/S.

Using EQN to prompt for input is the only mechanism the HP35s has if you want the prompt to be anything other than "V=?".

Stefan

### **Re: HP35s - Cause of Blank Screen Problem?**

*Message #20 Posted by [John Wasilewski](#) on 20 Oct 2007, 11:53 a.m.,  
in response to message #19 by Stefan Vorkoetter*

Stefan is right.

I have never programmed HP calculators before so I had no tricks borne of long experience up my sleeve, I simply interrogated teh manual to find out how to display an alpha string, and this was how I found FROM THE MANUAL that I had to do it.

HP DOES need to correct this, it IS a fault with the hardware.

Imagine the amount of stick the computer system manufacturer would get if there was an instruction code sequence used by a programmer somewhere on it a major computer network that could place it into a state where the processor could not be interrupted without deliberately crashing the system and erasing everything on the network. This is a micro equivalent of the same thing.

### **Re: HP35s - Cause of Blank Screen Problem?**

*Message #21 Posted by [Meenzer](#) on 20 Oct 2007, 12:48 p.m.,  
in response to message #20 by John Wasilewski*

And the only way the manual shows us to do it is with PSE and R/S right behind the EQN message.

BTW, if I want a nice user interface, I wouldn't do it on a keystroke programmable calculator. I'd just grab the 50G.

### **Re: HP35s - Cause of Blank Screen Problem?**

*Message #22 Posted by [Stefan Vorkoetter](#) on 20 Oct 2007, 3:07 p.m.,  
in response to message #21 by Meenzer*

Quote:

And the only way the manual shows us to do it is with PSE and R/S right behind the EQN message.

No, the manual shows us to do it with PSE if we want the message displayed only briefly, and without PSE if we want the program to stop until the user presses R/S.

So, the following program is perfectly valid, yet it crashes the calculator:

```
X001 LBL X
X002 SF 10
X003 EQN BYE BYE
X004 CF 10
X005 GTO X005
```

Stefan

*Edited: 20 Oct 2007, 3:10 p.m.*

## Re: HP35s - Cause of Blank Screen Problem?

*Message #23 Posted by [Meenzer](#) on 21 Oct 2007, 2:38 a.m.,  
in response to message #22 by Stefan Vorkoetter*

Would you refer me to where in the manual it says so? I can only find programming examples that use EQN for displaying a message not for having an input prompt.

As I pointed out above, it would be a nice thing to have the 35s **combine** output and input with one statement as in

```
INPUT "A=",A
```

but that is not the way the 35s does it.

As to your program, that has no input statement at all (and thus is no example that undermines my above statement): I concede that the manual does not explicitly say not to place an infinite loop directly behind an EQN message ;-)

But the program examples in the manual either use PSE and R/S or a VIEW after the EQN message (If you put a VIEW behind the EQN in your program, you can break out, I just tested that).

Which gives me the impression the HP programmers could not imagine someone wanting to do other than using EQN for commenting the output. To prevent creative programmers from falling in that "infinite loop trap" HP should either explicitly re-write the manual: "Only use EQN combined with PSE and R/S or VIEW" or give the user the means to break out of a program no matter if HP thought someone could want to program that way or not. (And if you want to call that a bug, it's OK with me!) ;-)



**Re: HP35s - Cause of Blank Screen Problem?**

*Message #24 Posted by [Stefan Vorkoetter](#) on 21 Oct 2007, 11:26 a.m.,  
in response to message #23 by Meenzer*

Sorry, but I think you misunderstand. Even if you just use EQN to display a message, the calculator is uninterruptible after the user presses R/S to continue after the message. This whole input-vs-output thing is a red herring. No input is required to cause the calculator to hang.

Nowhere in the manual does it say that you have to follow an EQN message with a PSE or a VIEW. And nowhere in the manual is there an example where an EQN message is followed by an R/S (in the program).

It is true that my sample program has no input statement. But my sample program isn't requesting any input either, so it doesn't need an input statement. It is just displaying a message to the user, **which is what EQN messages are for.**

Consider the following made-up program:

```
... do a bunch of stuff ...
X123 EQN "1ST STUFF DONE"
... do a bunch of more stuff ...
X456 EQN "2ND STUFF DONE"
... do more stuff ...
```

Here EQN is being used purely for message purposes, to stop the program when some stuff has been done. The user can then press R/S to continue. But this makes the calculator uninterruptible. It would be ludicrous to suggest that this is a misuse of the EQN message functionality.

And finally, here's a program that uses EQN and VIEW precisely the way you insist it is intended to be used. It too is uninterruptible:

```
X001 LBL X
X002 SF 10
X003 EQN HERE COMES Y!
X004 CF 10
X005 VIEW Y
X006 PSE
X007 GTO X007
```

Note: the issue is not whether you should put an infinite loop after such a sequence. The issue is that infinite loops sometimes happen, whether due to a bug, a calculation that doesn't converge, or whatever. Replace line X007 with whatever code you like above. It will still be uninterruptible.

Stefan

PS. No matter how HP intended it to be used, it is simply unacceptable that it locks up the machine. Period. How would you feel if using the windshield wipers on your car when it wasn't

raining would cause the brakes to fail?

## Re: HP35s - Cause of Blank Screen Problem?

Message #25 Posted by [Meenzer](#) on 21 Oct 2007, 12:08 p.m.,  
in response to message #24 by Stefan Vorkoetter

Quote:

And finally, here's a program that uses EQN and VIEW precisely the way you insist it is intended to be used. It too is uninterruptible:

```
X001 LBL X
X002 SF 10
X003 EQN HERE COMES Y!
X004 CF 10
X005 VIEW Y
X006 PSE
X007 GTO X007
```

Just tested it on my machine. It's most easily interrupted by pressing C.

EDIT: My bad! It locks it up, you're right!

BUT: if you do the program this way, omitting the CF 10 until the end, you can break out:

```
X001 LBL X
X002 SF 10
X003 EQN ABC
X004 VIEW Y
X005 GTO X005
X006 CF 10
```

Why is that????

Quote:

Nowhere in the manual does it say that you have to follow an EQN message with a PSE or a VIEW. And nowhere in the manual is there an example where an EQN message is followed by an R/S (in the program).

The program examples in the German manual of my 35s (which are identical to the examples in the pdf version of the 33s' manual) show either PSE and STOP (=R/S) or VIEW statements directly after the EQN message. But you're right,

the manual doesn't say so ("Do it only this way!") explicitly.

*Edited: 21 Oct 2007, 1:54 p.m.*

**Re: HP35s - Cause of Blank Screen Problem?**

*Message #26 Posted by [Stefan Vorkoetter](#) on 21 Oct 2007, 2:28 p.m.,*

*in response to message #25 by Meenzer*

Quote:

BUT: if you do the program this way, omitting the CF 10 until the end, you can break out:

```
X001 LBL X
X002 SF 10
X003 EQN ABC
X004 VIEW Y
X005 GTO X005
X006 CF 10
```

Why is that????

Because you omitted the PSE after the VIEW Y.

Stefan

**Re: HP35s - Cause of Blank Screen Problem?**

*Message #27 Posted by [Stefan Vorkoetter](#) on 21 Oct 2007, 11:30 a.m.,*

*in response to message #23 by Meenzer*

A few more comments.

Quote:

Which gives me the impression the HP programmers could not imagine someone wanting to do other than using EQN for commenting the output. To prevent creative programmers from falling in that "infinite loop trap" HP should either explicitly re-write the manual: "Only use EQN combined with PSE and R/S or VIEW" or give the user the means to break out of a program no matter if HP thought someone could want to program that way or not. (And if you want to call that a bug, it's OK with me!) ;-)

Sorry, using a "message" facility to display a message is not what I would call "creative programming". I doubt that HP's programmers are that unimaginative.

Stefan

## Re: HP35s - Cause of Blank Screen Problem?

Message #28 Posted by [Meenzer](#) on 21 Oct 2007, 12:21 p.m.,  
in response to message #27 by Stefan Vorkoetter

Quote:

---

Sorry, using a "message" facility to display a message is not what I would call "creative programming". I doubt that HP's programmers are that unimaginative.

Stefan

---

No it isn't. Using the EQN message **without any other statement** as an input prompt, as John did, is what I called creative.

BTW I would be happy if it worked that way. I just have to see that the manual doesn't say it would and provides other means for input.

## Re: HP35s - Cause of Blank Screen Problem?

Message #29 Posted by [Stefan Vorkoetter](#) on 21 Oct 2007, 2:31 p.m.,  
in response to message #28 by Meenzer

Quote:

---

No it isn't. Using the EQN message **without any other statement** as an input prompt, as John did, is what I called creative.

---

But you said that the cause of the bug was that I **was** combining a prompt with input, and my point was that I wasn't. My programming is not expecting any input here. It's just stopping to display a message.

PS. Does anyone else seriously believe that the calculator locking up in these cases is (a) the programmer's fault, (b) a misuse of the EQN message facility, and (c) not a bug? !?!

Stefan

## Re: HP35s - Cause of Blank Screen Problem?

Message #30 Posted by [Meenzer](#) on 21 Oct 2007, 3:38 p.m.,  
in response to message #29 by Stefan Vorkoetter

Quote:

---

PS. Does anyone else **seriously** believe...

---

Now I know why I have the constant impression that we have a slight misunderstanding ;- ) I was writing all this with - more or less - tongue in cheek - but obviously was not able to convey this. (Mental note to myself: must remember to use emoticons even more excessively ;- ) I must admit I don't think about keystroke programming with the appropriate seriousness. As I wrote earlier (I think in the first post to John's original thread) I'd grab another calculator for this kind of program...I wouldn't bother debugging a 400 line program on the 35s and thus would never encounter this problem in real life ;- )

---

### **Re: HP35s - Cause of Blank Screen Problem?**

*Message #31 Posted by [Meenzer](#) on 22 Oct 2007, 12:42 a.m.,  
in response to message #30 by Meenzer*

I really thought my first "This is not a bug"-posting was unserious enough emoticonized... ;- )

Quote:

---

the so induced unbreakable loop  
shouldn't be called a bug ;- )

---

---

### **Re: HP35s - Cause of Blank Screen Problem?**

*Message #32 Posted by [Jeff O.](#) on 21 Oct 2007, 8:13 p.m.,  
in response to message #29 by Stefan Vorkoetter*

Stefan,

I completely agree with everything you have stated. Use of an equation to stop a program and display a message prompting for input is entirely appropriate. You thought to do so, I thought to do, and John W thought to do so. I think the programmers at HP intended for it to be used this way. And as you say, even if it is used exactly as presented in the manual to only present a message, it results in a situation where the calculator can lock-up. It is most certainly a bug.

Jeff

---

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## HP Forum Archive 17

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### HHC2007 Commemorative HP Calculator Calendar Status

Message #1 Posted by [Jake Schwartz](#) on 18 Oct 2007, 10:12 p.m.

Hi,

For those who ordered HHC2007 calendars, the first 37 have been shipped, which is all the extra we had after the San Diego conference concluded. Another 50 have been printed and shipped to me, which I expect to have in a few days for filling additional orders. If you have not yet received an email from me indicating that your calendar has been shipped, your order should be filled within the next couple of days.

There are still around 30 more available from this new batch which have not yet been ordered. Currently, we have no intention to print any more after that. If you have any interest in obtaining a calendar, please consult <http://holyjoe.net/hhc2007/hhc2007%20calendar.htm> .

Thanks,

Jake Schwartz

### Re: HHC2007 Commemorative HP Calculator Calendar Status

Message #2 Posted by [Pal G.](#) on 18 Oct 2007, 11:01 p.m.,  
in response to message #1 by Jake Schwartz

Jake,

I know you're a busy man. May I hazard a request for an HHC2007 DVD completion date?

Thanks, Pal

### HHC2007 Commemorative HP Calculator Calendar Status

Message #3 Posted by [Jake Schwartz](#) on 19 Oct 2007, 7:17 a.m.,  
in response to message #2 by Pal G.

Quote:

\_\_\_\_\_  
May I hazard a request for an HHC2007 DVD completion date?  
\_\_\_\_\_

Hi Pal,

I'm really going to try to edit both the San Diego (HHC2007) and London (HPCC 2007) conferences back-to-back, starting this weekend. I would love to have it all completed by the end of November, if possible. The two together total around 24 hours and were each done as a two-camera shoot so both speaker and his slides could be viewed. When it's done, the details will appear (as always) at <http://www.pahhc.org/video.htm> and I'll keep you posted here as well.

Thanks,

Jake

**Re: HHC2007 Commemorative HP Calculator Calendar Status**

*Message #4 Posted by [Trent Moseley](#) on 25 Oct 2007, 10:03 p.m.,  
in response to message #1 by Jake Schwartz*

Jake,

I recieved my calender today. After next year I'll put it together with my copy of Mier-Jedzejowicz's "Guide".  
Thank you for all of your efforts.

tm

---

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## HP Forum Archive 17

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### **HP-41 program cards: transfer to PC, magnetic format**

Message #1 Posted by [Rick Nungester](#) on 18 Oct 2007, 12:26 a.m.

How can I transfer programs from HP-41C program cards to PC?

I want to run them on the V41 emulator, without manually entering each program step. Once to the Windows XP PC in some known format, I can translate to what the emulator needs.

Has the format of magnetic information on HP program cards ever been made public?

Is there any known way to read the program cards without an HP card reader (such as with a credit card reader and knowledge of the magnetic encoding format)?

---

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## HP Forum Archive 17

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### HP 35S trigonometry accuracy

Message #1 Posted by [hpnut](#) on 18 Oct 2007, 5:27 a.m.

Hi,

I found this article which says "In some case its accuracy goes down to seven digits or less which is not acceptable as the scientific calculator that features internal 15 digits precision." disturbing.

HP calculator not accurate?

The full article is here

<http://www.finetune.co.jp/~lyuka/technote/trig/tan-hp35s.html>

### Re: HP 35S trigonometry accuracy

Message #2 Posted by [Karl Schneider](#) on 19 Oct 2007, 3:14 a.m.,  
in response to message #1 by [hpnut](#)

I'm sure that Lyuka is the one who started the recent thread in which I posted a tabulation of results for several calculations:

<http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv017.cgi?read=123880#123880>

-- KS

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## HP Forum Archive 17

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### Updated HPCC Datafile Archive CD Now Available

Message #1 Posted by [Jake Schwartz](#) on 17 Oct 2007, 11:03 p.m.

Hi,

At the recent HPCC2007 conference in San Diego last month and at the HPCC 2007 conference in London last weekend, an updated HPCC Datafile Archive CD (containing 2 additional years of issues) was given to each attendee. This CD, with 24 years of issues running from 1982 to 2005, is now available. For more information, check <http://www.pahhc.org/ppccdrom.htm> .

Jake Schwartz

### Re: Updated HPCC Datafile Archive CD Now Available

Message #2 Posted by [Walter B](#) on 18 Oct 2007, 12:56 a.m.,  
in response to message #1 by Jake Schwartz

Hi Jake,

thanks for your work and the offer. I don't want to sound picky, but just want to understand: why is 2006 not included yet? After all, we are in October 2007 now. And a anniversary edition would be something real nice. Any good reasons will be accepted.

Now curse on me,

Walter

### Re: Updated HPCC Datafile Archive CD Now Available

Message #3 Posted by [BruceH](#) on 18 Oct 2007, 7:25 a.m.,  
in response to message #2 by Walter B

It is a policy decision of HPCC that the cd-rom be a couple of years behind.

This is to maintain the benefit of being a member.

Bruce Horrocks  
Datafile Editor

### Re: Updated HPCC Datafile Archive CD Now Available

Message #4 Posted by [Walter B](#) on 18 Oct 2007, 2:54 p.m.,  
in response to message #3 by BruceH

Hi Bruce,

thanks for your explanation. Being a member of HPCC, I should understand. Not having been a

member in 2006, I've to be patient.

Best regards,

Walter

---

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## HP Forum Archive 17

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### Complex Number Juxtapositions

Message #1 Posted by [Trent Moseley](#) on 17 Oct 2007, 10:26 p.m.

You can STORE a complex number on the 35s, but you can't ROUND one. You can ROUND one on the 42s but you can't STORE it.

You put one fire out and another one pops up someplace else. I know it's just an annoyance but -

"So near yet so far..."

tm

### Re: Complex Number Juxtapositions

Message #2 Posted by [Karl Schneider](#) on 18 Oct 2007, 12:20 a.m.,  
in response to message #1 by Trent Moseley

Hi, Trent --

Regarding operations with complex numbers on the HP-35s:

Quote:

\_\_\_\_\_  
"So near yet so far..."  
\_\_\_\_\_

Formal response: "I concur with your sentiments."

Informal response: "Amen, brother!"

Perhaps more annoying is that SHOW also doesn't work on a complex number, and that there is no simple way to separate the components of a complex number. Thus, the RND limitation can't be circumvented by applying RND to each part separately, but even if RND did operate on a complex number, SHOW won't verify that it worked as intended...

Quote:

\_\_\_\_\_  
You can ROUND one on the 42s but you can't STORE it.  
\_\_\_\_\_

The second part of that statement is incorrect. A complex number can always be stored to a named variable, or it can be stored to a numbered register if the matrix of storage registers ("REGS") is dimensioned as complex:

RCL "REGS" (a softkey), ENTER, COMPLEX, STO "REGS"

Indeed, RND is applied to both parts of a complex number (in rectangular or polar mode) on the HP-42S. If the user wants to round only one component, the number can first be separated into two reals using COMPLEX.

Try this on an HP-42S: Enter a complex number with 12-digit mantissas for both components (say,  $\pi$  and  $e^1$ ), and assemble the number in POLAR mode using COMPLEX. SHOW will then display both components with their 12-digit mantissas. Then, do FIX 03, RND, and SHOW. You'll see 3.142 at angle 2.718 before and after SHOW. Change to RECT mode, and SHOW again. You'll see 12-digit rectangular-coordinate values for both components, indicating that RND was properly applied to the *displayed* value, even though the number may have been internally represented in rectangular form all along.

-- KS

*Edited: 18 Oct 2007, 12:26 a.m.*

## **Re: Complex Number Juxtapositions**

*Message #3 Posted by [Trent Moseley](#) on 18 Oct 2007, 4:51 p.m.,  
in response to message #2 by Karl Schneider*

Thank you Karl.

tm

---

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## HP Forum Archive 17

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### Curve Fitting for the HP 35s

Message #1 Posted by [Stefan Vorkoetter](#) on 17 Oct 2007, 9:28 p.m.

I've just published a program, [Curve Fitting for the HP 35s](#), on my web site. This program is like the similar program in the HP-41C Advantage Pac and the one built into the HP-42s, in that it lets you enter data pairs first, and then chose the type of curve you want to fit to it (linear, logarithmic, exponential, and power). You can try different curves on the same data, or you can have the program chose the one with the best fit.

I wrote this primarily as an exercise in getting to know the HP 35s programming environment, and how to get around its limitations (limited user interface possibilities compared to the 41C or 42s).

Enjoy!

Stefan

### Is this the "blank screen" program you can't R/S out of?

Message #2 Posted by [Gene Wright](#) on 17 Oct 2007, 9:38 p.m.,  
in response to message #1 by [Stefan Vorkoetter](#)

?

### Re: Is this the "blank screen" program you can't R/S out of?

Message #3 Posted by [Stefan Vorkoetter](#) on 17 Oct 2007, 10:43 p.m.,  
in response to message #2 by [Gene Wright](#)

Yes, it is, but of course it doesn't crash, because it is only in this blank screen mode for a few seconds before getting to a SF 10 / EQN / CF 10 sequence where it stops and displays something.

Just to clarify, this isn't John's crashing program. This is my own unrelated program where I happened to observe that there are some segments during which "RUNNING" doesn't appear, and R/S won't stop it.

Stefan

### I think you may like this...

Message #4 Posted by [Vieira, Luiz C. \(Brazil\)](#) on 18 Oct 2007, 5:43 a.m.,  
in response to message #1 by [Stefan Vorkoetter](#)

Hi, Stefan;

sometime ago I designed a set of display templates and some fonts ([HPCC V3N4](#)) with CorelDRAW!®. The main idea was to help the development of custom documentation with specific characters. Last year I created a particular TTF for the HP50G keyboard (HP48GII, HP49G+ as well) available [here](#). A few days ago I scanned the HP35S display and took some time to draw its contents, and got to this:

[http://www.logeng.com.br/images/HP35S/expl01\\_s.jpg](http://www.logeng.com.br/images/HP35S/expl01_s.jpg) Click to enlarge

This is just a JPEG image, the original CDR is not (yet) available. As you can see, it also fits the HP33S display. I saw that you used two pictures of the HP35S display, and they both could be drawn with a different resolution. The display patterns have all necessary annunciators and the corresponding TTF structure so one can draw whatever can be shown in the LCD.

Also, a 'under development' [HP35S character set TTF](#) is available, with the earlier HP33S name (to be updated). This one has the 'i' symbol for the complex representation (seen in the picture) and a slightly bigger dot (and comma) characters. It also has the missing ':', not available in the first HP33S TTF. Some new characters will be added later, like the small 7, 8 and 9 for the menu options (the HP33S had a maximum of 6 options per menu) and any others that are new.

I'll let the .CDR file with the HP33S/35S LCD template available later.

Any suggestions?

Cheers.

Luiz (Brazil)

*Edited: 18 Oct 2007, 5:56 a.m.*

**Re: I think you may like this...**

*Message #5 Posted by [Stefan Vorkoetter](#) on 18 Oct 2007, 9:51 a.m.,  
in response to message #4 by [Vieira, Luiz C. \(Brazil\)](#)*

Very nice! But unfortunately I don't have Corel Draw. I guess for now, with the limited number of screen images I need, I'll just use the scanner.

Stefan

**Re: I think you may like this...**

*Message #6 Posted by [Bruce Bergman](#) on 18 Oct 2007, 1:38 p.m.,  
in response to message #4 by [Vieira, Luiz C. \(Brazil\)](#)*

There is already an HP-35s TTF package available, if you are interested in saving yourself some work. Fonts for both screens and printed keystrokes.

thanks, bruce

**Re: I think you may like this...**

*Message #7 Posted by [Vieira, Luiz C. \(Brazil\)](#) on 18 Oct 2007, 1:56 p.m.,  
in response to message #6 by [Bruce Bergman](#)*

Hi, Bruce;

thank you for this information. Just for being sure: are you talking about the ones also available thru Valentin's page? Those ones I have already downloaded. If not, would you point me the e-address they are available?

The ones Valentin shared I guess are the same used in the original HP manuals, is that correct? They are somehow different of the ones available with the TTF I draw for the HP33S (have you already seen



it?), I tried to get them closer to the calculator actual look. In order to create the HP35S set, I'd actually add the missing characters to the existing HP33S TTF, they are just a little bunch. It would be an extra option, though.

Best regards.

Luiz (Brazil)

**Re: I think you may like this...**

*Message #8 Posted by **Bruce Bergman** on 18 Oct 2007, 2:49 p.m.,  
in response to message #7 by Vieira, Luiz C. (Brazil)*

Yeah, the ones I was thinking of are the same ones that Valentin put up. So I guess you're good then, either way. ;-)

thanks, bruce

**Re: Curve Fitting for the HP 35s**

*Message #9 Posted by **John Wasilewski** on 19 Oct 2007, 7:43 p.m.,  
in response to message #1 by Stefan Vorkoetter*

Interesting and very useful program Stefan, thank you. It is very likely that I will use it from time to time. Is there any chance that you might do one for polynomial curve fitting? ---

John

**Re: Curve Fitting for the HP 35s**

*Message #10 Posted by **Stefan Vorkoetter** on 20 Oct 2007, 11:11 a.m.,  
in response to message #9 by John Wasilewski*

Do you mean an exact fit of a degree-N polynomial to N+1 points, or a least squares fit of a larger polynomial?

But in either case, probably not. The only reason I did the curve fitting program is because it's something I tend to use regularly, and it's a non-trivial program and thus an interesting way to get familiar with the 35s and its quirks.

I do plan to post a few other 35s programs, and perhaps an article of 35s programming techniques.

Stefan

**Re: Curve Fitting for the HP 35s**

*Message #11 Posted by **John Wasilewski** on 20 Oct 2007, 2:22 p.m.,  
in response to message #10 by Stefan Vorkoetter*

Do you know, I didn't know it was possible to fit a polynomial to a set of points exactly!

What I meant was using polynomial regression to find an expression of user-selected order that gives an OK fit to as many points as there are.

---

John

## Re: Curve Fitting for the HP 35s

Message #12 Posted by [Stefan Vorkoetter](#) on 20 Oct 2007, 3:10 p.m.,  
in response to message #11 by John Wasilewski

Quote:

Do you know, I didn't know it was possible to fit a polynomial to a set of points exactly!

Really!?

Consider the simplest case of fitting  $y=ax+b$  to two points  $x_1,y_1$  and  $x_2,y_2$ . It's just a matter of solving the simultaneous equations,

$$y_1 = a * x_1 + b$$

$$y_2 = a * x_2 + b$$

for a and b given  $x_1,y_1$  and  $x_2,y_2$ .

For a quadratic  $ax^2 + bx + c$  and three points, it's the solution of,

$$y_1 = a * x_1^2 + b * x_1 + c$$

$$y_2 = a * x_2^2 + b * x_2 + c$$

$$y_3 = a * x_3^2 + b * x_3 + c$$

for a, b, and c.

And so on.

Stefan

## Re: Curve Fitting for the HP 35s

Message #13 Posted by [John Wasilewski](#) on 20 Oct 2007, 6:58 p.m.,  
in response to message #12 by Stefan Vorkoetter

Brain evidently not engaged when I sent my last comment!

## Re: Curve Fitting for the HP 35s

Message #14 Posted by [Eddie W. Shore](#) on 24 Oct 2007, 11:42 p.m.,  
in response to message #1 by Stefan Vorkoetter

Thank you. The program runs well and it gives the 35s a great service while only using one label instead of many.

---

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## HP Forum Archive 17

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### Watch Video

Message #1 Posted by [DaveJ](#) on 17 Oct 2007, 6:34 p.m.

A short [video](#) of keystroke programing on my new watch.

WARNING - the video may contain algebraic mode operation, and a possibly annoying Australian accent, viewer discretion is advised.

Dave.

*Edited: 17 Oct 2007, 7:52 p.m. after one or more responses were posted*

### Re: Watch Video

Message #2 Posted by [Paul Dale](#) on 17 Oct 2007, 6:42 p.m.,  
in response to message #1 by [DaveJ](#)

I still want one just a bit more now.

: -)

- Pauli

### Re: Watch Video

Message #3 Posted by [dbatiz](#) on 17 Oct 2007, 8:45 p.m.,  
in response to message #1 by [DaveJ](#)

Very impressive, how close are you to a production run? And more importantly, where do I send my check!

Very Respectfully,

David

### Re: Watch Video

Message #4 Posted by [DaveJ](#) on 17 Oct 2007, 9:08 p.m.,  
in response to message #3 by [dbatiz](#)

Quote:

Very impressive, how close are you to a production run? And more importantly, where do I send my check!

Realistically, a pilot production run is several months away. Takes time to organise, and I'm not working particularly hard on it at the moment (read=slacking).

Speaking of which, (unofficial poll) how many people would want one? And would you prefer a more expensive fully assembled (hand built) version, or a cheaper DIY version were you have to glue stuff and solder the switches on etc?

We don't accept checks here in Australia, but we do accept cheques!

Dave.

### Re: Watch Video

Message #5 Posted by [Paul Dale](#) on 17 Oct 2007, 9:41 p.m.,  
in response to message #4 by DaveJ

Quote:

Speaking of which, (unofficial poll) how many people would want one? And would you prefer a more expensive fully assembled (hand built) version, or a cheaper DIY version were you have to glue stuff and solder the switches on etc?

I'm definitely interested in at least one (maybe more depending upon the price). I don't really have a preference for either version so long as the soldering required isn't too fine.

- Pauli

### Re: Watch Video

Message #6 Posted by [DaveJ](#) on 17 Oct 2007, 10:16 p.m.,  
in response to message #5 by Paul Dale

Quote:

I'm definitely interested in at least one (maybe more depending upon the price). I don't really have a preference for either version so long as the soldering required isn't too fine.

Hopefully the only soldering will be the switches and the battery pack, as I'll be looking at getting the rest of the components machine assembled. I don't necessarily trust the assemblers to mount all the switches flush and have them all nicely aligned, and that matters.

Dave.

### Re: Watch Video

Message #7 Posted by [Pavneet Arora](#) on 18 Oct 2007, 7:58 a.m.,  
in response to message #4 by DaveJ

Count me in. We do cheques which are disciplined with checks and balances north of the 49th as well ;).

Edited: 18 Oct 2007, 8:13 a.m.

### Re: Watch Video

Message #8 Posted by [Michael C](#) on 18 Oct 2007, 2:57 a.m.,

*in response to message #4 by DaveJ*

Hi Dave,

Nice watch/calculator.

I also definitely want at least one and like the last poster either fully assembled or part or maybe one of each depending on the price.

May I ask what part of Australia are you from?

Cheers

Michael

Melbourne, Australia

### **Re: Watch Video**

*Message #9 Posted by **DaveJ** on 18 Oct 2007, 6:42 p.m.,  
in response to message #8 by Michael C*

Quote:

Hi Dave,

Nice watch/calculator.

I also definitely want at least one and like the last poster either fully assembled or part or maybe one of each depending on the price.

May I ask what part of Australia are you from?

Sydney.

Looks like the general consensus is a DIY kit.

Dave.

### **Re: Watch Video**

*Message #10 Posted by **Juan J** on 18 Oct 2007, 7:25 p.m.,  
in response to message #9 by DaveJ*

Hello,

Please count me in too.

### **Re: Watch Video**

*Message #11 Posted by **Frank Boehm (Germany)** on 18 Oct 2007, 10:31 a.m.,  
in response to message #4 by DaveJ*

count me in for the DIY kit 8)

## Re: Watch Video

Message #12 Posted by [dbatiz](#) on 18 Oct 2007, 10:54 a.m.,  
in response to message #4 by [DaveJ](#)

I'm not afraid of a little assembly. I'd probably get the DIY kit. See, for me the price point is going to be the deal maker or breaker.

How long have you been working on this project? It is truly a remarkable effort. Did you design the hardware as well as the software?

Very respectfully,

David

## Re: Watch Video

Message #13 Posted by [DaveJ](#) on 18 Oct 2007, 6:40 p.m.,  
in response to message #12 by [dbatiz](#)

Quote:

I'm not afraid of a little assembly. I'd probably get the DIY kit. See, for me the price point is going to be the deal maker or breaker.

How long have you been working on this project? It is truly a remarkable effort. Did you design the hardware as well as the software?

Started on the project probably about 5 months back(?), you may recall I posted on here asking about RPN features etc. I forget the dates. I had my first prototype in my hands and working after about 30 hours of real work, so it's not much work at all if you know what you are doing and are focussed. The last few months has been just a been a few nights here and there getting this 2nd prototype up and running. I wasted maybe 2 months thinking about a fully custom housing for it, but that didn't come through. But I like the end result, it's what I originally had in mind - it's looks like you could have built it yourself, but can also pass as a store bought product. Having worn it for a while now, I've found that a lot of people think it's a store bought product which I was surprised at.

A few people have seen my first prototype, but it's not nearly as nice looking as this one. Was just a rough prototype so I had some real hardware to play with.

Still some work to go on the firmware side of things though, not completely finished yet.

Yes, it's entirely my concept, my hardware design, and my software (no HP ROM or whatever).

Dave.

## Re: Watch Video

Message #14 Posted by [Robissimo](#) on 18 Oct 2007, 11:00 a.m.,  
in response to message #4 by [DaveJ](#)

I am very interested, and do not have a strong preference between pre-assembled or diy versions.

Thanks for all your effort!

## Re: Watch Video

Message #15 Posted by [Dave Boyd](#) on 18 Oct 2007, 11:32 a.m.,  
in response to message #4 by DaveJ

Quote:

Speaking of which, (unofficial poll) how many people would want one? And would you prefer a more expensive fully assembled (hand built) version, or a cheaper DIY version were you have to glue stuff and solder the switches on etc?

At least one, very probably two (a friend is interested), possibly three. It'll make a good companion to my Nixie watch.

As for assembly, well, I have an SMD rework station. Unpopulated boards and a bagful of parts!

## Re: Watch Video

Message #16 Posted by [megarat](#) on 19 Oct 2007, 2:16 a.m.,  
in response to message #4 by DaveJ

I would definitely be interested in one, and I'm fine with soldering.

-cam

*Edited: 19 Oct 2007, 2:17 a.m.*

## Of course!

Message #17 Posted by [Maximilian Hohmann](#) on 19 Oct 2007, 6:15 a.m.,  
in response to message #4 by DaveJ

Hello!

Quote:

Speaking of which, (unofficial poll) how many people would want one?

Yes, definitely! And even more so, if it has something like the "H.MS+" function of the HP-67 for making calculations with time values. Of course, money is a factor.

Quote:

And would you prefer a more expensive fully assembled (hand built) version, or a cheaper DIY version were you have to glue stuff and solder the switches on etc?

DIY is fine for me as long as no soldering of small SMD-components is required.

Quote:

We don't accept checks here in Australia, but we do accept cheques!

Both of them have disappeared here long ago, I can't remember seeing one in the last ten years or so.

But I wouldn't mind to cover your PayPal (or Credit Card) expenses in case you accept one of those.

Greetings, Max

*Edited: 19 Oct 2007, 6:15 a.m.*

### **Re: Watch Video**

*Message #18 Posted by [Jonathan Eisch](#) on 21 Oct 2007, 5:10 a.m.,  
in response to message #4 by DaveJ*

Count me in. DIY sounds great. Soldering surface mount doesn't phase me any more either.

Looks great, by the way. -Jonathan

### **Re: Watch Video**

*Message #19 Posted by [Stefan K.](#) on 18 Oct 2007, 4:30 a.m.,  
in response to message #1 by DaveJ*

Awesome. Do you take paypal and send to Austria (neither checks nor cheques around here)?

I can do the soldering myself. What do you think it'll cost roughly?

Stefan

### **Re: Watch Video**

*Message #20 Posted by [DaveJ](#) on 21 Oct 2007, 8:53 p.m.,  
in response to message #19 by Stefan K.*

Quote:

Awesome. Do you take paypal and send to Austria (neither checks nor cheques around here)?

I can do the soldering myself. What do you think it'll cost roughly?

It looks like the cost is going to be at least AU\$80 at this stage. That's without the watch band which I haven't looked into yet. But I suspect not everyone is going to want the same watch band... I've also upgraded the back case to a nice translucent gray colour, so you can see the battery holders. The wife said it makes it look "even funkier" and is worth a few extra bucks over the standard black case.

Yes, I'll be taking PayPal (no cheques) and will post anywhere in the world. That's when I eventually get it all together that is...

Dave.

### **Re: Watch Video**

*Message #21 Posted by [Walter B](#) on 19 Oct 2007, 5:24 p.m.,  
in response to message #1 by DaveJ*

Hi Dave,



a very impressive prototype (actually a deutero-type ;) -- so please give us an order of magnitude of the amount of money you want for sending one DIY kit.

Thanks in advance,

Walter

### **Re: Watch Video**

*Message #22 Posted by [Eddie W. Shore](#) on 24 Oct 2007, 9:14 a.m.,  
in response to message #1 by [DaveJ](#)*

That is amazing. Finally something fun to do when waiting in line while not bringing the bulk all the time. :)

But are the keys that small? I guess they have to be.

### **Re: Watch Video**

*Message #23 Posted by [DaveJ](#) on 24 Oct 2007, 6:12 p.m.,  
in response to message #22 by [Eddie W. Shore](#)*

Quote:

That is amazing. Finally something fun to do when waiting in line while not bringing the bulk all the time. :)

But are the keys that small? I guess they have to be.

The key tops are 3mm x 1.5mm. Yes they have to be that small if you are using off-the-shelf parts.

They are surprising easy to push though, and the space between the keys means you never hit the wrong key by accident.

Dave.

---

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## HP Forum Archive 17

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### **John Wasilewski's non-interruptable 35s programs**

Message #1 Posted by [Seth Morabito](#) on 17 Oct 2007, 6:11 p.m.

For those interested, the programs (version 0.3, which contained an uninterruptable infinite loop; and version 0.5, which contains an uninterruptable calculation, but NOT an infinite loop) are available here:

<http://www.loomcom.com/hp35s/>

Version 0.3 can cause calculator memory loss. I have not used 0.5, but John says that it is much safer.

Regards,

Seth

*Edited: 17 Oct 2007, 6:11 p.m.*

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## HP Forum Archive 17

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### Top Ten Reasons why I still like my 35s

Message #1 Posted by [Martin Pinckney](#) on 17 Oct 2007, 3:51 p.m.

Due to all the negative comments on here, I have been trying my best to dislike my 35s, but so far,

I've failed. I still like it. Reasons:

1. It looks cool\*. 2. Relatively compact. 3. A lot of memory for a scientific calculator (as opposed to a graphing model). 4. Tactile feedback keystrokes. 5. Crisp, contrasty 2-line display. 6. If I see reflections on the glossy screen, I just move my head a little. 7. Ability to switch between ALG and RPN for different kinds of calculations. 8. Equation Solver. 9. Apparently I don't use the functions that have bugs. 10. It looks cool\*.

\*To be a little more specific, the slanted keys, color (I still don't know if its brown or black), the whole "HP is quality" retro look.

### Re: Top Ten Reasons why I still like my 35s

Message #2 Posted by [Miguel Toro](#) on 17 Oct 2007, 4:22 p.m.,  
in response to message #1 by [Martin Pinckney](#)

I will add:

1.- More flexibility for programming: I find myself programming more now with the 35s because it is easier than with my 32sII or my 32s.

2.- If it breaks, it is still available and I do not have to spend a fortune to replace it. And it is still under warranty, as a matter of course.

3.- I may be naïf but I hope the problems will be fixed, so the HP 35s will be an excellent calculator (not like a 42s, but...). I think that people could agree that without bugs, this is a step in the right direction.

Regards,

Miguel

*Edited: 17 Oct 2007, 4:25 p.m.*

### Re: Top Ten Reasons why I still like my 35s

Message #3 Posted by [Meenzer](#) on 17 Oct 2007, 4:27 p.m.,  
in response to message #1 by [Martin Pinckney](#)

You're so like - totally - right! I love it, too!

*Edited: 17 Oct 2007, 5:06 p.m.*

### Re: Top Ten Reasons why I still like my 35s

*Message #4 Posted by [Seth Morabito](#) on 17 Oct 2007, 4:29 p.m.,  
in response to message #1 by Martin Pinckney*

I pick on specific, serious bugs that affect the 35s, but overall I totally agree. I love it, and I'm glad it exists. It may be a buggy little beast, but it's almost everything I need in a calculator, AND good looking AND comfortable to use, to boot! I most heartily welcome back the slanted keys and the wonderful tactile feel.

I'm confident that most of the bugs will be worked out in a future ROM release. For \$60, it's still a good deal.

### **Re: Top Ten Reasons why I still like my 35s**

*Message #5 Posted by [Ed Look](#) on 17 Oct 2007, 8:47 p.m.,  
in response to message #1 by Martin Pinckney*

Given today's manufacturing and marketing realities, it's a wonder HP would still "do" a 35s. If for no other reason than this, coupled of course with the relative ease of use and programming, it's really a small jewel...

... and the 33s really wasn't all that bad, either.

### **Re: Top Ten Reasons why I still like my 35s**

*Message #6 Posted by [Seth Morabito](#) on 17 Oct 2007, 8:52 p.m.,  
in response to message #5 by Ed Look*

I agree about the 33s. My only complaint was the funky keyboard. Other than that, I found it to be a very nice calculator.

### **Re: Top Ten Reasons why I still like my 35s**

*Message #7 Posted by [Jandro Kirkish](#) on 18 Oct 2007, 12:25 p.m.,  
in response to message #1 by Martin Pinckney*

I would add (with some redundancy): 1) nice included case. 2) Looks so good even my girlfriend was impressed. 3) Lightweight. 4) Best keyboard feel since the 15C, IMO. 5) Big enter key. 6) Looks so good, just putting it on my desk makes it look like I'm working ;)

### **Re: Top Ten Reasons why I still like my 35s**

*Message #8 Posted by [Arne Halvorsen \(Norway\)](#) on 18 Oct 2007, 12:39 p.m.,  
in response to message #7 by Jandro Kirkish*

The case it quite good! A while back I was traveling and bought a bottle of water in an airport. Did not finish it and put it in my backpack with the machine. Later discovered had not put cork on good enough! Everything was swimming in water, and had been for a while! But the case is rather water resistant! Machine was only slightly damp, nothing that could have harmed it, it was fine.

To bad not the same level of quality did go into the making of the machine itself!

### **Re: Top Ten Reasons why I still like my 35s**

*Message #9 Posted by [John Wasilewski](#) on 18 Oct 2007, 6:02 p.m.,  
in response to message #1 by Martin Pinckney*

I absolutely agree with all your reasons for liking it.

I just so, so wish it had a USB connector and I truly cannot understand why this was presumably not

considered a cost worth including. Even cheap cameras can be used as PC virtual drives via a USB cable. Also finding the intermittent uninterruptible program bug is a huge disaster. Even for you it will be Martin, some day. Unless we are all lucky and this defect is limited to early production batch calculator units, and you are lucky enough to have one without the defect, the time will surely come, I'm sorry to warn you, when a program you have written enters an endless loop AND the uninterruptible bug kicks in. You will then lose everything you have ever programmed into it.

That said, I am still hopeful that HP can resolve this for us, I don't know why, but somehow, because I like this calculator very much and I WANT to be able to trust it.

---  
John

### **Re: Top Ten Reasons why I still like my 35s**

*Message #10 Posted by [bill platt](#) on 19 Oct 2007, 7:31 a.m.,  
in response to message #9 by John Wasilewski*

Quote:

\_\_\_\_\_

so wish it had a USB connector and I truly cannot understand why this was presumably not considered a cost worth including.

\_\_\_\_\_

See the NCEES threads regarding Professional Engineering license tests.

### **Re: That's not a knife...**

*Message #11 Posted by [John Wasilewski](#) on 19 Oct 2007, 11:06 a.m.,  
in response to message #1 by Martin Pinckney*

One of my clients, the senior partner of a distinguished firm of solicitors based in the north east, whilst admiring the HP35s, that I keep in the inside pocket of my suit jacket came, up with a superb suggestion:

As and when I am talking to another engineer about eg stresses, deflections, dimensions, levels, factors of safety, etc, (or to a client about overdue fees), then the next time that one of them reaches into his case or desk drawer for a calculator, I am to rock backwards very slightly, grin at him whilst looking down at his Casio, Canon, or whatever, then look him in the eyes again, smiling broadly and muttering laconically, "that's not a calculator," (slowly getting out my HP35s), "THAT's a CALCULator...!"

### **Re: That's not a knife...**

*Message #12 Posted by [Paul Brogger](#) on 19 Oct 2007, 11:24 a.m.,  
in response to message #11 by John Wasilewski*

. . . *with* the requisite Oistrahlian acccent.

Then the other engineer looks worriedly from your Calculator to his & back again, messes his drawers and runs from the room.

### **The reference to "That's not a knife..."**

*Message #13 Posted by [Karl Schneider](#) on 21 Oct 2007, 2:43 a.m.,  
in response to message #12 by Paul Brogger*

Several years ago, I happened to catch part of the Australian movie *Crocodile Dundee*, starring Australian actor Paul Hogan.

A New York street punk attempts to rob Dundee and his companion at knifepoint, whereupon Dundee says, "That's not a knife," then pulls out his much-larger Australian-style Bowie knife and says, "Now *that's* a knife." The would-be robber flees.

Had I not watched the movie scene with the semi-famous catchphrase, I'd have had no idea what you guys were talking about. Other readers may have been quizzical...

: -)

-- KS

### **Re: That's not a knife...**

*Message #14 Posted by [Arne Halvorsen \(Norway\)](#) on 19 Oct 2007, 11:59 a.m.,  
in response to message #11 by John Wasilewski*

Obi-Wan in Star Wars about the light saber:

"Not as clumsy or as random as a blaster, but an elegant weapon for a more civilized age."

Me about any fine HP RPN machine:

"Not as clumsy or as random as a ti, casio or a pc, but an elegant calculator for a more civilized age."

### **Just don't try to calculate with it!**

*Message #15 Posted by [Palmer O. Hanson, Jr.](#) on 19 Oct 2007, 1:26 p.m.,  
in response to message #11 by John Wasilewski*

Quote:

I am to rock backwards very slightly, grin at him whilst looking down at his Casio, Canon, or whatever, then look him in the eyes again, smiling broadly and muttering laconically, "that's not a calculator," (slowly getting out my HP35s), "THAT's a CALCULATOR...!"

And, if he is at all familiar with bug after bug after bug after bug, on and on, ad infinitum, he might respond

"Just don't try to calculate with the damn thing."

### **Re: Just don't try to calculate with it!**

*Message #16 Posted by [Stefan Vorkoetter](#) on 19 Oct 2007, 2:45 p.m.,  
in response to message #15 by Palmer O. Hanson, Jr.*

More likely, s/he'll say, "Yeah, right, it doesn't even have an equals key!"

Stefan

### **Re: Just don't try to calculate with it!**

*Message #17 Posted by [Arne Halvorsen \(Norway\)](#) on 19 Oct 2007, 2:52 p.m.,  
in response to message #16 by Stefan Vorkoetter*

No, he will laugh... 'you gotta yellow shift to get your result!', gives you time to get you out of 'vector syntax error' or reset to get out of endless loop....

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## HP Forum Archive 17

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### for those that use excel

Message #1 Posted by [hugh steers](#) on 17 Oct 2007, 2:54 p.m.

try  $850*77.1$  or  $12850*5.1$

wrong answers whoops!

### Re: for those that use excel

Message #2 Posted by [Meenzer](#) on 17 Oct 2007, 3:08 p.m.,  
in response to message #1 by hugh steers

Excel yields 65535 as my calculator. I don't get the joke...

EDIT: Ok, that was the trusty 97. The newest Excel produces 100000. Now I get the joke ;-)

Edited: 17 Oct 2007, 3:12 p.m.

### Re: for those that use excel

Message #3 Posted by [Thomas Okken](#) on 17 Oct 2007, 4:06 p.m.,  
in response to message #1 by hugh steers

There was a brief discussion about this here, a few weeks ago, with some speculation as to whether this is a calculation bug or a display bug: <http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv017.cgi?read=125330#125330>

- Thomas

### Re: for those that use excel

Message #4 Posted by [hugh steers](#) on 17 Oct 2007, 5:33 p.m.,  
in response to message #3 by Thomas Okken

thanks for the link. i hadn't realised it had been covered before. looks like any multiplicand with a non-binary representable fraction multiplied to 65535 goes wrong. i think it's the display only tho'. so the number->string is broken.

### Re: for those that use excel

Message #5 Posted by [Bruce Bergman](#) on 17 Oct 2007, 5:36 p.m.,  
in response to message #1 by hugh steers

Excel 97 yields the correct result. Interesting.

thanks, bruce



### **As does MS Excel 2003.. (short MS rant)**

Message #6 Posted by [Karl Schneider](#) on 17 Oct 2007, 11:07 p.m.,  
in response to message #5 by Bruce Bergman

... which also displays the correct answer of 65535 (*corrected per input from Pavneet*)

My computer at work is equipped with MS XP Professional, MS Office 2003, and MS Internet Explorer v6. Now, based upon some of my own impressions of MS Internet Explorer v7 and MS Vista (which seem to be widely shared, if internet forums are any indication) -- and now this finding with MS Excel 2007, I don't want any "upgrades".

BTW, you may find it quite difficult to restore MS IE v6 after installing MS IE v7. Apparently, in order to make good on the claim that IE was an integral part of the OS during the browser-war litigation of a few years ago, MS really \*did\* interlock the code in some fashion.

I wonder if MS Excel 2007 can correctly calculate 100.00-99.99-0.01? [The older versions couldn't...](#)

Anyway, I prefer HP calculators and programs over spreadsheet software for calculations using small amounts of input data.

-- KS

*Edited: 18 Oct 2007, 11:20 p.m. after one or more responses were posted*

### **Re: As does MS Excel 2003.. (short MS rant)**

Message #7 Posted by [Pavneet Arora](#) on 18 Oct 2007, 8:08 a.m.,  
in response to message #6 by Karl Schneider

Just for the record, OpenOffice 2.3, which I use, returns 65,535 for both operations...

But no spreadsheet is as satisfying to use as my trusty HPs. Well maybe Lotus Improv on a NeXT, but that is a whole other history ;).

Cheers.

Karl, if you read this can you pop me an e-mail at <my first name> <underscore> <my last name> at waroc.com? Many thanks.

*Edited: 18 Oct 2007, 8:14 a.m.*

### **Re: As does MS Excel 2003.. (short MS rant)**

Message #8 Posted by [Thomas Okken](#) on 18 Oct 2007, 10:55 a.m.,  
in response to message #6 by Karl Schneider

Quote:

\_\_\_\_\_

I wonder if MS Excel 2007 can correctly calculate 100.00-99.99-0.01? The older versions couldn't...

\_\_\_\_\_

For what it's worth, OpenOffice 2.2 gets the right answer.

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## HP Forum Archive 17

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### Updating Rom for HP50g on mac using HPConnect

Message #1 Posted by [Jeffc](#) on 17 Oct 2007, 6:38 a.m.

Hi all,

I was able to use HPConnect version 0.9.1 (which is the latest one AFAIK) on my mac to download the equation library update to my HP50g, but not the ROM 92 update. Any suggestions?

I'm using a powerbook G4 running OS 10.4.10

Thanks.

### Re: Updating Rom for HP50g on mac using HPConnect

Message #2 Posted by [Jonathan Eisch](#) on 17 Oct 2007, 2:03 p.m.,  
in response to message #1 by [Jeffc](#)

Yes. Use an SD card.

HPConnect is not able to load the rom on the calculator, as far as I know. You'll have to use an SD card reader on the mac to put the required files on the card, and update the rom that way.

-Jonathan

### Re: Updating Rom for HP50g on mac using HPConnect

Message #3 Posted by [Jeffc](#) on 18 Oct 2007, 9:29 a.m.,  
in response to message #2 by [Jonathan Eisch](#)

Hi Jonathan,

I bought an SD card reader and was able to install the rom update with no problems.

Thanks.

---

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## HP Forum Archive 17

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### HP35s - lock-up defect --> loss of all work -->latest

Message #1 Posted by [John Wasilewski](#) on 16 Oct 2007, 6:13 p.m.

Dear ALL

#### LATEST DIAGNOSIS

From a brilliant piece of detective work by Seth Morabito, plus further experimental work by me today, I now know more about the problem, all as set out below.

The malfunction is NOT caused by endless looping (but read on...).

#### KNOWN DEFECTIVE CALCULATORS

But first, here is the current list of serial numbers known thus far to be prone to the aberrant behaviour described below:

- CNA 72100255
- CNA 72100299
- CNA 72101944
- CNA 72102148
- CNA 72102361

#### LATEST INFO ON THE PROBLEM

What happens is that something as-yet undiscovered about my program code causes the calculator processor to seize control of the calculator and to refuse absolutely to hand control back to the user unless and until it encounters a program instruction that stops execution. We don't know whether the problem is to do with some special sequence of program steps that lets go completely, some set of flag settings, something to do with the length of the program, or what.

No keystroke combination or sequence has been found that will interrupt the processor when this happens. It stops only when it encounters a R/S or an INPUT instruction. I don't know about VIEW. PSE does NOT make it let go.

The danger posed by the above, which is what happened to me, is that, if this aberrant behaviour occurs whilst test-running a program for debugging, and an error in the program code causes the processor to enter an endless loop, then you are completely stuffed. Nothing but nothing will interrupt it, short of paper-clip-resetting in the hole at the back, and this wipes all of the work, in all programs. Memory cleared.

#### PROGRAM CODE FOR TESTING

What my experiments today confirmed is that it isn't necessary to be stuck in a loop for the fault to occur. I have now emailed two detailed annotated commented M\$Word-formatted program code listings to half a dozen forum subscribers whose email addresses I have and who have worked hard to help diagnose and solve this problem.

They are,  
 BEAM 8110 ver.03.doc  
 BEAM 8110 ver.050.doc.

Please, anyone who wants a copy, just post a request on this forum and someone will send it to you.

Version 03 is the buggy version with the endless loop. This causes disastrous loss of all work, as explained above. Please stop using it (more on this below).

Version 04 is a debugged version that seems from an hour or two of testing so far to work correctly every time, from start to finish. It works. Subject to further testing, you can design the section size and main flexural reinforcement for reinforced concrete beams with it (if you know what you are doing!). Here's the thing, though. When it runs, it takes about 14 seconds to complete its analysis. During this time the user loses all control of the calculator -- it cannot be stopped by any known means. But again, read on...!

#### MORE INFORMATION

Users will know that the screen normally displays, "RUNNING" during program execution. Well, when it enters this lock-up condition, this message is absent from the display. That is a sure way of knowing you've lost it and won't get it back unless and until it finds something in the program to make it stop.

#### SETH'S DISCOVERY

What Seth discovered, and I can confirm, is that, if the program is restarted after entering data, not by pressing R/S straight away, but by pressing the down-arrow key to execute single program steps a couple of times, and then pressing R/S, then this bad misbehaviour does not happen. I agree with Seth - this really, really strange.

#### ONGOING TESTING STILL NEEDED

I recommend further testing should now continue, not with my program version 03, but with version 05. Version 03 will make you lose all the work if you let it enter the endless loop. Version 05 seems to be free of endless loops (from tests so far), so this lets you try out the problem more safely. Thus far (in maybe 50 tests), I have been able to lose total control of the calculator without having to reset and erase all work, because it runs until the program finishes, then stops displaying the results.

What to do:

Take data entry as far as the point where it asks for steel bar diameters and then (with version 05),  
--EITHER--  
enter eg 25 R/S to see in reasonable safety if your serial number loses all control; which you should get back after about 14 seconds when the program finishes,

--OR--  
enter 25 SINGLE-STEP SINGLE-STEP R/S  
(SINGLE-STEP is done by pressing the down-arrow)  
this demonstrates how the calculator stays under your control, allowing you to interrupt it at any time (i.e. correct behaviour).

Let me repeat, please DO NOT use version 03 of the program for any more testing. Use version 05. This lets you replicate and test for the reported fault in reasonable safety. I say "reasonable" because I cannot guarantee total safety, naturally.

#### CONCLUSION

Seth has discovered a neat work-around but this is clearly not satisfactory. First, it might not always work. Second, it is so easy to forget and enter R/S when testing a program without first single-stepping through a couple of program steps. The result of either of these is complete disaster if there happens to be an endless loop in unfinished program code.

With no possible means of saving programs except in volatile memory, extremely robust firmware is fundamentally important. This defect breaches this crucial principle.

Please, everyone, feel free to distribute these programs for testing, development and use by anyone who wants them.

#### AND FINALLY

I am getting some help, since yesterday (15-Oct-07) from :  
G.T. Springer  
Product Strategist  
HP Handheld/Calculators

"GT" wrote to me to ask how he/she can help and I am delighted to tell you all that he/she is

very keen to investigate this and find a solution because "these experiences so far have been less than [HP's] intention". I have GT's kind permission to report the above and I will continue to liaise with GT by direct email. The fault is currently being investigated on GT's own HP35s (with a much higher serial number) and I am helping with this. The signs are that it might not have this fault.

-----  
John

John@Wasilewski.co.uk  
Civil/structural engineer  
London

*Edited: 16 Oct 2007, 9:15 p.m. after one or more responses were posted*

### **John, I'm not sure GT would be happy with his cell number broadcast to the world!**

Message #2 Posted by **Gene Wright** on 16 Oct 2007, 7:21 p.m.,  
in response to message #1 by John Wasilewski

Might I suggest that you edit your post to remove that information so it doesn't continue to get broadcast to the entire world?

I'm glad he is working with you on this, but I doubt he told you "Sure...publish my name, work #, cell phone #, etc. for anyone and everyone who ever has an HP calculator question and wants to call me".

Gene

### **(deleted post)**

Message #3 Posted by **deleted** on 16 Oct 2007, 8:13 p.m.,  
in response to message #2 by Gene Wright

This Message was deleted. This empty message preserves the threading when a post with followup(s) is deleted. If all followups have been removed, the original poster may delete this post again to make this placeholder disappear.

### **(deleted post)**

Message #4 Posted by **deleted** on 16 Oct 2007, 8:56 p.m.,  
in response to message #3 by deleted

This Message was deleted. This empty message preserves the threading when a post with followup(s) is deleted. If all followups have been removed, the original poster may delete this post again to make this placeholder disappear.

### **(deleted post)**

Message #5 Posted by **deleted** on 16 Oct 2007, 9:20 p.m.,  
in response to message #4 by deleted

This Message was deleted. This empty message preserves the threading when a post with followup(s) is deleted. If all followups have been removed, the original poster may delete this post again to make this placeholder disappear.

### **Formatting of posts in this forum**

Message #6 Posted by **James M. Prange (Michigan)** on 16 Oct 2007, 9:35 p.m.,

*in response to message #1 by John Wasilewski*

John, if you really want to, then go ahead and use [pre] and [/pre] codes around ordinary text (although I recommend that you don't). But please, if you do, then please wrap the lines to a reasonable length. With a very long line within preformatted text, I have to scroll to the right to read the entire line, and then scroll all the way back to the left to see the beginning of the next line, which tends to make the post rather difficult to read.

By the way, that's also why:

Quote:

---

The "Edit" gadget was far off beyond the RH edge of my screen and it took me a while to discover I had to scroll out to the right to find it.

---

To force a short line, you can use a [nl] code. For a header, you can the [head] and [/head] codes. See <http://www.hp-museum.org/artfmt.htm> for some more advanced formatting possibilities. "Preformatting" is usually used only when exact line lengths and a fixed width font are desired; for example, for program code listings or tables. For ordinary text, I think it best to let the browser wrap it to fit the window size.

Regards,  
James

*Edited: 16 Oct 2007, 9:47 p.m.*

## **Re: HP35s - lock-up defect --> loss of all work -->latest**

*Message #7 Posted by [Stefan Vorkoetter](#) on 17 Oct 2007, 8:34 p.m.,*

*in response to message #1 by John Wasilewski*

Quote:

---

**MORE INFORMATION**

Users will know that the screen normally displays, "RUNNING" during program execution. Well, when it enters this lock-up condition, this message is absent from the display. That is a sure way of knowing you've lost it and won't get it back unless and until it finds something in the program to make it stop.

---

Interesting!

I'm just working on a curve fitting program (like the one built into the HP-41 Advantage Pac or the HP-42s). Some parts of my program, when running, display "RUNNING" on the screen. But other parts just give a blank screen for a few seconds and then display a result. I wonder what causes the two different behaviors?

Stefan

## **Re: HP35s - lock-up defect --> loss of all work -->latest**

*Message #8 Posted by [Seth Morabito](#) on 17 Oct 2007, 8:51 p.m.,*

*in response to message #7 by Stefan Vorkoetter*

Hello Stefan,

Can you break out of your program with R/S while the blank screen is displayed?

---

**Re: HP35s - lock-up defect --> loss of all work -->latest**

*Message #9 Posted by [Stefan Vorkoetter](#) on 17 Oct 2007, 9:07 p.m.,  
in response to message #8 by Seth Morabito*

No, I can't. The R/S key presses get queued up, and when the next stop point comes in a program (for instance, to VIEW a register), the program stops briefly and then continues.

Stefan

---

**Re: HP35s - lock-up defect --> loss of all work -->latest**

*Message #10 Posted by [John Wasilewski](#) on 18 Oct 2007, 6:36 p.m.,  
in response to message #9 by Stefan Vorkoetter*

Same as with my program

---

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## HP Forum Archive 17

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### **Any other HP calculators whose ROMs differ because of Int'l requirements, beside HP-17bII+?**

Message #1 Posted by [Peter A. Gebhardt](#) on 16 Oct 2007, 4:22 p.m.

For the last days I was busy to implement the German 17bII+ routines (onto my 200LX) which apply to special aspects of (an older) German consumer law concerning the representation of APRs (effective interest rates).

(The German law by the way, is based on rules to account for interest accumulated during the year in a special way, different from eg. ISMA rules).

The examples and a solver equation are described in the German version of the 17bII+ manual **only** - because they only appear in the menu of the calculator, if you've chosen German as the menu language!

Unfortunately the solver equation described in the Appendix of said manual was incomplete - so it took me some time to solve the puzzle of missing functions and I finally got it working.

(German speaking readers needing this solver equation - which resembles the STAFF menu on said calculator - should contact me by PM).

In the process of working on my problem, I thought of the ramifications of that special German part of the calculators firmware.

As we all know, changing or adding to an existing piece of software, already working flawlessly, might introduce unwanted "side effects" - can someone spell L() & G() problems on the 17bII+ ...

So beside hinting to HP engineers working on an updated 17bII+ to look into the effects of that German "speciality", I wondered if there are other calculators, which do contain routines especially implemented to serve the purpose of other certain Int'l environments.

Any other "hidden" treasuries out there?

Best regards

Peter A. Gebhardt

PS: Last Edit changed headline

*Edited: 16 Oct 2007, 6:57 p.m.*

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## HP Forum Archive 17

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### **O.T. Indirect addressing onn the Sharp PC-1201?:**

Message #1 Posted by [Palmer O. Hanson, Jr.](#) on 16 Oct 2007, 12:10 p.m.

A correspondent wrote:

Quote:

It is very difficult to find detailed information about the programming of the PC-1201 and I cannot find it at ebay. Is it really possible to use indirect addressing on this calculator?

He also noted that Viktor Toth's site indicates that indirect addressing is available on the PC-1201. I have a PC-1201 but no manual. I have been able to use trial and error to figure out how to write simple programs using branching with comparison tests but haven't been able to do indirect addressing. Can anyone help?

### **Re: O.T. Indirect addressing onn the Sharp PC-1201?:**

Message #2 Posted by [Valentin Albillo](#) on 16 Oct 2007, 1:55 p.m.,  
in response to message #1 by [Palmer O. Hanson, Jr.](#)

Hi, Palmer:

I neither own nor know in depth this model, but it seems to me that it's unlikely to have indirect addressing for the following reasons:

- First, I've been unable to find any reference to indirect capabilities in this machine despite lots of searching.
- Second, a glance at its keyboard doesn't seem to reveal any legend on the keys that could correspond to an index register, indirect addressing, etc.
- Third, with just 128 steps of program memory and only 12 memory registers, all of them likely to be directly addressable being that few, I don't see any real use for indirect addressing in this machine.

In any case, if I were your correspondent, I would kindly ask Mr. Toth himself, as he seems to own one and be very knowledgeable about it.

There's also a firm on the web which claims to provide nearly every manual under the sun, in PDF format, for a fee, and this model appears in their list of available ones. Google for "manuals in PDF" if willing to give it a try.

Best regards from V.

### **Re: O.T. Indirect addressing onn the Sharp PC-1201?:**

Message #3 Posted by [Xerxes](#) on 16 Oct 2007, 6:29 p.m.,

*in response to message #2 by Valentin Albillo*

Hello Valentin,

Yes, I think it's easier to ask Victor Toth himself. I have asked Palmer because I saw that he had tested the accuracy of the PC-1201 some times ago. I have looked for the manual before but I guess the manual is not available for downloading.

The competitor from CASIO the FX-202P has indirect addressing with 127 steps and 11 registers, that makes it difficult to use it for a practical job also.

## **Re: O.T. Indirect addressing onn the Sharp PC-1201?:**

*Message #4 Posted by [Namir](#) on 16 Oct 2007, 5:12 p.m.,  
in response to message #1 by Palmer O. Hanson, Jr.*

The Sharp PC 1201 belongs to a class for handheld (aka pocket) computers that use the old line-numbered BASIC. You create arrays using the DIM statements and then you access the array elements using other variables whose values represent indices for the array ... that's how indirect addressing works in BASIC pocket computers.

Namir

## **Nope, Namir.**

*Message #5 Posted by [Valentin Albillo](#) on 16 Oct 2007, 5:39 p.m.,  
in response to message #4 by Namir*

This is the SHARP PC-1201 (keystroke programmability), not the SHARP PC-1211 (BASIC language programming).

Best regards from V.

## **Thank you**

*Message #6 Posted by [Palmer O. Hanson, Jr.](#) on 16 Oct 2007, 9:25 p.m.,  
in response to message #5 by Valentin Albillo*

I wrote to Viktor and received the following response:

Quote:

\_\_\_\_\_

I think the information in my database is wrong. I just checked the PC-1201 manual, and I see no signs of indirect addressing; it has twelve registers(0-9, S, and t) but only the t-register has any special functions, in conditional jumps.

\_\_\_\_\_

Thanks to all who responded so promptly. That is one of the really impressive characteristics of this forum.

*Edited: 17 Oct 2007, 3:38 a.m.*

## **Re: Thank you**

*Message #7 Posted by [Xerxes](#) on 17 Oct 2007, 6:14 a.m.,  
in response to message #6 by Palmer O. Hanson, Jr.*

Hello Palmer,

I wrote to Victor too, but getting the answer from him, I saw that you was a bit faster than me.

Thanks for clarification.

**Re: Nope, Namir.**

*Message #8 Posted by [Namir](#) on 18 Oct 2007, 5:42 p.m.,  
in response to message #5 by Valentin Albillo*

You are right! I stand corrected!

: -)

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## HP Forum Archive 17

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### HP42s Memory Upgrade Questions.

Message #1 Posted by [Thomas Chrapkiewicz](#) on 16 Oct 2007, 10:59 a.m.

Hello:

I would like to upgrade a couple 42s's to 32k and would like to solicit others experience(s).

Is the 32kx8 SRAM from a dead HP48 or HP38 a satisfactory device or is the current consumption prohibitive?

Are there more modern SRAM ICs available that could substitute for the 62256?

Thanks for your assistance, TomC ps: Thanks again to Lyukas fine photo documentation.

### Re: HP42s Memory Upgrade Questions.

Message #2 Posted by [Lyuka](#) on 16 Oct 2007, 12:38 p.m.,  
in response to message #1 by Thomas Chrapkiewicz

Hi.

Quote:

Is the 32kx8 SRAM from a dead HP48 or HP38 a satisfactory device or is the current consumption prohibitive?

It depends, however, I might think, if it's low power SRAM or not won't be a matter so much, as the total standby current that I have measured was not so small but around 9uA which is much more than typical standby current of standard 62256 SRAM.

Quote:

Are there more modern SRAM ICs available that could substitute for the 62256?

There are modern 32Kx8 SRAM as Renesus's M5M5256DFP-70XG or M5M5256DVP-70XG which have wide operating voltage range of 3V to 5.5V and very low standby current of 50nA(typ) at Vdd=3.3V, but they are not supplied in a classical relatively large SOIC28 package.

Regards, Lyuka

p.s. Thanks TomC. Good luck.

# typo collected : 7uA -> 9uA

*Edited: 19 Oct 2007, 10:28 p.m. after one or more responses were posted*

### **Re: HP42s Memory Upgrade Questions.**

Message #3 Posted by [Thomas Chrapkiewicz](#) on 19 Oct 2007, 6:07 p.m.,  
in response to message #2 by [Lyuka](#)

Lyuka:

Thank you for your helpful response. I realize that not all SRAM devices have the same 'idle' current drain - especially down in the nA range (7uA to 50nA is over a factor of 100!!!)

I will look into this much more closely. Regards, TomC

### **Re: HP42s Memory Upgrade Questions.**

Message #4 Posted by [Lyuka](#) on 19 Oct 2007, 11:15 p.m.,  
in response to message #3 by [Thomas Chrapkiewicz](#)

Hi.

"9uA" mentioned above is NOT the standby current of the SRAM but the TOTAL standby current drain from the batteries.

Generally, the typical standby current of the old 6264 SRAM will be in the range of 0.5~2uA. That of the latest 62256 lowpower SRAM (used at Vdd=5V) will be 0.1~0.3uA.

### **Re: HP42s Memory Upgrade Questions.**

Message #5 Posted by [randy](#) on 16 Oct 2007, 5:16 p.m.,  
in response to message #1 by [Thomas Chrapkiewicz](#)

Quote:

Is the 32kx8 SRAM from a dead HP48 or HP38 a satisfactory device or is the current consumption prohibitive?

They are CMOS static devices and as such the standby current is, in the scheme of things, insignificant. Active current is not a concern...

Quote:

Are there more modern SRAM ICs available that could substitute for the 62256

What's wrong with the "older" devices? IMO, there is absolutely no reason not to use the older Fujitsu/Winbond/Sony/Toshiba 256kb devices found in the 48 and 38G's. I've used them all, along with some Cypress parts I bought early on. I found no difference in battery life regardless of which device was used.

The bigger and more important question is the one you should be asking yourself: Why do I need 32K in a 42S?

The thought of having to enter even 8k's worth of programs is enough to put me off the task. Loosing that much work would be very, very painful.

### **Re: HP42s Memory Upgrade Questions.**

Message #6 Posted by [Stefan Vorkoetter](#) on 17 Oct 2007, 10:42 a.m.,

*in response to message #5 by randy*

Quote:

What's wrong with the "older" devices?

Just that you can't get them any more.

Stefan

### **Re: HP42s Memory Upgrade Questions (# 1 being: "Why?").**

*Message #7 Posted by **Paul Brogger** on 18 Oct 2007, 10:52 a.m.,*

*in response to message #5 by randy*

Quote:

The bigger and more important question is the one you should be asking yourself: Why do I need 32K in a 42S?

Wise counsel. Take heed!

The only reason I did it, lo so many years ago, was to see if I could. The answer turned out to be: "yes".

I've never come close to filling any keyboard-entry-only calculator with anything like 8K of meaningful programming. (I did fill my first 33s with I-don't-remember-how-many-thousand <Enter> commands, but just to test its program editor near its memory limit.)

You may have special needs, but do evaluate those carefully. Something like the PC-connectible 50G may be a far better choice, in the long run.

### **Re: HP42s Memory Upgrade Questions.**

*Message #8 Posted by **Vieira, Luiz C. (Brazil)** on 18 Oct 2007, 2:09 p.m.,*

*in response to message #5 by randy*

Hi, Stefan;

after Paul's considerations, I'd add that you could try solving bigger matrices. I remember testing some years ago and I got these figures from [this thread](#)):

Quote:

maximum square matrices for a hacked, 32KRAM HP42S:

```
SIZE 0000  
[62x62 Matrix], 1004 bytes free memory  
[44x44 Cpx Matrix], 780 bytes free memory
```

Maximum size, nothing else in RAM: 3,967!)

Keying the matrix elements in is another story... any I/O resource is missed at this time.

What I did not test was what matrix operations could be performed with the remaining RAM as cache memory.

Cheers.

Luiz (Brasil)

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## HP Forum Archive 17

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### My analysis of Joel's HP35s' bug

Message #1 Posted by [Valentin Albillo](#) on 16 Oct 2007, 9:37 a.m.

Hi, all:

I'm starting this new thread instead of directly replying to [the original message by Meenzer](#) because it was getting very deeply nested and besides it was somewhat ancillary re the first posting on that thread which was about neverending, supposedly non-interruptable loops and such.

Here I'll briefly comment on my analysis of Joel's bug, as described in Meenzer's message. In order to get an idea of just what's happening and why we aren't getting the expected correct result it's fairly obvious that to be able to make any progress at all it is essential that we get to know exactly *what* are we getting instead. That is, we must identify that weird **31.323** resting defiantly on our screen.

A little fiddling with my own program **IDENTIFP**, described in my Datafile article "[Boldly Going ... - Identifying Constants](#)" (which you can download in PDF format for free at [my Calculators web site](#)) quickly reveals the following when applied to all inputs and outputs:

X = 156.25,                    gets identified as 5<sup>4</sup>/4

R = 208.333333334, gets identified as 5<sup>4</sup>/3

Q = 1.77951304201, gets identified as SQRT(19/6)

-R\*X/(X\*Q-R) = -466.926956302,

this actually doesn't need any identification, since we know exactly how it is computed and have already identified the inputs. Anyway, for the sake of completeness it gets identified as

$$5^4 / (4 - 3 * \text{SQRT}(19/6))$$

Now, the mystery value, which in full is **31.3230923085**, after some playing around with IDENTIFP gets identified as:

$$31.3230923085 = 5^4 / (4 - \text{SQRT}(19/6) / (1/3 - \text{SQRT}(19/6)/4))$$

which can be recognized at once as the result of evaluating:

$$-R * X / (\text{REGX} * Q - R)$$

where REGX is of course the result of previously evaluating:

$$-R * X / (X * Q - R)$$

so, essentially, the bug consists in that some internal coding error in the HP35s ROM is replacing the **second** reference to *direct variable X* in the second equation with a reference to *stack register X* instead.

What the internal coding error consists of is anyone's guess.

Best regards from V.

### **Re: My analysis of Joel's HP35s' bug**

*Message #2 Posted by [Meenzer](#) on 16 Oct 2007, 10:07 a.m.,  
in response to message #1 by Valentin Albillo*

Thank you for opening a new thread and analyzing so beautifully the problem. Just as an aside I wanted to note that the wrong result comes up no matter what variable name you put in the EQN. So, if you replace X with K, it's still buggy. It seems at least there is no direct relation between the variable X and REGX. I now did the following, just for fun I entered "-S\*L/(K\*R-S)" as an EQN, providing it with the same numbers for L and K as they both stand in for X.

Result: first time I get asked all 4 variables and obtain the correct result. Second time I get no prompt for K and the result is wrong. Third time is like first time, fourth time like second and so on...

When I now key in "-S\*L/(K\*R-T)", providing S and T with the original R value, the 35s still asks me for S and T in every run but omits asking for K every second time, with the same alternating results as above.

*Edited: 16 Oct 2007, 10:18 a.m.*

### **Re: My analysis of Joel's HP35s' bug**

*Message #3 Posted by [Valentin Albillo](#) on 16 Oct 2007, 10:22 a.m.,  
in response to message #2 by Meenzer*

Hi, Meenzer:

Meenzer posted:

*"So, if you replace X with K, it's still buggy. It seems at least there is no direct relation between the variable X and REGX."*

Yes, I knew, Meenzer. I don't actually state in my analysis above that the different X are related, matter of fact someone in the previous thread already mentioned that a change of variables makes no difference. Both being named X is most probably a coincidence.

After a pretty enthusiastic start, I'm beginning to worry somewhat about the HP35s (yet Gene said that this particular trait is also to be found in the HP33S, though no one knew).

Best regards from V.

### **Re: My analysis of Joel's HP35s' bug**

*Message #4 Posted by [Meenzer](#) on 16 Oct 2007, 10:26 a.m.,  
in response to message #3 by Valentin Albillo*

I now keyed in the EQN as "-R\*X\*INV(X\*Q-R)" which should be mathematically identical, both in EQN mode and as an EQN in a program. Both times the results are always correct.

When I change the original EQN to "-R\*X/((X\*Q-R))" with two pairs of parentheses, the result is also correct, both in EQN mode and in a program. So maybe it's a problem of operator priority.

Valentin, I know you didn't state that X and REGX had something to do with one another. I just wrote that to clarify, partly for myself ;-)

*Edited: 16 Oct 2007, 5:26 p.m.*

## Indeed a very *\*insightful\** analysis of Joel's HP35s' bug!

Message #5 Posted by **Karl Schneider** on 16 Oct 2007, 4:58 p.m.,  
in response to message #1 by Valentin Albillo

Hi, Valentin --

That looks like great work! I'll have to check out your "IDENTIFP" promptly, because I don't understand the concept of identifying constants as something other than exactly the entered value. (Perhaps "gets identified" really means "*can be identified*"?)

At the 2007 San Diego HHC conference, Cyrille showed how some of the bugs in the HP-33s were likely introduced. I'm sure that there are other gremlins waiting to trip us up.

-- KS

*Edited: 16 Oct 2007, 5:28 p.m.*

## Re: Indeed a very *\*insightful\** analysis of Joel's HP35s' bug!

Message #6 Posted by **Valentin Albillo** on 16 Oct 2007, 6:16 p.m.,  
in response to message #5 by Karl Schneider

Hi, Karl:

Karl posted:

*"That looks like great work!"*

Thanks for your kind appreciation

*"I'll have to check out your "IDENTIFP" promptly, because I don't understand the concept of identifying constants as something other than exactly the entered value."*

Please do. I think that a mathematically inclined reader such as you will probably find it very interesting, a real eye-opener. Essentially a very simple concept, yet the math applications seem limitless. You see, it can even be used for "forensic" detection purposes ! :-)

*"Perhaps "gets identified" really means "can be identified"?"*

You could say so, if you wish. IDENTIFP outputs both the symbolic expression that most closely evaluates to the constant being identified (depending on some input parameters such as range of functions to try, tolerances, etc) *and a confidence indicator* which goes from 0% to 100% and essentially measures the identification's reliability.

Values 95% and above are labeled "*identified as*" while lesser values are labeled "*might be*" and then it's up to the user to decide whether the alleged symbolic identification holds math merit or not. Please see the many (and I mean *many*) carefully chosen examples in the article to see how it all fits.

*"At the 2007 San Diego HHC conference, Cyrille showed how some of the bugs in the HP-33s were likely introduced."*

Should that be outside the NDA, it would be very interesting to get to know, to further heighten our understanding of the many caveats and pitfalls awaiting the daring ROM coders.

Best regards from V.



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## HP Forum Archive 17

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### Cosmetic comparison of early HP 35s with recent HP35s

Message #1 Posted by [Seth Morabito](#) on 16 Oct 2007, 12:28 a.m.

I finally opened the HP 35s that I received at HHC 2007. It's a very recent production unit, SN: CNA 73400663. It was made 13 weeks after my other HP 35s was produced, so I wanted to compare the two and see if there were any differences.

Both report having ROM version 1, so I don't think (nor did I expect) that there are any operational differences.

I do note that the printing is a bit clearer and bolder on the newer 35s. It's fairly noticeable on the yellow labels especially. They're more readable in my opinion.

The biggest change I notice is that the key click is definitely firmer on the new 35s. The old one has a softer click, like the 41C. The newer one has a very definite "click", more like a 12C's keys, or so it seems to my fingers.

Totally minor and insignificant changes, but somewhat interesting to a nosy fellow like me. (Also, apparently I have too much time on my hands, despite my workplace's best efforts)

*Edited: 16 Oct 2007, 12:30 a.m.*

### Re: Cosmetic comparison of early HP 35s with recent HP35s

Message #2 Posted by [Matt Kernal](#) on 16 Oct 2007, 2:13 p.m.,  
in response to message #1 by [Seth Morabito](#)

The 35S I received at HHC2007 has a small blemish in the faceplate opening where the "blue shift" key protrudes.

Instead of there being a perfectly straight line along the bottom edge of the rectangular-shaped hole, there is a small radius of missing material about 3mm from the lower-left corner. The blemish appears as shiny metal in the otherwise black background color of the faceplate.

Pure speculation here, but I don't think it occurred during the stamping of the faceplate, but rather during the printing of the yellow/gold shifted nomenclature, when the faceplate may have been secured by some kind of misaligned metal pin as part of a locating fixture.

Obviously, I too have too much time on my hands - except for this pile of work here that won't go away ;-)

*Edited: 16 Oct 2007, 2:17 p.m.*

### Re: Cosmetic comparison of early HP 35s with recent HP35s

Message #3 Posted by [Seth Morabito](#) on 16 Oct 2007, 4:52 p.m.,  
in response to message #2 by [Matt Kernal](#)

Ha! Mine does too, interesting! I didn't even notice it until you pointed it out. I dabbed it with a [Sharpie](#) and it's now gone.

---

**Re: Cosmetic comparison of early HP 35s with recent HP35s**

Message #4 Posted by [Dave Shaffer \(Arizona\)](#) on 16 Oct 2007, 5:26 p.m.,  
in response to message #2 by Matt Kernal

Mine (also from HHC2007) has the blemish, too.

---

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**Re: Cosmetic comparison of early HP 35s with recent HP35s**

Message #5 Posted by [Brad Davis](#) on 16 Oct 2007, 7:01 p.m.,  
in response to message #1 by Seth Morabito

Quote:

...The biggest change I notice is that the key click is definitely firmer on the new 35s. The old one has a softer click, like the 41C. The newer one has a very definite "click", more like a 12C's keys, or so it seems to my fingers. ...

How does the new keyboard feel compare to the 50g? I had a 50g, but hated the stiff keys and then bought a 35s. I think its keys are absolutely perfect. If they made it stiff like the 50g, then they just made it worthless to me personally.

Mine has the number CNA 72102730. Is there any way to find out if I have one with the softer or firmer keys?

*Edited: 16 Oct 2007, 7:03 p.m.*

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**Re: Cosmetic comparison of early HP 35s with recent HP35s**

Message #6 Posted by [Seth Morabito](#) on 16 Oct 2007, 8:38 p.m.,  
in response to message #5 by Brad Davis

They're not anywhere as stiff as a 50g. I find the 50g keys far too stiff myself. I think the 35s keys are nearly perfect. The newer keys have the same tactile response and pressure required, just a bit more "click" to them, that's all.

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---

**Re: Cosmetic comparison of early HP 35s with recent HP35s**

Message #7 Posted by [Brad Davis](#) on 16 Oct 2007, 9:26 p.m.,  
in response to message #6 by Seth Morabito

Thanks Seth. I was wondering if I needed to buy 3-4 of the older 35s really quick!

I'm beyond happy with mine. I've been using HPs for almost 20 years and I am faster with my 35s than all the others. I'm slowest and least accurate with my 50g (well, my former 50g) and my 33s and it's entirely because the keys are too stiff and travel too far. I don't program calculators, so speed and accuracy are top priority.

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**Re: Cosmetic comparison of early HP 35s with recent HP35s**

Message #8 Posted by [John Wasilewski](#) on 17 Oct 2007, 2:04 p.m.,  
in response to message #7 by Brad Davis

I like very much the HP35s keys and functionality. --- John

---

## Re: Cosmetic comparison of early HP 35s with recent HP35s

Message #9 Posted by [Stefan Vorkoetter](#) on 17 Oct 2007, 10:44 a.m.,  
in response to message #1 by Seth Morabito

Quote:

---

Both report having ROM version 1, so I don't think (nor did I expect) that there are any operational differences.

---

How do you get it to tell you the ROM version?

Stefan

## Re: Cosmetic comparison of early HP 35s with recent HP35s

Message #10 Posted by [Seth Morabito](#) on 17 Oct 2007, 2:24 p.m.,  
in response to message #9 by Stefan Vorkoetter

Press C/ON and XEQ simultaneously to go into self-test mode. Then press the + key nine times to step through all the self-tests (pressing + will let you skip the keyboard test).

The top line should display "35S-OK", and one of the flag indicators should be set. Add 1 to the flag that is displayed, and that's the ROM revision. Mine displays the 0 flag indicator, so I have ROM version 1. Hopefully at some point in the future, we'll start seeing Flag 1 set, and a lot fewer bugs :)

When you're done, press C/ON + GTO to leave the self test mode.

*Edited: 17 Oct 2007, 2:25 p.m.*

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## HP Forum Archive 17

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### **Museum DVD missing page(s) of HP Journal Article from 1976 ...**

*Message #1 Posted by [Gene Wright](#) on 15 Oct 2007, 11:00 p.m.*

Looking for the final page (or two or three) from the 1976 HP Journal article on the HP 92 financial printing desktop calculator.

The PDF on the Museum DVDs ends at page 6 of this article .. but there is at least another page, since the text on this page ends with:

"Example: Key the following values into the HP 92:"

but that's it. :-)

Must be something missing.

Anyone have the final page or two?

### **Re: Museum DVD missing page(s) of HP Journal Article from 1976 ...**

*Message #2 Posted by [Egan Ford](#) on 16 Oct 2007, 4:37 a.m.,  
in response to message #1 by Gene Wright*

Here's what Google had to say about it:

[http://www.hparchive.com/hp\\_journals.htm](http://www.hparchive.com/hp_journals.htm)

### **Re: Museum DVD missing page(s) of HP Journal Article from 1976 ...**

*Message #3 Posted by [Peter A. Gebhardt](#) on 16 Oct 2007, 6:47 p.m.,  
in response to message #1 by Gene Wright*

Gene,

It's in October 1977!

<http://www.hpl.hp.com/hpjournal/pdfs/IssuePDFs/1977-10.pdf>

Best regards

Peter A. Gebhardt

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## HP Forum Archive 17

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### **REGX, REGY, REGZ... and a bit more. (HP35S)**

Message #1 Posted by [Vieira, Luiz C. \(Brazil\)](#) on 15 Oct 2007, 10:35 p.m.

Hi, all;

I was trying some other things in the HP35S and I realized that REGX, REGY, etc. can be entered step by step ([RCL] R, [RCL] E, etc.) and work the same. IN fact, they are editable as any other valid equation sequence.

Well, this points to the fact that REGX, REGY and so are not actually functions, and that the HP35S SOLVE/EQN can be customized.

What other 'codes' might be valid?

And what is the chance that some of these 'internal codes' (if existing, no urban legend...) are found in a program and cause some unexpected behavior, like... an endless loop? If REGX, REGY and so are simply a sequence of characters that make sense, which others may exist that should be used in particular cases? I mean unsuspected sequences, like C,T, for example (found in John's program), that would cause no harm when executed step-by-step ('running program' flag cleared) but would lock the calculator when in running mode?

Maybe there's more to be inspected here... and HP might be of help if pointing some 'harm codes' out, if any.

Cheers.

Luiz (Brazil)

*Edited: 16 Oct 2007, 12:08 a.m.*

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## HP Forum Archive 17

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### **Is John's "never ending program" available online for download in word format?**

Message #1 Posted by [Gene Wright](#) on 15 Oct 2007, 8:52 p.m.

Thanks...want to give it a try on the range of 35s models I have.

The sooner...

Failing that, if ONE person could email it to me and then post here that it has been emailed (so that I don't get 1000 copies), that would be good too.

### **Re: Is John's "never ending program" available online for download in word format?**

Message #2 Posted by [Vieira, Luiz C. \(Brazil\)](#) on 15 Oct 2007, 9:22 p.m.,  
in response to message #1 by Gene Wright

Hi, Gene;

I have John's listing, but I am at the university right now and I do not have your e-mail address. I tried the MoHPC e-mail form, but has no attachment.

I'll be home later, if you have not yet received any I'll send you a copy.

Best regards.

Luiz (Brazil)

### **Luiz, you have email**

Message #3 Posted by [Gene Wright](#) on 15 Oct 2007, 9:27 p.m.,  
in response to message #2 by Vieira, Luiz C. (Brazil)

containing my email address. :-)

Thanks...

### **So do you...**

Message #4 Posted by [Vieira, Luiz C. \(Brazil\)](#) on 15 Oct 2007, 10:21 p.m.,  
in response to message #3 by Gene Wright

Hi, Gene;

it is probably being delivered right now.

Cheers.

Luiz (Brazil)

**Re: So do you...Hmm. Not there yet. :-) Try this email?**

*Message #5 Posted by [Gene Wright](#) on 15 Oct 2007, 11:05 p.m.,  
in response to message #4 by Vieira, Luiz C. (Brazil)*

The one found for my name here?

and, in that email, the letter that looks like a one is not. It is the letter "L" just lowercase. What a pain. :-)

[Link to gene's email](#)

*Edited: 15 Oct 2007, 11:07 p.m.*

**Sent to comcast now.**

*Message #6 Posted by [Vieira, Luiz C. \(Brazil\)](#) on 15 Oct 2007, 11:35 p.m.,  
in response to message #5 by Gene Wright*

Please, let me know if delivers this time.

Cheers.

Luiz (Brazil)

**Got it. Thx!**

*Message #7 Posted by [Gene Wright](#) on 15 Oct 2007, 11:41 p.m.,  
in response to message #6 by Vieira, Luiz C. (Brazil)*

Will key it into several 35s models if I get the chance. We'll see what happens.

**Re: Is John's "never ending program" available online for download in word format?**

*Message #8 Posted by [John Wasilewski](#) on 16 Oct 2007, 4:23 p.m.,  
in response to message #1 by Gene Wright*

CAN ANYONE TELL ME A WAY I CAN EASILY PLACE THE M\$WORD LISTING ON-LINE FOR ALL TO COLLECT AS AND WHEN THEY WANT IT?

John

**Re: Is John's "never ending program" available online for download in word format?**

*Message #9 Posted by [Seth Morabito](#) on 16 Oct 2007, 4:31 p.m.,  
in response to message #8 by John Wasilewski*

John,

I can host it on my website if you would like. I already have the version labeled "Beam 8110 Draft code ver 0.03" that was sent to me last week.

Just give me permission, and I'll put it up on my site and link to it here.

P.S.: I've also created a PDF version for those who do not have MS Word.

Edited: 16 Oct 2007, 4:53 p.m.

**Re: Is John's "never ending program" available online for download in word format?**

Message #10 Posted by [John Wasilewski](#) on 16 Oct 2007, 6:23 p.m.,  
in response to message #9 by Seth Morabito

Permission granted without hesitation.  
Please make version 05 available (already emailed to you).

If you think ver. 03 would also be useful, put that there as well, but I suggest you place a warning on the site about using ver 05 in preference. My own latest email is a bit long. Write your own guidance note on your web-page if you prefer, explaining what we need people to do and how they can help.

Could you also keep the log on teh web page of serial numbers known to have been tested properly?

John

**Re: Is John's "never ending program" available online for download in word format?**

Message #11 Posted by [Charles Oxford](#) on 17 Oct 2007, 4:59 p.m.,  
in response to message #9 by Seth Morabito

Is the program uploaded yet? I want to play too.

ceo

**Re: Is John's "never ending program" available online for download in word format?**

Message #12 Posted by [Seth Morabito](#) on 17 Oct 2007, 6:05 p.m.,  
in response to message #11 by Charles Oxford

Yes. Sorry for taking so long to upload it!

You may find the latest code here:

<http://www.loomcom.com/hp35s/>

**Re: Is John's "never ending program" available online for download in word format?**

Message #13 Posted by [Charles Oxford](#) on 17 Oct 2007, 8:19 p.m.,  
in response to message #12 by Seth Morabito

Thanks!

**Re: Is John's "never ending program" available online for download in word format?**

Message #14 Posted by [Meenzer](#) on 16 Oct 2007, 4:48 p.m.,  
in response to message #8 by John Wasilewski

You may put it on [megaupload](#) and place the link here.

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## HP Forum Archive 17

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### "14B - Fail 8" Message

Message #1 Posted by [Barbara Kanu](#) on 15 Oct 2007, 7:57 a.m.

Hello to all, I repeat the question that I found in the archive - no response was there:

"14B - Fail 8" Message Message #1 Posted by David Jobusch on 15 Sept 1999, 8:36 p.m. I've received email from someone asking about a problem they are having with their HP 14B. When the calculator is powered on, the display shows "14B - Fail 8". I don't have a 14B manual handy--does anyone know what this message means or can look this up for me? Thanks!

Do you have a solution for me? The error 8 is displayed and I don't know what to do now. Thanks a lot for any help. Best regards Barbara

### Re: "14B - Fail 8" Message

Message #2 Posted by [Miguel Toro](#) on 15 Oct 2007, 2:35 p.m.,  
in response to message #1 by [Barbara Kanu](#)

Hello Barbara,

Actually, this is the kind of message that you receive after a failed self-test. To clear it, you have to press and hold the "C" key and press the "PV" key then release both. If that does not work you can try this: press and hold "C", press and hold "N" and press "E+" (the summation key) then release them. That should reset the calculator and clear the memory.

There must be a problem with the machine. Try the self-test again with "C" + "PMT" for you to see if you get the error message again.

Regards,

Miguel

### Re: "14B - Fail 8" Message

Message #3 Posted by [Barbara Kanu](#) on 18 Oct 2007, 6:07 a.m.,  
in response to message #2 by [Miguel Toro](#)

Thanks a lot for the solution Best regards Barbara

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## HP Forum Archive 17

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**HP11 C**

Message #1 Posted by [Erik S. Andersen](#) on 15 Oct 2007, 5:27 a.m.

Hello!

Anyone who's got an HP11C (in good condition of course) for sale?

Please contact me.

E

**Re: HP11 C**

Message #2 Posted by [Vieira, Luiz C. \(Brazil\)](#) on 15 Oct 2007, 1:11 p.m.,  
in response to message #1 by [Erik S. Andersen](#)

Hi;

just a question, not a direction: have you tried the classified ads? [There is one being offered there](#), first page (not mine...). Maybe it suits your needs.

Cheers.

Luiz (Brazil)

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## HP Forum Archive 17

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### HP65 display

Message #1 Posted by [fredo](#) on 15 Oct 2007, 3:24 a.m.

Hello everyone

I am fortunate to have a HP65. The problem: the calculator does not show the negative sign. You have an idea of the problem Thanks

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## HP Forum Archive 17

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### HP 35s On/Off /Clear x reg Key

Message #1 Posted by [DavidB](#) on 15 Oct 2007, 2:00 a.m.

I don't know why I didn't notice this before, and sorry if this has been discussed already.

The key at the bottom left is labeled C in white letter and a blue -colored "ON"; it has a yellow-colored "OFF" above this key. Well, I think the "ON" label should be white as well.

Also, with the 35s turned on, I can turn it off using either sequence:

Shift-right

C key

or

Shift-left

C key

I never paid any attention to this when using my 32sII. This must be by design, as my 32sII also exhibits both OFF sequences.

Cheers!

David Bailey

*Edited: 15 Oct 2007, 2:09 a.m.*

### Re: HP 35s On/Off /Clear x reg Key

Message #2 Posted by [Karl Schneider](#) on 15 Oct 2007, 7:52 p.m.,  
in response to message #1 by DavidB

"DavidB" --

This has been mentioned before; it's a detail that was overlooked in the HP-35s , but not in the predecessor Pioneer-series models (e.g., HP-32SII), or even the HP-33s.

This may have been partly due to expedience in manufacturing: Only yellow is printed on the faceplate, but "a b/c" doesn't require the yellow shift key.

As you noted, either the yellow shift key or the blue shift key will work when turning the calc off. One can also pointlessly press the blue shift key prior to turning it on. So, the respective printed colors of "OFF" and "ON" are not *technically incorrect*, while "a b/c" in yellow actually is.

-- KS

*Edited: 15 Oct 2007, 7:54 p.m.*

**Re: HP 35s On/Off /Clear x reg Key**

*Message #3 Posted by [Martin Pinckney](#) on 16 Oct 2007, 11:24 a.m.,  
in response to message #2 by [Karl Schneider](#)*

The ab/c is **not** yellow on my 35s, but orange (like the alpha markings). Presumably this is to indicate that these functions are not related to either shift key, but their use is dependent on certain context of key input.

**Re: HP 35s On/Off /Clear x reg Key**

*Message #4 Posted by [Karl Schneider](#) on 16 Oct 2007, 4:15 p.m.,  
in response to message #3 by [Martin Pinckney](#)*

Hi, Martin --

Quote:

\_\_\_\_\_

The ab/c is not yellow on my 35s, but orange (like the alpha markings).

\_\_\_\_\_

Oh! So it is. (Darn that bad lighting...) So, why didn't HP just use white, as they did in the HP-32SII?

Quote:

\_\_\_\_\_

Presumably this is to indicate that these functions are not related to either shift key, but their use is dependent on certain context of key input.

\_\_\_\_\_

Probably so, but for consistency, "ON" could have been printed on in white on the faceplate, as it was on the HP-32SII...

-- KS

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## HP Forum Archive 17

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**PDA program for HP50G?**

Message #1 Posted by [WoodyW](#) on 14 Oct 2007, 10:32 p.m.

Does anyone know of a PDA/organizer program written for the HP50G? My main goal is scheduling meetings/appointments and contact information such as names, phone numbers, etc.

I don't want to buy (if I can help it) a Palm PDA or one integrated into my phone when I already carry around a sizable chunk of technology in the form of the 50G.

Although I also own some 48GX's, but I would really rather have it on the 50G since I like the screen better than the 48's.

Thanks in advance for all comments.

**Re: PDA program for HP50G?**

Message #2 Posted by [Meenzer](#) on 15 Oct 2007, 1:31 a.m.,  
in response to message #1 by [WoodyW](#)

Have a look at [www.hpcalc.org](http://www.hpcalc.org)  
They have various PIMs and such.

Edited: 15 Oct 2007, 1:33 a.m.

**Re: PDA program for HP50G?**

Message #3 Posted by [S. Martin](#) on 15 Oct 2007, 9:17 a.m.,  
in response to message #1 by [WoodyW](#)

Try Organizer 1.1 by J. Levy and Alain Robillard. It runs perfectly on a 50G and is the best PDA program for the 48/49/50 series IMHO. For a phone book, try Scribe 1.01, by the same authors. It works in conjunction with Org.

Steve

[Organizer 1.1 program for 48/49/50 series](#)

[Scribe 1.01 program for the 48/49/50 series](#)

**Re: PDA program for HP50G?**

Message #4 Posted by [WoodyW](#) on 15 Oct 2007, 9:35 a.m.,  
in response to message #3 by [S. Martin](#)

Thanks to both of you for the information. I had looked at hpcalc.org, but did not realize that programs written for the other calcs would work with the 50G. Is this typical of 48/49 programs?

I will load them up and take them for a spin later today.

Thanks again.

### **Re: PDA program for HP50G?**

*Message #5 Posted by [Seth Morabito](#) on 15 Oct 2007, 12:43 p.m.,  
in response to message #4 by WoodyW*

Most 48 and 49 programs will work without any problem on the 50g.

### **Re: PDA program for HP50G?**

*Message #6 Posted by [Bruce Bergman](#) on 15 Oct 2007, 12:59 p.m.,  
in response to message #5 by Seth Morabito*

Most RPL programs written for the 48 will work on the 49/50. Some SYSRPL programs written for the 48 will work on the 49, and even less on the 50. Depends on what system calls they were using, etc. If it's pure RPL, you shouldn't have any problems.

thanks, bruce

### **Re: PDA program for HP50G?**

*Message #7 Posted by [James M. Prange \(Michigan\)](#) on 16 Oct 2007, 3:42 a.m.,  
in response to message #4 by WoodyW*

Quote:

Thanks to both of you for the information. I had looked at hpcalc.org, but did not realize that programs written for the other calcs would work with the 50G. Is this typical of 48/49 programs?

First, some definitions. By "48 series", I mean the 48SX, 48S, 48GX, 48G, and 48G+. By "49 series", I mean the 49G, 49g+, 48gII, and 50g.

For the 49G, the "ROM" revision should be at least 1.19-6, but preferably 2.09 or 2.10-7. Of course the 49g+ and 50g should use 2.09 or 2.10-7. With the 48gII, the ROM really is Read-Only Memory, so you're stuck with whatever the unit was manufactured with.

For pure UserRPL programs, a Kermit "ASCII" (source code) transfer from a 48 series to a 49 series will usually work, although a few 48 series commands may behave differently in the 49 series. Note that for any SYSEVAL or LIBEVAL command, the entry point will probably have to be changed.

In general, binary transfers between the 48 and 49 series won't work. However, for a pure UserRPL 48 series program, you can use a binary transfer to a 48 series calculator or a 48 series emulator, and then a Kermit ASCII transfer from there.

To use a 48 series SysRPL program in a 49 series, if you have the source code, then it should be possible to port it to the 49 series.

Any 49 series UserRPL program will work in any 49 series calculator.

For 49 series SysRPL programs, if only supported entry points are used, then they'll work in any 49 series calculator. If unsupported entry points are used, they may crash with any other ROM revision.

Anything for the ARM-based models (49g+, 48gII, and 50g) that uses the underlying ARM processor or uses the added "Saturnator" assembly language instructions, instead of sticking to RPL or legacy hardware Saturn instructions, won't work in the 49G or the Emu48-based emulators.

Regards,  
James

*Edited: 16 Oct 2007, 3:47 a.m.*

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## HP Forum Archive 17

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### 49g+/50 G Backup to SD Card

Message #1 Posted by [David Bengtson](#) on 14 Oct 2007, 4:38 p.m.

Below is a listing of a backup routine I use on my 49g+ to back up everything to a directory on an SD card. The directory used is \bkup\YYYYMMDD.hhm, so every backup is in a unique directory. I've assigned this to an alarm that runs at 1:00 am daily so I have daily full backups. Since I have a 256 MByte card, I'm not worried about running out of storage. Every couple of weeks I go and delete the older directories.

I used a routine posted here that I'm unable to relocate, to copy everything in a port to a directory on an SD card. There is 1 syseval used to convert from a string to a global name. The backup is wrapped in a program that stores it in the variable 'bkup'.

I hope people find this useful.

Dave

```

%%HP: T(3)A(R)F(.);
@ Personal Backup Routine.
@
@ 5/4/2007 Started.
@ Backup User Keys to 'MyKEYS'
@ Backup Flags to 'MyFLAGS'

@ Wrap this in another wrapper to store the program into the variable "bkup"
\<<
@
@ Start of Executable
@
\<<
    @ Change Directory to Home
    PATH { HOME } EVAL

    @ Backup User keys and flags to variables in home directory
    RCLKEYS 'MyKEYS' STO
    RCLF 'MyFLAGS' STO
    @ Change to Std Display to generate Base Folder Name
    -49 CF -50 CF
    @ Generate a base folder name for the backups
    @ in the format YYYYMMDD.HHM
    "bkup/"
    @ generate YYYY0000
    DATE 100 * FP 100000000 *
    @ Generate MMDD and add to YYYY0000
    DATE 100 * IP 100 / DUP FP 10000 * + IP +
    @ Generate .HHM. Want to keep the directory in 8.3 format
    TIME 10 * IP 1000 / + \->STR +
    @ Done with Base, archive Home.
    @ Save latest backup name to a variable
    DUP 'BackupPath' STO
    @ Generate global name for backup.
    DUP "/Home.bck" +
    #05B15h SYSEVAL
    3. \->TAG @ Generate :3:\Backup\YYYYMMDD.HHM\Home.bck
    @ 06/01/2007 At this point, ARCHIVE is puking because the :3:\Backup\.. Is
    @ a string instead of global name.
    @ Fixed with a syseval. Doing it in user rpl didn't work because of the slashes.
    ARCHIVE
    @ Now I have home backed up, I can move to the ports. Use a routine from
    @ hpmuseum to write port variables to a backup.

```

```

\<<                                     @ Begin program.
"/" +                                   @ Append to path.
SWAP PVARs DROP                          @ List of port variable names.
1.                                        @ Loop index initial value.
OVER SIZE                                 @ Loop index final value.
FOR n                                     @
  DUP n GET                               @ Tagged port variable name.
  DUP RCL                                 @ Port variable object.
  SWAP DTAG                               @ Untagged port variable name.
  IF                                      @
    DUP TYPE 28. ==                       @ Library number?
  THEN                                    @
    "L" SWAP +                             @ Prepend "L".
  ELSE                                    @
    \->STR                                  @ Quoted name within string.
    2. OVER SIZE 1. - SUB                  @ Remove '"' name delimiters.
  END                                     @
  4. PICK SWAP +                           @ Prepend path string.
  3. \->TAG                                 @ Tag with port number for memory card.
  DUP PURGE                               @ Purge file if it exists.
  STO                                      @ Store object as file on memory card.
NEXT                                     @
DROP2                                    @ Discard path and list.
\>>                                     @ End program.

@ Write subroutine to a local variable.
\-> bkuppath sub

\<<
  @ Check to see if there is anything in the port.
  @ Check to see if SIZE == 0, if it is, then there isn't anything in the port.
  0 PVARs DROP SIZE 0. IF > THEN
  0 bkuppath "/Port0" + sub EVAL @ backup Port 0
  END
  1 PVARs DROP SIZE 0. IF > THEN
  1 bkuppath "/Port1" + sub EVAL @ Backup Port 1
  END
  2 PVARs DROP SIZE 0. IF > THEN
  2 bkuppath "/Port2" + sub EVAL @ Backup Port 2
  END
  "Backed up to: " bkuppath +
  @ Back to the correct flag settings.
  'MyFLAGS' RCL STOF
  @ Go back to the original Path.
  SWAP EVAL

\>>

\>>

@
@ End of Executable, start of store routine.
@
'bkup' STO
\>>

```

## Re: 49g+/50 G Backup to SD Card

Message #2 Posted by [Giancarlo \(Italy\)](#) on 15 Oct 2007, 6:57 a.m.,  
in response to message #1 by David Bengtson

Hi David.

First of all, thank you for sharing your program here.

I immediately put in onto my 50G to try it, but it errored out with a:

```

ARCHIVE Error:
Invalid DOS Name

```

message.

Seems like the ARCHIVE puking you mention in the comments is not cleared... Or - most probably - I missed something :-)

May you please help?

Thanks in advance.

Best regards.

Giancarlo

### **Re: 49g+/50 G Backup to SD Card**

*Message #3 Posted by [David Bengtson](#) on 15 Oct 2007, 8:02 p.m.,  
in response to message #2 by Giancarlo (Italy)*

You're probably using a comma instead of a decimal point, so when I create the directory name from the time, there is a comma instead of a period. Give me a couple of days and I'll fix it. I'll change the flag to be a decimal point, and then change it back at the end.

Dave

### **Re: 49g+/50 G Backup to SD Card**

*Message #4 Posted by [Giancarlo \(Italy\)](#) on 16 Oct 2007, 2:21 a.m.,  
in response to message #3 by David Bengtson*

Hi David.

Don't know if I got your point, but I tried several times to SST through your program in DEBUG mode, and I could see that TIME generated the number with a period.

For instance, trying it right now (it's about 8:18 AM GMT+1) it gives:

8.1826960083

and no comma is used :-?

Hope this is meaningful to you - in any case, thank you for your feedback & support.

Best regards.

Giancarlo

### **Re: 49g+/50 G Backup to SD Card**

*Message #5 Posted by [James M. Prange \(Michigan\)](#) on 16 Oct 2007, 7:26 a.m.,  
in response to message #4 by Giancarlo (Italy)*

Hi David and Giancarlo,

Giancarlo:

David's program, exactly as posted, works for me.

Quote:

Don't know if I got your point, but I tried several times to SST through your program in DEBUG mode,

and I could see that TIME generated the number with a period.

For instance, trying it right now (it's about 8:18 AM GMT+1) it gives:

8.1826960083

and no comma is used :-?



I think that the concern was that if you had your "fraction mark" mode set to use a comma instead of a period, then a valid name wouldn't be generated. However, David's use of SysRPL command `$>ID` via the SYSEVAL sequence allows any characters to be used in a global name. The only problem is that using the comma means that the subdirectory will be stored as a "long filename" on the card, as well as a generated "short filename", and the filer shows only the generated short filename, which isn't as useful. For example (on 2007-10-16, about 06:33), with the comma, the subdirectory will be stored as both 20071610,063 and 200716~1 (or similar), but only 200716~1 will be shown in the filer. Using the period, the subdirectory will be stored only as 20071610.063 (a "short filename"), and will be shown as such in the filer. Note that the format of the date portion depends on the state of flag -42.

Anyway, I think that the cause of your "Invalid DOS Name" error lies elsewhere. In case you keyed in the program manually, perhaps you used `"\"` where you should've used `"/`?

Note that for a relatively long program nicely posted as David's is, with an ASCII transfer header and proper translation sequences, the easiest way to get it into your calculator is to start an Edit of his post, copy and paste everything between his `[pre]` and `[/pre]` codes to a plain text file, and transfer the file to the calculator.

For the file as posted (including the "wrapper" program with the 'bkup' STO sequence), the BYTES command returns `#BA3h` and `721.5`, and after running that, BYTES on the bkup program returns `#B6AFh` and `694`.

David:

Your program is good as posted, and I hope you won't mind my pointing out a few possible improvements.

- The `{ HOME }` EVAL sequence can be replaced by the command HOME.
- The `-49 CF -50 CF` sequence can be replaced by the command STD.
- "Meaningful" local names are nice during development, but you can save a few bytes by replacing them with 1-character local names for the finished program.
- After running the program, the global variables MyKEYS, MyFLAGS, and BackupPath are left in the home directory. Perhaps purge MyKEYS and MyFLAGS after their last uses in the program?

Now that I think of it, the user keys (and alarms) are stored in the hidden subdirectory, which is backed up as part of the home directory by the ARCHIVE command and restored by the RESTORE command, so it isn't necessary to back them up in a global variable separately.

Why bother storing BackupPath at all?

Of course, if you really do want these variables to be left in the home directory when the program finishes, then suit yourself.

- If you really want to get fancy, you could include a FixUp program (stored as a global variable) to be run after a RESTORE, that would restore the saved flags, move any libraries and port variables ("backup objects") back to their original ports, and delete the archived MyFLAG variable and the FixUp program itself. For some ideas on how to accomplish this, see Bill Wickes's XARCHIVE program in either of his *HP 48 Insights Part I: Principles and Programming* books, available in the Museum CD/DVD-ROM set.
- As you've already noted, flag -51 should be forced to clear ("Fraction mark: .") to ensure a nice file name.
- Regarding your `#05B15h` SYSEVAL sequence, this of course invokes the SysRPL command `$>ID`. A possible alternative would be to use the `S~N` command from the built-in development library, but this would have the disadvantage that library 256 would have to be

attached when the program is compiled.

- When posting programs, it's helpful to others to include the results from the BYTES command, perhaps as a program comment.
- Using the wrapper program with the 'bkup' STO sequence may be useful for a recursive program that calls itself by name, but in general, it just means that the originally downloaded program will be left in the home directory, as well as the 'bkup' program, and the user will want to purge it. I think it better to just let the user decide the name, except in the case of those recursive programs, where the required name can be stated in a comment.

A basic problem with using subdirectories on the flash card is that they can't be deleted by the calculator itself (at least with built-in tools; some HPGCC tools may be able to); you have to use a PC (or possibly, added on tools) to do so.

Regards,  
James

*Edited: 16 Oct 2007, 9:08 a.m.*

## Re: 49g+/50 G Backup to SD Card

Message #6 Posted by [Giancarlo \(Italy\)](#) on 16 Oct 2007, 9:21 a.m.,  
in response to message #5 by James M. Prange (Michigan)

Hi James.

First of all, thank you for your kind support and feedback :-)

Quote:

I think that the concern was that if you had your "fraction mark" mode set to use a comma instead of a period, then a valid name wouldn't be generated

No, as far as I can remember (I'm not with my 50G at hand right now...) the calc uses a period as fraction mark (i.e. flag -51 clear).

Quote:

In case you keyed in the program manually, perhaps you used "\" where you should've used "/"?

Note that for a relatively long program nicely posted as David's is, with an ASCII transfer header and proper translation sequences, the easiest way to get it into your calculator is to start an Edit of his post, copy and paste everything between his

and

codes to a plain text file, and transfer the file to the calculator.

Well, actually I copied and pasted the text from David's e-mail into a plain text file on my laptop,  
then copied it onto the SD and then RCL'ed it on the stack of the 50G.  
Then, I run the 'IN' utility by John H. Meyers:

Quote:

```
\<< \->STR 3 TRANSIO RCLF SIZE 3 < #3016Bh #2F34Dh IFTE SYSEVAL +
```

STR\-> \>>

---

to translate the text into a program (forgive me for the simplification).

Subsequently, I stored it into a var named 'BKUP' and run it.

All in all, I think I didn't change a comma ;- ) of the whole listing...

I get the error I quoted in my first reply when the ARCHIVE command was issued;

when I used the SST utility, I could see that the #05B15h SYSEVAL command "transformed" the double-quote delimitator into a single one - I mean something like this:

```
":3:\Backup\YYYYMMDD.HHM\Home.bck"
```

```
#05B15h SYSEVAL
```

```
' :3:\Backup\YYYYMMDD.HHM\Home.bck'
```

then the ARCHIVE errored out....

OTOH, your hint about the date format gets me doubtful

Quote:

---

Note that the format of the date portion depends on the state of flag -42.

---

I'll double check as soon as I can - do you think that could be a root cause for my issue? Please let me know if and how can I help you to help me by providing you more (detailed) information.

In the meanwhile, thank you very much for your assistance.

Best regards.

Giancarlo

## Re: 49g+/50 G Backup to SD Card

Message #7 Posted by [James M. Prange \(Michigan\)](#) on 16 Oct 2007, 1:11 p.m.,  
in response to message #6 by Giancarlo (Italy)

Hi Giancarlo,

Quote:

---

First of all, thank you for your kind support and feedback :-)

---

You're quite welcome.

Quote:

---

Quote:

---

I think that the concern was that if you had your "fraction mark" mode set to use a comma instead of a period, then a valid name wouldn't be generated

---

No, as far as I can remember (I'm not with my 50G at hand right now...) the calc uses a period as fraction mark (i.e. flag -51 clear).

Quote:

---

In case you keyed in the program manually, perhaps you used "\"

where you should've used "/"?

Note that for a relatively long program nicely posted as David's is, with an ASCII transfer header and proper translation sequences, the easiest way to get it into your calculator is to start an Edit of his post, copy and paste everything between his [pre] and [/pre] codes to a plain text file, and transfer the file to the calculator.

---

Well, actually I copied and pasted the text from David's e-mail into a plain text file on my laptop, then copied it onto the SD and then RCL'ed it on the stack of the 50G. Then, I run the 'IN' utility by John H. Meyers:

Quote:

---

```
\<< \->STR 3 TRANSIO RCLF SIZE 3 < #3016Bh #2F34Dh IFTE
SYSEVAL + STR\-> \>>
```

---

to translate the text into a program (forgive me for the simplification).

Since no angular components are used, your calculator is using the period for the fraction mark, and apparently you didn't include the

```
%%HP: T(3)A(R)F(.);
```

transfer header, that would work correctly.

What about the results from the BYTES command? Are your results the same as mine?

Note that John's RCLF SIZE 3 < sequence is a clever way of distinguishing between the 48 and 49 series, so that the correct entry point can be selected to invoke the SysRPL command KINVISLF, which does the ASCII translations.

Quote:

---

Subsequently, I stored it into a var named 'BKUP' and run it.

---

Right, which would've created a new variable 'bkup', with the "unwrapped" program stored in it. Or if you really stored the downloaded program as 'bkup', then the contents of 'bkup' would've been replaced by the unwrapped program instead of creating a new variable.

Quote:

---

All in all, I think I didn't change a comma ;- ) of the whole listing... I get the error I quoted in my first reply when the ARCHIVE command was issued; when I used the SST utility, I could see that the #05B15h SYSEVAL command "transformed" the double-quote delimiter into a single one - I mean something like this:

```
":3:\Backup\YYYYMMDD.HHM\Home.bck"
#05B15h SYSEVAL
':3:\Backup\YYYYMMDD.HHM\Home.bck'
```

---

As it should've done, except that it should be 'bkup/YYYYMMDD.HHM/Home.bck' or 'bkup/YYYYDDMM/Home.bck', depending on the state of flag -42. Note the forward slashes ("/) instead of backslashes ("\), and the tag (:3:) shouldn't be within the name.

Quote:

\_\_\_\_\_

then the ARCHIVE errored out....

\_\_\_\_\_

Well, I'm rather at a loss as to why it works for me but not for you.

Single-stepping through the program, just before executing the ARCHIVE command, you should have a tagged path name similar to

```
3. :  
bkup/20071610.121/Home.bck
```

or

```
3. :  
bckup/20071016.121/Home.bck
```

on stack level 1.

Quote:

\_\_\_\_\_

OTOH, your hint about the date format gets me doubtful

Quote:

\_\_\_\_\_

Note that the format of the date portion depends on the state of flag -42.

\_\_\_\_\_

I'll double check as soon as I can - do you think that could be a root cause for my issue?

\_\_\_\_\_

No. With flag -42 clear, the subdirectory name should be in a YYYYDDMM.HHM format, and with flag -42 set, it should be in a YYYYMMDD.HHM format. Either way, it shouldn't cause an error.

Quote:

\_\_\_\_\_

Please let me know if and how can I help you to help me by providing you more (detailed) information.

\_\_\_\_\_

Offhand, the results from the BYTES command run on your program would probably be the most helpful.

I doubt that this has anything to do with the problem, but which ROM revision is your 50g using?

Quote:

\_\_\_\_\_

In the meanwhile, thank you very much for your assistance.

\_\_\_\_\_

Again, you're welcome.

Regards,  
James

## Re: 49g+/50 G Backup to SD Card

Message #8 Posted by [Giancarlo \(Italy\)](#) on 16 Oct 2007, 4:33 p.m.,  
in response to message #7 by James M. Prange (Michigan)

Hi James.

Quote:

[...] and apparently you didn't include the %%HP: T(3)A(R)F(.); transfer header, that would work correctly

Correct. I did not include the transfer header 'cause there was no real "transfer" but the copy'n'paste into a text file then its recalling on the stack by means of the built-in filer.

Quote:

What about the results from the BYTES command? Are your results the same as mine?

This is a major puzzling clue - in fact I get:

```
'BKUP'
BYTES
#7188h
702.5
```

and this is not the same as yours - Hmmmm....

Quote:

I doubt that this has anything to do with the problem, but which ROM revision is your 50g using?

I doubt that as well, but however here's the output of the VERSION command:

```
"Version HP50-C
Revision #2.09"
```

By the way, the SD card I used (SanDisk 512 Mb) is the "usual" one I've been currently using for any other file transfer between 50G and laptop, with no major issues so far... In case you think it might prove helpful and you're willing to take a look, here follows what I can see on stack level 1 (right column) when single-stepping through the program in DBUG mode (left column):

```
"bkup/ "          "bkup/ "
DATE              10.162007
100.              100.
*                 1016.2007
FP                .2007
100000000.        100000000.
*                 20070000.
DATE              10.162007
100.              100.
```

```

*                1016.2007
IP               1016.
100.            100.
/               10.16
DUP             10.16
FP             .16
10000.         10000.
*              1600.
+              1610.16
IP             1610.
+              20071610.
TIME          22.091216809
10.            10.
*              220.91216809
IP            220.
1000.         1000.
/             .22
+             20071610.22
\-->STR        "20071610.22"
+             "bkup/20071610.22"
DUP           "bkup/20071610.22"
'BackupPath'  'BackupPath'
STO
DUP           "bkup/20071610.22"
"/Home.bck"  "/Home.bck"
+            "bkup/20071610.22/Home.bck"
#05B15h      # 5B15h
SYSEVAL      'bkup/20071610.22/Home.bck'
3.           3.
\-->TAG       3.: bkup/20071610.22/Home.bck
ARCHIVE      ARCHIVE Error: Invalid DOS name

```

Recalling that checksum different from yours, would you advise to go through each single line/command of the listing to check whether some misspelling slipped in?

===[EDIT]===

I made a spell check and the only differences between David's listing and my 50G program are:

1) all the numbers are reals - i.e. I have:

-49. CF

-50. CF

and

100.

100000000. and so on

2) the argument for SYSEVAL is shown as # 5B15h with no leading zero before the "5"  
..Still pointless differences, to me....

===[/EDIT]===

Thanks in advance for your precious feedbacks.

Warmest regards.

Giancarlo

*Edited: 16 Oct 2007, 5:06 p.m.*

## Re: 49g+/50 G Backup to SD Card

Message #9 Posted by **James M. Prange (Michigan)** on 16 Oct 2007, 11:04 p.m.,  
in response to message #8 by Giancarlo (Italy)

Hi Giancarlo,

Quote:

Correct. I did not include the transfer header 'cause there was no real

"transfer" but the copy'n'paste into a text file then its recalling on the stack by means of the built-in filer.

---

And just to be certain, I did that and tried John's IN program, and got exactly the same results as with my own program to convert a source code string to an object.

Quote:

---

Quote:

---

What about the results from the BYTES command? Are your results the same as mine?

---

This is a major puzzling clue - in fact I get:

```
'BKUP '  
BYTES  
#7188h  
702.5
```

and this is not the same as yours - Hmmm....

---

Part of that may be explained by my recalling the stored object itself to the stack (as in 'bkup' RCL BYTES) instead of using the quoted global name (as in 'bkup' BYTES). My reasoning is that (except for a recursive program that calls itself by name), the name could be any valid global name that the user happens to choose, without affecting the object's execution, and if the quoted name is used, then its size plus 1 byte for the variable structure is included in the size that BYTES returns; that is, it returns the amount of memory actually used to store the variable, but I'm more interested in the size of the program itself. But using the name doesn't affect the BYTES command's checksum result; that's calculated using the stored object only.

Anyway, doing 'bkup' BYTES (with the program compiled in exact mode) returns:

```
# B6AFh  
702.5
```

That's the same size that you got (an extra 8.5 bytes because of the 4-character name), but the same checksum that I got before, which indicates a real difference between my program and yours.

Quote:

---

I doubt that as well, but however here's the output of the VERSION command:

```
"Version HP50-C  
Revision #2.09"
```

---

Okay, I was using 2.10-7, so I re-flashed to 2.09, but, as I expected, that didn't make any difference for this program.

Quote:

---

By the way, the SD card I used (SanDisk 512 Mb) is the "usual" one I've



been currently using for any other file transfer between 50G and laptop, with no major issues so far...

Okay, I very much doubt that there's any problem with the card.

Quote:

In case you think it might prove helpful and you're willing to take a look, here follows what I can see on stack level 1 (right column) when single-stepping through the program in DEBUG mode (left column):

```

"bkup/ "          "bkup/ "
DATE             10.162007
100.            100.
*               1016.2007
FP              .2007
100000000.     100000000.
*               20070000.
DATE             10.162007
100.            100.
*               1016.2007
IP              1016.
100.            100.
/               10.16
DUP             10.16
FP              .16
10000.         10000.
*               1600.
+               1610.16
IP              1610.
+               20071610.
TIME            22.091216809
10.             10.
*               220.91216809
IP              220.
1000.          1000.
/               .22
+               20071610.22
\->STR          "20071610.22"
+               "bkup/20071610.22"
DUP             "bkup/20071610.22"
'BackupPath'   'BackupPath'
STO
DUP             "bkup/20071610.22"
"/Home.bck"    "/Home.bck"
+               "bkup/20071610.22/Home.bck"
#05B15h        # 5B15h
SYSEVAL        'bkup/20071610.22/Home.bck'
3.             3.
\->TAG          3.: bkup/20071610.22/Home.bck

```

Up to here, with the program compiled in approximate mode, the only differences that I noticed are due to the different times. Okay, your 20071610.22 subdirectory name is an "8.2 name" (due to being in STD mode instead of 3 FIX mode when `\->STR` runs) instead of an "8.3 name", but that won't cause the ARCHIVE command to error out; any name with only characters valid for a filename should work as well, as long as there are no more than 8 characters before the "dot" and no more than 3 characters following it. Even extra characters won't cause an error, they'll simply cause it to be treated as a "long filename".

Quote:

```

ARCHIVE          ARCHIVE Error: Invalid DOS name

```

But here, my ARCHIVE command doesn't error out, and I can continue the program

to completion. Why does it error out for you but not for me? I don't know; that doesn't make any sense to me. I note that ARCHIVE isn't erroring out with a "Bad Argument Type", so it isn't objecting to having a tagged name for its argument. And since it's causing an "Invalid DOS name" error, it seems to me that it must be recognizing the tag correctly and trying to archive to the card. To me, it seems to act as if one (or more) of the characters in the name isn't valid for a filename, but why?

Quote:

---

I made a spell check and the only differences between David's listing and my 50G program are:

1) all the numbers are reals - i.e. I have:

-49. CF

-50. CF

and

100.

100000000. and so on

---

Okay, I surmise that your calculator was in approximate mode when you compiled the program with John's IN program. I edited my program in approximate mode to recompile the zints to reals.

Quote:

---

2) the argument for SYSEVAL is shown as # 5B15h with no leading zero before the "5"

---

That's normal; although the calculator will accept leading zeros in the source code (command line or other editor, string to be compiled by the STR\-> command, source code file, etc.), after compiling to an object, it will never decompile (for stack display, editing, printing, transfer, etc.) with leading zeros.

Quote:

---

..Still pointless differences, to me....

---

I agree, and whether I compile in exact mode (so that zints are compiled as zints) or in approximate mode (so that zints are compiled as reals), the program works for me.

But with the program compiled in approximate mode, both the checksum and size change. For 'bkup' RCL BYTES, I now get:

```
# F3A2h
  722.5
```

This problem is really starting to bug me.

This is clutching at straws, but try this: Purge your current program, and then, with the calculator in exact mode, run John's IN program on the source code string again, store the resulting "wrapper" program in a variable, and run the wrapper program to create (or replace) the 'bkup' variable. Then do 'bkup' RCL BYTES and see if it returns the same results that I get:

```
# B6AF4h
  694.
```

I'd just like to be certain that we're both using exactly the same program.

And of course, try out the newly compiled program.

Regards,  
James

## Re: 49g+/50 G Backup to SD Card

*Message #10 Posted by [Giancarlo \(Italy\)](#) on 17 Oct 2007, 5:48 a.m.,  
in response to message #9 by James M. Prange (Michigan)*

Hi James.

Quote:

---

try this: Purge your current program, and then, with the calculator in exact mode, run John's IN program on the source code string again, store the resulting "wrapper" program in a variable, and run the wrapper program to create (or replace) the 'bkup' variable. Then do 'bkup' RCL BYTES and see if it returns the same results that I get: # B6AF4h 694. I'd just like to be certain that we're both using exactly the same program.

---

I tried exactly what you suggested, and I got:

```
'bkup'
RCL
BYTES
```

```
# B6AFh
694.
```

The newly compiled program errors out exactly as before....

Then, I started to experiment... :->

Inserting the SD into my laptop card reader and trying to rearrange the files on it, I attempted to delete a "20070717" folder but I couldn't do that!

Win2k kept on maintaining that it was "Impossible to delete" that object.

So I moved all the files but that single folder from the SD to a backing folder, then \*formatted\* (FAT16) the SD, then copied back onto it the files.

Guess what? Now **everything went smooth** with David's routine!

What I suppose is that - for unknown reasons - some bytes of the SD had been "screwed up", preventing any other instance of David's routine to operate correctly.

By the way, I had also made a cross-check using a [similar routine by Jorge Cevallos M.](#) and it had proved successful (I think that routine by Jorge is fine as well).

OK, the nightmare seems over now :-)

Let me thank you once again for your support and your always helpful and instructive support.

Best regards.  
Giancarlo

## Re: 49g+/50 G Backup to SD Card

Message #11 Posted by [James M. Prange \(Michigan\)](#) on 19 Oct 2007, 4:19 a.m.,  
in response to message #10 by [Giancarlo \(Italy\)](#)

Hi Giancarlo,

I'm certainly glad to read that you found and fixed the problem.

So it was a problem with the card itself after all. I suppose that I should've guessed that; after all, I couldn't come up with any reasonable explanation for why it should work for David and me, but not for you. I was considering a possible problem with a different boot ROM version, but that seemed very unlikely.

It seems very strange to me that a problem with the card would cause an "Invalid DOS Name" error. I'd expect something like "Object In Use" or some other one of the messages that added with the 49g+ that seem to be related to the card:

```
"Invalid DOS Name"  
"File already opened"  
"Invalid File Handle"  
"Invalid File Index"  
"Invalid File Mode"  
"Disk Full"  
"Disk Format Error"  
"Disk Change"  
"No SD card inserted"  
"Not enough ARM memory"  
"DOS call unsupported"  
"DOS unknown error"  
"Disk Protected"
```

So it's all your fault, for using a corrupted SD card! ;-)

Well, seriously, it was educational; I learned a few things during this exercise.

Regards,  
James

## Re: 49g+/50 G Backup to SD Card

Message #12 Posted by [Ed Look](#) on 19 Oct 2007, 9:08 p.m.,  
in response to message #10 by [Giancarlo \(Italy\)](#)

Giancarlo, the other day, I was transferring some files from one SD card to another, via card readers connected to my PC. I noticed that there were some that were not on my hard drive, so I attempted to simply drag and drop it to the appropriate directory on my hard disk. But one set of files just wouldn't copy or paste or delete, as in your case, and they happened to be all stuff relating to HP calculators.

I was fairly upset at the prospect of having to lose the material through reformatting or some such operation (though probably, I could find it again on the various HP calc sites) when I decided to try to transfer them one directory at a time. That worked! Well, it did until I got to one folder. Now that I got smart, I tried now to move them one file at a time, and that worked!

That is, until I got to the one offending file. It was one of the programs for a HP calc communicating with a PC.

I suspect that as new a piece of technology as flash memory devices are, no one really knows all the ways they can screw up, yet. It's hard for me to imagine that a collection of transistors can develop "bad sectors" like a piece of iron oxide coated plastic or aluminum, but there may be times or circumstances in which they might "misfire" and corrupt the data stored at that location... so badly that it becomes not only an unreadable file, but an undeletable one at that.

Oh, how did I get out of this predicament? I found myself getting a bit depressed and getting wistful and nostalgic about the old DOS days of 8088 and 80x86 computers and that wonderful set of software, the OLD Norton Utilities. Then it hit me that WinXP's got a little of that and I had the offending SD card "error-checked" (I guess it might be like the old Norton Utilities' Norton Disk Doctor) and not only did it find errors, it essentially fixed them! The bad file became a set of useless files, but now they were deletable! My SD card got saved... and the all the data (except for that one stupid file) got saved!

(I had a copy of that program on a Zip disk, which I promptly copied back onto the now working SD card.)

### **Re: 49g+/50 G Backup to SD Card**

*Message #13 Posted by [Giancarlo \(Italy\)](#) on 21 Oct 2007, 10:08 a.m., in response to message #12 by Ed Look*

Hi Ed.

Hey, thank you for your interesting piece of information - at least I feel a bit less dumb by now! ;-)

Best regards.

Giancarlo

### **Re: 49g+/50 G Backup to SD Card**

*Message #14 Posted by [David Bengtson](#) on 17 Oct 2007, 8:08 p.m., in response to message #5 by James M. Prange (Michigan)*

James:

THanks for your helpful comments.

I've saved flags, keys and the backup path for a couple of reasons. I find it useful to have my flags backed up in a variable just in case, and I was unaware the the user keys are archived. I save the backup path because the next thing to do with this is to write a restore routine, and having the backup path seems convenient.

I use the wrapper program because of the way I develop programs. I use a text editor on a PC, and copy and paste into emu49 and use emu49asc to convert it to an executable. This leave the executable on the stack, and using the wrapper let's me just press eval and I get it stored into a variable. . Once it's debugged, I save it to a sd card and retrieve it to the stack, where I repeat the process. I find that this wrapper is convenient for me, but you are correct, it's a item of confusion.

I hadn't gotten to deleting directories on the calculator yet, I'll have to ponder how to do that. This approach is easy, but has the potential error of running out of space on a small sd card. This call's for some thought.

Dave

### Re: 49g+/50 G Backup to SD Card

Message #15 Posted by [James M. Prange \(Michigan\)](#) on 19 Oct 2007, 4:39 a.m.,  
in response to message #14 by David Bengtson

Quote:

I hadn't gotten to deleting directories on the calculator yet, I'll have to ponder how to do that. This approach is easy, but has the potential error of running out of space on a small sd card. This call's for some thought.

I believe that there's an HPGCC application, [SDfiler](#), that can do it, but as for as I know, short of using ARM code, no one's found a way to get the calculator to delete subdirectories on the card. Let us know if you find one.

Regards,  
James

### Re: 49g+/50 G Backup to SD Card

Message #16 Posted by [James M. Prange \(Michigan\)](#) on 16 Oct 2007, 8:33 a.m.,  
in response to message #1 by David Bengtson

Quote:

I used a routine posted here that I'm unable to relocate,

I don't understand what you mean by that.

Quote:

The backup is wrapped in a program that stores it in the variable 'bkup'.

Why?

Regards,  
James

### Re: 49g+/50 G Backup to SD Card

Message #17 Posted by [Giancarlo \(Italy\)](#) on 16 Oct 2007, 9:28 a.m.,  
in response to message #16 by James M. Prange (Michigan)

Hi James.

Quote:

Quote: I used a routine posted here that I'm unable to relocate, I don't understand what you mean by that.

---

I guess David means that he uses:

" [...] a routine from @ hpmuseum to write port variables to a backup."

he was not able to retrieve from MoHPC Forum archives...

Best regards.

Giancarlo

### **Re: 49g+/50 G Backup to SD Card**

*Message #18 Posted by **David Bengtson** on 17 Oct 2007, 8:13 p.m.,  
in response to message #17 by Giancarlo (Italy)*

James:

It was your original routine I copied. I dug around and found your posting, in this thread

<http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv017.cgi?read=112771#112771>

Many thanks

Dave

### **Re: 49g+/50 G Backup to SD Card**

*Message #19 Posted by **Chris McCormack** on 16 Oct 2007, 1:28 p.m.,  
in response to message #1 by David Bengtson*

Thank you for what looks like a fantastic backup utility.

One quick question ... What if I can't get the calculator to see the SD card? I was able to use the card to install the 2.09 update on an HP50g, but after resetting the calculator, it won't see the card.

If this is a hardware problem in the calculator (instead of operator error) I'd like to figure it out during the warranty period.

### **MMC/SD card problems.**

*Message #20 Posted by **James M. Prange (Michigan)** on 17 Oct 2007, 4:55 a.m.,  
in response to message #19 by Chris McCormack*

Quote:

---

What if I can't get the calculator to see the SD card? I was able to use the card to install the 2.09 update on an HP50g, but after resetting the calculator, it won't see the card. If this is a hardware problem in the calculator (instead of operator error) I'd like to figure it out during the warranty period.

---

Well, of course it could be a hardware problem with the calculator, but do try some other things first.

Do the card's contacts look clean and undamaged? Maybe try cleaning and lightly burnishing them, with, for example, an "ink" or "typewriter" eraser, just enough so that they look nice and shiny. Be sure to dust off any "eraser crumbs" before trying to use the card.

Can the card be read by a card reader on a PC? If not, then obviously something's wrong with it; try formatting it.

Note that various disk testing utilities, such as Microsoft ScanDisk and Norton Disk Doctor, can be used to test the card in a card reader.

Forgive me for asking about something so basic, but are you certain that the card is properly inserted? Label side toward the back of the calculator, and pushed in until it's almost flush with the bottom?

I doubt that this would help, but maybe at least temporarily try a fresh set of AAA cells? If it doesn't help, you can set them aside for later use.

Did the problem start immediately after flashing the ROM to 2.09? If that's the case, then perhaps the ROM didn't really get flashed properly. Maybe try flashing it to 2.09 again. Of course, if it won't recognize the card, then you'll have to use Conn4x to flash it, which really isn't all that much more difficult. But to use Conn4x, you'll have to be using an MS Windows OS.

I suppose that it's possible that RAM somehow got corrupted, and that that's somehow causing the calculator to fail to recognize the card. To check for this possibility, first do a RCLF and STO the flag list to a global variable, then use the ARCHIVE command to back up user memory to port 2, or use Conn4x's "Backup..." function to back it up to a PC. If you have anything in port 0 (which I don't recommend when any other port is available), also back this up to some safe place. After you're certain that the home directory and anything in port 0 is safely backed up, do a memory clear by holding down the ON, A, and F keys together, and then releasing F, A, and ON in that order. This gets you to the TTRM ("Try To Recover Memory?") display. Press NO to clear user memory and port 0, and also to restore the RAM reserved for system use to its default state. Now try the card. Later, recall the backup object created by ARCHIVE to the stack, and do a RESTORE command, then RCL your flag list, and do a STOF. If you had anything in port 0, then decide what to do with it; preferably, it should be stored in port 1 or 2.

It could be that the card's file system somehow got corrupted.

Maybe try formatting the card with the calculator: Hold down ON, press and release F, and then release ON; this should give you a self-tests display. With the card inserted, press the - key for the CARD utilities. If you get a "PLEASE INSERT CARD" message, then try formatting the card with a PC instead. If you get a "1.TEST" "2.FORMAT" message, then the calculator has detected the card; press the 2 key for the FORMAT utility, then press the 1 key to actually start formatting. If the "WAITING....." message is displayed for more than a few seconds, then try formatting the card with a PC instead. Wait for the "FORMAT FINISH" message and then press ENTER to exit to the card utility display. Now press the 1 key to run a card test (which, if the card is good, will return a "TEST OK" message, but apparently, a "TEST OK" message doesn't necessarily mean that the card really is "good"; see below), and then follow the prompts to back out and do a reboot.

And yes, I do realize that the filer includes a FORMAT operation if a card is detected, but I've had occasions when that failed but the self-test FORMAT operation worked. Maybe the filer's FORMAT operation does only a "quick" format instead of a "full" format? That's something that I've never checked on.

If the above doesn't work, then try formatting the card in a card reader on a PC.

If you still can't get the card to work, then try a different card; they're reasonably low-cost these days, and even the lowest capacity cards ever made are plenty big enough for typical uses with the calculator.

If a "known-good" card, correctly formatted to a FAT12, FAT16, or FAT32 file system (especially if tested in a different 50g or a 49g+), won't work in the calculator after a memory clear, then I'd conclude



that the calculator very likely has a hardware problem.

For what it's worth, I was given a couple of Samsung 32MB RS-MMC cards. If I insert either one of these cards with the calculator turned off, then there's usually no apparent response to the ON key, and no response to an ON&C or an ON&A&F either, even if I remove the card and try again. A "paper-clip reset" to invoke a warmstart is required to get it running again. The paper-clip reset also works if the card is still inserted. If I do a warmstart with the card inserted to get the calculator running, or I insert the card after the calculator is already ON, then everything seems okay unless I try to start the filer, in which case the calculator usually "hangs" with the busy annunciator on, and won't respond to the keyboard at all; another paper-clip reset is required to get it running again. With the card inserted and the calculator running, the card self-test usually returns "TEST OK", and the self-test's FORMAT operation will usually format the card. These cards usually seem to work okay with various card-readers on PCs. So there can be "borderline" cards that sometimes seem to work okay in some situations.

Formatting a card with a PC may (depending on your operating system or formatting utility) give you more flexibility in how it's formatted, such as file system type, cluster size, and so on.

If the calculator is turned on with a card inserted, then there will be a delay (sometimes not really noticeable) before anything appears in the display. Of course slower cards cause a longer delay, but also, it seems that the larger the FATs are, or perhaps the more clusters are in the file system (larger capacity or smaller cluster size), the longer the delay is. If this delay seems annoyingly long, then (for a card larger than 32MB) maybe format it to a FAT16 file system instead of FAT32, which results in smaller FATs and fewer (but larger) clusters. The trade-offs are that larger clusters typically result in more slack space, the root directory for FAT16 is limited to 512 entries (at most, when only "short filenames" are used), and fewer files can be stored, but these usually aren't significant problems; if you use the card only for the calculator, then you'll probably never use up all of the card's capacity or maximum number of files anyway, and having many entries in the root directory can cause an annoying delay when starting the filer.

If the filer takes an annoyingly long time to start, then make some subdirectories and move your files from the root directory to somewhere else in the directory "tree", or delete unwanted files that have accumulated. The idea is to reduce the number of entries in the root directory.

For those really "into" formatting and partitioning, the calculator can use a card that has an MBR (Master Boot Record), like a hard disk (cards are often supplied this way), but an MBR isn't required on the card for it to be used with the calculator (or a card reader); it can start out with just a "boot record" (like an ordinary floppy disk, except that a FAT32 file system can be used on larger cards). In the case of a card that has more than one partition, the calculator can "see" only one partition.

Regards,  
James

*Edited: 19 Oct 2007, 4:27 a.m.*

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## HP Forum Archive 17

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**HP 50G Enviromental case**

Message #1 Posted by [Iqbal](#) on 14 Oct 2007, 8:29 p.m.

Anybody have one of these <http://www.loink.com/product/1030/18> ? Reviews, close-up shot? Thanks

**Re: HP 50G Enviromental case**

Message #2 Posted by [Tim Wessman](#) on 14 Oct 2007, 11:55 p.m.,  
in response to message #1 by [Iqbal](#)

I can't really give an opinion on that as I have not held one. Initial impressions however are that it looks like it would be very uncomfortable to hold and not especially sturdy. If you read on the site of the creator, he excitedly tells how it survives a 3 foot fall.

If you are really looking for an industrial strength case with extra features, I can get you one for \$350. [http://pssl.com/index.php?main\\_page=product\\_info&cPath=5&products\\_id=1](http://pssl.com/index.php?main_page=product_info&cPath=5&products_id=1)

That case is completely waterproof, has a polycarbonate lens covering the screen that survived a .22 cal hollowpoint rifle shot at 100 yards, has been run over by heavy machinery, gives the capability to use 4 AA batteries, has a hand strap on the back, easy access to change batteries and get the SD card, and has a build in serial connector. I've tossed mine out a 4th story window onto concrete with no ill effects.

TW

**Re: HP 50G Enviromental case**

Message #3 Posted by [Pal G.](#) on 15 Oct 2007, 12:04 a.m.,  
in response to message #2 by [Tim Wessman](#)

TW, you forgot to mention your case comes in Ferrari Scuderia Racing Yellow. Much nicer than plane old black.

Cheers, Pal

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## HP Forum Archive 17

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### re: going back to the roots

Message #1 Posted by [hugh steers](#) on 14 Oct 2007, 3:49 p.m.

hi,

i am reading Valentin's article just out in V26N5, "going back to the roots".

therein is a complex root solver for the 35s. i was keen to try this out, but i can't get it to work properly on my calculator. i do think that algorithms for complex numbers have been somewhat ignored and this helps to redress that and demonstrate the 35s' complex number features.

since my calculator is new, its likely that i've made some blunder. the second line of code: `regx*(1i0->z)->x`. what is "regx"? is this just `x*(1i0->z)->x` or something i've missed?

```
example 1: works!  
example 2: all inputs give 2  
example 3: works  
example 4: all give 1.3688....  
example 5: all give 2.32883 i 0.29914
```

so basically, im seeing convergence to a favorite root and that is it.

any help? i'll double check again tomorrow for blunders. thanks.

serial# CNA 73400764

### Re: re: going back to the roots

Message #2 Posted by [Gene Wright](#) on 14 Oct 2007, 4:10 p.m.,

in response to message #1 by [hugh steers](#)

REGX is a reference to stack register X. In HP41-speak, it is a RCL X.

To enter it into an equation in the HP 35s, do the following in program mode.

Since this is already an equation in this line of the program, press RDN. Now move over and press ENTER underneath the X in the list of stack registers. This will insert a REGX. Continue entering the rest of the equation.

It looks as if you have the -> symbol in the equation. I'm assuming this is the "triangle" store symbol which would store the value into a regular letter register.

See: [hp35s learning module on stack access](#)

Gene

### Re: re: going back to the roots

Message #3 Posted by [Valentin Albillo](#) on 15 Oct 2007, 10:18 a.m.,

*in response to message #1 by hugh steers*

Hi, Hugh:

Thanks for your interest and sorry for the problems you're having entering that program line.

Gene's explanations below are quite correct and you'd do well reading the HP35s learning module he links. Meanwhile, these are the *exact keys* you should press in PROGRAM mode to enter line A0002:

<http://i21.tinypic.com/sw8ly8.gif>

(where the ">" key is the Cursor-Right key, of course) and the resulting program line will look like this:

<http://i24.tinypic.com/1zvwg92.gif>

The article does include Length and Checksum for each and every equation, but due to bugs in both counts, they aren't that useful.

Hope this solves your problem, check *all* examples to see that you get the exact same results as featured in my article.

Best regards from V.

## **Re: re: going back to the roots**

*Message #4 Posted by [hugh steers](#) on 15 Oct 2007, 3:14 p.m.,*

*in response to message #3 by Valentin Albillo*

hi guys, it works!!

thanks gene for this help and thanks valentin for spelling it out.

my apologies for being a bone head and not reading the manual properly. it's too tempting to hack away with the machine. there is quite a lot more to the 35s than meets the eye with its "secret" menus. easter eggs of the 35s anyone?

regards,

---

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## HP Forum Archive 17

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### HP35S new design?

Message #1 Posted by [Miguel Saiz](#) on 14 Oct 2007, 3:12 p.m.

Look at Amazon, it appears like there is a newer design, had any knows if the bugs had been fixed?

[http://www.amazon.com/Hewlett-Packard-F2215AA-ABA-Scientific-Calculator/dp/B000TDRHG8/ref=pd\\_bbs\\_sr\\_1/104-7227649-5199121?ie=UTF8&s=electronics&qid=1192389002&sr=8-1](http://www.amazon.com/Hewlett-Packard-F2215AA-ABA-Scientific-Calculator/dp/B000TDRHG8/ref=pd_bbs_sr_1/104-7227649-5199121?ie=UTF8&s=electronics&qid=1192389002&sr=8-1)

[http://www.amazon.com/gp/product/images/B000TDRHG8/sr=8-1/qid=1192389002/ref=dp\\_image\\_0/104-7227649-5199121?ie=UTF8&n=172282&s=electronics&qid=1192389002&sr=8-1](http://www.amazon.com/gp/product/images/B000TDRHG8/sr=8-1/qid=1192389002/ref=dp_image_0/104-7227649-5199121?ie=UTF8&n=172282&s=electronics&qid=1192389002&sr=8-1)

### No new design - amazon using an old prefab image

Message #2 Posted by [Gene Wright](#) on 14 Oct 2007, 3:22 p.m.,  
in response to message #1 by Miguel Saiz

No new design. The image Amazon is using is one that somewhat pre-dates the actual introduction of the HP35s.

Why are they using it when they could use a real picture? No idea.

No new design. No update. Keep moving...

:~)

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## HP Forum Archive 17

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### Appalling problem with HP35s

Message #1 Posted by [John Wasilewski](#) on 14 Oct 2007, 1:52 p.m.

An incomplete program I was developing, still buggy, becomes stuck in a loop - this happens sometimes in software development.

What should NOT happen (but does) is for the hardware to become so locked in its loop so that user intervention becomes impossible. One cannot even switch the calculator off. The only way we have found of breaking the loop is to use a pin in the reset hole but this erases all memory and destroys all on's work.

A calculator with no possible means of saving programs except in volatile memory must, must, MUST have extremely robust firmware. For it to let us down like this, and force us to erase everything, is appalling. It means we cannot trust it not to wipe out all our work when we develop any new software.

I am hoping fervently that HP can tell us how to solve this (eg some keystroke combination to break the loop).

Serial numbers known thus far to be prone to this aberrant behaviour : - CNA 72100255 - CNA 72100299 - CNA 72101944 - CNA 72102361

It would be good if we could find out for sure whether anyone has a serial number for which the calculator WILL ACCEPT user intervention when it enters an endless loop with this code. One or two people have reported that the program seems to behave normally, but I am a little unsure whether they took the test far enough, because I might not have explained sufficiently how to enter the data.

We need someone who can get the program into the endless loop that the above have all experienced, and can then report successfully breaking out of it without having to erase all memory.

When we have this we will know that there is a hardware/firmware fault on early batch(es) of this calculator and we will know that it was fixed by HP on later production runs. -- John

### Re: Appalling problem with HP35s

Message #2 Posted by [bill platt](#) on 14 Oct 2007, 2:22 p.m.,  
in response to message #1 by John Wasilewski

Hi John:

If I were you, I'd send the 35s back, and get a 50g and move on. You won't have this sort of problem, and you'll have a machine that is truly capable of advanced programming, i/o etc.

### Re: Appalling problem with HP35s

Message #3 Posted by [vq](#) on 14 Oct 2007, 3:34 p.m.,  
in response to message #2 by bill platt

Quote:

\_\_\_\_\_

If I were you, I'd send the 35s back, and get a 50g and move on. You won't have this sort of problem, and you'll have a machine that is truly capable of advanced programming, i/o etc.

Well, that's not an alternative for all. For example, I have bought HP48GII some 2-3 years ago but I sold it soon and switched to HP33S, mainly for these reasons:

1. Too big piece of hardware - dimensions, weight. I take my calc nearly everywhere so these parameters are important. However, I admit that the HP35S in it's comfortable (but large) case has practically the same dimensions as HP50G.
2. Very high consumption of batteries. I want my calc to run for months if not years on a set of batteries. The 48GII needed new batteries after several weeks. Is the new 50G better in this? How long it takes to drain a new set of batteries?
3. In general, the 48GII et al is an overkill for my style of work. I need a calc for quite simple but quick and effective hand calculations (with some short user defined functions, invoked by 1 or 2 key press, like normal functions). For anything more complicated, a PC or notebook is always available. I absolutely don't need such miracles like CAS and the whole lot of fantastic powerfull functions of the 'G' series.

However, after the bitter experience with HP35S, I may test a 'G' series calc again in short future. What an irony - HP, after delivering a buggy HP35S calc, may get a new 50G customer! What a marketing success! I would really hate to do it this way, though.

Vaclav

## Re: Appalling problem with HP35s

Message #4 Posted by **Egan Ford** on 14 Oct 2007, 4:39 p.m.,  
in response to message #3 by vq

Quote:

2. Very high consumption of batteries. I want my calc to run for months if not years on a set of batteries. The 48GII needed new batteries after several weeks. Is the new 50G better in this? How long it takes to drain a new set of batteries?

I have had my 50g for a year and replaced the batteries once about 6 months ago. I mostly use it on the weekends and have only been testing C code lately.

All my C code starts with:

```
sys_slowOff();
```

This runs the 50g at full speed and is measurably faster. I am surprised with all my testing lately that I have not needed to replace the batteries sooner.

I think you'll get months with the 50g, but not years. The first time you restore your 50g RAM from SD or PC you'll be glad you switched.

BTW, the C programmers kit for the 50g includes HPGCC and a .033 gauge paper clip. I have reset my 50g countless times using the RESET hole. All I have ever lost was the contents of the stack. Everything else was intact.

## Re: Appalling problem with HP35s

*Message #5 Posted by **Pal G.** on 14 Oct 2007, 7:44 p.m.,  
in response to message #4 by Egan Ford*

Quote:

\_\_\_\_\_

This runs the 50g at full speed and is measurably faster. I am surprised with all my testing lately that I have not needed to replace the batteries sooner

\_\_\_\_\_

Is your hp 50g connected via USB? If so, it's drawing power from an external source, saving you money on AAA's

:) Pal

### **Re: Appalling problem with HP35s**

*Message #6 Posted by **Egan Ford** on 15 Oct 2007, 12:27 a.m.,  
in response to message #5 by Pal G.*

Quote:

\_\_\_\_\_

Is your hp 50g connected via USB? If so, it's drawing power from an external source, saving you money on AAA's

\_\_\_\_\_

Rarely. It only draws from USB if USB is connected before power on. Usually I have it on before I connect.

### **50g USB power**

*Message #7 Posted by **James M. Prange (Michigan)** on 15 Oct 2007, 6:51 a.m.,  
in response to message #6 by Egan Ford*

Quote:

\_\_\_\_\_

Rarely. It only draws from USB if USB is connected before power on. Usually I have it on before I connect.

\_\_\_\_\_

With my 50g, I can turn it on, plug in the USB, remove a AAA cell, and it continues to run.

Or, for that matter, with the 50g off and disconnected from USB, remove a AAA cell, plug in the USB, and turn the 50g on and run it.

As far as I've been able to determine, as long as it's connected to a powered USB port, it's powered from the USB connection, regardless of whether it was on or off when the connection was made.

A 5V adapter ("USB charger"), designed for charging the battery in some USB-capable devices, works as well, as does an externally powered USB hub, even without being connected to the PC's USB port. The 50g requests only 50mA from USB, and I expect that any of these sources should be able to supply more than that.

I'm rather surprised to find that the USB connection even supplies "battery+" power to the serial port.

I don't know why your 50g should behave any differently. Try this: With the USB



disconnected, press ON and F together to get to a test display, and then press the 8 key to start the "POWER" test. One of the lines should be "BATTERY NORMAL" (or, I suppose, maybe "BATTERY LOW" or something similar); now connect the USB cable and it should change to "USB POWER WORK", and disconnecting the USB should change it back to "BATTERY NORMAL".

But the 50g may very well do a warmstart instead of cleanly switching back to battery power in cases where the USB voltage "fades out" gradually, such as when the AC adapter is unplugged or the PC is powered down while the 50g is still connected. I suppose that similarly, the 50g might fail to properly switch to USB power in a situation where the USB voltage "ramps up" gradually, such as powering up the PC with the 50g already connected.

Regards,  
James

### **Re: 50g USB power**

*Message #8 Posted by [Egan Ford](#) on 15 Oct 2007, 12:20 p.m.,  
in response to message #7 by James M. Prange (Michigan)*

I have a small utility that reports the battery voltage. If I power up then connect the cable, it can still read the batteries, if I attach then power up, it reports v0.00. I assumed that if it can read the voltage from the batteries that it is running from battery.

I tried the ON-F-8 tests. You are correct it reports USB POWER when connected/reconnected.

If I power up, attach cable, remove battery, I am still up and the batt util still reports voltage. It must be reading old sensor data.

I stand corrected, my unusual battery life my have been extended by USB. Since I connect to copy C binaries, I usually do not disconnect until done for the day.

### **HP50G C Programmers Kit**

*Message #9 Posted by [Vieira, Luiz C. \(Brazil\)](#) on 14 Oct 2007, 7:52 p.m.,  
in response to message #4 by Egan Ford*

Hi, Egan;

I am about to search for information regarding the C Programming for the HP50G, but I decided to ask first (maybe it is faster). The basic set o'questions: documentation, where to find, how to get, etc. Should I go straight to [hpcalc.org](http://hpcalc.org)?

Thaks.

Luiz (Brazil)

### **Re: HP50G C Programmers Kit**

*Message #10 Posted by [Tim Wessman](#) on 15 Oct 2007, 12:03 a.m.,  
in response to message #9 by Vieira, Luiz C. (Brazil)*

Nope. Go here: <http://hpgcc.org/>

TW

**Thanks! (with the missing 'n', now...) N.T.**

*Message #11 Posted by [Vieira, Luiz C. \(Brazil\)](#) on 15 Oct 2007, 5:37 a.m.,  
in response to message #10 by Tim Wessman*

**Re: HP50G C Programmers Kit**

*Message #12 Posted by [Egan Ford](#) on 15 Oct 2007, 12:17 a.m.,  
in response to message #9 by Vieira, Luiz C. (Brazil)*

I am working on a tutorial that should be ready in a few weeks.

**Re: HP50G C Programmers Kit**

*Message #13 Posted by [Vieira, Luiz C. \(Brazil\)](#) on 15 Oct 2007, 5:43 a.m.,  
in response to message #12 by Egan Ford*

Hi, Egan;

I'm inspecting the HPGCC.ORG (thanks, Tim) and I see there's a bunch of documents to download. I'll be visiting the site till I have the files, and will be waiting for your tutorial. Please, let us know. If you have a mailing list for such purpose, please, feel free to add mine: `lcvieira {at} quantica [dot] com (dot) br`

Best regards and thanks.

Luiz (Brazil)

**Re: HP50G C Programmers Kit**

*Message #14 Posted by [Egan Ford](#) on 15 Oct 2007, 12:04 p.m.,  
in response to message #13 by Vieira, Luiz C. (Brazil)*

I'll post it here.

**Re: Appalling problem with HP35s**

*Message #15 Posted by [bill platt](#) on 14 Oct 2007, 6:14 p.m.,  
in response to message #3 by vq*

The 48Gii is a crippled version of the 49G+ which was replaced by the 50G. It is a price-point machine, not the fully capable top of the heap. At the time of the 48GII, you had to make the fasutian decision as to whether you needed any sort of RS232support, and if yes, then the 48GII was a must.

Also more to the point, John is doing \*much\* more with his 35s than you are...and from his descriptions, he is squarely in the territory of an I/O machine--whether a new 50G, or an old boat anchor 9815:-)

**Re: Appalling problem with HP35s**

*Message #16 Posted by [Robert B](#) on 14 Oct 2007, 3:47 p.m.,  
in response to message #1 by John Wasilewski*

Hello John,

I also had this problem: calculator was locked in a (probably endless) loop while writing a Sudoku solver program. Program length at this time was several 100 lines.

Only way-out: reset-pin and - of course - total memory loss ...

Serial no. of my 35S is CNA 72102148.

Since then I'm not keen on programming something on this gadget any more.

Regards, Robert

### **Re: Appalling problem with HP35s**

*Message #17 Posted by [Seth Morabito](#) on 15 Oct 2007, 10:19 a.m.,  
in response to message #16 by Robert B*

Hello Robert,

Do you still have the partial program somewhere convenient for sharing, like a text file or MS Word file? If you do, I would like to see if I could repeat the problem. (Of course, if you don't already have it, I won't ask you to type in a several-hundred line program all over again!)

I want to find a short, repeatable test case, and analyzing your program along side John's program might help.

Regards,

Seth

### **Re: Appalling problem with HP35s**

*Message #18 Posted by [Robert B](#) on 15 Oct 2007, 4:57 p.m.,  
in response to message #17 by Seth Morabito*

Hi Seth,

unfortunately I do not have reasonable documentation, only some fragmentary flowcharts.

The problem occurred in a nested loop. Due to using a wrong variable one of the loops didn't terminate. As far as I remember I interrupted the program with R/S, executed a few single steps and started program again with R/S. I wonder if I switched the calc into PRGM mode and did some BST and SST - I can't remember. After a while I realized that the calculator got stuck.

I don't know if it is important in this context: flag 10 was set all the time for displaying EQN messages.

BTW: meanwhile I'm convinced that writing a Sudoku solver program on the 35S is not the best idea, even if there are no crashes. Speed is way too slow.

Regards, Robert

### **Re: Appalling problem with HP35s**

*Message #19 Posted by [Seth Morabito](#) on 15 Oct 2007, 7:41 p.m.,  
in response to message #18 by Robert B*

Flag 10 is set all the time in John's program as well. It may not be related, but at least it's a clue to add to our collection.

## Re: Appalling problem with HP35s

Message #20 Posted by [John Wasilewski](#) on 15 Oct 2007, 1:23 p.m.,  
in response to message #1 by John Wasilewski

Here is a list of serial numbers known thus far to be prone to the aberrant behaviour described below:

- CNA 72100255
- CNA 72100299
- CNA 72101944
- CNA 72102148
- CNA 72102361

With no possible means of saving programs except in volatile memory, extremely robust firmware is fundamentally important. In breach of this crucial principle, certain code fragments (not yet identified precisely) cause HP35s calculators to become so locked in a loop that user intervention becomes impossible. One cannot even switch the calculator off. The only way we have found of breaking the loop is to use a pin in the reset hole but this erases all memory and destroys all one's work stored on the machine (i.e. ALL PROGRAMS ERASED).

This is appalling because we cannot trust it not to wipe out all our work when we develop any new software so we cannot risk developing new programs when something we need is in memory.

I hope HP can tell us how to solve this (eg some keystroke combination to break the loop).

I hope we narrow down which code sequences/memory settings/conditions cause this, so that we can avoid them.

It would be good to know for sure whether anyone has a serial number for which the calculator WILL ACCEPT user intervention when it enters an endless loop with the code that has caused the above effects. One or two people have reported that the program seems to behave normally, but I am a little unsure whether they took the test far enough. We need someone who can get the program into the endless loop that the above have all experienced, and can then report successfully breaking out of it without having to erase all memory.

When we have this we will know that there is a hardware/firmware fault on early batch(es) of this calculator and we will know that it was fixed by HP on later production runs.

--  
John

## Re: Appalling problem with HP35s

Message #21 Posted by [Seth Morabito](#) on 15 Oct 2007, 2:26 p.m.,  
in response to message #20 by John Wasilewski

We do have one report of your program running without the lockup:

<http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/forum.cgi?read=126163#126163>

Mark, if you're reading this message, could you (re-)confirm that you ran John's program as he described, and you did NOT encounter an unbreakable infinite loop? Could you describe what you did, and what the program behavior was?

Mark reports his serial number is CNA 72600768.

Can anyone else with a serial number that does NOT start with CNA 721- try the program?

### **Re: Appalling problem with HP35s**

*Message #22 Posted by [John Wasilewski](#) on 15 Oct 2007, 3:24 p.m.,  
in response to message #21 by Seth Morabito*

Its important when testing for a loop lockup from the errant program to enter a combination of H and B that are around 20% smaller than the values suggested by the program and to enter a single value (eg 20) after the prompt for the steel "C,T BAR SIZES". Only after this does the program enter the vortex.

Anyone not familiar with reinforced concrete beam design might not realise that the program data entry is not finished until after this point. There is no "X=?" type of prompt for the steel, just the text shown above.

My concern is to be sure that people reporting good behaviour and a loop that they CAN break really do get into the loop. If you don't get into the endless loop then probably either there is an error in your program code entry or you haven't got to the end of the data entry part of teh program.

We do really really need to know if any calculators with more recent serial numbers exhibit correct controllable behaviour and allow the endless loop to be interrupted.

--  
John

### **Able to break out of the loop in some cases**

*Message #23 Posted by [Seth Morabito](#) on 15 Oct 2007, 4:20 p.m.,  
in response to message #22 by John Wasilewski*

The plot thickens!

I have run the program many more times, and discovered that after entering a value for C,T BAR SIZES, if you step through the code even a little bit before pressing R/S, you can later break out of the infinite loop!! If you do NOT step through the program, you can not later break out of the infinite loop.

Here is exactly what I did, in the following order.

1. Keyed in the program. I got LN=1616,CK=D170 [but these figures will probably not be useful to anyone, because of a known and acknowledged bug in checksum calculation]. I have no other programs in memory.

2. Before each run, I performed the following operations, in order:

- a) CLEAR VARS
- b) CLEAR STACK
- c) DISPLAY FIX 4
- c) GTO ..

3. Start the program with XEQ B ENTER

4. I used the following inputs when prompted.

M?= 150,000,000

```
Y?= 460
F?= 35
C?= 40
H?= 332 [suggested value was 443. 332 is 75% of suggested.]
B?= 275 [suggested value was 366. 275 is 75% of suggested.]
```

5. When prompted by C,T BAR SIZES, I pressed ENTER
6. I entered 20, then pressed DOWN ARROW to step.
7. I stepped through the code a few times. Some of the lines I stepped through...

```
B265 STO O
B266 Rv
B267 STO Q
B268 STO L
B269 RCL H
B270 RCL C
B271 -
B272 RCL O
B273 2
B274 /
B275 -
...
```

8. I took a deep breath and pressed R/S
9. The program got stuck in an infinite loop, displaying "NEXT BAR" and "RUNNING" over and over.
10. I pressed R/S again, and this time the program halted!

I was able to repeat these ten steps many times. Each time I was able to break out of the loop just by pressing R/S.

Alas, for the final try, instead of stepping through the program in step (7), I just pressed R/S. As expected, this time I was NOT able to break out of the infinite loop.

There seems to be some problem caused by fetching and executing the program steps. Possibly entering into the debugging environment by pressing the down arrow sets up or clears some environment that is not otherwise set up, and allows R/S to break out of the program.

Very frustrating. But I'm entranced by this problem, so I'll keep looking.

*Edited: 15 Oct 2007, 4:23 p.m.*

### **Re: Able to break out of the loop in some cases**

*Message #24 Posted by [Miguel Toro](#) on 15 Oct 2007, 4:52 p.m.,  
in response to message #23 by Seth Morabito*

Congratulation Seth. What a detective work!

This is the kind of thriller I like to read. :-) So at least, following your procedure, John is maybe able to debug his program. Also, I hope that this is really a batch problem. I would like to hear from other people with higher S/Ns doing this test.

Miguel

### **Re: Able to break out of the loop in some cases**

*Message #25 Posted by [Seth Morabito](#) on 15 Oct 2007, 7:08 p.m.,  
in response to message #24 by Miguel Toro*

He may be able to debug his program, true... but even so, he can't trust that running the debugged program won't still cause a lock-up, and he'll lose all of his data again. Most upsetting!

My goal out of this is to find a small (< 75 line) repeatable test case that we can send to HP for their testing purposes. If anyone at HP can confirm a way to break out of the loop that we don't know about, then the current 35s might still be a suitable environment for complex programming. Otherwise, we'll have to wait for a new ROM revision before there's hope that the 35s will be trustworthy, I'm afraid.

It's a real shame, because I do love the 35s. It's my day-to-day calculator. The display is nice, the keyboard is nice, it's comfortable in the hand (I've become quite good at two-handed entry), and best of all I can get new ones if I drop mine (unlike the 41C or 42S!). But alas, I won't be doing much programming on it, I don't trust it not to erase all of my programs.

*Edited: 15 Oct 2007, 8:30 p.m.*

### **Re: Able to break out of the loop in some cases**

*Message #26 Posted by [John Wasilewski](#) on 15 Oct 2007, 7:56 p.m.,  
in response to message #23 by Seth Morabito*

Brilliant piece of work, Seth. Also very helpful to me because I now now not to trust it when the prob seems to have gone away during debugging.

I have been cleaning up the code using a debug version with R/S breakpoints in it. To my surprise, I got the (corrected) program fully working on the way home from work this evening. I have been removing breakpoints one at a time, hoping it won't lock up on me.

I will continue, even more carefully. I'll send you the latest code tomorrow.

I don't have an infinite loop to need to break out of at the moment but I d not know whetehr this is because of bits of code I corrected or because the calculator hardware is behaving itself whilst I have all these breakpoints still in it.

Needless to say I am keeping a careful written record of code changes.

Goodnight for now

---

John

### **Re: Appalling problem with HP35s**

*Message #27 Posted by [Meenzer](#) on 15 Oct 2007, 5:31 p.m.,  
in response to message #20 by John Wasilewski*

On comp.sys.hp48 I just found this:

Quote:

\_\_\_\_\_

Joel Koltner

View profile

Newsgroups: comp.sys.hp48

From: "Joel Koltner" <JKolstad71HatesS...@yahoo.com>

Date: Mon, 15 Oct 2007 11:33:12 -0700

Local: Mon, Oct 15 2007 8:33 pm

Subject: Bug in HP-35S?

I've run the following program on a couple of HP-35S machines, and both of them indicate that something Very Strange is happening in how equations are being evaluated. Anyone else want to try this out?

Enter the following program:

LBL A

156.25

STO X

208.333333334 ;There are eight 'threes' in there

STO R

1.77951304201

STO Q

-R\*X/(X\*Q-R) ;Should evaluate to roughly -467, and it does

-R\*X/(X\*Q-R) ;Should (still) evaluate to roughly -467, but calculator outputs 31.323 instead!

RTN

It's important that the program is entered exactly as shown. Note that the "-" in the expressions are entered with the "+/-" (change sign) key, not the "-" (subtract) key. Changing the numerical constants will (often) make the expressions evaluate correctly. Some minor changes (e.g., changing -R to +R) in the expressions still demonstrates the error, but making significant changes (such as changing X\*Q-R to just X\*Q) no longer does. Changing the expressions to R\*-X/(X\*Q-R) fixes the problem. Removing the initial "-" in the first expression causes the second expression to fail, although the output is then -52.287 rather than 31.323!

I discovered this while creating a real program, which is rather alarming...!  
Anyone have any ideas? Is this a well-known bug somehow?

---

Who knows, maybe it's got something to do with your bug...

*Edited: 16 Oct 2007, 4:48 a.m. after one or more responses were posted*

## **Re: Appalling problem with HP35s --- Joel's bug is also on the 33s**

Message #28 Posted by [Gene Wright](#) on 15 Oct 2007, 8:14 p.m.,  
in response to message #27 by Meenzer

FYI.

This "bug" (the one reported by Joel on comp.sys.hp48 --- not John's interminable loop bug) is also present in the 33s. Apparently, no one ever found this one on the 33s in over 3 years of use.

On a 33s...(edited to correct a thing or two)



```
A0001 LBL A
A0002 156.25
A0003 STO X
A0004 208.333333334 ;There are eight 'threes' in there
A0005 STO R
A0006 1.77951304201
A0007 STO Q
B0001 LBL B
B0002 -R*X/(X*Q-R)
B0003 STOP
B0004 GTO B
```

Successively pressing R/S now shows another interesting effect: The output switches between -466.927 ... 31.323 ... -466.927 ... 31.323

Gene

P.S. I checked this on an old HP32S2 - works fine on that machine.

*Edited: 15 Oct 2007, 8:38 p.m.*

### **Re: Appalling problem with HP35s --- Joel's bug is also on the 33s**

Message #29 Posted by [Karl Schneider](#) on 16 Oct 2007, 4:09 a.m.,  
in response to message #28 by Gene Wright

*Corrected and updated post:*

My original-version HP-33s (S/N CNA413xxxxx) (mis-)performs as Gene's example states.

The HP-35s I bought in July (S/N CNA721xxxxx), as well as the HP-35s I got at the HHC conference (C/N CNA 734xxxxx) both exhibit the bug posted by Joel on comp.sys.hp48 -- the second equation result is incorrect.

-- KS

*Edited: 18 Oct 2007, 12:49 a.m. after one or more responses were posted*

### **Re: Appalling problem with HP35s --- Joel's bug is also on the 33s**

Message #30 Posted by [Meenzer](#) on 16 Oct 2007, 4:51 a.m.,  
in response to message #29 by Karl Schneider

deleted: obsolete

*Edited: 16 Oct 2007, 5:51 a.m. after one or more responses were posted*

### **Re: Appalling problem with HP35s --- Joel's bug is also on the 33s**

Message #31 Posted by [Karl Schneider](#) on 16 Oct 2007, 5:19 a.m.,  
in response to message #30 by Meenzer

Quote:

\_\_\_\_\_

are you saying you tested Joel's bug on both and one failed and the other 35s was correct?

\_\_\_\_\_

I figured that there'd be some implied ambiguity in my incomplete specification, and it was called out. The truth was, I hadn't even opened my free HP-35s, which I received in late

September.

So, this time I laboriously cut through the blister pack and tested the free one. It has a later S/N, CNA734xxxxx. (It also misses entry of "0" on the keyboard frequently!)

It also turns out that I misentered one line on the first HP-35s, adding an extra "3" in the long constant, making it 13 digits (208.3333333334). The constant actually *used in calculations* then became 208.333333333, not 208.333333334, and the second answer inexplicably turned out correct. Upon correction of the program and retesting, I found that both units have the bug. My earlier post is now corrected and updated.

This, of course, doesn't mathematically justify the vastly-different results of the two equations, but does help to illustrate the unsoundness of accepting -- then effectively discarding -- extra digits. No previous RPN calc -- not even the HP-33s -- handled input in this manner.

-- KS

*Edited: 16 Oct 2007, 5:41 a.m.*

### Re: Appalling problem with HP35s

Message #32 Posted by [Meenzer](#) on 16 Oct 2007, 4:42 a.m.,  
in response to message #27 by Meenzer

On my HP35s (CNA726\*\*\*\*\*) it behaves oddly, too. Even if I change the variable name from X to K or R to S it's still the same wrong value.

But: if I change -R to -1\*R it works correctly. Two times -466.927.

Tadahhhh! So maybe there is some register arithmetic going on if you apply the +/- sign directly to the variable.

Also, if I change back to Joel's original code and than put, say, 1 in the line between the two equations like:

```
-R*X/(X*Q-R)
1
-R*X/(X*Q-R)
```

the answers on the stack are

```
-466.927
1
-466.927
```

But if I only put R/S after every EQN, the result is buggy.

*Edited: 16 Oct 2007, 5:42 a.m.*

### Re: Appalling problem with HP35s

Message #33 Posted by [Meenzer](#) on 16 Oct 2007, 9:37 a.m.,  
in response to message #32 by Meenzer

It goes on to be weird:

The same odd behaviour can be found in EQN-Mode (not in a program!). You can type in "-

$R * X / (X * Q - R)$  as an EQN, then evaluate it by keying in the appropriate numbers. First time you do this, -466.927 is the result. When you now evaluate the EQN a second time and key in the numbers again, you will obtain -466.927.

BUT, if you evaluate the EQN and only R/S the numbers that the HP 35s has already stored, you will get the same wrong result 31.323 EVERY SECOND TIME, alternated with the correct one. BTW, I tested the program both in ALG and RPN - same weird result.

*Edited: 16 Oct 2007, 9:40 a.m.*

## Re: Appalling problem with HP35s

Message #34 Posted by [Lyuka](#) on 16 Oct 2007, 9:27 a.m.,  
in response to message #27 by Meenzer

This problem seems to occur very often even with simple coefficients.

```
A001 LBL A
A002 1.1
A003 STO X
A004 1
A005 STO R
A006 3
A007 STO Q
A008 ~R*X/(X*Q-R)
A009 ~R*X/(X*Q-R)
A010 x=y?
A011 GTO A014
A012 RCL R
A013 STOP
A014 1e~9
A015 STO+ R
A016 GTO A008
```

An error occurs when R =

```
1.000,000,006
1.000,000,014
1.000,000,022
1.000,000,035
1.000,000,043
..and so on..
```

Regards, Lyuka

## Re: Appalling problem with HP35s

Message #35 Posted by [Pavneet Arora](#) on 18 Oct 2007, 9:30 p.m.,  
in response to message #27 by Meenzer

I am not sure what I am doing wrong, but if I use '+/-' for both minus signs then I get the obvious Syntax Error in the subtraction. If I enter the '+/-' as the first character and the subtraction operator for the second, I don't get the oscillating results, neither in Joel's version nor in Gene's equivalent with the LBL and GTO bracketing the equation.

However, if I enter this as an equation and do repeated evaluations, then the oscillating result appears.

My 35s is also from HHC2007, i.e., CNA73400XXX.

What am I missing?

## Re: Appalling problem with HP35s

Message #36 Posted by **Jeff O.** on 19 Oct 2007, 3:10 p.m.,  
in response to message #35 by Pavneet Arora

Pavneet,

Your results are a little surprising. My CNA734 unit gets the oscillating results with the following program:

```
A001 LBL A
A002 156.25
A003 STO X
A004 208.333333334 ;There are eight 'threes' in there
A005 STO R
A006 1.77951304201
A007 STO Q
A008 -R*X/(X*Q-R)
A009 -R*X/(X*Q-R)
A010 STOP
A011 GTO A008
```

Running the above produces the wrong answer in the x register and the right answer in the y register. Pressing R/S will cycle through again.

Jeff

### Re: Appalling problem with HP35s

Message #37 Posted by **sylvandb** on 19 Oct 2007, 8:48 p.m.,  
in response to message #36 by Jeff O.

Quote:

Running the above produces the wrong answer in the x register and the right answer in the y register. Pressing R/S will cycle through again.

My CNA725\* also produced the correct answer in y and incorrect in x after every R/S.

I modified the two equation lines to be  $-1*R...$  (using +/- for the -) and then both results were correct.

Strange stuff.

sdb

---

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## HP Forum Archive 17

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### **The world is eating your lunch!**

Message #1 Posted by [designnut](#) on 13 Oct 2007, 11:56 p.m.

Is the world eating your lunch? We cling to a mismatched set of measurements instead of adopting the metric system. For example: a Swiss engineer was asked to calculate a spring and mass resonance. He converted all measurements to metric and solved it in one page. His boss insisted it could not be done in one page, took 3 pages and made 5 mistakes. Math is being taught in a pen and pencil method in a computer world. I submit that algebraic calculator entry is hampering the teaching of math. Math is being taught with 19th century methods. I would like to be able to give out beginners calculators with RPN to smooth the way. Allowing equation entry and SOLVE would answer the algebraic methods in the schools.

### **Re: The world is eating your lunch!**

Message #2 Posted by [Vieira, Luiz C. \(Brazil\)](#) on 14 Oct 2007, 12:47 a.m.,  
in response to message #1 by [designnut](#)

Quote:

Allowing equation entry and SOLVE would answer the algebraic methods in the schools.

I'm an electrical engineer and I teach at the local university. I'm gonna be back to the class room as a student again, now to achieve a brazillian Doctor degree in Education (the second post-graduation level here: 'mestre', then 'doutor' and, if going ahead, 'pos-doutor'). Next year planning, though.

When I was a student, RPN thought me a new way of reasoning about a solution. My first calculator was a TI57 (still have it) in 1980. I simply stuffed it with keystrokes corresponding to the expression I wanted the result from. With the HP41, I had to understand what I was doing prior to press the keys. I had to analyze the expression, find the inner operations, apply precedence myself... by using an RPN calculator, it enhanced my reasoning and I started to solve the expressions in my head first, fast and accurately. But it happened to me, cannot extend the concept to everybody else. I was told that ABACUS users do the same. And ABACUS have no [=] key... they are RPN adders.

I accepted the challenge of teaching math to students at pedagogy graduation this semester. They simply HATE math, the ugly-duck of the human-related field students. I do not abolish the use of calculators in the class-room, I actually emphasize it. I ask students to bring their calculators, if any, so they may learn how to use them. I feel that when the calculator is a curiosity, pressing buttons and see what happens is an adventure, a game. If it is understood as a tool, it will be used only to perform arithmetic and transcendental operations.

I still go white-board with white-board marker. From time to time I use a datashow with some specific presentation or a particular movie (believe me, Olmos' 'Stand and Deliver' still causes debates, questioning and reasoning...). I tell them how the operations are performed, not why and when. I let them conclude the why and when. So far, the best reward was from a 28 Y.O. student who told me the following after the first math examination: "This is the first time I understand a math examination in my life. Thank you!" You see, she did not thank me for being able to answer the questions, instead to understand them.

She does not use calculators.

She did not use any.

A calculator would make no difference.

SHE made the difference.

Last week I read that Galileu once said: "One cannot teach anything to anyone. One can only help someone to find it (knowledge) by himself." (I read the Portuguese version, cannot be sure if the English version from the original would be like that).

I think I just did that. And I am getting myself ready to go ahead.

I'm 46 years young, I have so too many things to do I cannot stop right now and see what happens.

Cheers.

P.S. - one of the reasons I'm not lurking around here so too often is my current dedication to these educational, pedagogic subjects. It will probably get worse next year...

*Edited: 14 Oct 2007, 11:57 a.m.*

### **Re: The world is eating your lunch!**

*Message #3 Posted by [Don Shepherd](#) on 14 Oct 2007, 8:13 a.m.,  
in response to message #1 by designnut*

Teaching RPN to kids is not the answer. Part of the answer is contained [here](#).

### **Re: The world is eating your lunch!**

*Message #4 Posted by [designnut](#) on 14 Oct 2007, 1:50 p.m.,  
in response to message #3 by Don Shepherd*

Quote:----- Why are TI calculators so much more ubiquitous than are HP calculators among students? What is TI doing right that allows them to maintain their marketshare? ----- From Egan Ford

TI went after the teacher and the textbook writer. My kid's textbook is written for the TI83+ (which I think is wrong, I'm still old school and believe the books should only be written for pen and ink). Students don't care, a calculator is a tool to get homework done and take tests with. My kid has so much more to worry about (sports, a social life, work, etc...). Learning to use a different device to get the same results is unimaginable. Teachers have always selected your textbook and now they select your calculator. Some schools even pick out your clothes.

This is the problem I was trying to address, in addition to the US using outmoded English measurements which even the English have eliminated. Sam

### **Re: The world is eating your lunch!**

*Message #5 Posted by [Ren](#) on 15 Oct 2007, 11:25 a.m.,  
in response to message #4 by designnut*

Quote:  
\_\_\_\_\_

TI went after the teacher and the textbook writer. My kid's textbook is written for the TI83+ (which I think is wrong,

---

As a mid-life college student, most of my math(s) texts were written for the TI-83+. Sidebars or margins show which keystrokes are needed to enter the data.

I do not know of an instructor on this campus that even knows RPN. (HmMMM, I don't think the Accounting instructors know how to use an HP-12c). If a student with a different calculator (even a TI-89) does not know how to enter an equation, they will get almost no assistance from an instructor because they only know the TI-83 family.

I now carry one of my HP48pv's (plain vanilla) just to challenge me to think about any problem that arises (but currently I am not in a math(s) course).

### **Re: The world is eating your lunch!**

*Message #6 Posted by **Palmer O. Hanson, Jr.** on 15 Oct 2007, 10:08 p.m.,  
in response to message #5 by Ren*

Quote:

---

(HmMMM, I don't think the Accounting instructors know how to use an HP-12c).

---

The popularity of the HP-12c among business people has very little to do with H-P, RPN and the stack. Rather, it has everything to do with the fact that from the keyboard the HP-12c reacts to entries very much like the old mechanical business calculators.

### **What did TI do right?**

*Message #7 Posted by **Palmer O. Hanson, Jr.** on 15 Oct 2007, 10:14 p.m.,  
in response to message #4 by designnut*

Question:

Why are TI calculators so much more ubiquitous than are HP calculators among students? What is TI doing right that allows them to maintain their market share?

Answer from the H-P community:

TI went after the teacher and the textbook writer.

Actually TI did something much more customer friendly than that. They didn't give the education community a lecture on how to do their job. Instead, they asked the education community "How can we help you do your job?"

### **May I?**

*Message #8 Posted by **Vieira, Luiz C. (Brazil)** on 15 Oct 2007, 11:14 p.m.,  
in response to message #7 by Palmer O. Hanson, Jr.*

Hi, Palmer;

Quote:

---

They didn't give the education community a lecture on how to do their job. Instead, they asked the education community "How can we help you do your job?"

---

We are living a very sensitive moment in some of the world's safest education communities. Teaching/learning methods, evaluation significance, use of technology and others are topics being discussed in many places. I am following these events closer because I believe that if we are not already living an educational crisis, we are fair close to it.

I am aware of the fact that if current educational methods are under discussion it does not mean that they are no longer valid, instead that they may be reinforced to follow current minds and available resources. And it happens from time to time, as it happened to us when the computer became a reality. I had one specific subject in Engineering that simply did not exist six, seven years before I had it: 'Computer Application'.

I am not confident that following current educational models is SO FAR part of the solution. So, I am not sure that TI is actually doing right, instead that they are mostly taking the advantage of being able to follow the market. You also posted:

Quote:

---

Why are TI calculators so much more ubiquitous than are HP calculators among students?

---

With this I agree completely: they are ubiquitous among the students, and the teachers may have found support when students are solving a problem with guidelines partially shown as keystroke sequences.

I'm trying my best not to be old fashioned here, but I remember having to find my own ways to use FORTRAN knowledge to solve some math problems, like writing my own Newton's root finder code. Today students may use SOLVE and not be able to write a code for a single root finder. I did it as a workaround for the problem found in the first Platinun series (with no parenthesis, undo, back-space and LCD contrast control). They do not correctly compute IRR below 0.34%, so I wrote a single 29-step program with a linear approach that finds the correct answer. The listing was available at the HP site Brazil for some time, till the new Prestige was finally available. AFAIK, this was one of the very reasons the HP12C Prestige was introduced in Brazil: folks here stood against the HP12C Platinun and wanted only the regular HP12C.

As you see, the HP12C Prestige was just a way to rescue the HP12C Platinum image amongst customers. It is exactly the same as the new Platinum, but has not the same look, it is a Prestige. So I think TI is doing with students: *"This calculator will not complicate your studies, instead will make them easier. Just let us know what a calculator should do to make it easier for you.* I don't know, this looks like a walking bar for the ones who want to fake to be crippled. And they are not crippled, just were given walking bars.

My point of view, though. Can it be considered a 2¢ contribution?

Cheers.

Luiz (Brazil) (did not spell check, sorry for any errors...)

*Edited: 15 Oct 2007, 11:17 p.m.*

**Re: May I?**



*Message #9 Posted by **Palmer O. Hanson, Jr.** on 16 Oct 2007, 11:54 a.m.,  
in response to message #8 by Vieira, Luiz C. (Brazil)*

Quote:

---

Hi, Palmer; I had one specific subject in Engineering that simply did not exist six, seven years before I had it. Computer Applications.

---

I'll really show my age here. I had a course in how to use the RemRand 1103 computer (bigger than a house) at the University of Minnesota back in 1960. So, computer application courses are hardly new.

Quote:

---

I am not sure that TI is actually doing right, instead that they are mostly taking the advantage of being able to follow the market.

---

TI didn't just follow the market. They were instrumental in developing the market by being willing to respond to the wants of the education community. I do recognize that in this forum it is not a popular thing to say that TI has done anything right.

Quote:

---

I'm trying my best not to be old fashioned here, but I remember having to find my own ways to use FORTRAN knowledge to solve some math problems, like writing my own Newton's root finder code.

---

Showing my age even more: When I was a freshman engineering student at the University of Minnesota back in 1946 I took the elective but strongly recommended class in Introduction to the Slide Rule. I completed the class getting one of the two C's I received during my undergraduate career. And, of course, I never read the manual. No self-respecting engineering student would admit that he had to read the manual. Calculator users are a lot like that today.

Quote:

---

Today students may use SOLVE and not be able to write a code for a single root finder. I did it as a workaround for the problem found in the first Platinun series (with no parenthesis, undo, back-space and LCD contrast control). They do not correctly compute IRR below 0.34%, so I wrote a single 29-step program with a linear approach that finds the correct answer.

---

Very interesting. Do you remember how Kahan's "Mathematics written in sand" savaged TI for the failure of the MBA to calculate IRR correctly in some cases?

### **The benefit of doubt**

*Message #10 Posted by **Vieira, Luiz C. (Brazil)** on 16 Oct 2007, 11:09 p.m.,  
in response to message #9 by Palmer O. Hanson, Jr.*

Hi, Palmer; me, again.

Quote:

---

I do recognize that in this forum it is not a popular thing to say that TI has done anything right.

---

Yes, you are correct; I did push too hard against TI, and I actually did not mean to. I have a TI55 (gift), a TI57, a TI58C (gift, with memory issues), a TI59, a PC100A and a TI82 (gift). I also have an interesting Casio FX7000GA, one of the first graphic pocket calculators.

About a year after having a TI82 as a gift, among others (the CX MB is still here, M.B.; will send it back soon, promise), I bought an HP39G+ (three, in fact). These are all algebraic-based, high-school students addressed, and they have the same helping-aid appealing. TI started earlier, and HP followed it as close as possible (HP38G; is it a coincidence the reversed numbering against the TI83?). One of the HP39G+ I actually bought for my daughter, but I gave up the idea of leaving it with her. I first tried to show her some single stuff, like the 2nd. degree curve changing with the change of parameters 'a', 'b' and 'c', but she did not feel as if it would help her. My approach failed, I guess.

I apply the same considerations to the calculators HP developed with the same purpose. Please, understand that I am not against the tools themselves, instead their primary purpose. I would like to have anyone of those when I was in the brazillian equivalent to the high-school (at the time I was there it was our 2nd. degree school), but I'd surely know what to do with them. Maybe this is the actual punchline: developers idealize tools they'd need, with the customer in mind. A hammer is a hammer anytime, anywhere, and it can be used by anyone who knows what is it for. One cannot apply the same reasoning for a calculator or a computer, their use is not based on a standard circumstance. Either the user or the usage may vary, and under the same circumstance, two users with the same expertise and need may or may not use a calculator to solve a particular problem. Opposedly, if they need a hammer, there is no way to get rid of it.

I'm afraid I did not make myself understood. Going further may not give me the true benefit of doubt...

Cheers.

Luiz (Brazil)

*Edited: 17 Oct 2007, 5:09 a.m.*

## **Re: The benefit of doubt**

*Message #11 Posted by **Ren** on 17 Oct 2007, 2:37 p.m.,  
in response to message #10 by Vieira, Luiz C. (Brazil)*

Quote:

---

I'm afraid I did not make myself understood. Going further may not give me the true benefit of doubt...

Cheers.

Luiz (Brazil)

---

Luiz, my comments do not directly follow anything you've written, so do not take any

personal offense to what I'm writing...

I think maybe another PLUS for TI is the hacker community that has formed around it.

For instance, the various kits and plans for adding a PC keyboard to the TI-8x calcs. Or a perusal of TICALC.org shows various hacks for speed up, additional battery power or other things I'd be too scared to do to a more expensive calc.

(I am aware of the speed up hacks and repairs to HP calcs found at this site, so I'm not saying ONLY TI has hardware hacking).

Also the various hacks which allow assembly language programs to be written and downloaded into the Z-80 CPU's in the calcs. TI may have grudgingly accepted having their calcs hacked (initially) but I don't think they're hunting down calc hackers with legions of lawyers either (hackers can be good for business!)

And then there is the CBL (Calculator Based Laboratory) module which allows the TI-8x calcs to become analog and digital data loggers. (GeekyKeen!)

Ren dona nobis pacem

**I like hardware hacking. A LOT! c|8^))) (N.T.)**

*Message #12 Posted by [Vieira, Luiz C. \(Brazil\)](#) on 17 Oct 2007, 4:10 p.m.,  
in response to message #11 by Ren*

**Re: The benefit of doubt**

*Message #13 Posted by [Palmer O. Hanson, Jr.](#) on 17 Oct 2007, 8:56 p.m.,  
in response to message #11 by Ren*

Quote:

TI may have grudgingly accepted having their calcs hacked (initially) but I don't think they're hunting down calc hackers with legions of lawyers either (hackers can be good for business!)

As one of the successful hackers back in the days of the TI-59 I can assure you that TI was less than enthusiastic about some of the things we discovered such as fast mode and hi resolution graphics. Their lack of enthusiasm was related to the earlier HP experience with the special effects which were discovered with the HP-97 and which, if improperly used, could fry the circuitry.

The TI-66 manual even had a sentence that indicated that there were no unannounced features in that device such as there had been in the TI-59. We found some in a few weeks.

**Re: The benefit of doubt**

*Message #14 Posted by [Palmer O. Hanson, Jr.](#) on 17 Oct 2007, 8:46 p.m.,  
in response to message #10 by [Vieira, Luiz C. \(Brazil\)](#)*

Quote:

I also have an interesting Casio FX7000GA, one of the first graphic pocket calculators.

---

I believe the Casio fx7000G was the first graphing hand-held calculator. I purchased mine on December 4, 1985. I still have it. It calculates properly but the display has deteriorated in a manner that makes it difficult, but not impossible, to read. I also have a Casio fx7000GA that my daughter used in high school advanced placement mathematics classes and in college. Unfortunately the display is broken. The two devices are very similar with some minor differences in construction. An important difference is that the bizarre random number generator in the fx7000G was supposedly fixed in the fx7000GA.

Quote:

---

A hammer is a hammer anytime, anywhere, and it can be used by anyone who knows what is it for.

---

As someone who earned his way through college by working in construction during the summers I simply can't let that pass by. If I did my construction supervisors would be spinning in their graves. While anyone can use a hammer, sort of, or a computer or calculator, sort of, not everyone uses tools effectively. One construction supervisor had a simple set of tests to determine whether an applicant knew how to use a hammer effectively. First, he asked the applicant to drive a nail and looked at how far the applicant's hand was from the end of the hammer. Then he asked the applicant to use a hammer to remove a nail which had only been driven part way in. A successful applicant didn't apply the claw to the nail head -- rather he used the sharp internal edges of the claw to grasp the shaft of the nail.

Palmer

### **OT: Hammer Time!**

*Message #15 Posted by **Ren** on 18 Oct 2007, 10:58 a.m.,  
in response to message #14 by Palmer O. Hanson, Jr.*

Another hammer test would be to have a hammer with the face ground non-perpendicular (off-axis?) and see if the hammerer discovers why they can't drive in a nail without it bending, or successfully drives in the nail without bending by compensating for the hammer face! It doesn't take a lot of mis-alignment to throw a hammer off!

Or how to start a nail with only one hand (wedging the nail shaft in the claw with the head of the nail up against the part of the hammer head that surrounds the handle).

Hopefully, most of the members of HP Forum do not work on HP calculators with a hammer, or use an HP calculator AS A hammer!

B^)

Ren

dona nobis pacem

**Re: OT: Hammer Time!**

Message #16 Posted by **Vieira, Luiz C. (Brazil)** on 18 Oct 2007, 11:07 a.m.,  
in response to message #15 by Ren

Hi, Ren;

Quote:

Hopefully, most of the members of HP Forum do not work on HP  
calculators with a hammer, or use an HP calculator AS A hammer!

I'd not be so sure...

d8^D

Cheers.

Luiz (Brazil)

**Re: The world is eating your lunch!**

Message #17 Posted by **Thor Lansen** on 15 Oct 2007, 12:53 p.m.,  
in response to message #1 by designnut

Quote:

We cling to a mismated set of measurements instead of adopting the metric system.

With the minor consequence of HP wasting 2 or 3 keys in the HP35s Scientific Calculator on conversions to and from a non scientific (English) unit system and the no so minor consequence of NASA loosing a space craft. <http://plus.maths.org/issue10/news/mars/index.html>

Regards, Thor

**Re: The world is eating your lunch!**

Message #18 Posted by **brian healy** on 18 Oct 2007, 10:19 p.m.,  
in response to message #17 by Thor Lansen

maybe if NASA had done the entire project in unscientific English Units everything would have worked out fine :)

**Re: The world is eating your lunch!**

Message #19 Posted by **Patrick Rendulic** on 19 Oct 2007, 1:06 a.m.,  
in response to message #18 by brian healy

maybe if NASA had done the entire project in SI-Units everything would have worked out fine :)

**Re: The world is eating your lunch!**

Message #20 Posted by **Walter B** on 19 Oct 2007, 1:25 a.m.,  
in response to message #19 by Patrick Rendulic

Probability is higher in the latter case, because you have far less chances for errors :)

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**Re: The world is eating your lunch!**

*Message #21 Posted by [bill platt](#) on 22 Oct 2007, 8:57 p.m.,  
in response to message #20 by Walter B*

I work in both metric and american. They each have their advantages, and their faults. Some things in SI are annoying and stupid, like Pa rather than simply N/m<sup>2</sup>. Why name a derived unit after a DWEM? At least in American units, there's only one DWEM: Rankine. Maybe two, if you count Slugs :-). Oh, and Fahrenheit. I forgot about him.

Lots of U.S. engineering is done in metric and it is not difficult. In fact metric is the only units system officially sanctioned by congress, since the time of Jefferson. The foot etc is referenced to the meter.

In WWII my father over-ran German factories and discovered that the metric-unit machine tools, calipers, micrometers, feeler gages were made in Rhode Island and Connecticut.

Oh, and the US Federal Highway Administration has done all its engineering in SI since the 70s. When Reagan issued his "go back to inches" edict, they said "M5 you!"

*Edited: 22 Oct 2007, 9:13 p.m.*

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**Re: The world is eating your lunch!**

*Message #22 Posted by [Thor Lansen](#) on 19 Oct 2007, 12:17 p.m.,  
in response to message #18 by brian healy*

Sure, maybe, let's just keep on using the "Horse-Power" to pull the wagon instead of switching to the "Watt" engine, like Liberia and Myanmar do (the only two countries in the world I know besides the USA) and continue using this obsolete (English) system of measurements. The English system of measurements offers zipo, zero, nada, advantage over the SI system (and even less in the scientific field). The only reason we haven't switched is political.

Regards, Thor

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**Re: The world is eating your lunch!**

*Message #23 Posted by [Ed Look](#) on 19 Oct 2007, 9:14 p.m.,  
in response to message #22 by Thor Lansen*

Probably another reason is cost. I guess no one really wants to expend the cost of having to retool and redesign (and print new stuff).

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**Re: The world is eating your lunch!**

*Message #24 Posted by [Thor Lansen](#) on 20 Oct 2007, 10:57 a.m.,  
in response to message #23 by Ed Look*

Yes, you are correct it will cost money but if other countries (less wealthy than the USA) did it we can too. I still think the main reason has to do with politics. Look no further, did you see the reaction of dbMartinez and company? for them it is a matter of pride "we built this ship we built that space craft" (and they forgot the Russians, probably using the metric system, were first in space) and not of what it is better. Now, if these two guys frequent this board, I assume they have some type of scientic/technological training/understanding and they oppose a change, can

you imagine a politician telling the populace about switching to a metric system, how long can he/she last?

Regards, Thor

*Edited: 20 Oct 2007, 11:30 a.m.*

### **Re: The world is eating your lunch!**

*Message #25 Posted by [db \(martinez, ca.\)](#) on 19 Oct 2007, 11:10 p.m.,  
in response to message #17 by Thor Larsen*

Forgive my bad memory but weren't the Apollo spacecraft and it's L.E.M. both built and navigated using archaic, unscientific and outdated English measurements? I believe that it got to the moon's surface and back 5 or 6 times. Metric is no better. There is nothing more scientific about measuring with a unit based on the distance between Paris and Santa Clause's house than one based on the length of some dead king's foot. I use either.

### **Re: The world is eating your lunch!**

*Message #26 Posted by [Trent Moseley](#) on 19 Oct 2007, 11:48 p.m.,  
in response to message #25 by db (martinez, ca.)*

db-

You express my sentiments exactly.

tm (Redwood City, CA)

### **Re: The world is eating your lunch!**

*Message #27 Posted by [Ed Look](#) on 20 Oct 2007, 12:25 a.m.,  
in response to message #25 by db (martinez, ca.)*

You know, I was part of a short but interesting and insightful little conversation today. Someone wondered about "pieces of eight" (the old Spanish currency unit so prized, apparently, by pirates and their parrots), and it turns out that it was so termed because you can break it into eight parts to pay for something that cost less than the whole piece of eight.

And then we tangented into why old monetary systems were so seemingly odd and almost randomly denominated while today's currency systems are resoundingly decimal. Many of the old systems were founded essentially on base six, or really, twelve, because twelve is a number than can be factored by a relative large count of integers- two, three, four, and six! This made it easier to make dividing up stuff to sell or buy or to charge for. So in a way, for it's own day and place, the old systems of units and measurements were quite utilitarian, appropriate, and sort scientific, then. (And, at least mathematically richer.)

But in our day, with our already fading industrial phase, burgeoning cybernetic and electronic (already fading with photonics crowning to society's pangs?) phase, and even laymen putting on scientific airs, the decimal systems seem more fitting and deemed more useful... at least easier to teach to the ebbing SAT scores crowd.

However, how really "easy" or "natural" or "fitting" is a decimal based units and measurements system when it gives birth to units like the farad, which is kind of astronomical, but is calculated in physics classes here on earth. How do astronomical units, parsecs, angstroms, or Avogadros fit into these

systems? They do... like shims in a doorframe, or Scotch tape on black eyeglass temples.

Nah, loose units don't sink spaceships, stupidity kills.

(With all this fussing I can't add to my stature one cubit... or femtocubit.)

**Re: The world is eating your lunch!**

*Message #28 Posted by **Ren** on 22 Oct 2007, 12:03 p.m.,  
in response to message #27 by Ed Look*

Quote:

Nah, loose units don't sink spaceships, stupidity kills.

(With all this fussing I can't add to my stature one cubit... or femtocubit.)

But converting from English to Metric caused a Canadian passenger jet to run out of fuel and make a forced landing in Gimli. (Read the story on the Gimli Glider).

Ren

dona nobis pacem

**Re: The world is eating your lunch!**

*Message #29 Posted by **Ed Look** on 22 Oct 2007, 11:57 p.m.,  
in response to message #28 by Ren*

Well, I will admit conversions always have the potential to be tricky.

**Re: The world is eating your lunch!**

*Message #30 Posted by **Thor Lansen** on 20 Oct 2007, 3:14 a.m.,  
in response to message #25 by db (martinez, ca.)*

Not sure what your point is, you are reminding me of space crafts we built using the English system of measurements, so what? The Egyptians built the pyramids using who knows what system, the Chinese the Big Wall of China, and so on. I suppose we/they could have used any system of measurement we/they wanted (the big foot, the little toe, etc.) to build them. But which one is better?

If there are many ways of solving a problem, which solution do you choose? I would choose the most elegant, the simplest one, and in the case of units system of measurements, it is the SI system (by many many kilometers).

Quote:

Metric is no better.

Just wondering, are you familiar with the metric system? the one you just divide by 10 or multiply by 10... I did not think so.

**Re: The world is eating your lunch!**



*Message #31 Posted by **Walter B** on 20 Oct 2007, 4:02 a.m.,  
in response to message #25 by db (martinez, ca.)*

Quote:

There is nothing more scientific about measuring with a unit based on the distance between Paris and Santa Clause's house than one based on the length of some dead king's foot.

You are absolutely right. Fully agreed.

Quote:

Metric is no better.

I disagree absolutely. Some good reasons were given above already. Just to add the crucial point IMHO: SI is a **system**. This makes the difference.

Nothing against Imperial units (or Chinese or Egyptian or Babylonian or ...) IF they build a system of units. But at least Imperial units fail to do so. We had this discussion here several times already.

HTH, Walter

*Edited: 20 Oct 2007, 4:02 a.m.*

### **Re: The world is eating your lunch!**

*Message #32 Posted by **Ren** on 22 Oct 2007, 12:17 p.m.,  
in response to message #31 by Walter B*

A US television comedy show of the late 60's to early '70's, "Rowan and Martin's Laugh-In" on occasion would issue awards of dubious distinction. One award was "The Flying Fickle Finger of Fate!" and another was the "Whoopee!"

Once(?) they awarded the US Congress because back in 1895 they formed a Committee for the Standardization of Screw Threads, which had been meeting yearly (up to that point, maybe now) and had (still) not accomplished their goal.

(One of the comedians commented that it was probably because they sat around drinking Screwdrivers!)

(Maybe that is what inspired Monty Python's "Ministry of Silly Walks".)

And along those lines...

What is a Metric Screwdriver?

30cc's of vodka and 20cc's of orange juice! (rimshot)

Ren

dona nobis pacem

### **Re: The world is eating your lunch!**

*Message #33 Posted by **db (martinez, ca.)** on 22 Oct 2007, 10:52 p.m.,*

*in response to message #31 by Walter B*

Thor:

Quote:

Just wondering, are you familiar with the metric system? the one you just divide by 10 or multiply by 10... I did not think so.

If you ever land at the San Jose California airport or take State Highway 87 North or South from it, or drive on 101, 580, 80, 680, 4, 24, ride the train..... you will use something I layed out in meters. Public money jobs here are all metric, and cost more. I just prefer to use decimal feet. The units are in useful human sizes. What I use two decimal places for; needs three in metric. What we use one for; metric units need two. Hand signaling centimeters to an equipment operator is a pain. Stakes loose clarity. My shoes are a foot long. My knuckles are a tenth. One pace (two steps) are 5 feet. Decks & slabs have two percent fall (i tell the carpenters it's a quarter inch per foot). Crossfalls on roads are designed the same: two hundredths per foot. From my nose to this here outstretched middle finger is three feet. What do you think I use my hp 41 for? Fractions?

Walter: You must work in the sciences. I see your point. Myself, being just a laborer with a real good calculator; I only have to think about distances and angles. Thank some deity that metric angles never caught on. I'd hate to have to learn to think in gons or grads or whatever.

### **Re: The world is eating your lunch!**

*Message #34 Posted by **Walter B** on 23 Oct 2007, 2:23 a.m.,  
in response to message #33 by db (martinez, ca.)*

db, you're right. Of course, I can do the same game in metric: 1 step is 1m, my hand spread is 20cm (from thumb to middle finger), walking speed on even surface is 5km/h etc. Your decks and slabs are my favourites, however: 2% are simply 2cm per 1m, carpenter-proof! Life is easy going metric, and it frees some keys on your real good calculator :)

And angles are as time: we'll keep the Babylonian 60 forever. Don't be afraid, I didn't see anybody using gons in real life so far.

Continue enjoying California! Best regards,

Walter

### **Re: The world is eating your lunch!**

*Message #35 Posted by **Ren** on 23 Oct 2007, 10:57 a.m.,  
in response to message #34 by Walter B*

Of course a lot can happen in 20 years,

but when I was in the Middle East in the mid 80's, the UK ex patriots still recited their body weights in "stone"!

Informally, they often used English measurements over Metric, but would use Metric when "the job" called for it.

While we are on the subject of measurements, I just want to toss in this Internet born "system"

Firkins per Furlong per Fortnight

Ren

dona nobis pacem

### **Re: The world is eating your lunch!**

*Message #36 Posted by [bill platt](#) on 22 Oct 2007, 9:01 p.m.,  
in response to message #25 by db (martinez, ca.)*

I'm sure that Feynmann would put the whole issue off being of "trivial" interest.

If you know what you are doing, it doesn't matter whether you are in kumquats or kilometers.

### **Re: The world is eating your lunch!**

*Message #37 Posted by [db \(martinez, ca.\)](#) on 22 Oct 2007, 11:16 p.m.,  
in response to message #36 by bill platt*

lets see: 186270 enter 5280 x 12 x 60 x 60 x 24 x 365. that's a lota dam kumquats per year at the speed of light.

### **Re: The world is eating your lunch!**

*Message #38 Posted by [designnut](#) on 21 Oct 2007, 9:35 p.m.,  
in response to message #17 by Thor Larsen*

While there is no great significance to the actual choice of a meter as the basic unit of measure the Metric measure is a SYSTEM of measurements desined based on the initial unit. English measure is a hodgepodge collection of measurements with no common basis. The gallon is not based on the foot as the liter is based on the meter. All english units are unrelated in definition, hence the many needless conversions. Try getting a nation using metric to use English measure! Would you rather have a disorganised units.. sixteenths of an inch rather than decimal? The failure tto understand tthe interrelated systematic set of units hampers your calculations and your thoughts. Sam

### **Why not octal!**

*Message #39 Posted by [Palmer O. Hanson, Jr.](#) on 22 Oct 2007, 10:02 a.m.,  
in response to message #38 by designnut*

Quote:

Would you rather have ... .. sixteenths of an inch rather than decimal?

I admit that I deleted "a disorganised units" from your sentence to make my point which is that I wouldn't mind having sixteenths of an inch rather than decimal if that meant that we were on our way to a digital based (octal, hexadecimal, whatever) system.

In a digital age either an English system or a decimal system is a Luddite concept!

### **Re: Why not octal!**

*Message #40 Posted by [Stefan Vorkoetter](#) on 22 Oct 2007, 11:38 a.m.,*

*in response to message #39 by Palmer O. Hanson, Jr.*

Quote:

In a digital age either an English system or a decimal system is a Luddite concept!

Au contraire! In this age of high speed processors and cheap memory, a computer that forces me to work in its natural system (base 2, 8, 16 or whatever) instead of my natural system (base 10, since most of us have 10 fingers) is a tail-wagging-the-dog concept.

Stefan

### **Re: Why not octal!**

*Message #41 Posted by **Palmer O. Hanson, Jr.** on 22 Oct 2007, 9:02 p.m.,  
in response to message #40 by Stefan Vorkoetter*

Quote:

Au contraire! In this age of high speed processors and cheap memory, a computer that forces me to work in its natural system (base 2, 8, 16 or whatever) instead of my natural system (base 10, since most of us have 10 fingers) is a tail-wagging-the-dog concept.

Stefan

If ten is such a natural system then why have there been so many other systems in use.

I could contend that octal is a natural system for me (in my genes, if you will) because of my Swedish heritage. Wikipedia tells us that Charles XII (1682 - 1718) became interested in octal through contact with Swedenborg. I recall seeing a reference somewhere that said Charles XII was so convinced of the superiority of octal that he tried to change Sweden from decimal to octal. It didn't happen because of resistanc to change.

Change is really hard to accept. Try getting an old set-in-his-ways RPNer to switch to the much more natural E.O.S. for work with equations.

My recollection is that in the post-World War II period American industry resisted switching from English units to metric units because all of it's tooling survived the war. Changing to metric was easier in a sense in those countries where industry had essentially been reduced to rubble by the war.

### **Re: Why not octal!**

*Message #42 Posted by **Walter B** on 23 Oct 2007, 2:31 a.m.,  
in response to message #41 by Palmer O. Hanson, Jr.*

Palmer,

Quote:

My recollection is that in the post-World War II period American industry resisted switching from English units to metric units because all of it's tooling survived the war. Changing to metric was easier in a sense in those countries

where industry had essentially been reduced to rubble by the war.

FYI, the metric system was invented and introduced some 200 years ago after the French revolution (at a time when the USA were progressive and interested in the world outside). And yes, research confirms there were wars before "the war" ;)

*Edited: 23 Oct 2007, 5:03 a.m.*

### **Re: Why not octal! (a bit long)**

*Message #43 Posted by **Walter B** on 22 Oct 2007, 11:48 a.m.,  
in response to message #39 by Palmer O. Hanson, Jr.*

Quote:

In a digital age either an English system or a decimal system is a Luddite concept!

IMHO there are 3 separate points mixed in this discussion:

- 1) the number base (10, 8, 12, 16, or whatever) or numeric system for calculations,
- 2) the set of units for measuring,
- 3) the system built by a (carefully chosen) set of said units.

Ref. to 1): Various number bases were chosen in different civilisations (e.g. 12 in Babylon, 20 in Yucatan). Traditionally, these systems existed "stand-alone". However, growing long range trade pushed people to find a common system. Nowadays, the decimal system is accepted almost everywhere for serious calculations done by humans, and the binary system for the same done electronically. Of course, there are some exceptions (the most popular is found counting time between seconds and years). But no serious people are up to replace the decimal system today by another one.

Ref. to 2): Various units were chosen in different civilisations (as above). Traditionally, these units existed "stand-alone". Meaning, units to measure an area had nothing to do with units to measure a length. Often, even different units for the same physical quantity were living separated (look e.g. at some Imperial units of length). Again, growing trade pushed people to find common units. But the push was softer than above, since you can easily live in e.g. a world of acres as long as this unit is suited well to the areas you are interested in, and you don't want to deal with much bigger or smaller surfaces (living in a sufficiently secluded place).

Ref. to 3): Unlike the other points, the need for a \*system\* of measuring units arose from science. As you know, scientist are those strange folks interested in everything from the very small to the very large. And even worse, they search for links between everything! And still worse, they found such links between many fields which were so neatly separated before. Thus, "stand-alone" units had to be caught and grouped into systems. When I started my studies, two of them were still found in European textbooks (called "cgs" and "mksA", the latter becoming the basis of "SI"). Meanwhile, pushed by growing international science, AFAIK "SI" is the only surviving system.

By all this, it should be obvious there once has been an "English monetary system" based on the number 12, and there still is an "English set of units", but there never was anything like an "English system of measuring units".

HTH,

Walter

### **COST OF METRIFICATION**

Message #44 Posted by [designnut](#) on 22 Oct 2007, 12:27 p.m.,  
in response to message #43 by Walter B

A suggestion was made of the cost of going metric as being prohibitive. I submit that the cost of NOT changing is worse. England changed. Somebody has to stand up for it. One British lady referered to the decimal currency as metric. I gave a real example of a Swiss trained engineer solving a spring and mass problem by first changing the data to metric and solving it in one page. His boss said it's not that simple: did his own calculation on 3 paqes and made 5 mistakes. Are we to be the last bastion of backwardness just because of NOT INVENTED HERE ? Sam

### **Re: COST OF METRIFICATION**

Message #45 Posted by [Arne Halvorsen \(Norway\)](#) on 22 Oct 2007, 5:30 p.m.,  
in response to message #44 by designnut

I belive UK never did actual change... The EU had given em a deadline to actual change, but recently read they had given it up... More reachable goals such as stability at Balkan and so trivial stuff (compared) has to be addressed...

### **Re: The world is eating your lunch!**

Message #46 Posted by [bill platt](#) on 22 Oct 2007, 9:08 p.m.,  
in response to message #38 by designnut

Well, it might or might not hamper your calculations (it shouldn't though--for every door opened by decimal there is also a door closed. Division by 2s is effective for rapid work in the head, if you learn the old ways).

It shouldn't hamper your thoughts. Understanding  $F=Ma$  is not affected by units. IF you understand what mass is, and force is, then it doesn't matter! Only if you don't actually understand the principles do the units get you confused.

### **Re: The world is eating your lunch!**

Message #47 Posted by [Ed Look](#) on 22 Oct 2007, 11:32 p.m.,  
in response to message #46 by bill platt

(This response is not just to Bill; it's not just to this thread... it's to the whole site!)

What a great forum this is!!

### **Re: The world is eating your lunch!**

Message #48 Posted by [designnut](#) on 23 Oct 2007, 1:10 a.m.,  
in response to message #46 by bill platt

Taking your expression  $F=Ma$ , what English units would you use? Did you have to look it up? I submit having a SYSTEM of units is efficient and productive. Sam

### **Re: The world is eating your lunch!**

Message #49 Posted by **Thor Lansen** on 23 Oct 2007, 1:55 a.m.,  
in response to message #48 by designnut

Sam, your are the man!

### **Re: The world is eating your lunch!**

Message #50 Posted by **bill platt** on 23 Oct 2007, 8:25 a.m.,  
in response to message #48 by designnut

Ha ha. "Did I have to look it up." Of course not.

Force = Mass time acceleration.

Consistent units:

lbs = Slugs times feet/sec<sup>2</sup>

or you can do

$\text{lb}\{\text{force}\} = (\text{lb}\{\text{mass}\}/32.2\text{ft}^2/\text{s}^2)\text{times feet}/\text{sec}^2$ . We also have poundals as a weight unit (the weight of 1 lbm is 32.2 poundals), if you want to get rid of the 32.2 division--but they aren't used universally.

This is no different than Metric. Just different names, and a "convention" inverted (we tend to use the standard force measure for mass, i.e. lbm, whereas the kg world tends to use the mass measure for force in conventional thinking, i.e. kgf is what you "weigh" in metric. People don't say "I weigh 700 N." Essentially, in the U.S. we tend to use the gravitational unit approach, whereas in S.I. the default is an absolute system. But beware that metric is not always absolute, and in America we can work in absolute, too if we find it convenient! It is common to find the metric gravitational system of units as well, where the \*force\* is kilograms, and the mass is kilogram-seconds.

In either \*system\* there is a consistent set of units. I think it is the metric-only crowd that has the problem of understanding :-). After all, American engineers are bilingual units-wise: as with language in general, this leads to improved understanding.

### **Re: The world is eating your lunch!**

Message #51 Posted by **Walter B** on 23 Oct 2007, 12:07 p.m.,  
in response to message #50 by bill platt

Hi, Bill,

Quote:

It is common to find the metric gravitational system of units as well, where the \*force\* is kilograms, and the mass is kilogram-seconds.

Where did you find such a mess? Certainly not in a \*system\*. And for sure not in SI. BTW: Please do not mix SI with anything anybody sold to you as "metric", while it may be only decimal or whatever. Please see my post above for some definitions.

Quote:

In either (read: any) *\*system\** there is a consistent set of units.

Exactly, per definition :) Thus, so far I don't see any living *\*system\** besides SI anymore. Maybe small sets of linked units in a limited area of application, but no *\*system\**. However, I'm willing to learn :)

Quote:

I think it is the metric-only crowd that has the problem of understanding :-)  
After all, American engineers are bilingual units-wise: as with language in general, this leads to improved understanding.

Ooooh, here you choose a *\*very\** dangerous picture! Did you think about it carefully? Do you really want to stress US-American bilinguality? (Bilingual families by origin don't count!) Feel free to withdraw ;)

Edited paragraph 1 but found you replied faster. Sorry for interfering :)

*Edited: 23 Oct 2007, 12:21 p.m. after one or more responses were posted*

### **Re: The world is eating your lunch!**

*Message #52 Posted by [bill platt](#) on 23 Oct 2007, 12:15 p.m.,  
in response to message #51 by Walter B*

Well, of course I'm 1/2 kidding and 0.5000 serious. It's all trivial anyway, but what I have noticed is that all of us in my generation here have no "problem" with metric, but if I give slugs per cubic foot to a European subcontractor, they are utterly lost.

An amazing thing happened when one of my former employers was taken over by a Norwegian firm. The new company insisted that we all take a "metric" course. Of course it was total WOT and the instructor was baffled as to why she had to teach us for 20 hours! Evidently, the Norwegians had been hearing too many stories on MoHPC;-)

Why don't I convert totally to metric? Because (a) it is unnecessary and (b) all the previous work that is comparable is in U.S. customary. On other projects, where the reference work is metric, or there is no reference work, or where systems are primarily metric, I use SI. If it is a modification job, I use the units that were used in the original construction. Why waste time converting merely for pedantic reasons?

### **Re: The world is eating your lunch!**

*Message #53 Posted by [Thor Lansen](#) on 23 Oct 2007, 1:51 a.m.,  
in response to message #46 by bill platt*

Quote:

Understanding  $F=Ma$  is not affected by units

True, but calculations in English units is affected by inconsistencies therefore that equation of force in the SI system would simply and nicely look like this (units are shown in square brackets):

$$F [N] = M [kg] a [m/s^2]$$



while in the English Engineering "system" would look like this:

$$F \text{ [lbf]} = (M \text{ [lbm]} a \text{ [ft/sec}^2\text{]})/gc$$

where "the fixer"  $gc = 32.1740 \text{ [lbm-ft/lbf-sec}^2\text{]}$

so, if nothing else, it WILL slow down your calculations (and this same thing will happen with Kinetic and Potential Energy, Pressure at Depth, etc.)

Quote:

Division by 2s is effective for rapid work in the head

More effective than moving the decimal point to the left? I doubt it

*Edited: 23 Oct 2007, 8:49 a.m. after one or more responses were posted*

### **Re: The world is eating your lunch!**

Message #54 Posted by **Walter B** on 23 Oct 2007, 2:34 a.m.,  
in response to message #53 by Thor Lansen

:))

Hi folks, it's great fun to follow this discussion coming to the beef! Go on!!

### **Re: The world is eating your lunch!**

Message #55 Posted by **Thor Lansen** on 23 Oct 2007, 3:03 a.m.,  
in response to message #54 by Walter B

Sorry I had to edit my post after you posted but while typing the equation in the English units I lost consciousness for 1/16 of a second and I forgot to remove the stuff about the door of fractions slamming one's behind :-)

Regards, Thor.

*Edited: 23 Oct 2007, 3:13 a.m.*

### **Re: The world is eating your lunch!**

Message #56 Posted by **Ren** on 23 Oct 2007, 11:08 a.m.,  
in response to message #54 by Walter B

Quote:

:))

Hi folks, it's great fun to follow this discussion coming to the beef! Go on!!

I hope the vegans in this forum aren't offended!

While I grew up with "English" measurements, Metric was also taught in school, and I look forward to the "day" when the US is Metric. (Although the transition will be painful!)

The local clinic (Mayo) currently uses the metric system for patients, (Kg's, cc's, mm's, etc.)

And when my 3 y.o. daughter empties my toolbox, it is so much easier to restore the metric wrenches and sockets to order!

Ren

dona nobis pacem

**Re: The world is eating your lunch!**

Message #57 Posted by [Trent Moseley](#) on 23 Oct 2007, 2:40 p.m.,  
in response to message #54 by Walter B

This is great...another 2¢s: A pint's a pound the world 'round.

tm

**Re: The world is eating your lunch!**

Message #58 Posted by [Frank Wales](#) on 23 Oct 2007, 7:10 p.m.,  
in response to message #57 by Trent Moseley

Quote:

another 2¢s: A pint's a pound the world 'round.

Yes, if by "the world" you mean "the United States of America"; that's the only place I know of where a pint is 16 fluid ounces. Here in Britain, for example, a pint is 20 fluid ounces.

**Re: The world is eating your lunch!**

Message #59 Posted by [Trent Moseley](#) on 23 Oct 2007, 9:59 p.m.,  
in response to message #58 by Frank Wales

That's one reason I'm enjoying this thread.

tm

**Re: The world is eating your lunch!**

Message #60 Posted by [bill platt](#) on 23 Oct 2007, 8:28 a.m.,  
in response to message #53 by Thor Larsen

This "fixer" as you call it is present in all gravitational units systems, including \*metric\* gravitational systems. It isn't a matter of "see, see, metric is better!"

**Re: The world is eating your lunch!**

Message #61 Posted by [Thor Larsen](#) on 23 Oct 2007, 9:18 a.m.,  
in response to message #60 by bill platt

Quote:

This "fixer" as you call it is present in all gravitational units systems

No it is not. The "fixer"  $g_c$  is a conversion constant such as 12 in the conversion factor between feet and inches. It has the same numerical value as the standard acceleration of gravity but it is not the local gravitational acceleration  $g$  ( $g=32.2$  [ft/sec<sup>2</sup>] English,  $g=9.81$  [m/s<sup>2</sup>]) and it is needed because the units of pound-mass and pound-force are as different as the units of feet and gallons and they can not be canceled. The Metric system (SI) being fully consistent does not need it.

Quote:

It isn't a matter of "see, see, metric is better!"

You are right, let the equations speak for themselves

*Edited: 23 Oct 2007, 9:37 a.m.*

### **Re: The world is eating your lunch! ACRE**

Message #62 Posted by [designnut](#) on 23 Oct 2007, 10:13 p.m.,  
in response to message #61 by Thor Larsen

I heard on TV that fires consumed so many acres. I didn't know what exactly an acre was. Wikipedia says it was a furlong by a chain. Furlong was explained by long furrow. So the English measure is kind of like Topsy, it just grewed. Mom used to tell of a proud mom watching a parade "Oh, look, everyone is out of step but Johnny." The US is the only one out of step. Sam

### **Re: The world is eating your lunch! ACRE**

Message #63 Posted by [Trent Moseley](#) on 23 Oct 2007, 10:44 p.m.,  
in response to message #62 by designnut

BTW...look at the great debate the astronomers had (are having?) about astronomical distances. Some like the "parsec", but most of them are using the "light year". Both are based in different ways on the orbit of the Earth!

tm

### **Re: The world is eating your lunch! ACRE**

Message #64 Posted by [Dave Shaffer \(Arizona\)](#) on 24 Oct 2007, 2:21 a.m.,  
in response to message #63 by Trent Moseley

Not really a "debate." Astronomers use them interchangeably in the sense that none of us has to stop and think which is which (and we all know that a parsec is 3.26, or about 3, light years).

Both of them (light year and parsec) are big - part of astronomers (and many other scientists) efforts to make the size of anything you measure about one.

Parsec is also somewhat similar to the discussion above about things like "feet" i.e. a unit based on some size with which most people are familiar and comfortable. For those who don't know, "parsec" is short for "parallax of 1

second (of arc)" and refers to how far away something would be so that its apparent position in the sky would shift by 1 (actually 2 - referring to the Earth's orbit diameter rather than radius) second of arc, back and forth, as the Earth goes around the sun in the course of a year. Hence, when you look at the sky and measure in arcseconds how much a star seems to move, you have directly measured (well, you've measured the reciprocal) its distance in parsecs. No conversions needed!

### **Re: The world is eating your PARSEC!**

*Message #65 Posted by **Ren** on 24 Oct 2007, 11:55 a.m.,  
in response to message #64 by Dave Shaffer (Arizona)*

Quote:

For those who don't know, "parsec" is short for "parallax of 1 second (of arc)" and refers to how far away something would be so that its apparent position in the sky would shift by 1 (actually 2 - referring to the Earth's orbit diameter rather than radius) second of arc, back and forth, as the Earth goes around the sun in the course of a year. Hence, when you look at the sky and measure in arcseconds how much a star seems to move, you have directly measured (well, you've measured the reciprocal) its distance in parsecs. No conversions needed!

Thanks, I didn't know the definition of a parsec, but I did think it was amazing that Han Solo used it as a unit of measurement long, long, ago in a galaxy far, far away...

Since the earth's orbit is elliptical, the parsec changes depending on the days of the year the measurement is taken? B^)

### **Re: The world is eating your PARSEC!**

*Message #66 Posted by **Trent Moseley** on 24 Oct 2007, 3:45 p.m.,  
in response to message #65 by Ren*

I believe they use the major axis of the ellipse.

tm

### **A definition of "acre"**

*Message #67 Posted by **Karl Schneider** on 24 Oct 2007, 1:48 a.m.,  
in response to message #62 by designnut*

Quote:

I heard on TV that fires consumed so many acres. I didn't know what exactly an acre was. Wikipedia says it was a furlong by a chain. Furlong was explained by long furrow.

I think that you're using a TI keyboard, Sam...

One square statute mile is 640 acres, as can be inferred from an HP-28.

The corresponding metric unit for medium-sized property areas is the "hectare"  $(100\text{ m})^2 = 10000\text{ m}^2$ , which is about 2.47 times as large.

The units library is my favorite feature of the HP-28C/S.

-- KS

**Re: A definition of "acre"**

*Message #68 Posted by [bill platt](#) on 24 Oct 2007, 2:12 p.m.,  
in response to message #67 by Karl Schneider*

I like to think of it as roughly 70 yards by 70 yards, or exactly 70 paces:-)

**Re: A definition of "acre"**

*Message #69 Posted by [Richard Ottosen](#) on 24 Oct 2007, 2:41 p.m.,  
in response to message #67 by Karl Schneider*

Quote:

One square statute mile is 640 acres...

A bit of trivia.

Here in Denver Colorado, many of the city blocks are 1/10 mile long by 1/16 mile wide. This gives 160 city blocks per square mile or exactly 4 acres per block.

I have long wondered if this scheme is commonly used in other US cities.

-- Richard

**Re: A definition of "acre"**

*Message #70 Posted by [Stefan Vorkoetter](#) on 24 Oct 2007, 3:09 p.m.,  
in response to message #67 by Karl Schneider*

Furthermore, 1.25 miles by 1.25 miles is exactly 1000 acres. Here in Ontario, Canada, when it was first being settled, roads were laid out on a 1.25 x 1.25 mile grid, and the land in each square was divided up into ten 100 acre parcels.

Regarding whether city blocks are laid out the same, the nearest city I live near (Kitchener-Waterloo) doesn't seem to have a straight road or rectangular block in it.

Stefan

**Re: A definition of "acre"**

*Message #71 Posted by [Norris](#) on 24 Oct 2007, 8:44 p.m.,  
in response to message #70 by Stefan Vorkoetter*

Quote:

---

One square statute mile is 640 acres, as can be inferred from an HP-28.

---

Quote:

---

Furthermore, 1.25 miles by 1.25 miles is exactly 1000 acres.

---

You might not come to these conclusions if you were using an HP48, HP49, or HP50.

In this case,  $1\_mi^2 = 639.997440003\_acre$ .  
And  $(1.25\_mi)^2 = 999.996000004\_acre$

However,  $1\_miUS^2 = 640\_acre$ .  
And  $(1.25\_miUS)^2 = 1000\_acre$ .

In the US, there are two legally recognized definitions of the "mile", just as there are two legally recognized definitions of the "foot". According to NIST, the "acre" is based on the older "survey mile" (or 1\_miUS on an HP48), not the more widely used "international mile" (or 1\_mi on an HP48).

The difference between a survey mile and an international mile is about 3.2\_mm.

*Edited: 28 Oct 2007, 3:47 p.m. after one or more responses were posted*

## Re: A definition of "acre"

Message #72 Posted by **Karl Schneider** on 27 Oct 2007, 3:31 p.m.,  
in response to message #71 by Norris

Hi, Norris --

Quote:

---

The difference between a survey mile and an international mile is about 3.2\_mm.

---

Hmm... its that all? I'd never figured out the difference, but believed that it was a bit more. I'm sure that the definition of 1 inch = 2.54 cm is the basis of the slight difference.

This statement could use a minor edit:

Quote:

---

1\_miUS = 640\_acre.

---

## Re: A definition of "acre"

*Message #73 Posted by **Norris** on 28 Oct 2007, 4:00 p.m.,  
in response to message #72 by Karl Schneider*

Quote:

I'd never figured out the difference, but believed that it was a bit more.

Your HP calculator will tell you that 1\_miUS - 1\_mi = 0.000002000004\_mi, or about 2 parts in a million, or about 3.2 mm

Quote:

I'm sure that the definition of 1 inch = 2.54 cm is the basis of the slight difference.

Formally, the difference is in the definition of the older "survey foot" vs. the newer (since 1958) "international foot". Both are defined relative to the meter, but slightly differently (fraction vs. decimal):

1 survey foot = 1200 / 3937 m exactly ( ~ 0.304800609601 m)  
1 "survey inch" = 100 / 3937 m exactly (~ 2.54000508001 cm)

1 international foot = 0.3048 meters exactly  
1 "international inch" = 2.54 cm exactly

Quote:

This statement could use a minor edit: 1\_miUS = 640\_acre.

Quite so. It's been fixed above.

*Edited: 28 Oct 2007, 4:11 p.m.*

## **Re: A definition of "acre"**

*Message #74 Posted by **James M. Prange (Michigan)** on 28 Oct 2007, 11:26 p.m.,  
in response to message #73 by Norris*

Quote:

Your HP calculator will tell you that 1\_miUS - 1\_mi = 0.000002000004\_mi, or about 2 parts in a million, or about 3.2 mm

Or looking at it the other way around, my calculator tells me that 1\_mi-1\_miUS=-2.0000000002E-6\_miUS (that is, .000002000000002\_miUS).

For the RPL models, converting from one unit to another unit involves first converting to the base unit, and then from the base

unit to the desired unit, giving two opportunities for rounding.

The calculators' conversion factors to base units are extended real (15-digit mantissa) numbers. For example, for `_miUS`, the conversion factor (to `_m`) is `%%1.60934721869444E3`, and for `_mi`, the conversion factor is `%%1.60934400000000E3`.

For doing a (UserRPL) conversion or other mathematical operation with unit objects, the (12-digit mantissa) real number components are converted to extended reals, extended real operations are used internally, and the result is converted to a real.

Of course when doing a series of UserRPL operations, the value is converted to a real at the end of each UserRPL operation.

Actually, `1_mi=.999998_miUS` exactly, and `1_miUS` is slightly more than `1.000002000004_mi` (feel free to work out the exact decimal number notation).

Working it out by hand (but with `_ftUS` and `_ft`):

```
1_ft=(3048/10000)_m
1_ftUS=(1200/3937)_m
```

Given the above exact relationships:

```
1_ft/1_ftUS=(3048/10000)_m/(1200/3937)_m
```

The `_m` units cancel out, so:

```
1_ft/1_ftUS=(3048/10000)/(1200/3937)
1_ft/1_ftUS=(3048/10000)*(3937/1200)
1_ft/1_ftUS=(3048*3937)/(10000*1200)
1_ft/1_ftUS=11999976/12000000
1_ft/1_ftUS=499999/500000
      1_ft=(499999/500000)_ftUS
      1_ft=.999998_ftUS
```

Of course it can be shown that `1_ftUS=(500000/499999)_ft`, but that doesn't have a nice short decimal notation equivalent.

Of course the same relationships hold between `_mi` and `_miUS`, inch and the previous "US inch", and all other length units that have both an "old US" and an "international" definition.

Regards,  
James

*Edited: 31 Oct 2007, 3:33 a.m.*

## Re: A definition of "acre"

Message #75 Posted by [Pavneet Arora](#) on 25 Oct 2007, 7:15 a.m.,  
in response to message #70 by [Stefan Vorkoetter](#)

Quote:

---



Regarding whether city blocks are laid out the same, the nearest city I live near (Kitchener-Waterloo) doesn't seem to have a straight road or rectangular block in it.

Stefan

---

Waterloo, being not only the location of a very fine engineering school also adheres to non-Euclidean geometry. Weber and King streets, both nominally north-south intersect twice!

Cheers from nearby Caledon who has let his 108,900 sq ft (2.5 acres) run wild and is looking forward to the pond being frozen so we can all go skating.

### **Re: A definition of "acre"**

*Message #76 Posted by **Palmer O. Hanson, Jr.** on 24 Oct 2007, 8:58 p.m., in response to message #67 by Karl Schneider*

Quote:

---

One square statute mile is 640 acres, as can be inferred from an HP-28.

---

My dictionary says that an acre is 160 square rods, 4840 square yards, or 43,560 square feet.

When I was growing up back in Minnesota in the 1940's an acre or a fraction of an acre was sort of a city measurement -- something one uses to measure the size of lot or of a garden. Rural people were more familiar with the section (a square mile), a half section, or a quarter section -- measurements which could define the size of a sustainable farm, and approximately related to the amount of land required to yield a certain amount of grain.

### **Re: A definition of "acre"**

*Message #77 Posted by **Patrick Rendulic** on 25 Oct 2007, 3:24 a.m., in response to message #76 by Palmer O. Hanson, Jr.*

I prefer:

$1 \text{ km}^2 = 100 \text{ hectare} (= 100 \text{ hm}^2) = 100 \times 100 \text{ are} (= 10.000 \text{ dam}^2) = 100 \times 100 \times 100 \text{ m}^2 = 1.000.000 \text{ m}^2.$

### **Re: ACRE**

*Message #78 Posted by **db (martinez, ca.)** on 27 Oct 2007, 6:32 p.m., in response to message #62 by designnut*

DN;

A furlong is 660 feet. A (gunter's) chain is 66 feet. There are also 100 links in a chain. You might notice a decimal relation in there somewhere. These measurements were adopted by Thomas Jefferson as the units of the public land surveys in the US about 200 years ago. We still use them, along with the French "arpent", the various

Spanish & Mexican Vara & Smokes, and the meter because we retrace surveys (at least on paper) by "following in the footsteps of the original surveyor". There's about two and a half acres in a hectare.

BTW: an acre is also defined as what one man with one ox can plow in one day.

That indeed makes it a

Quote:

\_\_\_\_\_

long furrow.

\_\_\_\_\_

### **Re: Regarding This Forum**

*Message #79 Posted by [Trent Moseley](#) on 27 Oct 2007, 11:23 p.m.,  
in response to message #78 by db (martinez, ca.)*

Doesn't everyone love this Forum! It makes my day all the time. Open, civil, learned discussion and much, much more. It offers more than just reviews and repair help for HP calcs which of course is very important. But I also enjoy that these ideas are coming from all over the world.

tm

### **Re: The world is eating your lunch!**

*Message #80 Posted by [Doug](#) on 25 Oct 2007, 1:05 p.m.,  
in response to message #60 by bill platt*

Some clarity is needed here. In physics there are three quantities: length-mass-time, there are no others. The problem of "fixer" terms arises because of the use of non-rationalized systems of units. For example: Meter-Kilogram-Second and Foot-Slug-Second are "rationalized" systems of units but Inch-Lbm-Sec and cm-gram-second are not rationalized systems of units. The choice of a non-rationalized system of units will always result in "fixer" terms. This was only discovered some 60 years ago and that is why cgs is no longer used in physics papers, as a matter of fact, physics papers no longer specify systems of units because it is assumed that a "rationalized" system will be used.

### **Re: The world is eating your lunch!**

*Message #81 Posted by [Dave Shaffer \(Arizona\)](#) on 25 Oct 2007, 6:14 p.m.,  
in response to message #80 by Doug*

Quote:

\_\_\_\_\_

In physics there are three quantities: length-mass-time, there are no others.

\_\_\_\_\_

If you want to do electricity problems, you need another unit, usually an amount of charge (i.e. coulomb)

I think cgs is still around, especially in theoretical papers. In fact, some of those guys go so far as to make  $c$  (the speed of light) and  $h$  or  $\hbar$  (Planck's constant) equal to one, for ease of algebraic manipulation (of course, they have to put the units on to get the right answer!).

### **Re: The world is eating your lunch!**

*Message #82 Posted by **Palmer O. Hanson, Jr.** on 25 Oct 2007, 9:55 p.m.,  
in response to message #81 by Dave Shaffer (Arizona)*

This thread was started when "Design Nut" wrote:

Quote:

---

Is the world eating your lunch? We cling to a mismatched set of measurements instead of adopting the metric system. For example: a Swiss engineer was asked to calculate a spring and mass resonance. He converted all measurements to metric and solved it in one page. His boss insisted it could not be done in one page, took 3 pages and made 5 mistakes. Math is being taught in a pen and pencil method in a computer world. I submit that algebraic calculator entry is hampering the teaching of math. Math is being taught with 19th century methods. I would like to be able to give out beginners calculators with RPN to smooth the way. Allowing equation entry and SOLVE would answer the algebraic methods in the schools.

---

I would like to suggest that we go back and identify some areas where the world has indeed "eaten our lunch" and then ask "To what extent was failure to adopt a metric asystem involved?" We could begin with a technology such as automobiles.

My impression is that the Japanese gains in automobile design and manufacture had little to do with metric measurements and everything to do with quality control. I also doubt that the use of algebraic calculator (or computer) entry was a hindrance. After all, the dominant computer language for engineering at the time was FORmula TRANslation.

### **Re: The world is eating your lunch!**

*Message #83 Posted by **Don Shepherd** on 25 Oct 2007, 10:15 p.m.,  
in response to message #82 by Palmer O. Hanson, Jr.*

Excellent points, Palmer.

### **Re: The world is eating your lunch!**

*Message #84 Posted by **Meenzer** on 26 Oct 2007, 12:39 a.m.,  
in response to message #82 by Palmer O. Hanson, Jr.*

I can not answer Palmer's question on a large scale because I'm simply not having the appropriate data. I can only tell for my own decision I recently made: I bought the HP 35s. But I very nearly left it on the shelf because of the conversion functions so prominently using many keys. Here in Europe I have absolutely NO need for those. I could imagine many people who are not crazy about HP design calculators will just not buy the 35s for this very reason.

### **Re: The world is eating your lunch!**

*Message #85 Posted by **Katie Wasserman** on 26 Oct 2007, 2:26 a.m.,  
in response to message #84 by Meenzer*

I don't know what happened to the metrification program in the USA. When I was in middle school, 1968-1970, most of our time in science class was spent learning the metric system because this country was planning to switch over to the metric system in short order and they wanted to make sure that kids grew up knowing it. It was no fun going through the workbook page-by-page and doing \*all\* the problems to learn this, but I figured that our bit was to learn the metric system and the rest of the world would learn English. An even trade I thought that would help to unite the world.

Wow, was I naive. Now I'm finding that I need to learn Spanish and you're finding metric conversion keys on the HP35S. :)

### **Re: The world is eating your lunch!**

*Message #86 Posted by [Meenzer](#) on 26 Oct 2007, 3:09 a.m.,  
in response to message #85 by Katie Wasserman*

Quote:

I don't know what happened to the metrification program in the USA.

[Have a look here!](#)

### **Re: The world is eating your lunch!**

*Message #87 Posted by [Palmer O. Hanson, Jr.](#) on 26 Oct 2007, 9:44 p.m.,  
in response to message #86 by Meenzer*

In response to Katie's question "What happened to metrification?" you directed us to a discussion in Wikipedia. It was interesting reading but I was bemused by the section on the construction industry which stated in part

Quote:

Dimensional lumber still comes in standard nominal inch widths and depths (e.g., "2 by 4"). Lengths are given in feet.

and I note that at some point the standard nominal widths and depths were changed such that "new" lumber was smaller than "old" lumber. This change plays havoc when someone tried to repair a house built with "old" lumber. It's as bad as when one tries to repair something put together with metric hardware and only has inch-dimensioned wrenches.

### **Re: The world is eating your lunch!**

*Message #88 Posted by [Trent Moseley](#) on 26 Oct 2007, 11:36 p.m.,  
in response to message #87 by Palmer O. Hanson, Jr.*

Somewhere I faintly remember something about "rough 2x4's" vs. "four sides sanded".

tm

**Re: The world is eating your lunch!**

*Message #89 Posted by [Dave Shaffer \(Arizona\)](#) on 27 Oct 2007, 11:15 a.m.,*

*in response to message #88 by Trent Moseley*

Yeah, but sanding doesn't take off half an inch! That's about how much is missing from the "2x4" size (in both dimensions!) when you actually measure it! At least they really are 8' long when you buy by length.

**Re: The world is eating your lunch!**

*Message #90 Posted by [Palmer O. Hanson, Jr.](#) on 26 Oct 2007, 3:28 a.m.,*

*in response to message #85 by Katie Wasserman*

Quote:

I don't know what happened to the metrification program in the USA. ...

Nor do I. During college in the 1940's there was some discussion of the need to convert to metric. My recollection is that the discussion was more prevalent in physics and chemistry classes than in engineering application classes.

I remember when we talked about converting highway distances from miles to kilometers and seeing some signs with both, but for the most part highway travel is still measured in miles in the USA. My 2006 AAA Atlas uses miles for the USA and kilometers for Canada with both scales shown somewhere on each map. The upper scale is in miles on USA maps and in kilometers on Canadian maps.

Coca-cola comes in the traditional 12 ounce aluminum cans but in "16.9 FL OZ (1.06 PT) 500 mL" plastic bottles.

For many grocery items the traditional packaging has been eliminated but has not been replaced with metric packaging. Consider coffee where the traditional 16 ounce packages have gradually been replaced with 13 ounce or 11.5 ounce (326 gram) packages. But that is a "fool the customer" issue not a conversion to metric issue.

**Re: The world is eating your lunch!**

*Message #91 Posted by [Valentin Albillo](#) on 26 Oct 2007, 8:39 a.m.,*

*in response to message #85 by Katie Wasserman*

Hi, Katie:

Katie posted:

*"Now I'm finding that I need to learn Spanish [...]"*

Why would you do that ? Just curious ...

Best regards from V.

**Re: The world is eating your lunch!**

*Message #92 Posted by **Katie Wasserman** on 26 Oct 2007, 10:19 a.m.,*

*in response to message #91 by Valentin Albillo*

V-

Quote:

*"Now I'm finding that I need to learn Spanish [...]"*

Why would you do that ? Just curious ...

I said this half in jest, but only half. I live in suburban NY City and in my zip code there is certainly more Spanish spoken than English. I have a hard time communicating with my once-in-a-while housekeeper and other people that I need to converse with on occasion. Personally I feel like one should learn the language of the place that you're living in, but that doesn't seem to be a universally held belief. Besides, it's not even clear that English is the language of this area given how many official documents are printed in Spanish and English and how most phone call centers tell you to "press 1 to continue in English".

-K

*Edited: 26 Oct 2007, 10:20 a.m.*

**Re: The world is eating your lunch!**

*Message #93 Posted by **Meenzer** on 26 Oct 2007, 10:29 a.m.,  
in response to message #92 by Katie Wasserman*

Katie wrote:

Quote:

Personally I feel like one should learn the language of the place that you're living in...

Wikipedia says:

Quote:

New York was inhabited by Algonquian, Iroquois, and Lenape indigenous people at the time Dutch and French nationals moved into the region in the very early 17th century.

---

Depending on how far you would want to go back, you could choose between French, Dutch or even some Iroquois dialect ;-)

### **Re: The world is eating your lunch!**

*Message #94 Posted by [bill platt](#) on 26 Oct 2007, 1:58 p.m., in response to message #92 by Katie Wasserman*

Well into the 20th century, some significant areas of the U.S. spoke German, carried on town business in German, ran the public schools in German. These areas included much of the land outside Philadelphia, and parts of the upper midwest.

The U.S. has never had an "official" language and has never needed one: Usually in time, all tends to English, but other languages serve where it is expedient. My own college was founded by German-speaking people around 1880. The first president spoke fluent English, and the other board members chose him partially for that reason. They wanted their new college to have a broader support.

*Edited: 26 Oct 2007, 1:58 p.m.*

### **[OT] Re: The world is eating your lunch!**

*Message #95 Posted by [Valentin Albillo](#) on 27 Oct 2007, 11:42 a.m., in response to message #92 by Katie Wasserman*

Hi again, Katie:

Katie posted:

*"I live in suburban NY City and in my zip code there is certainly more Spanish spoken than English."*

I fully understand you. I visited NY City (and state) back in 1994 for the first time, and I was eager to try my rudimentary English in a fully-English environment. Boy, was I wrong ! :-)

I stayed there for 3 whole days, and not-even-once had I to speak even a single English sentence. Everyone would speak to me in Spanish, from the hotel clerks, to all taxi drivers, to the people attending tourists at such places as the Empire State Building, to each

and every clerk in every shop I entered to buy something. Even people selling things in the streets would speak to me and barter with me in Spanish and tell me they had relatives living in Spain.

To top it all, when I was returning home, a police woman at the airport did also address me in Spanish as well about a metallic object which was a Kodak film case. Not once did I have the opportunity or need to speak English while I was in NY City. Even the shop displays were always in Spanish as well. I still remember the shock I felt when I read a 5th-Avenue shop banner saying "*Españoles, más barato que en la Gran Vía*" (i.e., "Spaniards, buy here cheaper than in (a very large Madrid's street)"). Actually the banner was right, I felt no difference than if I were actually shopping in Madrid, which wasn't what I expected or wanted.

*"Personally I feel like one should learn the language of the place that you're living in"*

I fully agree. Me, I think that the ideal situation would be everyone knowing their native language, plus, once you're 3 years old, start to learn English as well. This way, everyone would be essentially perfectly proficient in two languages, namely his/her native one, plus English, so you would be able to travel to any country and to communicate with every person in the planet as if it were your neighbor next door.

But I think this rational view will never be adopted for a number of reasons. Most essentially, most politicians and governments would be opposed to it, as it would undermine the "us-versus-them" paradigm so useful to keep in control.

Myself, I used that strategy with my daughter and now she's 15 and speaks both Spanish and English at the native level, certainly much better than me. It has enhanced her education and overall living experience immensely.

Best regards from V.

**Re: [OT] Re: The world is eating your lunch!**

Message #96 Posted by *Palmer O. Hanson, Jr.* on 28 Oct



2007, 4:23 a.m.,  
in response to message #95 by Valentin Albillo

Quote:

---

... Me, I think that the ideal situation would be everyone knowing their native language, plus, once you're 3 years old, start to learn English as well. ...

---

Do you know that in the 1950's much of the world was somewhat like that, that is, if you consider the Americanized version of English to really be English. In Japan students would sit beside me on the train and volunteer to explain the passing countryside if I would talk with them, and as a result, help them with their conversational English.

It was the time that some historians derisively describe as the heyday of the almighty dollar. I found that shopkeepers in diverse places such as Japan, the Philippines, Libya, Egypt, Jordan, Greece and Italy were conversant in English. France was another matter.

**[OT] Re: The world is eating your lunch!**

Message #97 Posted by [Valentin Albillo](#) on 29 Oct 2007, 7:36 a.m.,  
in response to message #96 by Palmer O. Hanson, Jr.

Hi, Palmer:

Palmer posted:

*"[...]if you consider the Americanized version of English to really be English.*

Actually, I consider Americanized English to be *the* "real" English nowadays, because a language has to be a living thing, expanding, adapting, growing, evolving, and I see more of that in American English than in older traditional versions.

*"In Japan students would sit beside me on the train and volunteer to explain the passing countryside if I would talk with them, and as a result, help them with their conversational English."*

Yes, it's been my experience too that, for some reason, Japanese people find English extremely difficult to learn.

*"I found that shopkeepers in diverse places such as Japan, the Philippines, Libya, Egypt, Jordan, Greece*

*and Italy were conversant in English. France was another matter."*

And Spain yet another. Until very recently, most Spanish students would learn minimal English, if at all. Matter of fact, most Spanish people do not speak even passable English, let alone understand an actual conversation, a song's lyrics, or a movie.

All English-language movies and TV series are routinely dubbed, with the horrific side effects that lip movements are never synchronized with what you're hearing, and you get to hear the same male and female voices for all characters in all series over and over again, which completely ruins the excellent vocal abilities and nuances of the original actors, replaced by some mediocre, over-acted, over-emphasized dub which quickly gets boring to the point of nausea.

This being so, it's been many years since I decided to listen to all movies and TV shows in their original English versions, never listen to a dub anymore. Even for Japanese anime and movies, I always listen to the Japanese-language original with English subtitles (which will hopefully soon get away as well when my Japanese improves :-), even if an English-language dub is available.

Frankly, I would advise anyone trying to learn a new language to absolutely forget about those courses they're always announcing here and there, whether quick or exhaustive.

The one and only way I've found to really, really learn a new language is the hardest one, i.e., total *immersion*: either you travel to the country and stay there on your own for a long while (>1 year), or else you make a point of only reading and listening to publications in that language, initially enabling subtitles and focusing in simple things such as comics, participating in forums related to some hobby of yours, reading web sites and newsgroups, etc., to the point that you'll find yourself *immersed* in the language for at least 2 hours or more each and every day. Also, the younger you begin the better.

It'll be hard, but as the descriptive Spanish proverb says: "*El que quiera peces, que se moje el c\*\*\**" ("*You wanna fish, you gotta get your a\*\* wet*"). :-)

Best regards from V.

**Re: [OT] Re: The world is eating your lunch!**

*Message #98 Posted by **Walter B** on 28 Oct 2007, 6:49 a.m.,  
in response to message #95 by Valentin Albillo*

Buenas dias, Valentin,

Quote:

Me, I think that the ideal situation would be everyone knowing their native language, plus, once you're 3 years old, start to learn English as well. This way, everyone would be essentially perfectly proficient in two languages, namely his/her native one, plus English, so you would be able to travel to any country and to communicate with every person in the planet as if it were your neighbor next door.

Agree with you almost. This is a first step in the right direction. But (so called) global languages change. While "the civiliced world" communicated using Greek some 2500 years ago, it turned to Latin some 500 years later and kept it for 1600 years, turned to French then for about 300 years, and now uses English for 100 years. In parallel, major parts of the world speak Spanish or Chinese natively. BTW, the world tends to adopt grammatically simpler languages every time, so there are good chances to see Chinese as the next global language.

So it would be fair for everybody knowing his mother tongue to learn (at least) one of the global languages **in addition**. This would foster Chinese learning e.g. English and "English" (yes, also Americans!) learning Chinese or Spanish as a **second** language. Of course, everyone is free to learn more, but this should be minimum acceptable. BTW, I write this being in Hongkong, enjoying that a country with 1.3e9 inhabitants speaking and writing another language cares to write most signs in another global language, i.e. English, too.

As usual, these are just my 20 Milli-Euro.

**Re: [OT] Re: The world is eating your lunch!**

*Message #99 Posted by **Meenzer** on 28 Oct 2007, 8:09 a.m.,  
in response to message #98 by Walter B*

Quote:

BTW, I write this being in Hongkong,  
enjoying that a country with 1.3e9 inhabitants

speaking and writing another language cares to write most signs in another global language, i.e. English, too.

1.3e9? You must be referring to all of China. The reason why Hongkong in particular displays English signs goes back to 1842...;-)  
Just putting in my tuppence worth...

*Edited: 28 Oct 2007, 8:10 a.m.*

**Re: [OT] Re: The world is eating your lunch!**

*Message #100 Posted by [Walter B](#) on 29 Oct 2007, 9:58 a.m.,  
in response to message #99 by Meenzer*

Hallo nach Mainz (wie heite eigentlich?) -- Meenzer,

Quote:

The reason why Hongkong in particular displays English signs goes back to 1842.

I know this, of course, but forgetting it for a while did allow me to present this as an example of visitor friendliness ;) Noli turbare circulos meos!

Gru / regards,

Walter

**Re: [OT] Re: The world is eating your lunch!**

*Message #101 Posted by [Valentin Albillo](#) on 29 Oct 2007, 10:46 a.m.,  
in response to message #100 by Walter B*

Hi, Walter B:

Walter B posted:

*"Noli turbare circulos meos!"*

Actually he said *"moi mou tous kyklous tarate"* (rendered in standard ASCII characters).

I don't know how his circles ended but as for himself ... :- ( ... You don't get no respect in this world ! :-)

Best regards from V.

**Re: [OT] Re: The world is eating your lunch!**

Message #102 Posted by [Meenzer](#) on 29 Oct 2007, 11:16 a.m.,

in response to message #101 by Valentin Albillo

Quote:

---

Actually he said "*moi mou tous kyklous tarate*" (rendered in standard ASCII characters).

---

Old Archie allegedly said it to a Roman soldier - so he maybe was speaking Latin. We couldn't determine the language A. used by the cruel ending, though: the Roman guy might have killed him BECAUSE he understood him or because he did NOT understand him. ;-)

Damn, I wasn't able to show off Greek letters either.

**Re: [OT] Re: The world is eating your lunch!**

Message #103 Posted by [Wayne Brown](#) on 28 Oct 2007, 10:07 a.m.,

in response to message #98 by Walter B

Quote:

---

So it would be fair for everybody knowing his mother tongue to learn (at least) one of the global languages in addition.

---

I've long thought it important that everyone learn a second language -- any language -- simply as a means of gaining new viewpoints. Learning another language is an excellent way to discover that other people think differently, not just about different *things*, but in different *ways*. I'll never forget the surprise and sense of wonder I felt in high school French class (36 years ago!) when I first discovered that French wasn't just English with a different vocabulary. It had never occurred to me that there was more to learning a language than memorizing a dictionary. It wasn't just the obvious differences in grammar and syntax, but more subtle things. For instance, I might say, "I am cold," but a Frenchman would say, "It is cold to me." Or in talking about the weather, I might say, "It *is* beautiful today," whereas the Frenchman would say, "It *makes* beautiful today." (And then there's that whole business of using "my little cabbage" as a term of endearment. :-)

A few years later, when I studied ancient Greek, I was again surprised at how many more differences there were compared to English and French. Later, Latin and Old English surprised me not just with those differences, but with the similarities to Greek and to each other. It fascinates me that people see the world around them in so many different ways. Modern English has a pretty standard subject-verb-object word order; but in many languages (including Old English) subject-object-verb is common. What does the position of the verb in a sentence say about the relative importance of the action and the doer of the action in the speaker's mind? Does last place in the sentence indicate more importance, or less? And what about highly inflected languages that allow words to be placed in almost random order without obscuring the meaning? What does the choice of word order say about the (perhaps unconscious) attitudes of the speaker toward what he's saying?

I think everyone should study languages other than their own for the same reason I think artists should study science, and scientists should study literature and philosophy, and in fact, everyone should study a little bit of everything: It gives us more windows onto the world and how other people see it. Language gives us direct insights into how other people think.

--  
Fæs ofereode, ðisses swa mæg. ("That passed  
away, this also can.")  
from "Deor," in the Exeter Book (folios 100r-  
100v)

## Re: [OT] Re: The world is eating your lunch!

Message #104 Posted by *Palmer O. Hanson, Jr.* on 28 Oct 2007, 9:27 p.m.,  
in response to message #103 by Wayne Brown

Quote:

... I think artists should study science, and  
scientists should study literature and  
philosophy, ...

When I applied for admission to the engineering school at the University of Minnesota engineering was a four year course. When I started school in September 1946 they told me that engineering had become a five year course where the extra year was to be used to take courses in the liberal arts part of the university. At graduation I had 9 credits in psychology, 16 credits in sociology, 9 credits in humanities and history, and 3

credits in preparation for marriage.

In one of the humanities courses the professor was rhapsodizing about how wonderful it was that engineering students were having their education broadened. In those days the arts college offered a course called Physics without Mathematics. How in the world does someone teach that? I suggested that it might be a good idea if the arts college students would be required to take mathematics through calculus so that they could study physics with some mathematics. He saw no merit in that idea.

I received an A in Preparation for Marriage. I didn't get married until I was 35. My friends frequently asked how I got an A when I obviously hadn't learned anything.

**Re: [OT] Re: The world is eating your lunch!**

*Message #105 Posted by [Ed Look](#) on 28 Oct 2007, 10:56 p.m.,  
in response to message #104 by Palmer O. Hanson, Jr.*

Palmer, Wayne, ugh! Those horrible courses—physics with enough math so the students who didn't want to be there in the first place but have to be don't jump out the windows (and the similar chemistry one) really are wretched things. Oh, and these students had very little math in their backgrounds. It wasn't easy, as they didn't understand any more math than a four-banger could do (the four banger had better memory retention and stayed on longer than they could stay up), and it's hard to explain things without equations.

Anyhow, I majored in a physical science at my (private) college. But they had rigid humanities and unrelated fields subjects requirements and though I found myself at a distinct disadvantage in grad school, I will admit to being very glad now that I took those nontechnical courses. They literally broadened my tiny little horizons. Literature and philosophy courses should be a must for any serious college student, especially if they are science or engineering majors.

If you are young and have a scientific bent, you can pick up more math, chemistry, physics, engineering, programming, etc. courses with a lot less trouble than a scientist, engineer, or programmer, etc., later on can begin to appreciate art, music, literature, etc. beyond what the art teacher in the third grade

showed with a box of crayons and kindergarten teacher showed with picture books.

*Edited: 28 Oct 2007, 10:58 p.m.*

**Re: [OT] Re: The world is eating your lunch!**

*Message #106 Posted by [James M. Prange \(Michigan\)](#) on 28 Oct 2007, 11:35 p.m., in response to message #104 by Palmer O. Hanson, Jr.*

Quote:

---

I received an A in Preparation for Marriage. I didn't get married until I was 35. My friends frequently asked how I got an A when I obviously hadn't learned anything.

---

Well, I hope that at least you learned not to marry the wrong person.

If you decide to respond, keep in mind that it will be available for the whole world to read indefinitely into the future.

Regards,  
James

*Edited: 29 Oct 2007, 7:55 p.m.*

**Re: [OT] Re: The world is eating your lunch!**

*Message #107 Posted by [Meenzer](#) on 29 Oct 2007, 1:48 a.m., in response to message #104 by Palmer O. Hanson, Jr.*

Palmer,

being about two generations (\*1966) and a whole Atlantic Ocean and some land mass (Germany) separated from you, I'd truly be interested what "preparation for marriage" courses (at a university!) are like and if they still exist.

**Re: [OT] Re: The world is eating your lunch!**

*Message #108 Posted by [Palmer O. Hanson, Jr.](#) on 30 Oct 2007, 11:35 p.m., in response to message #107 by Meenzer*



Quote:

---

Palmer,

being about two generations (\*1966) and a whole Atlantic Ocean and some land mass (Germany) separated from you, I'd truly be interested what "preparation for marriage" courses (at a university!) are like and if they still exist.

---

My memory is not all that it could be these days but my recollection is that there was not a lot about sex but a lot about such things as making a budget, buying a house, raising children and the like. There was a textbook. I discarded it long ago.

I do not know if such courses still exist. They may not be as useful as they were in those days. At that time a relatively large number of college graduates married during the summer following their graduation and had little or no experience in such concepts as managing money. That isn't so true today.

**Re: [OT] Re: The world is eating your lunch!**

*Message #109 Posted by [Meenzer](#) on 31 Oct 2007, 3:00 a.m.,  
in response to message #108 by Palmer O. Hanson, Jr.*

Thank you very much for this insight.

I feel like this kind of course should be mandatory at high school level. People get all kinds of education but not in the skills that virtually all of them are needing most: how to manage a relationship and how to raise children. Society seems to just assume that these are natural skills that everybody has - reality shows the contrary to be true.

**Re: The world is eating your lunch!**

*Message #110 Posted by [Meenzer](#) on 26 Oct 2007, 3:37 a.m.,  
in response to message #80 by Doug*

Quote:

---

In physics there are three quantities: length-mass-time, there are no others.

The SI base units are

| Name     | Symbol | Quantity                  |
|----------|--------|---------------------------|
| meter    | m      | length                    |
| kilogram | kg     | mass                      |
| second   | s      | time                      |
| ampere   | A      | electric current          |
| kelvin   | K      | thermodynamic temperature |
| mole     | mol    | amount of substance       |
| candela  | cd     | luminous intensity        |

### **Re: The world is eating your lunch!**

*Message #111 Posted by [bill platt](#) on 26 Oct 2007, 8:03 a.m.,  
in response to message #80 by Doug*

I once ran afoul of one of my bosses on this issue. I was solving a problem that involved accelerations and dynamic behavior, and so I used a rationalized mass-unit system (slug ft seconds) but the boss shook his head and started trying to explain to me that I didn't need to go to all the "trouble" of using slugs. He was correct, but still wrong in my mind. Habits, even rather unfortunate ones, can be hard to break, even in rational people (who use irrational systems!).

### **Re: The world is eating your lunch!**

*Message #112 Posted by [Ren](#) on 26 Oct 2007, 11:22 a.m.,  
in response to message #111 by bill platt*

So Bill,

How many garden pests (slugs) make a kilogram?

B^)

Ren

dona nobis pacem

p.s. around my place it's "The slugs is/are eating your lunch!"

*Edited: 26 Oct 2007, 11:24 a.m.*

### **Re: The world is eating your lunch!**

*Message #113 Posted by [bill platt](#) on 26 Oct 2007, 8:06 p.m.,  
in response to message #112 by Ren*

Ah, but slugs are suckers for Milwaukee's finest beer!

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## HP Forum Archive 17

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### User design calculator contest [just an idea]

Message #1 Posted by [Miguel Saiz](#) on 13 Oct 2007, 8:31 p.m.

Looking at the HP42S topic, I think it could be a good idea to HP (or maybe, just for fun, without HP sponsorship) to design the ideal HP calculator based on what experienced and loyal HP users thinks about what will be the ideal HP calculator (I think there are better calculator designers here, that on HP [I apologize to any current HP designer that could be reading this...but It is true!]) It could be a good starting point to HP to re-enter [with some success] to the calculator market again. The HP50G is ok (but not a huge innovation neither), HP35S is ok (but with a lot of bugs, not an impressive display), the most expected re-design HP17BII+ (wide enter), that will be introduced sometime (hope that soon, in the USA)...There are some right steps, but mainly same products, with some improvements. I think that HP needs a hit, a real excellent calculator, so user centry, that it could set the trend (one more time, as in the past). For sure, that HP doesn't have anymore the talent to deliver that product, may be some of the real power user could help...just thinking (or maybe, dreaming...)

### Re: GSM, MP3, RPN, and RPG

Message #2 Posted by [Allen](#) on 13 Oct 2007, 9:33 p.m.,  
in response to message #1 by Miguel Saiz

Forget the Students!!!

What about a Smart (internet) GSM phone, MP3 Player / Fully Functional RPN calculator/ Mp3 Player with plugin modules available for either Engineering Applications or video games like ZELDA and Super Mario Brothers.

Math is entertaining, but saving the Princess of Hyrule can be too!! :-)) Especially if you can do it all within 22 minutes when the batteries die.

[http://www.enterhp.com/images/zelda\\_screen-512.jpg](http://www.enterhp.com/images/zelda_screen-512.jpg)

### Re: GSM, MP3, RPN, and RPG

Message #3 Posted by [Eric Smith](#) on 13 Oct 2007, 10:46 p.m.,  
in response to message #2 by Allen

I suppose there might be a few people that want to use [RPG](#) to program a calculator, but I'd much prefer COBOL, as it is easier to read and understand.

```
SIMULATION-STEP.
MULTIPLY VELOCITY BY TIME-DELTA GIVING DISPLACEMENT.
ADD DISPLACEMENT TO POSITION.
ADD TIME-DELTA TO TIME.
```

Edited: 13 Oct 2007, 10:47 p.m.

### Re: GSM, MP3, RPN, and RPG

Message #4 Posted by [gteague](#) on 15 Oct 2007, 1:06 a.m.,  
in response to message #3 by Eric Smith

[did you perhaps skip some divisions in your example? i haven't written a cobol program since 1987, perhaps they've streamlined it since then] [g]

```
IDENTIFICATION DIVISION.  
PROGRAM-ID. SequenceProgram.  
AUTHOR. IBM 370.
```

```
ENVIRONMENTAL DIVISION.  
HP-35S.
```

```
DATA DIVISION.  
WORKING-STORAGE SECTION.  
01 Num1 PIC 9 VALUE ZEROS.  
01 Num2 PIC 9 VALUE ZEROS.  
01 Result PIC 99 VALUE ZEROS.
```

```
PROCEDURE DIVISION.  
CalculateResult.  
ACCEPT Num1.  
ACCEPT Num2.  
MULTIPLY Num1 BY Num2 GIVING Result.  
DISPLAY "Result is = ", Result.  
STOP RUN.
```

## Re: GSM, MP3, RPN, and RPG

Message #5 Posted by [Eric Smith](#) on 15 Oct 2007, 4:37 a.m.,  
in response to message #4 by [gteague](#)

Quote:

did you perhaps skip some divisions in your example?

Yes, it was only an excerpt.

None of my programs were written by an IBM 370, so they looked more like this:

```
Identification Division.  
Program-Id. RPN.  
Author. Eric Smith.  
Date-Written. 15 Oct 2007.  
Environment Division.  
Configuration Section.  
Source-Computer. IBM-370.  
Object-Computer. IBM-370.  
Data Division.  
Working-Storage section.  
01 State  
    03 Stack-Lift-Flag Pic 1 Value B"0".  
        88 Stack-Lift-Disabled Value B"0".  
        88 Stack-Lift-Enabled Value B"1".  
01 Stack  
    03 X Pic -9V9(9)E-99 Usage COMP-3.  
    03 Y Pic -9V9(9)E-99 Usage COMP-3.  
    03 Z Pic -9V9(9)E-99 Usage COMP-3.  
    03 T Pic -9V9(9)E-99 Usage COMP-3.  
    03 L Pic -9V9(9)E-99 Usage COMP-3.  
Procedure Division.  
RPN-Add.  
    Perform Save-Last-X.  
    Move X to L.  
    Add Y to X.  
    Move Z to Y.  
    Move T to Z.  
    Set Stack-Lift-Disabled To True.  
* Oh, for a Set <condition> To False statement! Sigh.  
  
Save-Last-X.
```

Move X to L.

Note that the Author, Installation, Date-Written, Date-Compiled and Security paragraphs in the Identification Division are considered obsolete; it is now preferred to use comments for such information.

### **Re: User design calculator contest [just an idea]**

Message #6 Posted by [Miguel Saiz](#) on 14 Oct 2007, 11:51 a.m.,  
in response to message #1 by Miguel Saiz

I had got the idea...does Latin need a new grammar? or do we need Latin?

### **Re: User design calculator contest [just an idea]**

Message #7 Posted by [Brad Davis](#) on 14 Oct 2007, 12:44 p.m.,  
in response to message #1 by Miguel Saiz

For my needs and wants, it would look and feel just like my HP35s, except with:

1. Low glare screen
2. STO and  $x^2$  as first functions
3. Multiple letter variable names
4. A fixed (not scientific or engineering) number display format that shows x significant digits instead of x decimal places.
5. Direct rect->polar and polar->rect conversion
6. Slightly bigger case. If it were just a hair bigger, it could hold a pencil and a small pad of paper.

Nothing that makes the calculator more cluttered, heavier, or bulkier.

### **Re: User design calculator contest [just an idea]**

Message #8 Posted by [Allen](#) on 14 Oct 2007, 1:51 p.m.,  
in response to message #7 by Brad Davis

Quote:

\_\_\_\_\_

If it were just a hair bigger, it could hold a pencil and a small pad of paper.

\_\_\_\_\_

FWIW, 3 by 5" Notecards work nicely in the 35S case. I also use regular US sized letter paper folded in half then in thirds.

For the writing instrument, I use a small Mechanical Pencil, available in Japan for a few 100 yen, and measures 0.558 cm by 12.15 cm. I have not seen this model elsewhere. If I recall it was made by Zebra, and is similar to [this small one](#). I might order a few of these just to compare.

### **Re: User design calculator contest [just an idea]**

Message #9 Posted by [Hal Bitton in Boise](#) on 14 Oct 2007, 7:35 p.m.,  
in response to message #1 by Miguel Saiz

50G functionality with the form factor and keyboard layout of the 48G series.  
Oh yea.....:)

**Re: User design calculator contest [just an idea]**

Message #10 Posted by **BruceH** on 15 Oct 2007, 7:21 a.m.,  
in response to message #1 by Miguel Saiz

Quote:

Looking at the HP42S topic, I think it could be a good idea ... to design the ideal HP calculator

What kind of idiot would want to do that?

A: See the video of the HHC2007 presentations from me, Eric & Gene. ;-)

**Re: User design calculator contest [just an idea]**

Message #11 Posted by **Pavneet Arora** on 15 Oct 2007, 9:19 p.m.,  
in response to message #10 by BruceH

Which was awesome. HP, just build it! Or I should,say both of them. ;)

*Edited: 15 Oct 2007, 9:21 p.m.*

**Re: User design calculator contest [just an idea]**

Message #12 Posted by **DaveJ** on 15 Oct 2007, 10:42 p.m.,  
in response to message #10 by BruceH

Quote:

What kind of idiot would want to do that?

A: See the video of the HHC2007 presentations from me, Eric & Gene. ;-)

Are these videos available online?

In particular, are there any photos of any home built calculators that were on show at the HHC2007?

Having done my own, I'm keen to see what others have come up with.

Dave.

**Re: User design calculator contest [just an idea]**

Message #13 Posted by **Pal G.** on 15 Oct 2007, 10:51 p.m.,  
in response to message #12 by DaveJ

Dave,

I read somewhere (around here I think) the DVDs will be ready in a few months. I believe Jake Schwartz also went to the HP conference in England, to document it. So, once he returns I imagine he start editing (in his free time?).

Did you see the 31 page report prepared and uploaded to the official website?

<http://holyjoe.net/hhc2007/>

Maybe the DVDs be finished just in time for Christmas. I will then send the wife a link to Jake's website..

; ) Pal

**Re: User design calculator contest [just an idea]**

*Message #14 Posted by **DaveJ** on 16 Oct 2007, 12:56 a.m.,  
in response to message #13 by Pal G.*

Quote:

\_\_\_\_\_  
Dave,

I read somewhere (around here I think) the DVDs will be ready in a few months. I believe Jake Schwartz also went to the HP conference in England, to document it. So, once he returns I imagine he start editing (in his free time?).

Did you see the 31 page report prepared and uploaded to the official website?

<http://holyjoe.net/hhc2007/>

Maybe the DVDs be finished just in time for Christmas. I will then send the wife a link to Jake's website..

; ) Pal

\_\_\_\_\_  
Yep, seen all that, but no pics of any home made calcs :(

Perhaps the authors would care to show a few pics?

Dave.

**Re: User design calculator contest [just an idea]**

*Message #15 Posted by **Pavneet Arora** on 16 Oct 2007, 8:47 a.m.,  
in response to message #14 by DaveJ*

Eric Smith had shown a couple of his DIY-RPN calculators, once of which went to auction and the other as a raffle prize. Perhaps, Eric can offer pictures. The folding Mylar sheet case was brilliant. I believe that is the one that Gene Wright picked up.

**Re: User design calculator contest [just an idea]**

*Message #16 Posted by **Gene Wright** on 16 Oct 2007, 10:51 a.m.,  
in response to message #15 by Pavneet Arora*

Here's an image of the earlier DIY model.



[http://www.msdsite.com/photopost/data/534/medium/DIY\\_RPN3.jpg](http://www.msdsite.com/photopost/data/534/medium/DIY_RPN3.jpg)

**Re: User design calculator contest [just an idea]**

*Message #17 Posted by **Richard Ottosen** on 16 Oct 2007, 1:05 p.m.,  
in response to message #15 by Pavneet Arora*

Pavneet:

Here is a picture of three of the DIY-RPN calculators:

[http://s242.photobucket.com/albums/ff152/ottosenpb/?action=view&current=diy\\_fams.jpg](http://s242.photobucket.com/albums/ff152/ottosenpb/?action=view&current=diy_fams.jpg)

There are some excellent pictures of the DIY-RPN in a black ABS case here:

<http://www.msdsite.com/photopost/showgallery.php?cat=534&ppuser=>

I have not taken a picture of the folded Mylar case yet. When I do, I will post it here.

**Re: User design calculator contest [just an idea]**

*Message #18 Posted by **Richard Ottosen** on 16 Oct 2007, 6:21 p.m.,  
in response to message #17 by Richard Ottosen*

Here are the pictures again, done right (I hope)...

Three DIY-RPN calculators:

[http://i242.photobucket.com/albums/ff152/ottosenpb/diy\\_fams.jpg](http://i242.photobucket.com/albums/ff152/ottosenpb/diy_fams.jpg)

Thanks to DB for these excellent photos:

[http://www.msdsite.com/photopost/data/534/medium/Picture\\_032.jpg](http://www.msdsite.com/photopost/data/534/medium/Picture_032.jpg)

Here is source of DB's photo with a couple of photos of the inside of the calculator as well:

<http://www.msdsite.com/photopost/showphoto.php?photo=837&cat=534>

-- Richard

**Re: User design calculator contest [just an idea]**

*Message #19 Posted by **DaveJ** on 16 Oct 2007, 11:06 p.m.,  
in response to message #18 by Richard Ottosen*

Thanks for that. Turns out I have seen the older version of that before somewhere.

The tact switch tops look a bit small under the key membrane, any problems with missing keystrokes if you don't hit the exact center?

Dave.

**Switch operation on DIY-RPN**

*Message #20 Posted by **Richard Ottosen** on 17 Oct 2007, 1:40 p.m.,  
in response to message #19 by DaveJ*

Dave:

Quote:

\_\_\_\_\_

The tact switch tops look a bit small under the key membrane, any problems with missing keystrokes if you don't hit the exact center?

\_\_\_\_\_

The size of the switch shaft is not a problem. The overlay is somewhat stiff so that your finger can miss a bit without any problems. If you are too close to an adjacent switch shaft, both switches can activate. This gives an ugly "scritch" sound/feel.

To help minimize this interaction between switches, the switches are in a hole. This reduces the coupling of the flex of the overlay from one switch position to any nearby switches. In an ideal world this would work perfectly. However, the switch shafts have to stick up a small amount above the barrier to allow them to be pushed. This height does not have to be the full stroke of the switch since the overlay can distort slightly into the hole.

A related factor is that the overlay is flat. The 3-D graphics do no good helping you feel where a key is. One way to solve this lack of tactile feedback is to make a slight recess in the overlay above the shaft of the switch. This can be a small hole -- about 1.5 mm diameter seems to work -- that is as little as 0.05 mm deep.

A potential problem with the small switch shaft is that over time it might wear a hole in the overlay. Since the overlay is replacable without using tools this should not be a big deal.

-- Richard

### **Re: Switch operation on DIY-RPN**

*Message #21 Posted by [Pavneet Arora](#) on 17 Oct 2007, 4:57 p.m.,  
in response to message #20 by Richard Ottosen*

Dear Richard,

I really do hope that you continue to work on these designs. Although, I am delighted that HP has made a firm commitment to the calculator group, the designs that you and Eric have produced are incredibly innovative. I was just thinking that the Mylar version may be able to form the basis of a weather proof calculator.

Cheers.

### **Re: Switch operation on DIY-RPN**

*Message #22 Posted by [DaveJ](#) on 17 Oct 2007, 5:31 p.m.,  
in response to message #20 by Richard Ottosen*

I figured that might be the case. I considered a similar overlay for my RPN watch project, but in the end found that the keys sticking out of the front panel gave a better look (for a watch) and operation. Same thing could be done on a full size calc like yours, with an overlay with key cutouts that fits

around the keys. Lots of various switch and cap options are available. But I guess you sacrifice that "look" for better key functionality.

I still think that designing a new board for one of the new HP calcs (35S or 17BII+) is an easy way to go to get the professional look'n'feel.

Dave.

### **Re: Switch operation on DIY-RPN**

*Message #23 Posted by **Richard Ottosen** on 18 Oct 2007, 11:58 a.m., in response to message #22 by DaveJ*

Dave:

Quote:

---

I considered a similar overlay for my RPN watch project, but in the end found that the keys sticking out of the front panel gave a better look (for a watch) and operation.

---

Yes, your watch looks pretty good with the small key caps and cut out front panel. With such closely spaced buttons, you need a protrusion to press. Obviously, there is no room on such small key tops for legends.

Quote:

---

Same thing could be done on a full size calc like yours, with an overlay with key cutouts that fits around the keys.

---

I have looked at this. I would use a Laser to do the cutouts on a printed graphic. However, putting all of the legends on the front panel is not practical for really complicated keyboards such as the HP34C.

Quote:

---

Lots of various switch and cap options are available. But I guess you sacrifice that "look" for better key functionality.

---

I think that the "look" is important. If the calculator is ugly then I don't want to use it. The HP33S is a perfect example. I would rate the overlay feel as "not as good as an HP41 keyboard" but "better than a HP6S keyboard".

Quote:

---

I still think that designing a new board for one of the new HP calcs (35S or 17BII+) is an easy way to go to get the professional look'n'feel.

---

There are no key caps available with HP legends except by cannibalizing an HP calculator that has the exact keys needed. So, about all you can do is a calculator with the same functions as the one you cannibalized.

-- Richard

### **Re: Switch operation on DIY-RPN**

*Message #24 Posted by [DaveJ](#) on 18 Oct 2007, 6:56 p.m.,  
in response to message #23 by Richard Ottosen*

Quote:

---

There are no key caps available with HP legends except by cannibalizing an HP calculator that has the exact keys needed. So, about all you can do is a calculator with the same functions as the one you cannibalized.

---

Yes, it would take someone to create a new set of moulded keytops, that's the biggest hurdle I think. In this respect the 17BII+ is better with it's soft menu keys. The key tops would be a base set of generic functions, and then all the smarts goes into the menu system.

Dave.

---

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## HP Forum Archive 17

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### **41/71 to Windows/XP - OS/X file transfers via RS-232, who is doing it?**

Message #1 Posted by [Egan Ford](#) on 13 Oct 2007, 4:07 p.m.

I've read a few articles on transfers using DOS or Linux, but not Windows/XP or OS/X. E.g. Windows/XP will not allow 16-bit DOS application to access the serial port making transfers using older DOS code a challenge (e.g. EMU71/41).

So, what are any of you doing?

Thanks.

### **Re: 41/71 to Windows/XP - OS/X file transfers via RS-232, who is doing it?**

Message #2 Posted by [Hans Brueggemann](#) on 14 Oct 2007, 3:55 a.m.,  
in response to message #1 by Egan Ford

egan,

you might give my HPILCOM a try. it works under 95/98/XP/V and does not require admin rights. however, HP71 is not supported.

anyway, any terminal program capable of running under xp should do the job.

best regards,

hans

drop me an e-mail with your email-address, so that i can send you the zip file (unfortunately, not before oct., 21st)

### **Re: 41/71 to Windows/XP - OS/X file transfers via RS-232, who is doing it?**

Message #3 Posted by [C. Dehnke](#) on 15 Oct 2007, 1:30 a.m.,  
in response to message #2 by Hans Brueggemann

Hi Egan,

I have the same problem (for 71 at the moment). You can find the discussion here:

<http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/forum.cgi?read=126576>.

Regards,

Chris

---

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## HP Forum Archive 17

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### HP29C Question

Message #1 Posted by [Mike T.](#) on 13 Oct 2007, 2:36 p.m.

I need some help with several HP29C related questions.

Unfortunately I don't have my own so I can't check these myself, hopefully someone out there will have the patience and time be able to provide me with some answers...

How does the HP29C calculator display instructions that use indirect addressing in program mode?

STO + i    23 51 22        or        23 51 15 22

RCL i            24 22        or        24 15 22

GSB i            12 22        or        12 15 22

Is the 'g' key stroke shown in the display as the instruction is entered? Are key strokes show as they are entered at all or does the HP29C differ from the HP25C in that respect? Is it necessary to press the 'g' key at all - what happens if you do?

Thanks.

Mike T.

### Re: HP29C Question

Message #2 Posted by [Thomas Okken](#) on 13 Oct 2007, 3:03 p.m.,  
in response to message #1 by Mike T.

On the 19C and 29C, the 'g' in sequences such as STO g i, is optional, and in program mode, it is not shown in the display -- so STO i is displayed as 23 22 on the 29C and 45 12 on the 19C.

- Thomas

### Re: HP29C Question

Message #3 Posted by [Mike T.](#) on 16 Oct 2007, 7:30 a.m.,  
in response to message #2 by Thomas Okken

Thank you - as ever you are a very useful source of information.

Of course I really ought to get a Museum DVD or better still the real thing but I'm not allowed to spend any (more) real money on this particular 'hobby' ! :-(

Mike T.

**Re: HP29C Question**

Message #4 Posted by **Thomas Okken** on 16 Oct 2007, 11:59 p.m.,  
in response to message #3 by Mike T.

Quote:

---

Of course I really ought to get a Museum DVD or better still the real thing but I'm not allowed to spend any (more) real money on this particular 'hobby' ! :-)

---

I'm sorry to hear that you're so strapped for cash, but then again, fortunately, there are plenty of people on this forum who are happy to answer questions like the one you asked a few days ago. I used to own an HP-19C myself, back in 1978-79, and whenever people start talking about the 19C or the 29C, this brings on a happy wave of nostalgia. :-)

- Thomas

**Re: HP29C Question**

Message #5 Posted by **Mike T.** on 17 Oct 2007, 9:12 a.m.,  
in response to message #4 by Thomas Okken

It isn't the 'cash' she is worried about (or at least I hope not!) she just doesn't approve of me wasting money on things she regards as unimportant/trivial.

If you are interested I may/should have something in a couple of days that should be able to induce on 'a happy wave of nostalgia' that I can send you via e-mail (and given our previous exchanges you can probably guess what it is!)

Mike T.

**Re: HP29C Question**

Message #6 Posted by **Thomas Okken** on 17 Oct 2007, 1:46 p.m.,  
in response to message #5 by Mike T.

Quote:

---

she just doesn't approve of me wasting money on things she regards as unimportant/trivial.

---

Unimportant? Trivial? Blasphemy! You need to take revenge and veto her next shoe purchase. ;-)

Quote:

---

given our previous exchanges you can probably guess what it is

---

Sorry, I can't, but feel free to surprise me!

- Thomas

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## HP Forum Archive 17

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### Need help transitioning from 41/42 to 33/35

Message #1 Posted by [Bill Colisch](#) on 12 Oct 2007, 9:26 p.m.

Greetings

I am a Land Surveyor & was once reasonably competent at programming the 41 & 42. Now I have a 33 & a 35 and want to bring my programs over to them (as I did to the 42).

Can I implement the "KEY x GTO nn" functionality?

I liked the 42 SOLVER function - Can I make the 33/35 work similarly (with the variables shown in the bottom row of the display)?

Should I be trying to use equations more within the programs?

I appreciate any help.

PS - HP (if you're out there)I would vote to bring back the 42s with time functions & a USB I/O computer interface (though I was never wild about the ALPHA input system).

### Re: Need help transitioning from 41/42 to 33/35

Message #2 Posted by [Gene Wright](#) on 13 Oct 2007, 10:11 a.m.,  
in response to message #1 by [Bill Colisch](#)

- 1) No KEY X GTO NN functionality.
- 2) No soft menu keys in the bottom row of the screen.

The 35s is not built upon the same programming scheme as the 42s and programs will require a good bit of modification to run on the new model. Suggestions?

Spend some time with the 35s owners manual.

Then go through the 35s learning modules found here:

[35s modules](#)

It may also help to read through the HP 35s Datafile special issue found here:

[Datafile special issue](#)

### Re: Need help transitioning from 41/42 to 33/35

Message #3 Posted by [Bill Colisch](#) on 13 Oct 2007, 12:27 p.m.,  
in response to message #2 by [Gene Wright](#)

Gene,

Thank you for your reply. I think that I knew the answer all along (my 41 mentor used to remind me to read ALL of the manuals EVERY YEAR).

Now I won't be looking for things that are not there.

Take Care,

Bill :-)

---

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## HP Forum Archive 17

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### **RPL mode for emacs?**

Message #1 Posted by [James Tappin](#) on 12 Oct 2007, 8:51 p.m.

I'd like to edit programs for the 50g on my PC and then transfer to the calculator. While this is quite possible in text-mode of GNU emacs, a dedicated rpl-mode could facilitate things like entering the trigraphs etc. So before I delve into emacs lisp, I thought I'd see if anyone had already attempted this.

### **Re: RPL mode for emacs?**

Message #2 Posted by [Seth Morabito](#) on 13 Oct 2007, 5:26 p.m.,  
in response to message #1 by James Tappin

I've never seen anything, but I'd love an emacs RPL or RPN mode as well.

In fact, now that you bring it up, I don't know why I hadn't thought of it before. If you work on the RPL mode, I'll work on the RPN mode! It shouldn't be too difficult to get elisp to handle automatic line numbering, label detection, and GTO/XEQ line renumbering.

Great idea, thanks for bringing it up.

---

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## HP Forum Archive 17

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### HP-35 cake

Message #1 Posted by [Dave Colver](#) on 12 Oct 2007, 3:02 p.m.

I thought i would share an image of the hp35 cake created for the HPCC conference tomorrow, to celebrate the HP 35's 35th anniversary, its a 3x scale model, so plenty for all :)

I for one cant wait!

Dave <http://www.davemc.fastmail.fm/hp35/?imagepage=SS850566.JPG>

(Cake by [www.homebaked-desserts.co.uk](http://www.homebaked-desserts.co.uk))

Edited: 12 Oct 2007, 3:11 p.m.

### Link for picture broken? Re: HP-35 cake

Message #2 Posted by [Gene Wright](#) on 12 Oct 2007, 3:25 p.m.,  
in response to message #1 by [Dave Colver](#)

?

### Re: Link for picture broken? Re: HP-35 cake

Message #3 Posted by [Dave Colver](#) on 12 Oct 2007, 3:27 p.m.,  
in response to message #2 by [Gene Wright](#)

i dont know how the forum system works Gene, but right click show image seems to bring it up ok?

### Re: Link for picture broken? Re: HP-35 cake

Message #4 Posted by [Egan Ford](#) on 12 Oct 2007, 3:37 p.m.,  
in response to message #2 by [Gene Wright](#)

Try this:

<http://www.davemc.fastmail.fm/hp35/?imagepage=SS850566.JPG>

### Re: Link for picture broken? Re: HP-35 cake

Message #5 Posted by [Dave Shaffer \(Arizona\)](#) on 12 Oct 2007, 11:41 p.m.,  
in response to message #4 by [Egan Ford](#)

I don't think I ever got mine to put "hP-35" in the LED display, though!?!?

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## HP Forum Archive 17

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### Endless 35S loop, continued ...

Message #1 Posted by [vq](#) on 12 Oct 2007, 2:47 p.m.

I have tested the John Wasilewski's code on my HP35S and found the same problem - more on this in <http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/forum.cgi?read=126378#126378>.

I want to ask more people to run the test so we can better understand whether it's a general problem or just a specific batch problem. Thanks in advance. VQ

### What is your serial number?

Message #2 Posted by [Gene Wright](#) on 12 Oct 2007, 2:50 p.m.,  
in response to message #1 by [vq](#)

?

### Re: What is your serial number?

Message #3 Posted by [vq](#) on 12 Oct 2007, 3:00 p.m.,  
in response to message #2 by [Gene Wright](#)

My S/N is CNA 72100299, I have written that in my entry [here](#) So we have 2 calcs from (probably) the same day showing the same problem. Are there more? VQ

### Re: Endless 35S loop, continued ...

Message #4 Posted by [Vieira, Luiz C. \(Brazil\)](#) on 12 Oct 2007, 4:24 p.m.,  
in response to message #1 by [vq](#)

Hi, Václav; (at least I hope this post is from you...)

about the endless loop and program structure. I know some programs may find an endless loop because of code OR argument error, i.e., either the code causes endless loops or the arguments force the code to do so. Of course, this would not lead the device itself to enter in a no-interruptible loop, i.e., a loop that could not be broken by some reset/restart key sequence. This is, surely, a bug and must be investigated.

Appart of that, I wrote John an e-mail mentioning another fact I noticed is related to data input. His original listing has the following steps, step # included:

```
262.   RCL Q
263.   RCL O
264.   C,T BAR SIZES
265.   STO O
266.   R|
267.   STO Q
```

Based on John's explanations, one can either enter tension steel only or both compression steel and tension steel. John wrote:

20 R/S for tension steel only

-or-

16 ENTER 20 R/S for sizes of both compression steel (top) and tension steel (btm).

If we observe his listing, there is another problem there. Register Q contains compression steel value and register O contains tension steel value, both may also be already stored in calculator memory. A copy of both is brought back to the stack and if they are already there, one may simply keep them by pressing [R/S] and they will be stored back (steps B265 to B267). If we enter both new values, it will happen the same: the new values will override the old ones (again, steps B265 to B267). But if we enter only the tension steel and press [R/S], as John suggests, we will have the new tension value correctly stored in register O and the previous tension steel value wrongly stored in register Q, overriding the one you actually want to keep. For example, consider that you already have hypothetical values for tension steel and compression steel as follows: 12 and 18 (cannot tell if these are acceptable, just hypothetical). Let's consider that you want to enter only the new value for tension steel, so the stack contents would be:

|      | REGX          | REGY | REGZ | REGT |    |                          |
|------|---------------|------|------|------|----|--------------------------|
| 262. | RCL Q         | 18   | a    | b    | c  | a,b,c are placeholders   |
| 263. | RCL O         | 12   | 18   | a    | b  | Hipothetical values      |
| 264. | C,T BAR SIZES | 16   | 12   | 18   | a  | You enter 16 only        |
| 265. | STO O         | 16   | 12   | 18   | a  | 16 correctly stored in O |
| 266. | R             | 12   | 18   | a    | 16 | rolls down stk contents  |
| 267. | STO Q         | 12   | 18   | a    | 16 | 12 wrongly stored in Q   |

I am not sure about how would this affect program control, but it would surely disturb data organization. My suggestion would be a double stop: one for compression (press [R/S] to keep existing or key in new value then [R/S]) and another for tension (same thing: [R/S] to keep existing or key in new value then [R/S]).

I have already loaded the program and tested it step-by-step to a certain point, but I intend to add some modifications prior to run it straight. I'd not like to have the calculator stuck as it had already happened with some of you and have to key the program in, head to tail...

Also, I tested the VIEW(I) and VIEW(J) followed by PSE. The display always shows the contents of register (I+27) and returns INVALID (I) (or (J)), even when they are valid. If we remove the PSE and let the program to stop, it shows the correct register contents.

HP has definitely lost its way to design calculators... Bring AOC back, pleeeesss...

Cheers.

Luiz (Brazil)

*Edited: 12 Oct 2007, 4:44 p.m.*

## Re: Endless 35S loop, continued ...

*Message #5 Posted by [John Wasilewski](#) on 13 Oct 2007, 5:21 a.m.,  
in response to message #4 by [Vieira, Luiz C. \(Brazil\)](#)*

Luis,

There are numerous errors in the code.  
I will fix them all.

I value greatly your comments and suggestions for error correction and optimisation. However, I want to get a working version before I start to polish up the code. See below for more about what I propose.

One of the errors, for example, appears many times in the subroutine beginning at line B020. I forgot to insert a ROLL-DOWN step after each bar diameter is tried. This mistake happened because, after my first

lockup failure, I had a written record of only 90% of my code and when working from memory, I forgot the ROLL-DOWN step in this subroutine.

I plan to key it all in again and try to get it working correctly even with the hardware fault. I will have to put in a lot of temporary R/S steps and not take them out until I know that there are no endless loops left after I finish debugging.

When I get a working version I will send it to you (and others) and look out for your suggested improvements.

--

John

### **Re: Endless 35S loop, continued ...**

*Message #6 Posted by [Vieira, Luiz C. \(Brazil\)](#) on 13 Oct 2007, 7:48 p.m.,  
in response to message #5 by John Wasilewski*

Hi, John;

Quote:

I value greatly your comments and suggestions for error correction and optimisation.

Thank you, I appreciate. Just would like to add that I am not actually trying to optimize the code so far, just doing some 'witch hunting' (error correction). Many programs have coding errors, none is completely free of them, and errors appear as code lines are added. What I mostly care is for the fact that it is somehow hard to test a program if errors prevail. My own way of dealing with programs is to 'purge' coding errors, then to hunt structure errors (GTO's, XEQ's, indexed operations, etc.) and then the cosmetics, the final product. If, and only if, applicable, the code optimization and shortening. But this is just the way I prefer dealing with my programs.

The picture below shows how did I deal with your program.

[http://www.logeng.com.br/images/HP35S/wasilewski\\_listing\\_short.jpg](http://www.logeng.com.br/images/HP35S/wasilewski_listing_short.jpg) (click to enlarge)

Although you cannot see easily, your program is completely listed there. You can also identify my handwriting. The functions marked in red are XEQ (subroutine calls), and the subroutines themselves have their starting and ending points marked with a thick, red line (vertical). Functions in blue are GTO's and their corresponding jumps are marked with thick, blue lines, ended with a small arrow. This way I could follow program logics. Some marks in yellow and blue are related to some possible problems.

Quote:

However, I want to get a working version before I start to polish up the code. See below for more about what I propose.

I think I get it.

This is a sample of a [program form for the HP35S](#) I wrote in MS Word format. The specific TTF is the one I created sometime ago for the HP33S sometime ago with a few modifications (new characters) for the HP35S. I think I'll rename it after the HP35. The final document was then converted to PDF. The program in the listing was taken from an HP35S and typed in, I had no time to study it.

Anyway, I have my spare time spent somehow.

Hope you succeed.

Cheers.

Luiz (Brazil)

*Edited: 13 Oct 2007, 11:14 p.m.*

**Re: Endless 35S loop, continued ...**

*Message #7 Posted by [John Wasilewski](#) on 14 Oct 2007, 1:23 p.m.,  
in response to message #6 by Vieira, Luiz C. (Brazil)*

You have worked hard on it Luiz! I do very much the same as you when analysing code. I also like very much your HP35s programming proforma.

The "never executed" steps in subroutine 020 are because that particular subroutine was lost without a copy during one of my crashes. I thjought I could remember it but I got it wrong. There should be some ROLL DOWN instructions in it.

I am working on the program again now and I'm correcting mistakes like this. I do want to know what is wrong with teh calculator to lock it into a loop but I also want to make my program work.

I'll send you a copy of the next draft of the code.

John

**Re: Endless 35S loop, continued ...**

*Message #8 Posted by [John Wasilewski](#) on 13 Oct 2007, 5:23 a.m.,  
in response to message #1 by vq*

Good work -- I'm only sorry the code is so long to replicate this hardware error. I have tried to create some shorter code to produce teh same effect. No luck yet. John

**Re: Endless 35S loop, continued ...**

*Message #9 Posted by [Meenzer](#) on 13 Oct 2007, 6:01 a.m.,  
in response to message #8 by John Wasilewski*

Quote:

Good work -- I'm only sorry the code is so long to replicate this hardware error. I have tried to create some shorter code to produce teh same effect. No luck yet. John

Maybe it's not your code as such but its length/memory consumption or a combination of these that lead to the crash. That at least would explain why you couldn't reproduce the crash with smaller bits of code...

**Re: Endless 35S loop, continued ...**

*Message #10 Posted by [John Wasilewski](#) on 13 Oct 2007, 10:46 a.m.,  
in response to message #9 by Meenzer*



My own theory is that the processor interprets code as it runs and has to search for each GTO or XEQ address from the top of the code, and that it is this searching that blocks user intervention. With short code it finds addresses faster so spends more time executing. Long code it spends more time searching for the address of each jump than executing. Just a guess. I tried a 400 line program of rubbish with a few GTOs back and forth from top to bottom in an endless loop. This was difficult to interrupt, but not impossible. John

### **Re: Endless 35S loop, continued ...**

*Message #11 Posted by [Miguel Toro](#) on 13 Oct 2007, 11:59 a.m.,  
in response to message #10 by John Wasilewski*

Hi,

I tried your code and I get the same result. The calculator enters an endless loop that cannot be interrupted and after a reset, all the data is lost. Well, I have to enter all my programs again. It was fun, though!!!!

My HP 35s is a CNA 72102361.

When the program enters in the loop, it shows RUNNING and then NEXT BAR SIZE again and again. Pressing the ON/OFF/C and others combinations does not interrupt the program. Just doing reset works but making the calculator to lose the data.

Thanks Luiz for sending me the code.

Regards,

Miguel

*Edited: 13 Oct 2007, 12:08 p.m.*

### **Re: Endless 35S loop, continued ...**

*Message #12 Posted by [John Wasilewski](#) on 13 Oct 2007, 12:51 p.m.,  
in response to message #11 by Miguel Toro*

This is not good news Miguel, but thank you for your test result.

That is three serial numbers giving this aberrant behaviour :

- CNA 72100255
- CNA 72100299
- CNA 72102361

It would be good if we could find out for sure whether anyone has a serial number for which the calculator WILL ACCEPT user intervention when it enters an endless loop with this code. One or two people have reported that the program seems to behave normally, but I am a little unsure whether they took the test far enough, because I might not have explained sufficiently how to enter the data.

We need someone who can get the program into the endless loop that you, Vaclav and I have all experienced, and can then report successfully breaking out of it without having to erase all memory.

When we have this we will know that there is a hardware/firmware fault on early batch(es) of this calculator and we will know that it was fixed by HP on later production runs.

--  
John

**Re: Endless 35S loop, continued ...**

*Message #13 Posted by [Seth Morabito](#) on 13 Oct 2007, 8:35 p.m.,  
in response to message #12 by John Wasilewski*

You may add my calculator to the list.

I typed in the full program and verified my entry before proceeding. I then followed the example inputs you provided at the beginning of this saga, and let the program run.

I entered an unbreakable infinite loop alternating between displaying "RUNNING" and "NEXT BAR". No key combinations were able to break out of it. I resorted to the Reset hole on the back of the calculator, which cleared its memory.

My SN is: CNA 72101944

I think the only useful thing to do now is narrow down on a single, small, repeatable test case to demonstrate the lock-up which we can submit to HP.

**Re: Endless 35S loop, continued ...**

*Message #14 Posted by [John Wasilewski](#) on 14 Oct 2007, 1:13 p.m.,  
in response to message #13 by Seth Morabito*

The "NEXT BAR" instruction was just a debug temp. breakpoint to help me keep track of progress through program loops. It isn't a data entry point. It will be taken out when the program works. I made the mistake of putting a PSE after it, so it did just that. It paused but then continued, stuck in its loop! I also forgot to put in a VIEW instruction to let me see what value of Q had accumulated in the loops.

I have now re-entered the whole program again and I'll try to debug more carefully, with extra breakpoints and with stepwise execution.

We must all try not to lose sight of the fact that the problem here is not how to get my program right. The problem is to find out what is wrong with the HP35s and whether it is just one production run or all of them that can sometimes lock themselves into a loop that users cannot break.

Thank you again for your help, Seth. Anything else you can discover from your investigation will be useful.

John

**Re: Endless 35S loop, continued ...**

*Message #15 Posted by [Seth Morabito](#) on 13 Oct 2007, 8:47 p.m.,  
in response to message #12 by John Wasilewski*

I will try the program one more time, but this time, when the program stops to ask for comp bar and tension bar diameters (C,T BAR SIZES), I will single-step through the program with the down arrow cursor key instead of hitting R/S. Perhaps I can get you some useful information that way.

## **Re: Endless 35S loop, continued ...**

*Message #16 Posted by [Seth Morabito](#) on 13 Oct 2007, 9:58 p.m.,  
in response to message #12 by John Wasilewski*

John,

I've single-stepped through the troublesome part of the program several times now, and I'm pleased to report that it is very effective at avoiding the infinite loop.

I let the program run until it gets to the point where it asks for C,T BAR SIZES. I then enter "16 ENTER 20". Instead of pressing R/S, I pressed and held the down-arrow cursor key. This is very important! Holding the down-arrow displays the line currently being executed. When you release it, the results are displayed in the stack. Press and hold again to see the next line, release the key to see the results, etc. You may press and release the button very rapidly if you want to work through each bar's inputs more quickly. It takes a while to step through, but it is **much** quicker than re-entering the entire program after losing your memory!

Oddly, when stepping through the program, it behaved the way it is supposed to. It pauses after displaying "NEXT BAR" and waits for input. It does not lock up.

I hope this will help you debug your program without losing your data yet again. It may also help locate the looping bug, but more importantly it will help you get back to developing with a little more confidence that you won't end up in another infinite loop.

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### HP-65 diplay

Message #1 Posted by [fredo](#) on 12 Oct 2007, 7:03 a.m.

Hello, everybody!

I am the proud owner of a HP-65. The Problem: displaying the negative sign is not working An idea?

### Re: HP-65 diplay

Message #2 Posted by [Hal Bitton in Boise](#) on 12 Oct 2007, 10:19 a.m.,  
in response to message #1 by [fredo](#)

Hi Fredo,

Do you fail to get a negative sign both when using the CHS key and when a calculation results in a negative answer? Also, are you able to negate an exponent?

Best regards, Hal

### Re: HP-65 diplay

Message #3 Posted by [fredo](#) on 18 Oct 2007, 5:49 a.m.,  
in response to message #2 by [Hal Bitton in Boise](#)

Hello, thank you for your response

Exactly, I can not see the negative sign with CHS and with the calculation giving a negative response

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### HP 50g simple question

Message #1 Posted by [Trey](#) on 11 Oct 2007, 1:58 p.m.

I have a new HP 50g calculator. I have set the calculator to provide results as standard. This all works great except for when I do a calculation like  $1 / 12$ . The result I want should be 0.0833333333 but instead I get scientific notation like 8.3333333333E-2. I prefer it not be like this. Like I stated above, I do not have my setting set for scientific notation. Any suggestions?????

### Re: HP 50g simple question

Message #2 Posted by [Hal Bitton in Boise](#) on 12 Oct 2007, 10:52 a.m.,  
in response to message #1 by [Trey](#)

Hello Trey,

You'll need to run the calculator in fixed mode to get the display you're after. (Mode key-2nd line down. You can toggle through the number format choices with the +/- key. Immediately to the right choose the number of decimal places to show...0 to 11.)

Best regards, Hal

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### Rambox battery replacement

Message #1 Posted by [Prabhu Bhooplapur](#) on 12 Oct 2007, 2:53 a.m.

Hi,

Can someone enlighten on how to replace the backup battery in a RAMBOX unit (housed in card reader shell)?  
Thanks folks.

Best regards,

Prabhu

### Re: Rambox battery replacement ( edited again on Oct 17, 2007 07:29 GMT )

Message #2 Posted by [Antoine M. Couëtte](#) on 15 Oct 2007, 4:16 p.m.,  
in response to message #1 by [Prabhu Bhooplapur](#)

Dear Prabhu,

**The following will detail to you how I managed to save and run all my software developed on a RAMBOX. It may not be the exact answer to your current problem ( internal battery replacement ) , but it offers a way of getting around it.**

A few years ago I was in a situation quite similar to yours : I needed to have one HP41CY ( i.e. a HP41CX with an internal RAMBOX II version with 64 K ) repaired. It was not a question of internal battery replacement, but it was a faulty and erratic behavior with a suspected internal wiring degradation which definitely required internal repair.

The following describes the way I solved my HP41CY / RAMBOX II problems in a totally unexpected way, which eventually has been MUCH BETTER than a simple product repair and exceeded all my expectations thanks to the highly dedicated work of a few Men as described hereunder.

If you proceed like I did, maybe it will help you as much as it helped me.

\*\*\*\*\*

As you know RAMBOXes were manufactured by the German Company W & W Software Gmbh. When I needed a RAMBOX II repair some 5 years ago, Wilfried Koetz the Manager of W & W Software Gmbh indicated to me that W & W had stopped supporting the RAMBOX.

As I had extremely important software on my Rambox II - a software I had taken some 3000 hours to develop - I had to find an urgent solution ...

You will find [HERE THE ENTIRE STORY](#)

\*\*\*\*\*

## AS A SUMMARY :

The here-above story describes how I solved my RAMBOX II problems in a totally unexpected way, which eventually has been MUCH BETTER than a simple product repair.

In other words : if you have the possibility of using one of the existing available " HP41 Simulators " which 100% replicate the 64 k RAMBOX I/II, you should then be able to run all your own Software existing to-day on your RAMBOX.

In my own case, I am fully indebted to both Jean-François Garnier and to HrastProgrammer. As the STORY hereabove goes, **and simply because I requested some help from them** , Jean-François greatly improved his former EMU41 into fully replicating the full 64K RAMBOX II and making it available to the Community. And on his side HrastProgrammer went into developing for me a taylored version of his HP-41C Emulator for HP-48GX/49G into a Version with a total of 92 K - including a full replica of the 64K RAMBOX II.

True .. you would need to get a HP48GX with some memory cards, or a HP49G ( or a HP49G+ or a HP50 : *Please HrastProgrammer correct me if the references to HP49G+ and HP50 are not correct* ) if you want to have a **HANDHELD replacement of the Rambox I / II ...** ( see [HRASTPROGRAMMER SITE](#) and in particular [HP-41C Emulator for HP-48GX/49G](#) ) .

... but if all you want is keeping a record of your **Programs working on a laptop** - at a speed of over 500 times a real world HP41 - then Jean François Garnier's superb " EMU41 running on PC " is a wonderful choice ( see [EMU41](#) )

Hrastprogrammer's HP41 X/Y/Z - under the Version developped specifically for my own needs as described in the STORY hereabove - and Jean-François Garnier's EMU 41 emulators are the only 2 emulators I know of which fully emulate Rambox I / II .

*I am not aware of any other such emulator ( i.e. replicating the Rambox I / II ) . But should one exist, its existence will likely be confirmed to you on this forum by any qualified Expert reading this thread.*

I hope this information will be useful to you.

Best Regards from

Antoine

*Edited: 17 Oct 2007, 3:29 a.m.*

## **Re: Rambox battery replacement ( edited again on Oct 17, 2007 07:29 GMT )**

*Message #3 Posted by [J-F Garnier](#) on 19 Oct 2007, 3:14 p.m.,  
in response to message #2 by Antoine M. Couët*

Bonjour Antoine,

Nice to hear from you!

Any chance for everybody to see oneday your "extremely important software [you] had taken some 3000 hours to develop" ?

J-F

*Edited: 19 Oct 2007, 3:17 p.m.*

## **Re: Rambox battery replacement**

*Message #4 Posted by [Antoine M. Couët](#) on 20 Oct 2007, 5:55 a.m.,  
in response to message #3 by J-F Garnier*

Hello Jean-François,

Thank you for your very kind words.

My ASTRONOMICAL NAVIGATION Software User's Manual is still under construction : it is amazing that things so clear in my mind take quite some time to summarize in a way both complete and concise, so that unfamiliar readers get a quick understanding about how to use it.

I have already structured it into 3 parts :

1 - Quick User's Guide

2 - Memory Allocation Table and General Equations used + General Navigation considerations

3 - More Detailed data and in particular :

3.1 - Theories used, Acknowledgements to various Astronomers / Engineers, accuracy versus validity of the Astronomical algorithms used,

3.2 - Improved mathematical methods where to the best of my knowledge no equivalent algorithms have been published so far,

3.3 - Some details on programming since for instance my " Mean Elements " Program can be run in 6 different ways, with all the various computation results being monitored through various flag settings,

3.4 - and possibly more ...

Best Regards from

Antoine

*Edited: 20 Oct 2007, 6:05 a.m.*

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## HP Forum Archive 17

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### hp 9815a repair

Message #1 Posted by [frankabc](#) on 11 Oct 2007, 11:21 p.m.

This message is for Dr. Tony Duell, or any who might know the answer. Our HP 9815A calculator still is on the blink. We have an HP 5006A Signature Analyzer. Can Signature Analysis be employed to trouble-shoot our HP 9815A? Thank you, Frank Simpson, fbsimpson@pharmacy.wisc.edu

### Re: hp 9815a repair

Message #2 Posted by [Eric Smith](#) on 12 Oct 2007, 3:14 a.m.,  
in response to message #1 by frankabc

The general answer to "can a signature analyzer be used to troubleshoot an xxx machine" is yes, if and only if you have the service manual for the xxx machine, and it gives the procedure to follow and the expected signatures.

I don't recall having seen such information in the 9815 service manual, but it's been a long time since I looked at it, so it's possible that it was there.

You can get a copy of the 9815 service manual on the MoHPC DVD or CD sets.

### Re: hp 9815a repair

Message #3 Posted by [Tony Duell](#) on 12 Oct 2007, 6:01 a.m.,  
in response to message #2 by Eric Smith

Eric is right. Signature analysis is only useful if you know what the right signatures should be (and, indeed how to start/stop the signature analyser). HP never published that information for the HP9815, and nobody has tried to work it out (it's not at all easy in general).

Some other HP microprocessor-controller instruments (one of the HPIB extenders springs to mind) had a special signature-test mode that disabled the ROMs and RAMs, and forced a simple instruction onto the processor databus. This meant the processor kept doing the same thing, leading to relatively simple waveforms, ideal for signature analysis. This facility does not exist in the 9815

### Re: hp 9815a repair

Message #4 Posted by [Steve Leibson](#) on 13 Oct 2007, 1:24 p.m.,  
in response to message #1 by frankabc

Unfortunately, the introduction of the HP 9815A preceded HP's introduction of the first signature analyzer (HP 5004A) by at least two years, so it's extremely unlikely that the 9815A developers would have based their troubleshooting strategy on a yet-to-be invented diagnostic technique. More likely, the development team would have developed an in-house plug-in exercise ROM for factory and field troubleshooting. It's also not likely that HP would have gone back and added signature analysis to the 9815A code. By the introduction of signature analysis in 1977, HP was well aware that the 9815A was a dead-end product family and that the Desktop Computer Division was focusing development efforts on more expensive machines.

On the other hand, the 9815A is a relatively simple microprocessor system based on the Motorola 6800 microprocessor, so an oscilloscope may be all you need for troubleshooting.

## Re: hp 9815a repair

Message #5 Posted by [Steve Leibson](#) on 13 Oct 2007, 6:11 p.m.,  
in response to message #1 by frankabc

Dear Dr. Frank,

I've gone back and looked at your original problem 9815A description from August. I believe you have may have multiple problems with your HP 9815. First, I suspect the "auto enter" problem is caused by a leak path in the keyboard. The HP 9815A uses "oilcan" type metal strips for keyboard contacts that distort and then snap into contact with an underlying circuit board when pressed. These are called "Cricket" keys and were modeled after the handheld calculator keys. These keys were developed to save money but proved less reliable than desired. The HP 9815A and the HP 9825A/9831A were the only desktop calculators to use these keys before they were obsoleted. Desktop calculators produced before and after these two machines used more conventional keyboard keys.

The contact strips in the Cricket keys are bowed in the middle and welded to the circuit board on their two ends. One of the welds often fatigues and breaks after years of use, making a broken key. Chances are good this may have happened to your "enter" key (especially if it no longer feels crisp and has a "snap" to it), because this key was usually the most used key on the keyboard. If one end is broken, you can try to solder it (sometimes works) but it's not a long-term fix.

You are also experiencing tape problems. You are correct that the actual tape cartridges are likely to be toast after 20 years. The oxide literally falls off the mylar film in the tape cartridges after all this time due to a loss of adhesion and from differential tape tensioning caused by normal environmental thermal cycling. If so, the rain of oxide from the tape as you tried to load it is now likely coating important components within the tape drive, which also won't help matters.

I suspect you also may have experienced the "goeey capstan" tape problem. Over time, the rubber coating on the capstan in the tape drive (a pulley-like affair that drives the tape back and forth) loses elasticity and turns to something more akin to used chewing gum than rubber. These tape drives can be repaired. People have had varying DIY successes with three O rings, heat shrink, and cold shrink repairs. Larry Atherton can repair them (see my blog at <http://www.edn.com/blog/980000298/post/1180012118.html> and Atherton's eBay page at [http://search.ebay.com/\\_W0QQsassZla-tech-renewalQQhtZ-1](http://search.ebay.com/_W0QQsassZla-tech-renewalQQhtZ-1)) but the cost can be in the hundreds of dollars.

Sorry to be the bearer of such bad news. These machines were durable and lasted a very long time, but no computer is immortal and your 9815 is roughly 30 years old. At the Computer History Museum here in Mountain View, we are reluctant to even turn on old machines because the electrolytic capacitors in the power supplies tend to fail and can produce spectacular results when first powered up after a decades'-long slumber.

## Re: hp 9815a repair

Message #6 Posted by [Etienne Victoria](#) on 14 Oct 2007, 11:05 a.m.,  
in response to message #1 by frankabc

Hi,

If it can help, the goeey capstan in the 9815 looks like this:

[http://etienne.victoria.free.fr/Cj\\_mount/images/image-3.jpg](http://etienne.victoria.free.fr/Cj_mount/images/image-3.jpg)

And a procedure for repair can also be found here: [Isabelle's site](#)

Hope you succeed in repairing your Cj.

Best regards

Etienne

**Re: hp 9815a repair**

*Message #7 Posted by [frankabc](#) on 16 Oct 2007, 12:27 a.m.,  
in response to message #6 by Etienne Victoria*

You folks are great!!! Thank you!! But I am not yet ready to abandon ship!! Frank

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## HP Forum Archive 17

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### Transporting lif (lex) files from PC to hp71b

Message #1 Posted by [C. Dehnke](#) on 11 Oct 2007, 5:20 p.m.

Hi All, I own a hp71b, different ROM modules and a HP-il/RS232 interface. For using these ROMs under EMU71 (great simulator!) I want to copy them to the PC. Since some of the ROMs are protected I need a special PEEK\$ instruction which can be found e. g. in CHHU5 desal.l71. I tried different ways to transport this lif to the HP: 1. Using the approach given in EMU71 simulator with serial1. 2. Using a simple binary dump on RS232. Nothing succeeds. Any ideas? Regards, Chris

### Re: Transporting lif (lex) files from PC to hp71b

Message #2 Posted by [J-F Garnier](#) on 12 Oct 2007, 6:40 a.m.,  
in response to message #1 by [C. Dehnke](#)

I would suggest this way: copy "desal.l71" to "emu\_in.dat" in current emu71's directory, then do "COPY :DOSLINK" in Emu71. You should now have the DESAL LEX in Emu71. Check if it works correctly.

Then, use the HPIL/RS232 interface and a correct cable to connect the interface to your PC and do the right interface setup (check cable and interface setup on emu71 site). Test it by doing: "INPUT :RS232;A\$" on the HP-71B and "OUTPUT :SERIAL1;'ABC'" on Emu71 (in this order), and check A\$. If it works, try to transfer the LEX: "COPY :RS232" on HP71B side, and "COPY DESAL to :SERIAL1" on Emu71 side.

Emu71's serial support works well to download data from Emu71 to the HP-71, it may not always be reliable in the other way, although it usually works for small files. Let us know if you succeed to upload your ROM images.

J-F

### Re: Transporting lif (lex) files from PC to hp71b

Message #3 Posted by [C. Dehnke](#) on 15 Oct 2007, 1:26 a.m.,  
in response to message #2 by [J-F Garnier](#)

Hello J-F,

I tried DOSLINK. It did not work for me. After that I attached the CHHU5 lif file to the HDRIVE1. Now I had the desal.lex in the EMU71. Tried your suggestion but there was no possibility to communicate from PC to HP71. Even the copy on both machines won't run.

After this I tried a different way. I entered your ROM extraction program and managed to get the OS from the 71 (1BBBB) to the PC using a terminal program.

So the direction from HP71 seems to be ok.

After searching I found the desal.lex file as a dump for makelex. Typed it in and started to gather all ROMs I have. Now the job is almost done. Only for my HP-il module (VER 1a) I have not found the base address. Is there a trick?

Despite the success I am still interested in bidirectional communication between HP71 and PC. I use Vista, HP82164A compatible CMT interface with 256KB RAM-Disk. The manual says that it is fully compatible to the HP part. As a terminal I use a demonstration license of ZOC (Does anybody now a open source

terminal for vista?).  
Regards,  
Chris

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## HP Forum Archive 17

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### **What have the 35 sales been like? multiple choice**

Message #1 Posted by [Jim Creybohm](#) on 11 Oct 2007, 4:53 p.m.

While I don't expect a definitive answer to the question, does anyone know if the 35S has been: a) well received? b) received? c) poorly received? d) none of the above.

The reason I ask is that HP has undertaken the creation of the 35S with some risk. It is reasonable (though not preferable) that they could have stayed the safe path with the el cheapos, and never created this new calc. Perhaps this was done to "test the waters" with an eye towards those who value quality over price. I would hope that more than just those of us (whom I have heard derided as "fanboiz") would form their customer base for this newer calc.

However, if we expect, hope, pray and wish for a newly designed calculator is it not reasonable for HP to look at 35S sales as a benchmark? Perhaps the company is so unhappy with the sales that we will never see another new HP of the quality of manufacture that the 35 is. I dislike the programming paradigm, but that is another issue.

I hope the 35S is selling well, and continues to do so. Because only if it sells really well do we have a hope of ever seeing the gorgeous 45S that Gene and Jake drew up. HP should definitely hire them for future designs!

### **Re: What have the 35 sales been like? multiple choice**

Message #2 Posted by [Seth Morabito](#) on 11 Oct 2007, 5:12 p.m.,  
in response to message #1 by [Jim Creybohm](#)

I've been told that 35s sales have been quite good, but I'm afraid I don't know the hard numbers. I'm sure those are HP confidential.

I'm curious when we'll start seeing the 35s in retail channels. I haven't seen any at Fry's Electronics (a local chain that carries HP scientifics). They always seem to have a stock of 50g's and 33s's though.

### **Re: What have the 35 sales been like? multiple choice**

Message #3 Posted by [Seth Morabito](#) on 11 Oct 2007, 5:16 p.m.,  
in response to message #1 by [Jim Creybohm](#)

And for that matter, I wonder when the 33s will be discontinued. I presume HP will have to wait until the 35s is certified for the NCEES exam, but I don't know how often NCEES updates their calculator policy.

As soon as the 35s is certified for NCEES, I can't imagine that HP will keep both of them on the market. They're much too similar.

**EDIT** I answered my own question, nevermind. From the NCEES website: "Each year, NCEES will review and revise the approved calculator list and then announce the updated list by November 15."

*Edited: 11 Oct 2007, 5:21 p.m.*

### **Re: What have the 35 sales been like? multiple choice**

*Message #4 Posted by [Thomas Radtke](#) on 12 Oct 2007, 2:56 a.m.,  
in response to message #3 by Seth Morabito*

By now, I would prefer the 33s over the 35s as a 32SII replacement in mission critical applications. Of course, I still have (1) a slide rule and (2) my 32SII, so everything else can serve as toy :-).

**Re: What have the 35 sales been like? multiple choice**

*Message #5 Posted by [Bruce Bergman](#) on 12 Oct 2007, 12:32 p.m.,  
in response to message #4 by Thomas Radtke*

You know, that begs an interesting question. Does that agency review the bugs of a particular unit before considering suitability? The 33s had some bugs, but I don't believe it had as many as the 35s. Still, it was considered a viable candidate, even slightly before the Rev 2 33s came out. I'm wondering if the NCEES folks will review the 35s, consider open bugs/issues, and rule based on that.

For that matter, how many of the bugs would apply (or affect) someone taking those tests?

(I don't know any of the answers; I'm just asking from a curiosity point of view...)

thanks, bruce

**Re: What have the 35 sales been like? multiple choice**

*Message #6 Posted by [Norris](#) on 12 Oct 2007, 6:22 p.m.,  
in response to message #5 by Bruce Bergman*

Currently, there is little to no awareness of the 35S among NCEES examinees. It's still all about the 33S. This will likely change in November, when NCEES announces the approved 2008 list. I would expect the 33S to remain on the list of approved calculators for 2008, even if it is discontinued by HP, and I would expect the 35S to be added. The sales of the 35S will jump when this happens.

If you check the amazon.com pages for the two models, the 33S page is full of links to FE or PE exam review manuals. But there is not a single such link on the 35S page (yet).

I don't think NCEES does any rigorous screening for bugs on the approved calculator list. Nor do I think that the existing bugs would be likely to affect anyone on the FE or PE exams.

I used a 33S with buggy rectangular-polar conversions. I doubt it would have affected me on the exam, but I programmed alternative functions to use instead of the built-in ones.

*Edited: 12 Oct 2007, 6:25 p.m.*

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## HP Forum Archive 17

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### HP 35S gets returned

Message #1 Posted by [Ike](#) on 11 Oct 2007, 2:48 p.m.

I've had it with the HP 35s - seems like everywhere I turn there is some limitation. I've been an HP person forever and I was quite excited about the "retro" 35s but reality is a harsh mistress.

First there is the problem with building complex exponents from variables or constants - My HP-42s did this without a hitch.

Then I'm told you can't use  $X^2$  function for a complex number but you can square it manually. My HP-42s does this without a hitch.

When I try to figure out something from the manual I come across one of the poorest manuals ever written by HP.

Now I just discovered that the 35s does not have matrix capability! Say what? My HP-42s does matrix operations flawlessly.

I tried to do some binary logic on the 35s and got further unexpected results and the manual, as stated above, was totally useless in helping me. My HP-42s executes boolean logic flawlessly and intuitively.

I could go on but I think you get the idea. The 35s goes back, but the 42s gets a brand new shiny set of batteries!

In short, I am amazingly unimpressed with this effort from HP. I hate to sound like some old dude but did they have a bunch of kids with no concept of previous HP calculators design the 35s?

Cheers, old school dude. Ike

### Re: HP 35S gets returned

Message #2 Posted by [Walter B](#) on 11 Oct 2007, 3:03 p.m.,  
in response to message #1 by Ike

Well, Ike, the 35s is claimed to be a replacement of the 33s, so the comparison with the 42S is a bit unfair. IMHO the 35s is a big enhancement over the 33s. It falls short, however, compared with the 42S, as you stated.

But who knows what the future will bring? A reincarnation of the 42S may well be in a shape similar to the 35s. Also a 42S+ or 45S is well possible within this design. Please see earlier threads.

Best regards, Walter (also old school, started with a 25C :)

### Re: HP 35S gets returned

Message #3 Posted by [Ike](#) on 11 Oct 2007, 3:13 p.m.,  
in response to message #2 by Walter B

Walter,



Thanks for the help in perspective. I've never owned a 33, just my current 42s which I bought new back when wheels were square.

I've got to admit though it never even occurred to me that the HP-35s might not have a matrix mode - I thought that was derigueur for virtually all modern scientific calculators?

Thanks again. Ike.

### Re: HP 35S gets returned

Message #4 Posted by **Gene Wright** on 11 Oct 2007, 3:07 p.m.,  
in response to message #1 by Ike

Comparing the 35s to the 42s is comparing apples to oranges.

The 35s architecture and functionality are an extension of the 32s -> 32SII -> 33S line of calculators. Note which model that begins with.

The 42S of course had many more features and capabilities than the 32S did, so pretty naturally, the descendant of the 32S does not have all the features and capabilities of the 42S.

Personally, I'll take the inexpensive 35s over risking the increasingly rare 42s I have.

It might also help to check out a calculator's specifications before buying a new one. No where does HP say the 35s handles matrices...so why be surprised when you find out it does not do them? :-)

Gene

### Re: HP 35S gets returned

Message #5 Posted by **Ike** on 11 Oct 2007, 3:39 p.m.,  
in response to message #4 by Gene Wright

Quote:

It might also help to check out a calculator's specifications before buying a new one. No where does HP say the 35s handles matrices...so why be surprised when you find out it does not do them? :-)

Gene,

Like I said, it never even crossed my mind that it didn't do matrix operations so I didn't even look for that functionality - I just assumed it was there. This is a classic case of what "assuming" gets one.

Your point and those of the others is well taken, the 35s is not of 42s lineage so don't expect more than what can be expected.

Ike.

### Re: HP 35S: misleading hint about matrices support

Message #6 Posted by **Andrés C. Rodríguez** on 12 Oct 2007, 7:44 p.m.,  
in response to message #4 by Gene Wright

I always supposed that the prominent "MILE" legend on the keyboard was an acronym for "Matrix

Inversion and (simultaneous) Linear Equations". What other thing could "M.I.L.E." mean in an advanced HP scientific calc?

:~)

**Re: HP 35S: misleading hint about matrices support**

*Message #7 Posted by [Don Shepherd](#) on 12 Oct 2007, 8:23 p.m.,  
in response to message #6 by [Andrés C. Rodríguez](#)*

Well, since --> KM is on the same key, I think I'd assume kilometer to miles conversion.

**Re: HP 35S: misleading hint about matrices support**

*Message #8 Posted by [Andrés C. Rodríguez](#) on 13 Oct 2007, 8:43 a.m.,  
in response to message #7 by [Don Shepherd](#)*

Don: Please check the :~) symbol on the end of my previous post. It was kind of wordplay between "mile" and the made-up M.I.L.E acronym.

BTW, "mi" and "km" would have been more appropriate, as already noted by many people here and elsewhere.

Regards

**Re: HP 35S: misleading hint about matrices support**

*Message #9 Posted by [Don Shepherd](#) on 13 Oct 2007, 9:14 a.m.,  
in response to message #8 by [Andrés C. Rodríguez](#)*

OK, thanks Andres. After I responded, it occurred to me that you were poking fun and not serious. I think I need emoticon training!

**Re: HP 35S: misleading hint about matrices support**

*Message #10 Posted by [Walter B](#) on 13 Oct 2007, 2:10 p.m.,  
in response to message #7 by [Don Shepherd](#)*

Hi, Don,

Quote:

-----  
I'd assume kilometer to miles conversion.  
-----

You would be perfectly right if the print would say "km". With "KM", however, I'd think of "Kryptic Measure". So I can understand why Andres came to his interpretation :)

**Re: HP 35S gets returned**

*Message #11 Posted by [Seth Morabito](#) on 11 Oct 2007, 3:15 p.m.,  
in response to message #1 by [Ike](#)*

While I certainly agree that the HP42S is one of HPs finest products, I think it's unfair to compare the 35s to the 42S. The 35s is based on the 33s, which was based on the 32sII. None of these ever had the features you're describing (which the 42s DID have, of course).

That said, of course it's well within your rights to return it if it doesn't do what you need it to do! :)

### Re: HP 35S gets returned

Message #12 Posted by [Chan Tran](#) on 11 Oct 2007, 3:24 p.m.,  
in response to message #11 by Seth Morabito

I really don't expect the 35s to be able to do complex number, matrix or boolean as to original 35 didn't do those. If I want to perform those function I see no problem with a 50G. In fact thing I dislike most about the 35s that it offers way too many functions beyond those of the original 35.

### Re: HP 35S gets returned

Message #13 Posted by [Ike](#) on 11 Oct 2007, 3:27 p.m.,  
in response to message #11 by Seth Morabito

OK, I'll back off on the 35s since I seem to be examining it through 42 glasses.

However, please help me with this one:

On the 42s if I want to do the following operation in binary:

1101 AND 1011 I get 1001 just as I expect.

However, on the 35s I enter 1101 in binary mode hit enter and get 10001001101b

then I enter 1011 then LOGIC AND then I get 1000001b

What is this? The book was of no help.

Thanks. Ike

*Edited: 11 Oct 2007, 3:28 p.m.*

### Re: HP 35S gets returned

Message #14 Posted by [Alain Mellan](#) on 11 Oct 2007, 3:36 p.m.,  
in response to message #13 by Ike

Quote:

However, on the 35s I enter 1101 in binary mode hit enter and get 10001001101b

The fact that you are in binary mode doesn't say anything about the base you are entering your data in (except in hex mode it enables the 3rd row to be A-F :-)

When you hit enter, it reads 1101 as decimal, and then the display is in binary. You have to type 1101 -> BASE 8 ENTER to enter binary data.

:-(

*Edited: 11 Oct 2007, 3:36 p.m.*

### Re: HP 35S gets returned

*Message #15 Posted by [Seth Morabito](#) on 11 Oct 2007, 3:39 p.m.,  
in response to message #13 by Ike*

The 35s assumes all input is in base 10 unless it is appended with 'b' (binary), 'o' (octal), or 'h' (hex), regardless of what base the calculator is set. This is one of the more annoying aspects of the 35s.

To do your calculation on the 35s:

```
1011 [blue shift] BASE 8 ENTER      ; 8 is 'b', for binary
1101 [blue shift] BASE 8             ; 8 is 'b', again
[yellow shift] LOGIC 1                ; 1 is AND
```

Far too many keystrokes, but it does work.

### **Re: HP 35S gets returned**

*Message #16 Posted by [Ike](#) on 11 Oct 2007, 3:45 p.m.,  
in response to message #15 by Seth Morabito*

Alain and Seth,

Wow. I'm so amazed I'll say it backwards, "wow". Could they have made that any more complicated?

This is starting to get funny now, thanks so much for your help. I would have never figured that one out.

Thanks, Ike

### **Re: HP 35S gets returned**

*Message #17 Posted by [Gene Wright](#) on 11 Oct 2007, 4:20 p.m.,  
in response to message #16 by Ike*

You wouldn't have figured it out without reading the manual, where it explains how to do it.

It is also covered on the HP calculator web pages in the HP 35s learning modules.

While I am no fan of this "approach" to doing binary math, figuring things out often takes an investment of reading the manual.

Of course, buying a machine sight-unseen and specifications-unread and assuming it does things the way a 20 year old machine did ...

### **Re: HP 35S gets returned**

*Message #18 Posted by [Monte Dalrymple](#) on 11 Oct 2007, 4:58 p.m.,  
in response to message #17 by Gene Wright*

Well, assuming that it would do things intuitively... like assuming the number you are entering is in the base mode the machine is operating in... seems reasonable. Automatically assuming decimal independent of operating mode is (insert your favorite expletive). It's still my everyday machine, but boy this feature stinks.

Monte

**Re: HP 35S gets returned**

*Message #19 Posted by [Gene Wright](#) on 11 Oct 2007, 5:13 p.m.,  
in response to message #18 by Monte Dalrymple*

And, oh I agree with you there!

**Re: HP 35S gets returned**

*Message #20 Posted by [Ike](#) on 11 Oct 2007, 5:14 p.m.,  
in response to message #18 by Monte Dalrymple*

Gene,

I looked at the manual, again, and I know I still couldn't have figured it out. Apparently I'm not as smart as you.

Ike.

**Re: HP 35S gets returned**

*Message #21 Posted by [Gene Wright](#) on 11 Oct 2007, 5:32 p.m.,  
in response to message #20 by Ike*

I'm not saying you are stupid.

But the manual does indicate these things are required. Pages 11-1 through 11-3 are most helpful about the BASE issue.

For example, Bottom of page 11-1: "To enter an hexadecimal number, type the number followed by "h""

Gene: So, if I want to enter the Hex number 1F I have to place an "h" at the end of it.

Middle of page 11-3: "A number without a base sign is a decimal number"

Gene: So, entering 101 without the appropriate "b" at the end is a decimal number. Entering 1F without the "h" at the end will not be considered hexidecimal but decimal with perhaps odd looking results.

In fact, EVERY example in the entire chapter indicates keying in the base sign for the base of the entry, whether b for binary, o for octal or h for hex.

I believe working the examples in chapter 11 would have let you figure it out.

**Re: HP 35S gets returned**

*Message #22 Posted by [Ike](#) on 11 Oct 2007, 5:58 p.m.,  
in response to message #21 by Gene Wright*

Quote:

\_\_\_\_\_

I believe working the examples in chapter 11 would have let you figure it out.

\_\_\_\_\_

Gene,

I suppose you are right. You'd think if the binary annunciator was on that things would be in binary. I was just hoping for something a little more intuitively obvious.

Cheers.

### **Re: HP 35S doesn't get returned**

*Message #23 Posted by [Paul Brogger](#) on 11 Oct 2007, 6:46 p.m.,  
in response to message #22 by Ike*

Try working in hexadecimal and you'll find it's even *less* intuitive! (Even more "untuitive"?)

Digits A-F are entered, not via the keys marked "A" ... "F", but via the third row of keys, "A" being the first, "B" the second, etc. (Of course, they're marked with entirely different letters . . . )

But I'm piling on. I guess that's the feature of its design that I find truly annoying. (I suppose if I had a need for complex numbers, I'd jump on that bandwagon, too.)

All that said, I think the 35s is *really* sweet. I love programming it, and I love the printed key-faces and its clean look. Aside from the bugs, it represents several steps in a few right directions. (I'm surprised they even bothered to try!)

*Edited: 11 Oct 2007, 6:48 p.m.*

### **Re: HP 35S gets returned**

*Message #24 Posted by [Patrick Rendulic](#) on 12 Oct 2007, 1:08 a.m.,  
in response to message #1 by Ike*

Ike's point of view is interesting and I understand why he hates the HP-35s (so do I).

For years he has been happy with his wonderful HP-42s, having absolutely no need to wonder or to bother what's going on at HP.

Now in 2007 he wants a new scientific calculator and it has to be an HP, because HP calculators are great, functional and built wonderfully. So he opts for the current top level RPN calculator from HP: the HP-35s.

Unfortunately he didn't get what he expected. In the last 10 years many things have changed at HP, unfortunately in the wrong direction. So isn't his reaction more than normal?

Even the cheap Casios can do matrix calculations ...

### **Re: HP 35S gets returned**

*Message #25 Posted by [bill platt](#) on 12 Oct 2007, 8:27 a.m.,  
in response to message #24 by Patrick Rendulic*

HP moved Matrix etc into the "graphing" or "RPL" models and eliminated the "top dog" of RPN, and for good reason: The RPL models can emulate RPN models, and they have their own robust system (RPL)

capable of dealing with RPN logic, algebraic objects, programs, a multitude of datatypes, complex handling etc that far exceeds the 42s. It is a different way of thinking that an old dog (like me) can find daunting, but then again I never leaned on a calculator for linear algebra...

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## HP Forum Archive 17

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### Where to get an HP 12c prestige? for a friend...

Message #1 Posted by [Gene Wright](#) on 11 Oct 2007, 11:32 a.m.

I have one, but a friend of mine would like to track one down.

Any leads?

Gene

### Re: Where to get an HP 12c prestige? for a friend...

Message #2 Posted by [Palmer O. Hanson, Jr.](#) on 11 Oct 2007, 1:24 p.m.,  
in response to message #1 by Gene Wright

I know what a Platinum is, but what is a Prestige?

### Re: Where to get an HP 12c prestige? for a friend...

Message #3 Posted by [Matt Kernal](#) on 11 Oct 2007, 1:41 p.m.,  
in response to message #2 by Palmer O. Hanson, Jr.

Prstige = 12CP only sold in Brazil (Brasil).

### Re: Where to get an HP 12c prestige? for a friend...

Message #4 Posted by [Vieira, Luiz C. \(Brazil\)](#) on 11 Oct 2007, 1:55 p.m.,  
in response to message #3 by Matt Kernal

Essentially the same HP12C Platinun 25th. anniversary with a different look (more like light brass finishment). I do not like the reading, one needs to search for the best angle to properly read the [f]-function printings in the brass-like background.

In a sense, it is a collector piece if you already have a new Platinum or a 25th. anniversary edition.

Cheers.

Luiz (Brazil)

*Edited: 11 Oct 2007, 1:57 p.m.*

### Re: Where to get an HP 12c prestige? for a friend...

Message #5 Posted by [Gene Wright](#) on 11 Oct 2007, 1:42 p.m.,  
in response to message #2 by Palmer O. Hanson, Jr.

A special version of the 12c platinum sold only in Brazil.

Gene



[http://imagem.quebarato.com.br/photos/big/9/F/E79F\\_1.jpg](http://imagem.quebarato.com.br/photos/big/9/F/E79F_1.jpg)

**Re: Where to get an HP 12c prestige? for a friend...**

*Message #6 Posted by **Bruce Bergman** on 11 Oct 2007, 3:10 p.m.,  
in response to message #5 by Gene Wright*

Is it just me, or does it seem like putting orange lettering on a brass-colored surface seems...silly? I mean, seriously. Is the picture just a poor representation of the real machine, and it's actually easier to read? Or is it truly what it seems above?

thanks, bruce

**Re: Where to get an HP 12c prestige? for a friend...**

*Message #7 Posted by **Gene Wright** on 11 Oct 2007, 3:12 p.m.,  
in response to message #6 by Bruce Bergman*

Nope, that's the real machine alright.

And, yes, it is every bit as difficult to read the orange shift functions on that gold background as you might imagine.

Bizarre indeed!

P.S. I believe the color scheme of the Prestige predates the current HP design group. Much better results from our current group of friends than things like this guy...

**Re: Where to get an HP 12c prestige? for a friend...**

*Message #8 Posted by **Pal G.** on 11 Oct 2007, 3:57 p.m.,  
in response to message #7 by Gene Wright*

Sorry to shift gears, but why doesn't the current calc group re-label the hp 12c into an hp 15c and an hp 16c? Wouldn't that have saved millions of dollars of tooling cost which were spent on the hp 35s?

In more recent times, HP was capable of adding many functions and speed-ups to the hp 12c anniversary edition. Is the hardware inside the current hp 12c anniversary not capable of the 15c/16c maths with [a lot | a little] bit of programming?

Whenever I go to an office supply store I see hp 12c's hanging next to the other financial calcs. If me or anyone walked by and saw two other, slightly different looking landscape calcs, our hearts might stop and our wallets would fall out. Whereas the 35s kinda blends in with a few of the others (not for lack of marketing).

Regards, Pal

ps - Wasn't there a discussion here, before the hp 35s arrived, discussing what kind of investment a brand new calc, like the hp 35s, would cost, versus re-labeling and re-engineering the software of the hp 12c? I wonder who won that argument..

*Edited: 11 Oct 2007, 3:58 p.m.*

**12c to 15/16c? WAS: Where to get an HP 12c prestige? for a friend...**

Message #9 Posted by [Ren](#) on 12 Oct 2007, 11:34 a.m.,  
in response to message #8 by Pal G.

How much WOULD it take to convert the modern 12c platform to a 10c, 11c, 15c or 16c? By platform, I guess I mean the circuit board and processor, I can understand the need for button changes and bezel repaint. maybe the LCD would need new annunciators.

Could it be just a new write of firmware? (Is the modern 12c firmware masked onto the chip?)

Not that I'm downplaying how much work it would take to write firmware to emulate the either the 15c or 16c... This forum seems to have enough skilled people who'd be willing to help HP write and debug the code (if HP would only ask). (That could appreciably reduce development costs).

Ren

dona nobis pacem

**Re: 12c to 15/16c? WAS: Where to get an HP 12c prestige? for a friend...**

Message #10 Posted by [Eric Smith](#) on 12 Oct 2007, 2:27 p.m.,  
in response to message #9 by Ren

With the current 12C (not 12c Platinum) hardware, converting to a different Voyager model would require removing the IC and replacing it with a tiny daughterboard. Some people proposed using a TI MSP430 microcontroller for that; there are other possibilities such as the Atmel ATmega AVR.

There is enough room in the 12C to replace the chip with a thin PCB bearing a microcontroller in a thin package (e.g., TQFP). To attach it, it would be best if the PCB either fit entirely within the footprint of the original chip (difficult but not impossible), or if it surrounded the original footprint.

I think the current 12C still has all of the necessary display annunciators; I'm not sure whether 12c Platinum does. The bigger problem with the Platinum is CoB assembly: the bare die is bonded to the PCB and encapsulated in a blob of epoxy, so there is no practical way to replace it.

On the other hand, if you're going to make new buttons, you'll have to drill out the heat stakes and remove the PCB, so you could simply replace the whole PCB with a new one.

**Re: 12c to 15/16c? WAS: Where to get an HP 12c prestige? for a friend...**

Message #11 Posted by [DaveJ](#) on 12 Oct 2007, 6:35 p.m.,  
in response to message #10 by Eric Smith

Quote:

\_\_\_\_\_

With the current 12C (not 12c Platinum) hardware, converting to a

different Voyager model would require removing the IC and replacing it with a tiny daughterboard. Some people proposed using a TI MSP430 microcontroller for that; there are other possibilities such as the Atmel ATmega AVR.

There is enough room in the 12C to replace the chip with a thin PCB bearing a microcontroller in a thin package (e.g., TQFP). To attach it, it would be best if the PCB either fit entirely within the footprint of the original chip (difficult but not impossible), or if it surrounded the original footprint.

I think the current 12C still has all of the necessary display annunciators; I'm not sure whether 12c Platinum does. The bigger problem with the Platinum is CoB assembly: the bare die is bonded to the PCB and encapsulated in a blob of epoxy, so there is no practical way to replace it.

On the other hand, if you're going to make new buttons, you'll have to drill out the heat stakes and remove the PCB, so you could simply replace the whole PCB with a new one.

---

Making a whole new board would be the best way to go. Designing a new PCB is not hard, only a few days work. Prototype costs are small (less than a new 12C), news key would be the expensive and more aspect I suspect. How does the LCD connect to the PCB?, and will that be an issue?

I think the problem with the 12C is the very restrictive 10 digit display. That has always bugged me about the Voyager series. Doesn't leave much space when you display a negative exponent. Fine for a business calc that only deals with currency, but very annoying for engineering use. Voyager fans can flame away! :->

I don't know about the internal construction of the Voyagers, but is there room for a new LCD too perhaps?

Dave.

### **Re: 12c to 15/16c? WAS: Where to get an HP 12c prestige? for a friend...**

*Message #12 Posted by [Pal G.](#) on 12 Oct 2007, 9:23 p.m.,  
in response to message #11 by DaveJ*

Quote:

---

I think the problem with the 12C is the very restrictive 10 digit display. That has always bugged me about the Voyager series.

---

This is the reason I gave up on this thread and went back to hanging out in the "hp 45s prototype" thread :) The 12c/15c/16c display is limited. I prefer the screen on the hp 50g; it's packed with information (and history). I'm still trying to get used to the hp 35s, being relatively new to HP calcs.

I guess here I was batting for all the 15c die hards, and I wouldn't complain if I

had a 16c. I will not waste time on ebay, but I would purchase a 15c or 16c if HP started making them again.

:) Pal

*Edited: 12 Oct 2007, 10:51 p.m.*

## **Re: Where to get an HP 12c prestige? for a friend...**

*Message #13 Posted by [Vieira, Luiz C. \(Brazil\)](#) on 11 Oct 2007, 1:45 p.m.,  
in response to message #1 by Gene Wright*

Hi, Gene;

it's been more than a month (maybe more than two) we cannot find any HP12C Prestige around here. I tried São Paulo and Rio de Janeiro: nothing so far. Expectations point to a month or so from now. It seems to me the second semester caused an unexpected demand, and all available units were sold too quickly. About three weeks ago a lot of 500 Prestige was announced at local e-bay (a Brazilian equivalent e-auction service, cannot remember which one) and sold out in a matter of hours.

As soon as I have any news I'll let you know.

Best regards.

Luiz (Brazil)

*Edited: 11 Oct 2007, 1:57 p.m.*

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## HP Forum Archive 17

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**HP71B soft case**

Message #1 Posted by [John Pierce](#) on 11 Oct 2007, 10:28 a.m.

I have a problem with the case that came with an HP71B I recently bought. According to the s/n of the calculator it was made in 1988 and appears to have been stored unused for most of that time. The interior black lining of the case has a "sticky" substance which also deposited on the calculator. It easily wiped off the calculator using isopropyl alcohol. Does anyone have experience with this, or know if the interior of the case is deteriorating and what can do about it?

**Re: HP71B soft case**

Message #2 Posted by [Allen](#) on 11 Oct 2007, 12:17 p.m.,  
in response to message #1 by John Pierce

Some have said that a gentle cycle in the laundry would help (otherwise wash with warm soap and water) I have seen a hand full of cases with the same condition, both for the 71B and the 41C, but I have not tried the recommended cleaning method. Please let me know if it works.

**Re: HP71B soft case**

Message #3 Posted by [Massimo Gnerucci \(Italy\)](#) on 11 Oct 2007, 12:31 p.m.,  
in response to message #2 by Allen

It works. I tried on some 41C and 71B cases and it did magic. Just don't use hot water or they will become a little "dull".

Greetings,  
Massimo

**Re: HP71B soft case**

Message #4 Posted by [John Pierce](#) on 11 Oct 2007, 5:13 p.m.,  
in response to message #2 by Allen

Thanks to both for your responses. The soft case was washed with outstanding results and has survived with no damage at all, after thorough air drying it looks nearly normal. The only difference I notice is the naugahide(sp) appears "dried" out; I'll try Armoral. My concern now is that this condition not return and contaminate the calculator. Thanks.

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## HP Forum Archive 17

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### HHC2007 Poll Result: Bring Back the HP42S

Message #1 Posted by [Namir](#) on 10 Oct 2007, 11:19 p.m.

There was a questionnaire at the HHC2007. Once of the questions was:

If HP were to re-release a legacy calculator which model would be most appealing to you? A. HP-15C B. HP-42S C. HP-16C D. HP-71B

The poll was:

HP-15C: 11.6%

HP-42s: 51.2%

HP-16C: 18.6%

HP-71B: 18.6%

Soooo .... **HP .... PLEASE BRING BACK THE HP-42S!!!**

:-)

Namir

*Edited: 10 Oct 2007, 11:20 p.m.*

### Re: HHC2007 Poll Result: Bring Back the HP42S

Message #2 Posted by [Bruce Bergman](#) on 11 Oct 2007, 1:20 a.m.,  
in response to message #1 by Namir

Even if they just built a platform that ONLY ran Free42, and then made it work with physical keys and an LCD, \*THAT\* would be cool! :-)

thanks, bruce

### Re: HHC2007 Poll Result: Bring Back the HP42S

Message #3 Posted by [DavidB](#) on 11 Oct 2007, 1:47 a.m.,  
in response to message #1 by Namir

I've never used the 42s, so I can't comment on menus, keyboard layout, ease of use, etc. However, in terms of build quality, does it equal that of the legendary 15C?

I would tentatively vote for a new 42 series if it has the same or better build quality as the 15C and if data entry for matrix operations are more intuitive or easy. Otherwise, I want a new 15C series machine!

Cheers!

David Bailey

*Edited: 11 Oct 2007, 1:48 a.m.*

## **Re: HHC2007 Poll Result: Bring Back the HP42S**

*Message #4 Posted by [Walter B](#) on 11 Oct 2007, 2:20 a.m.,  
in response to message #1 by Namir*

Even a re-release "as was" would give it a better LCD, because you cannot get such a foggy thing anymore for production nowadays. So the most serious flaw of the 42s would be overcome "automatically"... :)

A bit more realistic (and even better): Since we know for sure the (expensive) molds for the 35s are available, I'd guess anything based on this form factor would have higher probability. Slanted keys! And a full set of cursors e.g. for matrix editing! Besides software and some printing on keys and plate (and some other stuff I've forgotten), one shall need a better LCD as well. May be borrowed from a graph calc?

Such speculations are always fun, regardless of their low chances for realisation...

## **Re: HHC2007 Poll Result: Bring Back the HP42S**

*Message #5 Posted by [Raymond Del Tondo](#) on 11 Oct 2007, 3:37 a.m.,  
in response to message #4 by Walter B*

Hi,

the proposed silverbird 17bII+ already has the correct keyboard layout, number of keys, and dot matrix LCD.

So an updated 42S would base on that machine, not the 35s;-)

Raymond

## **Re: HHC2007 Poll Result: Bring Back the HP42S**

*Message #6 Posted by [Martin Pinckney](#) on 11 Oct 2007, 11:33 a.m.,  
in response to message #4 by Walter B*

Quote:

A bit more realistic (and even better): Since we know for sure the (expensive) molds for the 35s are available, I'd guess anything based on this form factor would have higher probability. Slanted keys! And a full set of cursors e.g. for matrix editing! Besides software and some printing on keys and plate (and some other stuff I've forgotten), one shall need a better LCD as well. May be borrowed from a graph calc?

I agree that the 42s would be the most desirable model to reintroduce. Actually, I really like all the Pioneer series, and wish HP had never stopped making them... they were truly pocketable... but HP did not consult me. However, I agree that such a calculator would most likely appear in the 35s form factor.

## **Re: HHC2007 Poll Result: Bring Back the HP42S**

*Message #7 Posted by [DaveJ](#) on 11 Oct 2007, 5:31 p.m.,  
in response to message #6 by Martin Pinckney*

Quote:

I agree that the 42s would be the most desirable model to reintroduce. Actually, I really like all the Pioneer series, and wish HP had never stopped making them... they were truly pocketable... but HP did not consult me. However, I agree that such a calculator would most likely appear in the 35s form factor.

Don't be so sure. [http://www.capcampus.com/img/u/1/calculatrice\\_hp\\_fi.jpg](http://www.capcampus.com/img/u/1/calculatrice_hp_fi.jpg)

I'm sure HP didn't create the new 17BII+ look without some other future in mind. And it has everything needed for a new 42S, just needs new keytops and new software. It's essentially just a software project then.

Same thing for the 15C.

So modern hardware bases exist for both machines.

Dave.

### **Re: HHC2007 Poll Result: Bring Back the HP42S**

*Message #8 Posted by **Walter B** on 12 Oct 2007, 3:19 a.m.,  
in response to message #7 by DaveJ*

Quote:

it has everything needed for a new 42S, just needs new keytops and new software. It's essentially just a software project then.

Same thing for the 15C.

The basic decision is whether you want a resurrection or a reincarnation. For sure there are hardware platforms to let the 15C and 42S rise from death. But only "as was", i.e. skipping 25 or 20 years of progress in user interfacing. The most visible progress was in the areas of memory modules, communication and displays.

So, does the market want living dead rather than some development?

One major difference between Gene's and Jake's design of a 45s based on 42S, my proposal of a 45s based on 35s hardware, my proposals of a 15Cx and a 15Cg -- and the vintage models are the displays. IMHO a pocket calc with the old rusty LCDs will not be regarded as cool anymore. And there shall be a way to exchange data (for backup and editing on PCs) -- otherwise it won't be a useful tool, but a mere toy.

Just my 20 milli Euro.

### **Re: HHC2007 Poll Result: Bring Back the HP42S**

*Message #9 Posted by **DaveJ** on 12 Oct 2007, 4:18 a.m.,  
in response to message #8 by Walter B*

Quote:

The basic decision is whether you want a resurrection or a reincarnation. For sure there are hardware platforms to let the 15C and 42S rise from death. But only "as



was", i.e. skipping 25 or 20 years of progress in user interfacing. The most visible progress was in the areas of memory modules, communication and displays.

So, does the market want living dead rather than some development?

One major difference between Gene's and Jake's design of a 45s based on 42S, my proposal of a 45s based on 35s hardware, my proposals of a 15Cx and a 15Cg -- and the vintage models are the displays. IMHO a pocket calc with the old rusty LCDs will not be regarded as cool anymore. And there shall be a way to exchange data (for backup and editing on PCs) -- otherwise it won't be a useful tool, but a mere toy.

For a high end programmable calc, sure I/O and the other stuff are needed. However, what's wrong with a good basic non-programmable scientific calculator? That's all I and most people I know need on a daily basis. Modern one's like the Casio FX-991ES show what's possible as far as feature set go. Couple that with the HP look and feel and that's something I'd certainly want to buy. The bonus is software development is a lot easier and quicker than for a full-blown programmable calc.

Dave.

### **Re: HHC2007 Poll Result: Bring Back the HP42S**

*Message #10 Posted by [Pal G.](#) on 12 Oct 2007, 9:41 a.m.,  
in response to message #9 by [DaveJ](#)*

I think there is room for both;

- A good, basic non-programmable scientific for [\$] to compete with low ends (Casio, TI, et al).
- An EXCELLENT, PROGRAMMABLE scientific for [\$\$\$\$] for people who want quality and state-of-the-art design.

A few years ago I had outgrown my Palm IIIC, and spent \$800 on a Sony UX-50. Yes, eight hundred bucks for a PDA. The thing had wifi, bluetooth, camera, voice recorder, flip-screen, BACKLIT keyboard, memory card support, \*everything\*, and it fit in the palm of the hand. It was the coolest gadget ever. And productive too..

#### [UX-50 review](#)

In 1973, people were paying \$400 for an hp 35. That's about \$1900 today. My UX-50 was cheap compared to that, and it's practically a supercomputer compared to an hp 35.

I think HP should go for it. Produce a high end, programmable scientific, with i/o, that is smaller than an hp 50g, and I'll bet many people will buy it. If it has enough mathematical grunt, professors and researchers might be able to expense one for their work and buy one out of their own pocket for home use (hobby time).

; ) Pal

### **Re: HHC2007 Poll Result: Bring Back the HP42S**

*Message #11 Posted by [DaveJ](#) on 12 Oct 2007, 9:51 a.m.,*

*in response to message #10 by Pal G.*

Quote:

---

- An EXCELLENT, PROGRAMMABLE scientific for [\$\$\$\$] for people who want quality and state-of-the-art design. I think HP should go for it. Produce a high end, programmable scientific, with i/o, that is smaller than an hp 50g, and I'll bet many people will buy it. If it has enough mathematical grunt, professors and researchers might be able to expense one for their work and buy one out of their own pocket for home use (hobby time).

---

HP already have a top of the range programmable calc in the 50G. I don't think they will want to re-invent the wheel on that one, software and interface wise. But a new package could be in order, just like Casio repackaged the FX-9860G as the folding "slim" model. Now that was interesting...

Dave.

**Re: HHC2007 Poll Result: Bring Back the HP42S**

*Message #12 Posted by [Pal G.](#) on 12 Oct 2007, 10:40 a.m.,  
in response to message #11 by DaveJ*

Dave, my friend, I mentioned my idea for an excellent programmable should be "smaller than an hp 50g". Perhaps I should have stressed much smaller than an hp 50g.

I have an hp 50g too, and I love everything it can do, but it is TOO BIG. Gene and Richard's 45s prototype is about perfect (pocket) size.

Having an hp 50g at work makes you a huge target for GEEK/NERD comments. Having an hp 45s on the desktop would be the ultimate killer, sleeper calc.

To be honest, that is why I purchased (expensed!) an hp 35s. Sits on the desk at work instead of my hp 50g, which I used to have at work, but I leave at home so I don't get called names. Hahahahahaha..

; ) Pal

**Re: HHC2007 Poll Result: Bring Back the HP42S**

*Message #13 Posted by [Arne Halvorsen \(Norway\)](#) on 12 Oct 2007, 10:54 a.m.,  
in response to message #12 by Pal G.*

Nothing wrong being called a nerd, special if you are one... :-)

**Re: HHC2007 Poll Result: Bring Back the HP42S**

*Message #14 Posted by [DavidB](#) on 13 Oct 2007, 2:49 a.m.,  
in response to message #13 by Arne Halvorsen (Norway)*

Quote:

---

Nothing wrong being called a nerd, special if you are one... :-)

---

LOL. When I was an undergrad EE major, being called a gEEk was a positive thing, a privilege actually. It meant you were above average in math and science. I really didn't mind because my friends and I were always cracking jokes to each other. Times have changed. Being called a geek or nerd is now a negative thing, and many people in the USA are not interested in math and science.

David Bailey

### **Re: HHC2007 Poll Result: Bring Back the HP42S**

*Message #15 Posted by **DaveJ** on 12 Oct 2007, 6:42 p.m.,  
in response to message #12 by Pal G.*

Quote:

---

Dave, my friend, I mentioned my idea for an excellent programmable should be "smaller than an hp 50g". Perhaps I should have stressed \_much\_ smaller than an hp 50g.

I have an hp 50g too, and I love everything it can do, but it is TOO BIG. Gene and Richard's 45s prototype is about perfect (pocket) size.

Having an hp 50g at work makes you a huge target for GEEK/NERD comments. Having an hp 45s on the desktop would be the ultimate killer, sleeper calc.

To be honest, that is why I purchased (expensed!) an hp 35s. Sits on the desk at work instead of my hp 50g, which I used to have at work, but I leave at home so I don't get called names. Hahahahahaha..

; ) Pal

---

You should try walking around work wearing [this!](#) and see how many nerd/geek remarks you get!

On the surface it seems like it would not be much work hardware or software wise to repackage the 50G into a 45S style. And that's what I'm talking about, don't waste development effort developing a whole new top-line calc, just repackage some current ones.

Dave.

### **Re: HHC2007 Poll Result: Bring Back the HP42S**

*Message #16 Posted by **Pal G.** on 12 Oct 2007, 11:03 p.m.,  
in response to message #15 by DaveJ*

Quote:

---

You should try walking around work wearing [this!](#) and see how many nerd/geek remarks you get!

---

Temperature sensor?!? How cool is that! (Pun not intended). I have several Casios watches with that..

Will it support 24HR clock and Fahrenheit? Or is it REALLY cold where you are?

(Or is it really hot in the studio where you are taking those pics (86.36 deg)).

:) Pal

---

**Re: HHC2007 Poll Result: Bring Back the HP42S**

*Message #17 Posted by [DaveJ](#) on 13 Oct 2007, 12:05 a.m.,  
in response to message #16 by Pal G.*

Quote:

---

Temperature sensor?!? How cool is that! (Pun not intended).  
I have several Casios watches with that..

Will it support 24HR clock and Fahrenheit? Or is it  
REALLY cold where you are?

(Or is it really hot in the studio where you are taking those  
pics (86.36 deg)).

---

Yes it has selectable 12/24 hour mode. Doesn't currently support degF,  
but I guess I could add that for you rather strange US folk! :-P

For the date would you like 13-10-07, 10-13-07, 13.10.07, 10.13.07,  
13/10/07, 10/13/07, 13th Oct 07, or Oct 13th 07? :->

Dave.

---

**Re: HHC2007 Poll Result: Bring Back the HP42S**

*Message #18 Posted by [James M. Prange \(Michigan\)](#) on 13 Oct  
2007, 2:49 a.m.,  
in response to message #17 by DaveJ*

For date: 2007-10-13

Regards,  
James

---

**Re: HHC2007 Poll Result: Bring Back the HP42S**

*Message #19 Posted by [Alex L](#) on 15 Oct 2007, 1:45 p.m.,  
in response to message #18 by James M. Prange (Michigan)*

Quote:

---

For date: 2007-10-13

---

Hear, hear! It's the ISO standard. :)

**Re: HHC2007 Poll Result: Bring Back the HP42S**

*Message #20 Posted by **Eddie W. Shore** on 14 Oct 2007, 10:21 p.m.,  
in response to message #12 by Pal G.*

What if HP could make the 50G into a compact size, similar to a Casio 9960g Slim - of course with a SD slot. I think it can be done and you will not need more keys than the current 50G has.

Add: backlight (nice job, Casio), SD card, voice recorder (to record voice messages), calendar.

**Re: HHC2007 Poll Result: Bring Back the HP42S**

*Message #21 Posted by **DaveJ** on 14 Oct 2007, 10:39 p.m.,  
in response to message #20 by Eddie W. Shore*

Quote:

---

What if HP could make the 50G into a compact size, similar to a Casio 9960g Slim - of course with a SD slot. I think it can be done and you will not need more keys than the current 50G has.

Add: backlight (nice job, Casio), SD card, voice recorder (to record voice messages), calendar.

---

It can certainly be done, it's just a matter of HP making the commitment to doing it.

I wouldn't buy one, as I have no need for a calc in that market segment, but I'd imagine there are plenty who would love such a powerful machine in a much smaller form factor.

I really like the proposed 45S Pioneer size model.

I'd leave out the voice recording and calendar functionality, that crosses over into the realm of today's mobile phones. The KISS principle is a good thing.

Dave.

**Re: HHC2007 Poll Result: Bring Back the HP42S**

*Message #22 Posted by **Bruce Bergman** on 12 Oct 2007, 12:44 p.m.,  
in response to message #10 by Pal G.*

Pal, while I totally agree about wanting HP to "go for it" and I would be the first in line to buy one, I think people keep forgetting a critical law of economics here:

Value is perceived.

People have tried to translate \$400 1973 dollars into 2007 dollars and they get a \$2000

(or something) figure. Which they then use to say "back when, I actually paid \$2000 for a calculator (in today's money)..." as if to illustrate how things today would go. The flaw in that is that back in 1973 and even 1983 and 1993, computers were still huge machines with extremely high dollar amounts. Spending \$400 for a calc back then was \*perceived\* as being a big chunk of your pocket cash, but it was also \*perceived\* to be a good deal. No one today would spend \$400 for a calculator (even me!! ;) because technology is so ubiquitous. As you pointed out, we have PDA's that do \*everything\* imaginable. Heck, my GPS unit in my car has a calculator, an address book, bluetooth functionality, it speaks street names, plays music and video, and can even download traffic updates from the internet. Oh yeah, it also is a mapping GPS. ;-) And I paid something like \$250 for it.

So, while I would love to see HP come up with some high-end calcs, the demand just isn't there. There would only be a few of us calc nuts out there buying, and HP can't justify that. It can, however, justify mass-producing a mid-market unit that address a lot (if not most) of the needs of the folks out there.

I think HP once said that they'd need to sell at LEAST 25,000 of any one unit to \*break even\* on the costs, and that's assuming a fairly normal unit with no special features. I think we'd have a hard time selling 25,000 high-end units. Yeah, I'd buy two, but still...

Again, I'm not knocking your idea as a bad one -- just not an economically feasible one. ;-)

thanks, bruce

### **Re: HHC2007 Poll Result: Bring Back the HP42S**

*Message #23 Posted by [DavidB](#) on 13 Oct 2007, 3:19 a.m.,  
in response to message #22 by Bruce Bergman*

Quote:

Pal, while I totally agree about wanting HP to "go for it" and I would be the first in line to buy one, I think people keep forgetting a critical law of economics here:

Value is perceived.

People have tried to translate \$400 1973 dollars into 2007 dollars and they get a \$2000 (or something) figure. Which they then use to say "back when, I actually paid \$2000 for a calculator (in today's money)..." as if to illustrate how things today would go. The flaw in that is that back in 1973 and even 1983 and 1993, computers were still huge machines with extremely high dollar amounts. Spending \$400 for a calc back then was \*perceived\* as being a big chunk of your pocket cash, but it was also \*perceived\* to be a good deal. No one today would spend \$400 for a calculator (even me!! ;) because technology is so ubiquitous. As you pointed out, we have PDA's that do \*everything\* imaginable. Heck, my GPS unit in my car has a calculator, an address book, bluetooth functionality, it speaks street names, plays music and video, and can even download traffic updates from the internet. Oh yeah, it also is a mapping GPS. ;-) And I paid something like \$250 for it.

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demand just isn't there. There would only be a few of us calc nuts out there buying, and HP can't justify that. It can, however, justify mass-producing a mid-market unit that address a lot (if not most) of the needs of the folks out there.

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Again, I'm not knocking your idea as a bad one -- just not an economically feasible one. ;-)

thanks, bruce

---

I, too, also feel that way concerning today's market demand for high-end calculators. There appears to be good demand for graphing calculators. Why are TI calculators so much more ubiquitous than are HP calculators among students? What is TI doing right that allows them to maintain their market share? Listen, folks. If HP is to remain a competitive source of the calculator technology, they need to aggressively target the academic audience. Engineering and science students who use a particular calculator brand will most likely use the same brand in their professional careers. Agree? Although I can only assume on this forum, it appears that many HP die-hards here are working professionals?

In the near future (maybe < 12 years from now), will calculators even exist as dedicated hardware? Will we have fast, affordable, 64 GB capacity, Wi-Fi ready, fuel-cell powered, hand-held devices that can function as a calculator of your choice (via downloadable calculator software from HP, TI, Casio, Sharp, etc.) and as a portable computer? Such a device could have a touch-sensitive, OLED keyboard layout that can adjust to the specific calculator model of your choice.

Cheers!

David Bailey

*Edited: 15 Oct 2007, 2:03 a.m. after one or more responses were posted*

## **Re: HHC2007 Poll Result: Bring Back the HP42S**

*Message #24 Posted by [Egan Ford](#) on 13 Oct 2007, 1:46 p.m.,  
in response to message #23 by DavidB*

Quote:

---

Why are TI calculators so much more ubiquitous than are HP calculators among students? What is TI doing right that allows them to maintain their market share?

---

TI went after the teacher and the textbook writer. My kid's textbook is written for the TI83+ (which I think is wrong, I'm still old school and believe the books should only be written for pen and ink). Students don't care, a calculator is a tool to get homework done and take tests with. My kid has so much more to worry

about (sports, a social life, work, etc...). Learning to use a different device to get the same results is unimaginable. Teachers have always selected your textbook and now they select your calculator. Some schools even pick out your clothes.

Quote:

---

In the near future (< 12 years from now), will calculators even exist as dedicated hardware?

---

Yes, until something with better capability/cost is introduced.

What happens when testing centers go computer? You walk in, you sit at a terminal, it has the test and the tools you need. Nothing else is permitted in the testing center. No more calculators required for testing.

My kid's school when laptop this year. Every student must have a MacBook. Calculator alternatives provide better visualization. Kids in high school today that become teachers in the future may expect a computer in the classroom.

Portable, low power, high function, low cost calculators become less important as computers become more ubiquitous. Very few need the sin of a number away from their desks. The calculator on my kid's iPhone is more than enough for mobile basic math. Lets face it, when on the move, away from your desk, basic math is all the masses really need.

I firmly believe that the hand held calculator will be replaced with something else within a generation or two. Even though slide rules are still manufactured today (at least on watch bezels), my 16 year old would have no idea what you were talking about. Her kids will be equally confused about the hand held calculator.

## **Re: HHC2007 Poll Result: Bring Back the HP42S**

*Message #25 Posted by **DavidB** on 13 Oct 2007, 2:09 p.m.,  
in response to message #24 by Egan Ford*

Quote:

---

Yes, until something with better capability/cost is introduced.

What happens when testing centers go computer? You walk in, you sit at a terminal, it has the test and the tools you need. Nothing else is permitted in the testing center. No more calculators required for testing.

My kid's school when laptop this year. Every student must have a MacBook. Calculator alternatives provide better visualization. Kids in high school today that become teachers in the future may expect a computer in the classroom.

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---

Egan,

Yes, that is what I was generally trying to say. You said it much more accurately. You are correct concerning TI. They indeed have influenced many authors and publishers of math textbooks up to the undergrad university level. I edited my other posting before I realized your response. The writing may already be on the wall, and HP probably knows this. Convergence of multiple technologies onto one device is not always an easy thing to accomplish in terms of design and usability, as Dr. Donald Norman points out (concerning the paradox of technology) in his book, *The Design of Everyday Things*:

"Technology offers the potential to make life easier and more enjoyable; each new technology provides increased benefits. At the same time, added complexities arise to increase our difficulty and frustration...As technicians become more competent and an industry matures, devices become simpler, more reliable, and more powerful. But then, after the industry has stabilized, newcomers figure out how to add increased power and capability, but always at the expense of added complexity and sometimes decreased reliability...Added complexity and difficulty cannot be avoided when functions are added, but with clever design, they can be minimized." (pages 29-30, 33).

David Bailey

*Edited: 13 Oct 2007, 2:44 p.m.*

### **My name in the list: Bring Back the HP42S (N.T.)**

*Message #26 Posted by [Vieira, Luiz C. \(Brazil\)](#) on 11 Oct 2007, 2:26 a.m., in response to message #1 by Namir*

### **Re: HHC2007 Poll Result: Bring Back the HP42S**

*Message #27 Posted by [Nenad \(Croatia\)](#) on 11 Oct 2007, 3:41 a.m., in response to message #1 by Namir*

Quote:

---

**Soooo .... HP .... PLEASE BRING BACK THE HP-42S!!!**

:-)

---

... but don't forget the I/O and/or connection to PC

;) )

**Re: HHC2007 Poll Result: Bring Back the HP42S**

Message #28 Posted by [DaveJ](#) on 11 Oct 2007, 5:04 a.m.,  
in response to message #27 by Nenad (Croatia)

Or at least use FLASH/EEPROM memory for program storage.

Dave.

**Re: HHC2007 Poll Result: Bring Back the HP42S**

Message #29 Posted by [Eddie W. Shore](#) on 12 Oct 2007, 12:17 a.m.,  
in response to message #28 by DaveJ

And SD connection!

A for some more wishful thinking: program capability between 42S and 50g (it will take a software update).

**Re: HHC2007 Poll Result: Bring Back the HP42S**

Message #30 Posted by [Eddie W. Shore](#) on 12 Oct 2007, 12:17 a.m.,  
in response to message #28 by DaveJ

And a SD card port!

Also the ability to run 42s programs on the 50g.

**Re: HHC2007 Poll Result: Bring Back the HP42S**

Message #31 Posted by [Antonio Maschio \(Italy\)](#) on 11 Oct 2007, 5:07 a.m.,  
in response to message #1 by Namir

Well, I've never owned or used a HP-42S, but basing on what is exposed on the MoHPC pages and on the faith and enthusiasm that characterize HP-42S users,

**add me to the list!**

-- Antonio

**No, please don't**

Message #32 Posted by [Maximilian Hohmann](#) on 11 Oct 2007, 5:30 a.m.,  
in response to message #1 by Namir

Hello!

Quote:

Soooo .... **HP .... PLEASE BRING BACK THE HP-42S!!!**

Unfortunately, I was not able to attend this conference (hopefully, the next one will be held at HP's German headquarters so that I can go there by bicycle :- ) and therefore couldn't take part in this poll, but I would have ticked the box: "Don't bring back any of these calculators".

They are fine examples of the technology of their time and of substantial value to collectors and addicts, maybe even useful to do actual work for a handful of people (worldwide! most of them are gathered on this website anyway...).

But now we live in the year 2007 and technology, ergonomics, taste, style, and most important of all, the role of the pocket calculator itself have changed considerably. The new 35s is an important first step to bridge the gap between then and now, but now is still far away from the the 35s and even further from the models listed in this poll.

I don't want to start a new discussion about what a 2007 calculator model should look like, but for me certainly it does not even remotely resemble the good old 42S!

Greetings, Max

### **Re: No, please don't**

*Message #33 Posted by **DaveJ** on 11 Oct 2007, 7:21 a.m.,  
in response to message #32 by Maximilian Hohmann*

Quote:

---

But now we live in the year 2007 and technology, ergonomics, taste, style, and most important of all, the role of the pocket calculator itself have changed considerably. The new 35s is an important first step to bridge the gap between then and now, but now is still far away from the the 35s and even further from the models listed in this poll.

---

An interesting question. So what would others want to see in a *\*modern\** design pocket calculator?

I for one want to see a *\*real\** pocket calculator, one I can actually fit in my pocket, not Bill Hewlett's insanely big pocket.

I want a calc that has a nice rich high contrast 7 segment display. Dot matrix can never be as good, and it's not needed on a basic calc. No screen glare please.

Dual line display would be nice.

I want lots of useful dedicated keys with good engineering and base conversion functionality. Ditch the programming keys please.

Keystroke programming is cool, you can remember how to use it after 6 months, so add that.

I want a battery life of at least a couple of years, and preferably dual solar battery power.

I want a *\*thin\** calculator.

I want something with lots of rubber area on the bottom so it doesn't slide around on any surface.

I want labels I can read.

What do others want?

Dave.

**Re: No, please don't**

Message #34 Posted by **Thomas Radtke** on 11 Oct 2007, 8:00 a.m.,  
in response to message #33 by DaveJ

Quote:

What do others want?

A 35SII. Bugs out, P<>R conversions in. That's all I'm asking for. Maybe a better display, too :^).

**Re: No, please don't**

Message #35 Posted by **DaveJ** on 11 Oct 2007, 8:36 a.m.,  
in response to message #34 by Thomas Radtke

Quote:

A 35SII. Bugs out, P<>R conversions in. That's all I'm asking for. Maybe a better display, too :^).

Come on, this is the brass ring, shoot for something more than that! :->

Dave.

**Re: No, please don't**

Message #36 Posted by **Maximilian Hohmann** on 11 Oct 2007, 9:17 a.m.,  
in response to message #33 by DaveJ

Hello!

Quote:

I for one want to see a \*real\* pocket calculator, one I can actually fit in my pocket, not Bill Hewlett's insanely big pocket.

Definitely! My favourite calculators are all very small, like the HP-25 or the Aristo M27 or the cutest of all: the CalcuPen.

Quote:

I want a calc that has a nice rich high contrast 7 segment display. Dot matrix can never be as good, and it's not needed on a basic calc. No screen glare please.

My ideal modern calculator would be luminous, both the keyboard and the display. When the pixels are small enough, it does not matter much if it is dot-matrix or 7 segment. Dot matrix would enable alpha-prompts that are very useful when executing programs.

Quote:

Dual line display would be nice.

---

With a big enough fine-pitched dot-matrix-display, any desired number of lines could be realised. Even an "infinite", scrolling display area.

Quote:

---

I want lots of useful dedicated keys with good engineering and base conversion functionality. Ditch the programming keys please.

---

I would rather wish to see user-defineable keys like the ones on modern touch-screen universal remote controls, that can be assigned to functions or programs via the PC (and Macintosh, please!). Programming could be done entirely on the host computer, I see absolutely no need to do it on the pocket computer.

Quote:

---

Keystroke programming is cool, you can remember how to use it after 6 months, so add that.

---

I don't, so keystroke programming is not useful at all to me. The last time when I really used keystroke programming was in the early eighties, but only because I had no alternative then.

Quote:

---

I want a battery life of at least a couple of years, and preferably dual solar battery power.

---

I would have no problem with rechargeable batteries either, maybe coupled to a solar cell so that no external charger is required.

Quote:

---

I want something with lots of rubber area on the bottom so it doesn't slide around on any surface.

---

Definetly! And not too lightweight either.

Quote:

---

I want labels I can read.

---

Yes. Luminous ones :-)

I have not touched an iPhone yet, but I could imagine that it would form a good basis for the "calculator of my dreams". A little bit larger to offer more space for "virtual" keys and more display area. And the whole thing fully configurable via computer. Able to store more than one configuration, so that it can mimic a four-banger with large keys and big 7-segment display today and a dedicated computer for some problem I have to solve at work tomorrow.

Greetings, Max

**Re: No, please don't**

Message #37 Posted by **Walter B** on 11 Oct 2007, 3:28 p.m.,  
in response to message #36 by Maximilian Hohmann

Hallo Max,

Quote:

---

Quote:

---

I for one want to see a \*real\* pocket calculator, one I can actually fit in my pocket, not Bill Hewlett's insanely big pocket.

---

Definitely! My favourite calculators are all very small, like the HP-25 ...

---

I have fond memories to this particular calc, but this never was a shirt pocket calc (not for long, at least ;).

However, I agree on almost everything you said about displays (I just prefer long battery life over luminosity).

Quote:

---

I would rather wish to see user-defineable keys like the ones on modern touch-screen universal remote controls, that can be assigned to functions or programs via the PC (and Macintosh, please!).

---

This collides head on with the request of many members for tactile feedback. You may have keys with programmable luminous labels (see a discussion here some months ago) on big keyboards, but I don't expect something in the size we need it and with next-to-zero power consumption in the next 5 years.

Just my 20 milli Euro again. Regards, Walter

**Re: No, please don't**

Message #38 Posted by **Maximilian Hohmann** on 12 Oct 2007, 3:00 a.m.,  
in response to message #37 by Walter B

Good morning!

Quote:

---

This collides head on with the request of many members for tactile feedback. You may have keys with programmable luminous labels (see a discussion here some months ago) on big keyboards, but I don't expect something in the size we need it and with next-to-zero power consumption in the next 5 years.

---

Tactile feedback: Well, having been forced (by HPs pricing policy of the seventies and eighties) to fight my way through school and univerty with Ti calculators, I was never spoilt by tactile feedback. Even if ou can feel the keyclick on a Ti-59, you always have to keep your eyes on the display, because you can't be sure if the figure that you keyed in appeares one time, zero times

or five times in the display. So I am accustomed to "visible feedback" when using a calculator anyway.

But I just remembered the way, early computer terminals simulated the behaviour of typewriters to make it easier for typists to convert to computers: There was a "clicker device" somewhere in the keyboard housing in which a solenoid pulled a piece of iron against a stop every time a keypress was detected. Not only did this generate the sound of a typewriter, but there was a little shake too, that you could feel through the keyboard. It should easily be possible to integrate a similar device (on a smaller scale and with much less noise!) into an iPhone-like calculator. (Did I just miss the chance to become a millionaire by not applying for a patent? ;-)

Regarding power consumption: Modern mobile phones with backlit colour displays last for about one week between recharges. For me, it would not be a problem to connect it to my desktop computer via USB for recharging once in a while. And if it uses standard batteries (like the rechargeable AAA cells of an HP-48 or Ti Voyage 200) it is assured that there will still be replacement batteries available in ten or twenty years.

But now, back to work ... (no calculator required, computers are doing all the work)

Greetings, Max

Addition: I just saw this on Apple's website, it was only released yesterday, the RPN-Calculator that runs on the iPhone and the new iPod touch:

<http://www.apple.com/webapps/calculate/belfryscicalc.html>

So even if I don't like to hear music via earphones, I think my next purchase might be one of these devices...

*Edited: 12 Oct 2007, 4:48 a.m.*

### **I want an HP45S...**

*Message #39 Posted by [Vieira, Luiz C. \(Brazil\)](#) on 11 Oct 2007, 2:17 p.m.,  
in response to message #33 by DaveJ*

..., a celebration of the HP45, being a revamped HP42 with 32KRAM an I/O capable. It might look like the HP35S, no problem, just let the girl talk to the world, handle matrices and show readable, smart ALPHA messages. Quality? I remember reading about this word and its meaning, say, 25 years ago...

Luiz (Brazil)

*Edited: 11 Oct 2007, 2:22 p.m.*

### **Re: I want an HP45S...**

*Message #40 Posted by [Gene Wright](#) on 11 Oct 2007, 3:10 p.m.,  
in response to message #39 by Vieira, Luiz C. (Brazil)*

You mean something like this? Jake Schwartz and I worked this up a good while ago. Presented this (along with some others) at HHC2007.

[http://home.comcast.net/~genela/HP45S\\_Pioneer\\_V30.jpg](http://home.comcast.net/~genela/HP45S_Pioneer_V30.jpg)

### **Re: I want an HP45S...**

*Message #41 Posted by [Bruce Bergman](#) on 11 Oct 2007, 3:17 p.m.,*

*in response to message #40 by Gene Wright*

YES!

(drool, drool...)

**I WANT ONE OF THESE!!!**

*Message #42 Posted by **Vieira, Luiz C. (Brazil)** on 11 Oct 2007, 3:29 p.m.,  
in response to message #40 by Gene Wright*

HP, what are you waiting for? Purge the @!\*%\$%#@# HP9G out and add this beauty as a 'low-end' graphics, for God's sake!

Where do I sign? Where do I sign?

Cheers!

Luiz (Brazil)

**Re: I want an HP45S...**

*Message #43 Posted by **Walter B** on 11 Oct 2007, 3:34 p.m.,  
in response to message #40 by Gene Wright*

Hi, Gene,

love to see a new design! I'm really looking forward to the conference DVD to see more -- and compare.

Best regards, Walter

**Re: I want an HP45S...**

*Message #44 Posted by **Gene Wright** on 11 Oct 2007, 4:15 p.m.,  
in response to message #43 by Walter B*

Thanks. These were done over 18 months ago along with a high end business model.

The screen is the exact HP 48GII screen 131x64 pixels high.

The keys are the exact 12c keys.

The size of this model, believe it or not, is the exact 42S calculator size. It is a pioneer model.

Yes, it all fits. We checked.

Was fun.

**Re: I want an HP45S...**

*Message #45 Posted by **Ren** on 12 Oct 2007, 11:47 a.m.,  
in response to message #44 by Gene Wright*

Quote:

\_\_\_\_\_



The keys are the exact 12c keys.

---

Gene,

I didn't see any "paint overs" on any of the keys!

B^)

P.s. do you recall what model of calculator you traded a 16c to me ~10 years ago? (you may answer by direct email, I'm just curious)

Ren

dona nobis pacem

**Re: I want an HP45S...Or two!**

*Message #46 Posted by [Jim Creybohm](#) on 11 Oct 2007, 4:36 p.m.,  
in response to message #40 by Gene Wright*

Yepper. I would like two of the 45s please. With a real manual. The same size as a 42?

Maybe I'll take four.

**Re: I want an HP45S...Or two!**

*Message #47 Posted by [Gene Wright](#) on 11 Oct 2007, 4:54 p.m.,  
in response to message #46 by Jim Creybohm*

Same size was the plan.

Note that the machine itself would be the same size as the 42s...same width, height, thickness.

That did not require any compromises to the keys - they are the current 12c keys.

It also did not require changing the screen - same 131x64 screen so available for the 48GII.

I'm pretty sure you guys can figure out the menu functionality from the key legends.

**Re: I want an HP45S...Or two!**

*Message #48 Posted by [Paul Brogger](#) on 11 Oct 2007, 6:56 p.m.,  
in response to message #47 by Gene Wright*

"TRIANGLES"? What's that one do?

And putting "O" (or any letter) on the Enter key is going to be problematic, isn't it? (I'm being picky . . . )

*Edited: 11 Oct 2007, 6:58 p.m.*

**Re: I want an HP45S...Or two!**

*Message #49 Posted by [sjthomas](#) on 11 Oct 2007, 6:59 p.m.,  
in response to message #48 by Paul Brogger*

Quote:

"TRIANGLES"? What's that one do?

Given some combination of length of side(s) and measure of angle(s), find the others. It's a pet problem of Richard Nelson's.

**Re: I want an HP45S...**

*Message #50 Posted by [Gerry Schultz](#) on 11 Oct 2007, 5:13 p.m.,  
in response to message #40 by Gene Wright*

Gene:

I love it and would buy one in a New York minute. In looking at the display, where are the keys to select the soft menus like on a 48GX?

Great Concept Calc, Gerry

**Re: I want an HP45S...**

*Message #51 Posted by [Gene Wright](#) on 11 Oct 2007, 5:33 p.m.,  
in response to message #50 by Gerry Schultz*

The top row of keys are used to select the soft menu keys, just like on the 42s. It does not "waste" a row of keys that are blank like the 48/49/50 series do.

And, that's merely a design tradeoff.

**Re: I want an HP45S...**

*Message #52 Posted by [Patrick Rendulic](#) on 12 Oct 2007, 1:12 a.m.,  
in response to message #40 by Gene Wright*

HP wake UP !!!!

**Re: I want an HP45S...**

*Message #53 Posted by [Eddie W. Shore](#) on 14 Oct 2007, 10:23 p.m.,  
in response to message #40 by Gene Wright*

Please put me down for one please.... Your design is great.

**How about an HP 80B business model?**

*Message #54 Posted by [Gene Wright](#) on 11 Oct 2007, 10:12 p.m.,  
in response to message #39 by Vieira, Luiz C. (Brazil)*

This was the other model Jake and I worked on. This model was built with alpha handling like the 42s rather than a character per key.

Questions? :-) We really enjoyed working on these.

Attendees at HHC2007 got to see these earlier.

<http://home.comcast.net/~genela/HP80B.jpg>

**Re: How about an HP 80B business model?**

*Message #55 Posted by **Katie Wasserman** on 11 Oct 2007, 11:14 p.m.,  
in response to message #54 by Gene Wright*

Hyperbolic functions on a business calculator, you're going to scare off the wall street crowd :)  
I'd change that to some basic bond metrics: duration, etc..

**Re: How about an HP 80B business model?**

*Message #56 Posted by **Paul Dale** on 11 Oct 2007, 11:25 p.m.,  
in response to message #55 by Katie Wasserman*

Maybe HYPER being up a menu to let you change the machine's speed.

Defaults to 12c slowness but can be tweaked up for those who trust the results when they appear faster ;-)

- Pauli

**Re: How about an HP 80B business model?**

*Message #57 Posted by **Ren** on 12 Oct 2007, 11:53 a.m.,  
in response to message #55 by Katie Wasserman*

Quote:

Hyperbolic functions on a business calculator, you're going to scare off the wall street crowd :) I'd change that to some basic bond metrics: duration, etc..

Now, now, Katie,

HYPE is as much a part of Wall Street as...

as...

BMW!

The R at the end makes it a verb (action/executable)!

B^)

Ren

dona nobis pacem

**Re: How about an HP 80B business model?**

*Message #58 Posted by **Peter A. Gebhardt** on 12 Oct 2007, 7:20 p.m.,  
in response to message #55 by Katie Wasserman*

Although I respect very much the experienced judgements of "Lady" Katie ;-)- some scientific functions or statistical distributions like Trigonometrics and the Gamma Distribution family - and in addition to MIRR the real FMRR (refined from Coffin through Ed Keefe and McGuire) should be included via ML implementation.

Otherwise: Great work!!!

Best regards

Peter A. Gebhardt

### **Re: No, please don't**

*Message #59 Posted by [Paul Dale](#) on 11 Oct 2007, 7:48 p.m.,  
in response to message #33 by DaveJ*

My criteria list would include (in no particular order):

- Pocket sized.
- Not too heavy (but not as light as the current 35s which feel flimsy because of that).
- Alphanumeric display - don't care if it is dot matrix or 16 segment.
- Keystroke programming. Local labels definitely. Named programs optional - 26 letter labels is enough for most purposes.
- Programming support for alpha operations at least for display purposes if not input as well.
- Accurate operations. The 15c guaranteed +/-1 in the final digit for most operations and correct rounding for the basics. That is the *minimum* acceptable.
- Some minimal form of IO via serial/USB/ethernet/whatever.
- Memory: 32kb - 64kb of non-volatile RAM seems to be a sweet spot. More will be needed for internal operation but that can be volatile for all I care.
- Walter does the keyboard and function layout :-)

Optionals but still nice:

- Real time clock.
- Display back light.

Things I don't much care about:

- Graphics and plotting.
- CAS.
- Complex numbers.
- Matricies and arrays.

- Pauli

### **Re: No, please don't**

*Message #60 Posted by [Seth Morabito](#) on 12 Oct 2007, 12:26 a.m.,  
in response to message #33 by DaveJ*

I want it to hover, have a 100 year battery life, and bring me a pony!

;) )

**Re: No, please don't**

*Message #61 Posted by **Ren** on 12 Oct 2007, 11:57 a.m.,  
in response to message #60 by Seth Morabito*

Quote:

\_\_\_\_\_

I want it to hover, have a 100 year battery life, and bring me a pony!

;) \_\_\_\_\_

Shetland? Welsh? POA?

Latin American countries will have a burro option.

**Re: No, please don't**

*Message #62 Posted by **brian healy** on 13 Oct 2007, 1:45 a.m.,  
in response to message #33 by DaveJ*

I agree with most of what you say, except about ditching the proگرامing keys. I think the complex number key should be ditched, and all conversion functions should be shifted. I also disagree with it needing to fit in a shirt pocket. If you bend over with it in there it's going to fall out. In 12 years of engineering I have never once seen anyone walk around with a calculator in their shirt pocket. One more thing, STO should not be shifted.

**Re: No, please don't**

*Message #63 Posted by **DaveJ** on 13 Oct 2007, 4:28 a.m.,  
in response to message #62 by brian healy*

Quote:

\_\_\_\_\_

I agree with most of what you say, except about ditching the proگرامing keys. I think the complex number key should be ditched, and all conversion functions should be shifted. I also disagree with it needing to fit in a shirt pocket. If you bend over with it in there it's going to fall out. In 12 years of engineering I have never once seen anyone walk around with a calculator in their shirt pocket. One more thing, STO should not be shifted.

\_\_\_\_\_

It's not just to fit in your shirt pocket, smaller is better in many ways. Takes up less space on a crowded desk or lab bench. Fits better balanced on a catalog or book while doing calculations (and allows you to see more of the page). Less room in your bag or lab coat pocket. Less unwieldy when held in your hand for calculations etc

There is no reason to have "dead space" on the front panel of any calculator, anything else is poor or lazy design. Just keys and LCD please.

Dave.

**HP 42sII please!(Re: HHC2007 Poll Result: Bring Back the HP42S)**

*Message #64 Posted by **Lyuka** on 11 Oct 2007, 5:36 a.m.,  
in response to message #1 by Namir*

HP 42SII please!

BTW I just upgraded my hp 42s to 32KB of memory yesterday.  
(I found it's getting rather difficult to obtain classic 62256 SRAM in a SOIC28, so I did it.)  
Some disassembling photo is [here](#).

**Re: HP 42sII please!(Re: HHC2007 Poll Result: Bring Back the HP42S)**

*Message #65 Posted by [Patrick Rendulic](#) on 11 Oct 2007, 7:26 a.m.,  
in response to message #64 by Lyuka*

I would really like a new release of the HP42s.

I would add the following improvements: - I/O for backing up programs and controlling other devices, infrared for the printer.

- more memory (maybe even the capability to copy HP41 ROMS in a dedicated memory space)
- ALPHA keys à la HP41. I don't like the current way to enter text
- a real time clock with time functions

If the new release runs on an emulated system, there must be no emulating issues and no drawback in speed. In comparison to the HP35s, the screen cover must be scratch-proof and anti-reflective.

And voilà, the perfect RPN calculator I am looking for!

**Re: HP 42sII please!(Re: HHC2007 Poll Result: Bring Back the HP42S)**

*Message #66 Posted by [Stefan Vorkoetter](#) on 11 Oct 2007, 11:31 a.m.,  
in response to message #64 by Lyuka*

Where did you get the new chip?

**A possible source for the 32KRAM chip...**

*Message #67 Posted by [Vieira, Luiz C. \(Brazil\)](#) on 12 Oct 2007, 4:41 p.m.,  
in response to message #66 by Stefan Vorkoetter*

Hi;

old, crashed, destroyed and definitely unable to be rebuilt HP48G units. Their 32KRAM chips are good enough. I used at least three of them to upgrade three HP42S.

I have two HP42S with 32KRAM chips removed from an old PC sound card (not a Sound Blaster, need to find the pictures and references, though...). I remember I measured the power consumption after replacing the chips and did not find significant addition (my multimeter was not accurate enough...). Anyway, batteries lasted so too long that I believe the RAM chips were low-power.

Cheers.

Luiz (Brazil)

**Re: HP 42sII please!(Re: HHC2007 Poll Result: Bring Back the HP42S)**

*Message #68 Posted by [Matt Kernal](#) on 11 Oct 2007, 1:56 p.m.,*

*in response to message #64 by Lyuka*

Nice Job!

Along with Stefan's question (where to find the 32K chip), I'd like to know how you keep the top and bottom case halves together? That question is for you too Paul :-)

Keeping the case securely closed (after the modification) is the main reason I haven't upgraded the memory in mine (yet).

Can you please comment on the two oscilloscope photos as well?

Again, nice job.

Matt

**Re: HP 42sII please!(Re: HHC2007 Poll Result: Bring Back the HP42S)**

*Message #69 Posted by **Lyuka** on 12 Oct 2007, 9:44 a.m.,  
in response to message #68 by Matt Kernal*

I got the chip from RS components.  
<http://www.rswww.co.jp/> (JAPAN)  
<http://www.rs-components.com/> (GLOBAL)

Quote:

\_\_\_\_\_

how you keep the top and bottom case halves together?

\_\_\_\_\_

It seems the other (rather slim) pins have enough friction to hold the top and bottom together so far, and won't be a problem for daily use.

Quote:

\_\_\_\_\_

Can you please comment on the two oscilloscope photos as well?

\_\_\_\_\_

Appendix 1:

The hp42s has a crystal resonator and I want to know its frequency. There is a testpoint next to the crystal that seems to be a buffered output of the clock oscillator. The photo is the waveform of that point showing its frequency of 32.78kHz (actually 32.768kHz measured by a frequency counter).

Appendix 2: (the photo is updated)

Taking a look on the PCB, I feel it lacks some bypassing capacitor for stable operation, so I monitored the waveform of the appropriate points by an oscilloscope. And I found that the Vdd noise (while test program execution) is acceptable and the RAM\_WR waveform is not so bad.

Regards, Lyuka

**Re: HP 42sII please!(Re: HHC2007 Poll Result: Bring Back the HP42S)**

*Message #70 Posted by **Matt Kernal** on 12 Oct 2007, 11:57 a.m.,*

*in response to message #69 by Lyuka*

Thank you for the additional information Lyuka. Much appreciated.

Matt

### **Admission: I voted for the 71B**

*Message #71 Posted by **Bruce Bergman** on 11 Oct 2007, 3:15 p.m.,  
in response to message #1 by Namir*

Okay, I'll admit it. My brain told me to vote for the 42s (and honestly, I would be ecstatic if a new one came out), but I followed my heart and wrote down the 71B.

I did this mainly because of the postings I've read here from Valentin and others that have impressed the heck out of me in terms of what that calc could do. I guess I never gave it any attention when it first came out, thinking it was a poor version of a small computer. Yet when I see some of the programs that have been written for it, the ability it has to deal with external I/O (I'm an embedded systems guy, so I like to be able to control and evaluate I/O), the precision of the calculator, the Forth ROM, etc., well, I'm VERY impressed.

Granted, it could be replaced by a couple of good emulators on a small tablet or OQO or something, but there's still something pleasing about holding something like that. When I was fondling one at HHC2007, marveling at the crystal clear display, etc., I was more smitten.

I may have to go out and buy one on eBay someday. I don't think HP will ever make a clone of the 71B (or, it's probably more accurate to say that I could see HP making a 42s clone before a 71B clone), but it sure would be nice to have one.

(sigh)

thanks, bruce

---

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## HP Forum Archive 17

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### **HHC2007 Conference Final Report and Questionnaire Results Posted**

Message #1 Posted by **Jake Schwartz** on 10 Oct 2007, 9:11 p.m.

Hi,

For those interested in a summary of our very successful HHC2007 HP Conference at Hewlett-Packard's facility in San Diego, check <http://holyjoe.net/hhc2007/> for links to the 31-page final conference report as well as the tally of an attendee questionnaire which was distributed. Also from there is the link on how to obtain a copy of the 16-month HHC2007 HP Calculator Calendar which was distributed to all attendees. Hopefully in a month or so, the videotape from the conference will also be available. Stay tuned.

Perhaps I'll see you in London at HPCC's 25th-Anniversary meeting this weekend...

Thanks,

Jake Schwartz

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## HP Forum Archive 17

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### (deleted post)

Message #1 Posted by [deleted](#) on 10 Oct 2007, 9:52 a.m.

This Message was deleted. This empty message preserves the threading when a post with followup(s) is deleted. If all followups have been removed, the original poster may delete this post again to make this placeholder disappear.

### Re: HP 35s problem with complex numbers.

Message #2 Posted by [Gene Wright](#) on 10 Oct 2007, 2:42 p.m.,  
in response to message #1 by [deleted](#)

How are you trying to enter such a complex number?

I know you can press 3 i 4 and get that complex number on the stack, but what are you pressing to create a complex number using a variable or a constant?

Give us a specific example of what keys you're pressing (or what equation you're trying) and that will help.

### Re: HP 35s problem with complex numbers.

Message #3 Posted by [Ike](#) on 10 Oct 2007, 3:05 p.m.,  
in response to message #2 by [Gene Wright](#)

I wanted to try Euler's equation:

$$e^{i(\pi)} + 1 = 0$$

For the exponent if I enter "0 i 3.14" where I manually enter an estimate of pi, I'm OK

If I enter "0 i shift pi" I am left with pi in the real portion of the number with no imaginary component and who know what in rectangular form in the Y register above it. This is very perplexing.

So I tried storing pi in the "a" register and tried: "0 i RCL a" and I get the same kind of nonsensical result. It sure is frustrating.

*Edited: 10 Oct 2007, 3:07 p.m.*

### Re: HP 35s problem with complex numbers.

Message #4 Posted by [Gene Wright](#) on 10 Oct 2007, 3:48 p.m.,  
in response to message #3 by [Ike](#)

The reason is because you cannot build complex numbers from values in registers or constants in the manner you are trying.

You can see this in a program.

In program mode, press EQN to turn on equation mode and type:

RCL B then i then 2

Now leave program mode and single-step that program line. You get a syntax error.

Try the approach shown in the next posting.

*Edited: 10 Oct 2007, 4:07 p.m. after one or more responses were posted*

**Re: HP 35s problem with complex numbers.**

*Message #5 Posted by Ike on 10 Oct 2007, 4:06 p.m.,  
in response to message #4 by Gene Wright*

Gene,

Thanks for your thoughtful response even though it isn't what I wanted to hear! It's too bad a complex variable cannot be constructed from constants or a register - why should the calculator care where the number comes from?

Oh well, on to the next problem like world peace or some such thing.

Cheers, Ike

**Re: HP 35s problem with complex numbers.**

*Message #6 Posted by Egan Ford on 10 Oct 2007, 3:58 p.m.,  
in response to message #3 by Ike*

Try:

```
PI
i
*
e^x
1
+
```

With a reg:

```
i
RCL* P
e^x
1
+
```

**Re: HP 35s problem with complex numbers.**

*Message #7 Posted by Ike on 10 Oct 2007, 4:10 p.m.,  
in response to message #6 by Egan Ford*

Egan,

I will try your steps when I get home for there is where I left my HP35s. I will certainly let you know the outcome unless someone has a 35s with them now and can try your procedure.

Thanks, Ike

**Re: HP 35s problem with complex numbers.**

Message #8 Posted by **Karl Schneider** on 10 Oct 2007, 10:31 p.m.,  
in response to message #3 by Ike

Ike --

Egan Ford's previous response is correct. The reason for the seemingly-inconsistent behavior is that hitting the pi key terminates data entry and pushes pi onto the stack. A previously-entered "i" then becomes a complete number, represented as "0i1" (0 + i1). Multiplying pi by "i" in either order produces the value you wanted.

I have made detailed suggestions to HP's calculator team for improving the complex-number functionality, and will continue to follow up on them. Help may be on the way, if you're willing to wait a number of months.

-- KS

**Re: HP 35s problem with complex numbers.**

Message #9 Posted by **Ike** on 10 Oct 2007, 11:28 p.m.,  
in response to message #8 by Karl Schneider

Karl,

Yes, Eagan is correct especially in the first solution. I had a bit more problem with the second but I'm not going to worry about it anymore. The bottom line is that now with the help from you folks I have something I can live with - thanks!

Now get those HP folks in line!

Cheers! Ike

**Re: HP 35s problem with complex numbers.**

Message #10 Posted by **Egan Ford** on 10 Oct 2007, 11:38 p.m.,  
in response to message #9 by Ike

For the 2nd:

1. Put a value in a register, e.g. A
2. Then type:

```
i  
RCL* A   i.e. RCL, then x (times), then A, aka recall arithmetic.
```

Or to make it easy:

```
i  
RCL A  
*
```

Both will build you a complex number from registers. For A+iB:

```
number  
STO A  
number  
STO B
```

```
i  
RCL* B  
RCL+ A
```

OR

i  
RCL B  
\*  
RCL A  
+

**Re: HP 35s problem with complex numbers.**

*Message #11 Posted by [Trent Moseley](#) on 11 Oct 2007, 10:06 p.m.,  
in response to message #8 by Karl Schneider*

Karl - I'm numb with this stuff. Having solved all complex problems with the 42s why did HP need to reinvent the wheel?

tm

**Re: HP 35s problem with complex numbers.**

*Message #12 Posted by [DaveJ](#) on 11 Oct 2007, 10:54 p.m.,  
in response to message #11 by Trent Moseley*

Quote:

\_\_\_\_\_

Karl - I'm numb with this stuff. Having solved all complex problems with the 42s why did HP need to reinvent the wheel?

\_\_\_\_\_

Two reasons: 1) Companies are ruled by marketing. 2) There is no such thing as one tool for every job.

Dave.

**Re: HP 35s problem with complex numbers.**

*Message #13 Posted by [Trent Moseley](#) on 11 Oct 2007, 11:24 p.m.,  
in response to message #12 by DaveJ*

Dave-

You missed my point.

tm

**Re: HP 35s problem with complex numbers.**

*Message #14 Posted by [DaveJ](#) on 11 Oct 2007, 11:59 p.m.,  
in response to message #13 by Trent Moseley*

Quote:

\_\_\_\_\_

You missed my point.

\_\_\_\_\_

Ok, sorry, what was your point?

Dave.

**Re: HP 35s problem with complex numbers.**

Message #15 Posted by [Karl Schneider](#) on 12 Oct 2007, 1:04 a.m.,  
in response to message #11 by Trent Moseley

Hi, Trent --

Quote:

Having solved all complex problems with the 42s why did HP need to reinvent the wheel?

Well, I can't fully concur on that point. I have yet to see a calculator from any manufacturer having ideal complex-number functionality, but certainly the HP-42S is among the best. Its display of complex numbers is perfect, but the HP-42S lacks the following:

- Direct, one-step entry of complex numbers in rectangular or polar form in either "mode" (as the HP-35s has)
- A menu of complex-number functions (as the HP-28C/S has)
- Mixed-mode display of complex numbers with most-reasonable result format (Simple and straightforward, but I've never seen it done -- by HP or by TI or Casio in the models I've examined)

Details will follow, hopefully within a week. Here's a sample:

[User-friendly complex numbers](#)

-- KS

**i^2 = invalid data in one case**

Message #16 Posted by [DavidB](#) on 11 Oct 2007, 1:10 a.m.,  
in response to message #1 by deleted

In mathematics, the square of imaginary unit  $i$  is  $-1$ . If I enter the imaginary number  $0i1$  and then take the square of it ( $x^2$ ), the HP 35s displays "INVALID DATA." The same happens when I enter any complex number and take the square of it using the  $x^2$  key on the calculator.

If I enter the following, as shown in manual, p. 9-5:

$1i1$  ENTER 2 (positive 2 here)  $y^x$

The result is  $0i2$ , since  $(1 + i)^2 = 1^2 + i + i + i^2 = 1 + 2i - 1 = 0 + 2i$

So, in one way, the 35s does compute  $i^2$ . But just using  $x^2$  will not work. If I enter:

$i 1$  ENTER 2  $y^x$

I get the result as  $-1i0$  (or  $-1 + 0i$ ). I originally thought the 35s did not compute  $i^2$  at all, but it does. As noted in the manual, you can  $y^x$  to compute powers of a complex number.

Cheers!

David Bailey

*Edited: 11 Oct 2007, 1:51 a.m.*

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### HP35s in the Press (Spectrum Magazine Oct 2007)

Message #1 Posted by [Chris McCormack](#) on 10 Oct 2007, 11:23 a.m.

For those interested in a dissenting opinion, the latest IEEE Spectrum magazine has a review of the HP35s titled, **Blast from the Past** with the subheading, 'Hewlett-Packard is offering a calculator that looks like the first one it ever sold. Big deal'.

[Blast from the Past](#)

### Re: HP35s in the Press (Spectrum Magazine Oct 2007)

Message #2 Posted by [Martin Pinckney](#) on 10 Oct 2007, 12:00 p.m.,  
in response to message #1 by [Chris McCormack](#)

Mr. Foster makes some good points. Unfortunately, he doesn't understand all he knows about the subject, as a colleague used to say. He is correct about the calculator being too "feature rich". This results in an awkward user interface, with some features that I need regularly hard to access, and other features that I never need right there as a primary key function. But the reverse is true for another user, and so on and so on. If I could design my own calculator, it would have just the features I want and no others. So would you. One thing reading the posts on this group has taught me, is that the individual's need for certain features varies widely.

But HP cannot economically make calculators that way. The closest they came was in the Pioneer years, in which they made, at my count, 9 different models in the same form factor; you could choose the one(s) that suited your needs best. But they no longer make these (economics or just marketing?). So the point is that the feature rich aspect of the calculator is a necessary evil from a cost standpoint.

The same may be said of combining RPN and ALG in one machine: its both marketing and economics.

### Re: HP35s in the Press (Spectrum Magazine Oct 2007)

Message #3 Posted by [Karl Schneider](#) on 10 Oct 2007, 11:07 p.m.,  
in response to message #2 by [Martin Pinckney](#)

Quote:

Mr. Foster makes some good points. Unfortunately, he doesn't understand all he knows about the subject...

I'll concur with that. Mr. Foster seems to have little knowledge of HP's models of the "extended 1980's" -- specifically the HP-34C, HP-15C, HP-42S, and HP-32SII -- which introduced the functionality he deems superfluous and unnecessary.

-- KS

### Re: HP35s in the Press (Spectrum Magazine Oct 2007)



Message #4 Posted by [DavidB](#) on 11 Oct 2007, 2:09 a.m.,  
in response to message #1 by [Chris McCormack](#)

Chris,

Thanks for the info. I don't subscribe to IEEE Spectrum, but would like to read that review. I wonder how many engineers here at Va Tech use HP RPN scientific calculators? When I was an undergrad (EE major) here in the 80's, most gEEKs, I mean electrical engineers, used HP calculators. HP set the standard that all other scientific calculators were trying to beat. Today, it seems most engineers in academics use TI or some other name brand from Japan.

Cheers!

David Bailey

Quote:

---

For those interested in a dissenting opinion, the latest IEEE Spectrum magazine has a review of the HP35s titled, **Blast from the Past** with the subheading, 'Hewlett-Packard is offering a calculator that looks like the first one it ever sold. Big deal'.

[Blast from the Past](#)

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*Edited: 11 Oct 2007, 2:13 a.m.*

## **Re: HP35s in the Press (Spectrum Magazine Oct 2007)**

Message #5 Posted by [Norris](#) on 12 Oct 2007, 11:38 a.m.,  
in response to message #1 by [Chris McCormack](#)

The Spectrum review asks "Who needs all these features?...Perhaps very advanced users might benefit from these functions, but I suspect that they would have abandoned the calculator for a computer long before they reached that point."

Well, here's the answer: The tens of thousands of engineers and surveyors who take professional licensing exams annually, who must solve a broad array of quantitative problems, and who are barred from using a computer. This is not the largest niche in the calculator business, but it's a real niche nonetheless. I would bet that the reviewer is not a licensed engineer.

The design features of the 35S criticised in the review, including the rich feature set, the ALG vs. RPN option, and the lack of I/O, actually make sense if the target market is NCEES examinees.

In fairness, the 35S has not yet been approved for NCEES exams, but I predict that this will happen when NCEES conducts its annual review of exam calculators in November. I further predict that the 35S page at amazon.com will suddenly fill up with links to FE and PE exam review manuals -- just as the page for the NCEES-approved 33S already has.

*Edited: 12 Oct 2007, 11:43 a.m.*

## **Re: HP35s in the Press (Spectrum Magazine Oct 2007)**

Message #6 Posted by [brian healy](#) on 13 Oct 2007, 1:54 a.m.,

*in response to message #5 by Norris*

Practising engineers also need these features. They come in very handy when verifying computer output with hand calculations. We're all doing that, right?

---

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**LEGO calculator**

Message #1 Posted by [Patrick Rendulic](#) on 10 Oct 2007, 10:42 a.m.

I don't know whether someone has posted this before:

<http://acarol.woz.org/>

A working LEGO calculator!

**Awesome !!! 8-O**

Message #2 Posted by [Valentin Albillo](#) on 10 Oct 2007, 10:53 a.m.,  
in response to message #1 by Patrick Rendulic

Thanks for bringing it up to our attention !

Best regards from V.

**Re: LEGO calculator**

Message #3 Posted by [Paul Dale](#) on 10 Oct 2007, 4:48 p.m.,  
in response to message #1 by Patrick Rendulic

It has been mentioned here before I think. Try also the Meccano/Erector [difference engine](#) it was based on. Or better explore the [entire site](#). I believe Tim is working on the Babbage analytic engine at the moment.

- Pauli

**Re: LEGO calculator**

Message #4 Posted by [Thomas Okken](#) on 10 Oct 2007, 5:11 p.m.,  
in response to message #1 by Patrick Rendulic

I could have sworn it was mentioned here before, but if it was, I can't find it. Oh, well, I must have seen it while idly browsing woz.org many moons ago.

A LEGO difference engine is not an HP calculator, but it is so cool that I'm going to say Thank You for pointing it out anyway. :-)

- Thomas

**If only Babbage could have one...(was: LEGO calculator)N.T.**

Message #5 Posted by [Vieira, Luiz C. \(Brazil\)](#) on 10 Oct 2007, 5:50 p.m.,  
in response to message #1 by Patrick Rendulic

## **A famous quote from Babbage**

*Message #6 Posted by [Karl Schneider](#) on 10 Oct 2007, 11:25 p.m.,  
in response to message #5 by [Vieira, Luiz C. \(Brazil\)](#)*

Hi, Luiz --

A famous quote from Charles Babbage:

Quote:

---

On two occasions I have been asked, – "Pray, Mr. Babbage, if you put into the machine wrong figures, will the right answers come out?" In one case a member of the Upper, and in the other a member of the Lower, House put this question. I am not able rightly to apprehend the kind of confusion of ideas that could provoke such a question.

---

-- KS

## **Thank you! A pure gem!**

*Message #7 Posted by [Vieira, Luiz C. \(Brazil\)](#) on 11 Oct 2007, 2:25 a.m.,  
in response to message #6 by [Karl Schneider](#)*

So that was the kind of thought Babbage's difference machine caused the members of the House (of the Lords, I presume) to be bothered with. Poor Babbage... extra wondering and worryness.

Thanks again.

Luiz (Brazil)

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### HP-35s pdf manual?

Message #1 Posted by [Antonio Maschio \(Italy\)](#) on 10 Oct 2007, 5:31 a.m.

Any news?

-- Antonio

### Re: HP-35s pdf manual?

Message #2 Posted by [Meenzer](#) on 10 Oct 2007, 6:36 a.m.,  
in response to message #1 by Antonio Maschio (Italy)

Try the one for the HP 33s - it answers most of your potential questions about the 35s

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## HP Forum Archive 17

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### **HPCC Conference next weekend -- Reminder**

Message #1 Posted by [Tony Duell](#) on 10 Oct 2007, 5:20 a.m.

Next Weekend (13th / 14th October 2007), there's an HPCC Conference at Imperial College in London (England).

It's free to attend, but you must register in advance. More details can be found on the HPCC Website  
<http://www.hpcc.org>

### **Re: HPCC Conference next weekend -- Reminder**

Message #2 Posted by [Johnny Bjoern Rasmussen](#) on 12 Oct 2007, 4:06 a.m.,  
in response to message #1 by Tony Duell

Hi friends. I wish all attenders a very nice weekend. Hopefully I can join you at the next HPCC.

Johnny

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## HP Forum Archive 17

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### Communicating stack state transitions, a notation.

Message #1 Posted by [Arne Halvorsen \(Norway\)](#) on 9 Oct 2007, 4:12 p.m.

I will try using the following notation to communicate RPN program's effect on the stack and LASTX register:

$[d,c,b,a][e] \rightarrow \text{oper. desc.} \rightarrow [d',c',b',a][e']$

The first array with four elements represents the stack where d and d' refers to content of the T stack register and a and a' to content in the X stack register. The e and e' in the single element array refers to the LASTX register's content. Ofcourse actual letters or words used may be choosen to so fit the input/output for particular program.

So for example to describe sqrt:

$[d,c,b,v][e] \rightarrow \text{sqrt} \rightarrow [d,c,b,\text{sqrt}(v)][v]$

and addition:

$[d,c,b,a][e] \rightarrow + \rightarrow [d,d,c,b+a][a]$

Ofcourse there are other (better?) ways using tables or some kind of bar diagram but think this may work and have the advantage of being easy and fast to type in text only documents.

Anyone of your long time rpn hackers having an opinion on this topic?

### Re: Communicating stack state transitions, a notation.

Message #2 Posted by [Valentin Albillo](#) on 9 Oct 2007, 5:17 p.m.,  
in response to message #1 by Arne Halvorsen (Norway)

Hi, Arne:

Obviously it would be far easier on the eyes and more useful if you would use **X, Y, Z, T** and **L** instead of **a, b, c, d** and **e**, like this:

$[X, Y, Z, T | L] \rightarrow \text{Sqrt} \rightarrow [\text{Sqrt}(X), Y, Z, T | X]$

or a variation thereof.

Best regards from V.

*Edited: 9 Oct 2007, 6:17 p.m. after one or more responses were posted*

### Re: Communicating stack state transitions, a notation.

Message #3 Posted by [Arne Halvorsen \(Norway\)](#) on 9 Oct 2007, 6:16 p.m.,  
in response to message #2 by Valentin Albillo

Small details, but think your way of | replacement for my 'two array' notation looks better, will use.

As for the actual letters, think may become confusing if variable bound to original position in register; there may be a chain of operation... And if x contains speed of light; use c.

Now, for me LEFT maps to TOP (i.e. T) and I always think of LASTX as 'below' X register... Interesting that you turned it around! Perhaps most people find yours more natural, perhaps its because I am lefthanded :-).

Hmmm, actual that is perhaps more readable... must think about it... to bad there aint enough people interested in this detail to have a poll!

Thanks!

*Edited: 9 Oct 2007, 6:17 p.m.*

**Re: Communicating stack state transitions, a notation.**

*Message #4 Posted by [Walter B](#) on 10 Oct 2007, 2:44 a.m.,  
in response to message #3 by Arne Halvorsen (Norway)*

God dag Arne,

I like Valentin's notation better because the x-level -- which will change most frequently -- appears leftmost, i.e. first for people reading from left to right.

Just my 20 milli-Euro

**Re: Communicating stack state transitions, a notation.**

*Message #5 Posted by [JoseL](#) on 10 Oct 2007, 3:18 a.m.,  
in response to message #4 by Walter B*

Hi Arne,

I agree with Valentin and Walter.

It's the notation I have been using since my first steps in RPN.

Best regards

**Re: Communicating stack state transitions, a notation.**

*Message #6 Posted by [Arne Halvorsen \(Norway\)](#) on 10 Oct 2007, 3:19 a.m.,  
in response to message #4 by Walter B*

I have arrived at the same conclusion myself... Good thing I asked :-)

**Re: Communicating stack state transitions, a notation.**

*Message #7 Posted by [Chris McCormack](#) on 10 Oct 2007, 1:26 p.m.,  
in response to message #1 by Arne Halvorsen (Norway)*

I would advocate following the stack notation practices used with the programming language Forth. The lowest items on the stack appear to the right, only the applicable levels appear, and two dashes separate the 'before' and 'after' snapshots.



For example:

```
( y x -- y+x )
```

would be a compact representation for the '+' key.

If you want to explicitly show the entire stack (and Last X register) this could become

```
( t z y x | a -- t t z y+x | x )
```

Usually the stack comments would try to convey a little more meaning, such as:

```
( Lat1 Lon1 Lat2 Lon2 -- Bearing )
```

to document that calculates the initial great circle bearing to fly from point 1 to point 2.

### **Re: Communicating stack state transitions, a notation.**

*Message #8 Posted by [Arne Halvorsen \(Norway\)](#) on 10 Oct 2007, 1:43 p.m.,  
in response to message #7 by [Chris McCormack](#)*

Interesting, I remember in my young days there was a lot of talk about the FORTH language... The notation is good and very similar to Valentin's proposal I have adopted (good I did not go ahead with my original syntax). I do agree names should reflect nature of value. I use X, Y, Z, T, L for the 'bystanders'...

---

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## HP Forum Archive 17

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### Help needed NOW (real time) - stuck in a loop

Message #1 Posted by [John Wasilewski](#) on 9 Oct 2007, 2:44 p.m.

#### URGENT - IMMEDIATE HELP NEEDED IN REAL TIME.

Please see the "Unrecoverable crash to lock-up" thread, which I started a few days ago.

That problem went unsolved. This is a continuation but with a new clue and a great deal more urgency. I have keyed in the whole 473-line program a THIRD time to test a third time. Made some tiny changes (see below). I am now, repeat NOW (as I type this) stuck in a loop which I cannot get out of and I need immediate, repeat, IMMEDIATE help.

I've tried:

```
C
R/S
C+R/S
C+GTO
C+R/S+i
```

Nothing will break the loop.

WHAT I CHANGED (not important)  
(see "Unrecoverable crash to lock-up" for a listing)

I changed line

```
323 RCL L
to
323 RCL Q
324 x<>L
```

Then I inserted, after the old-numbered  
329 XEQ B020

(new numbers)  
333 COMP BARS  
334 PSE

I am now stuck in a loop that keeps displaying  
COMP BARS (0.5 seconds)...RUNNING (2.5 seconds)...  
COMP BARS (0.5 seconds)...RUNNING (2.5 seconds)...  
COMP BARS (0.5 seconds)...RUNNING (2.5 seconds)...  
COMP BARS (0.5 seconds)...RUNNING (2.5 seconds)...  
COMP BARS (0.5 seconds)...RUNNING (2.5 seconds)...  
COMP BARS (0.5 seconds)...RUNNING (2.5 seconds)...etc...

I can wait maybe another two hours hoping for someone to help me break the loop, but then I'll have to poke the back and lose all my hours of work (A-G-A-I-N).

Help please someone!

**Re: Help needed NOW (real time) - stuck in a loop**

*Message #2 Posted by **John Wasilewski** on 9 Oct 2007, 3:08 p.m.,  
in response to message #1 by John Wasilewski*

I got no help from HP last time. They just fobbed me off with platitudes then ignored me.

I've just sent the following message to them:

From John@Wasilewski.co.uk to the HP helpdesk at  
<http://wwemail.support.hp.com/fd2/EmailSend> .

The HP35s scient.calculator becomes stuck in a loop which I cannot break out of. I've tried C R/S, C+R/S, C+GTO, C+GTO+i, (from the manual) and none of these works. I have now lost all of my work THREE TIMES by having to use pin-reset, which clears everything from memory. I've lost three programs, one of which was 473-lines long, which I am now facing having to key in for a fourth time before I can debug it. TELL ME HOW TO BREAK OUT OF A LOOP WITHOUT LOSING ALL MY CONSIDERABLE AMOUNT OF WORK! Please don't reject my request with an unhelpful comment and then just ignore me this time.

-----

John@Wasilewski.co.uk

**Re: HP35s Help still needed NOW (real time) - still stuck in a loop**

*Message #3 Posted by **John Wasilewski** on 9 Oct 2007, 3:13 p.m.,  
in response to message #1 by John Wasilewski*

The calculator is the HP35s scientiic.

**Re: HP35s Help still needed NOW (real time) - still stuck in a loop**

*Message #4 Posted by **John Wasilewski** on 9 Oct 2007, 3:15 p.m.,  
in response to message #3 by John Wasilewski*

I can't even turn it OFF unless I take both batteries out or push a pin in the back. I am just SO FED UP with all this work going down the drain on this machine. -- John

**Re: HP35s Help still needed NOW (real time) - still stuck in a loop**

*Message #5 Posted by **Katie Wasserman** on 9 Oct 2007, 3:33 p.m.,  
in response to message #4 by John Wasilewski*

John,

I feel your pain but unfortunately can not offer any suggestions for recovery that you haven't already tried. I've had such bad experiences with this machine that I've put it in my display case never to be used again.

I've read through your code and think that you can save considerable space by making use of STO and RCL arithmetic and other coding shortcuts such as user flags. I'll bet that with a little bit of work this application can fit on a 32SII and I'm sure it can fit on a 33S.

-Katie

**Re: HP35s Help still needed NOW (real time) - still stuck in a loop**

*Message #6 Posted by **John Wasilewski** on 9 Oct 2007, 3:39 p.m.,  
in response to message #5 by Katie Wasserman*

Thanks Katie. I appreciate your commiserations and I'll look at your suggestions if I ever get any further with this wretched problem. I have been using some STO and RCL arithmetic but if you think I have missed a few such optimisations I will look out for them. John

### **Re: HP35s Help still needed NOW (real time) - still stuck in a loop**

*Message #7 Posted by [John Wasilewski](#) on 9 Oct 2007, 4:23 p.m.,  
in response to message #6 by John Wasilewski*

All done.  
I have lost all my work AGAIN.  
I tried the pin-in-the-back for a split second.  
Memory cleared.

I have since experimented with short programs with loops, counters and PSE instructions. I can get it stuck in a loop of course but I cannot put it into a loop from which it is impossible to break out.

I can only deduce that the problem with my 473-line program is that the locked-in-a-loop behaviour has something to do with,  
- length of the program,  
- flag settings,  
- internal delays when searching for loop destinations,  
- or something like that.

I wondered if it was cause by the SF 5 statement in my program but, from a simple test, it doesn't seem to be that.

### **Re: HP35s Help still needed NOW (real time) - still stuck in a loop**

*Message #8 Posted by [bill platt](#) on 9 Oct 2007, 9:18 p.m.,  
in response to message #7 by John Wasilewski*

Hi John,

I really think you need to buy a 50G and get on with it.

If you really need to use "obsolete" programming paradigms, the 33s is just as new as the 35s, and it is less expensive, and the bugs are worked out. Just a thought.

### **HP35s: bad experiences with this machine**

*Message #9 Posted by [Vieira, Luiz C. \(Brazil\)](#) on 9 Oct 2007, 5:03 p.m.,  
in response to message #5 by Katie Wasserman*

Hi Katie, all;

Please, Katie, forgive me if I am asking a silly question. I'm following (for as long as I can) some threads about the HP35S, and it seems to me HP lost the calculators' "mother of the recipes". My question is related to the second part of your sentence I partially quoted in the subject, i.e., it seems you gave the HP35S up. Appart of the (bad) experiences posted here, are there any others you can add to these so we can be aware of them? I'm willing to collect all of the information related to the HP35S here, but I'd like to know what is going to be missed.

Yeap, I have one, now!

Thak you and forgive me again.

Luiz (Brazil)

*Edited: 9 Oct 2007, 6:02 p.m.*

### **Re: HP35s: bad experiences with this machine**

*Message #10 Posted by [bill platt](#) on 9 Oct 2007, 9:32 p.m.,  
in response to message #9 by Vieira, Luiz C. (Brazil)*

As a straight calculator and equation solver it certainly seems very nice. The buttons work well, the display is fairly good, two lines is a great thing, there is no fear of running out of memory, and the equation list editing is a huge improvement over the 32sii and 33s.

It seems to me from listening to the problems reported by others that the worst of them are related to new features (vectors, non-decimal math, etc), and second to "assembly-like" line programming (RPN or ALG) rather than with basic features.

I haven't had any crashes or lockups with it myself. I haven't pushed it hard though. I've been too busy these past few months (in a good way though!).

*Edited: 9 Oct 2007, 9:35 p.m.*

### **A horse of a different color**

*Message #11 Posted by [Valentin Albillo](#) on 9 Oct 2007, 6:01 p.m.,  
in response to message #5 by Katie Wasserman*

Hi, Katie:

Kastie posted:

*"I've had such bad experiences with this machine that I've put it in my display case never to be used again."*

On the other hand, I've used mine *very extensively*, writing all kinds of complicated programs using very long equations, vectors, complex values and whatever, all of it very experimental, some of them running unattended for up to 24 hours in a row, in search of weird programming tricks, and not even once have I experienced any abnormal behavior, crash, unbreakable loop, or even the infamous problem with vectors. Not-even-once.

The only 'weird' things I've encountered were some unexpected side effects while doing bizarre things with equations, but they were fully explainable once you studied what happened and within working parameters, no bugs at all, just 'unexpected' (I'll comment on them in a future Datafile article).

So I'm pretty amazed at the negative experiences other people seem to have with this machine, yourself included. You say you'll never use yours again, Vincze (remember him ?) said that he had destroyed his HP35s by throwing it against the nearest wall, etc, etc.

Perhaps it depends on the production batch ? Certainly mine works flawlessly despite the many nasty tricks I've tried on it, and it's grown on me as a pretty solid, reliable machine with a very good keyboard and excellent ergonomics (e.g., it doesn't slip when placed on a table, it firmly sticks to it no matter how hard you press the keys).

Best regards from V.

### **I missed this one...**

Message #12 Posted by [Vieira, Luiz C. \(Brazil\)](#) on 9 Oct 2007, 6:19 p.m.,  
in response to message #11 by Valentin Albillo

Hi Valentin; (say Laura 'Hello' for me to, please!)

Quote:

Vincze (remember him ?) said that he had destroyed his HP35s by throwing it  
against the nearest wall

I missed that. When did it happen? Did he mention it in a thread or was it after private e-mails? I hope John Wasilewski does not follow this idea... I am curious because I am giving an HP35S a try for a couple of days and I can follow your own view about it, Valentin: no complaints so far.

Best regards.

Luiz (Brazil)

### **Re: I missed this one...**

Message #13 Posted by [Valentin Albillo](#) on 9 Oct 2007, 6:34 p.m.,  
in response to message #12 by Vieira, Luiz C. (Brazil)

Hi, Luiz:

Luiz posted:

*"I missed that. When did it happen? Did he mention it in a thread or was it after private e-mails ?"*

He mentioned that much in a thread here in the Forum, a few weeks ago, at a time he was posting assiduously. Funnily enough, if I remember correctly, *his HP35s wasn't misbehaving at all*, it was just that he couldn't grasp how to do something simple on his own (polar/rectangular conversions or something like that) and he stamped the poor thing against the wall and proudly told us, at a time where most everyone else was *drooling* at the mere thought of getting to own one. That's Vincze for you ! :-)

*"I hope John Wasilewski does not follow this idea..."*

Oh but he would actually be entitled to do it, considering his extreme trials and tribulations. Though the machine itself is not the only one to blame in this case, methinks.

*"I am curious because I am giving an HP35S a try for a couple of days and I can follow your own view about it, Valentin: no complaints so far"*

Nope, no complaints at all, exactly the opposite: I am delighted with it, and though I can recognize its many flaws and shortcomings, none of them have manifested themselves as bugs or unusability as far as I'm concerned.

And for one whose first HP was an HP-25C, then an HP-67, etc, this machine is, as

we say in Spain, "*como para darse con un canto en los dientes*" which roughly means: recognize the good you have and be grateful for it instead of unnecessarily complaining.

Best regards from V.

**Re: I missed this one...**

*Message #14 Posted by **Thor Lansen** on 10 Oct 2007, 2:24 a.m.,  
in response to message #13 by Valentin Albillo*

Hello my old friend Valentin, I am one of those with a HP25C and I am not complaining about the HP35s either (because I do not have one), but to consider John's lost of a four hundred plus program lines of "unnecessarily complaining" would be like that Spanish saying I heard: "*casi nada lo del ojo y lo tenia en la mano*" (what happened to his eye was nothing to worry about and he had it in his hand).

It seems to me that for a machine that has no way of backing up a program/data it is even more critical to be full proof in its operation (i.e. not locking up and loosing everything you painstakingly just entered ONE finger key stroke after another). You indicate yours works fine, have you tried running John's program?

Regards, Thor

*Edited: 10 Oct 2007, 2:56 a.m.*

**Re: I missed this one...**

*Message #15 Posted by **Valentin Albillo** on 10 Oct 2007, 9:55 a.m.,  
in response to message #14 by Thor Lansen*

Hi, Thor !

Thor posted:

*"[...] to consider John's lost of a four hundred plus program lines of "unnecessarily complaining" would be like that Spanish saying I heard: "casi nada lo del ojo y lo tenia en la mano"*

LOL ! You've quoted it *perfectly*, and it's very funny and appropriate in most cases !

But not here. I've noticed that oftentimes my posts are misunderstood and people tend to read meanings vastly different from what I actually had in mind at the time of writing. I'm sure most of the blame is mine because I tend to use exceedingly terse language at times, mostly when it's 3:00 AM or so, I'm absolutely tired, and further I'm writing in near darkness so as not to disturb anyone's sleep.

In this case, the "unnecessarily complaining" actually referred to me (!) because after using the HP35s for a month there were some times when I would "swear in Aramaic" because Sqrt(x) wouldn't work on complex numbers (so forcing me to change an elegant program to something less elegant), then  $x^2$  also refused to square a complex number, there was no elegant/fast/accurate way of retrieving the parts of a complex number of

vector, some side effects that *should* work *didn't*, etc, etc.

I was complaining *all* the time, to myself, to my wife, to everyone in a radius of 5 meters or so. Until then, at some moment, I had an *epiphany* and remembered when I was oh so much happy with my 49-step HP-25 without subroutines and losing *everything every time* I turned it off. Then I decided the HP 35s *is* an incredible machine, very capable, very solid, an HP will probably earn very little from it, if at all. It's the work of love of Cyrille and a few other 'lunatic' HP calc fans.

Thus I stopped *my* "unnecessary complaining" for good. Now you see what I meant.

*"It seems to me that for a machine that has no way of backing up a program/data it is even more critical to be full proof in its operation (i.e. not locking up and loosing everything you painstakingly just entered ONE finger key stroke after another)."*

Absolutely true. However, I'm convinced it is a miracle in itself that we have such a machine as the HP35s, because it doesn't make any business sense for HP and I can't imagine just how many doors Cyrille and other such people have knocked to the point of wearing them down in order to get it *done*, at the *lowest* possible cost.

I guess that ensuring "version 1.0" is nearly bugless before bringing it to the market was simply economically impossible, so it probably was a choice to either market it right away and let people be "acting guinea pigs" to help iron out the worst bugs, or else not releasing it *ever*, period. So I won't complain.

*"You indicate yours works fine, have you tried running John's program ?"*

No, sorry. I just don't have the time required to do it, I've been finishing my two latest articles for Datafile and had to go to sleep at 5:00 AM on two consecutive days (and then going out to work at 7:00 AM) simply to meet the October 6th deadline. No time for anything else.

Thanks for your friendly comments and

Best regards from V.

### **Re: I missed this one...**

Message #16 Posted by **John Wasilewski** on 10 Oct 2007, 4:07 a.m.,  
in response to message #13 by Valentin Albillo

I cannot leave one of Valentin's comments unanswered.

Valentin, you wrote,

*Though the machine itself is not the only one to blame in this case, methinks.*

I do not for a minute think you intended to cause offence but it is difficult not to feel a little hurt by this comment.

How exactly do you suppose that I and my program might be partially to blame? Yes, no doubt, the program has bugs. Yes, no doubt, it is my fault that it is stuck in a loop. This is what debugging is for. But how could it be partly



my fault that the calculator refuses to break out of the loop unless I do a hard reset and clear all memory?

John

### Re: I missed this one...

Message #17 Posted by [Valentin Albillo](#) on 10 Oct 2007, 11:25 a.m.,  
in response to message #16 by John Wasilewski

Hi, John:

John posted:

*"I cannot leave one of Valentin's comments unanswered."*

Good. Thanks for your dedication.

*"Valentin, you wrote: "Though the machine itself is not the only one to blame in this case, methinks." I do not for a minute think you intended to cause offence but it is difficult not to feel a little hurt by this comment.*

*How exactly do you suppose that I and my program might be partially to blame? Yes, no doubt, the program has bugs. Yes, no doubt, it is my fault that it is stuck in a loop. This is what debugging is for. But how could it be partly my fault that the calculator refuses to break out of the loop unless I do a hard reset and clear all memory?"*

Please quote **exactly** where in my post do I ever mention that **you** or **your program** are partially to blame. **Then** we can discuss the matter.

In the meantime, while expecting your quoting, let me give you a piece of advice or two for free:

- To successfully deal in any kind of Internet forum, you've got to have or quickly develop a hard skin and also reduce your sensitivity to the environment lest you'll frequently get bruised and hurt.
- To successfully deal in any kind of Internet forum, you've got to develop a *clear understanding* of what you're reading and what it really *means*, not what *your* heightened sensitivity *thinks* it means lest you erroneously feel attacked and threatened and victimized when *you weren't actually mentioned at all*.

Just for the record, my sentence you did quote, namely *"Though the machine itself is not the only one to blame in this case, methinks"* was indirectly addressing current HP's **poor customer attention** and the way in which they **ignored** you and your problem.

If the machine is buggy, the machine is certainly to blame, but that was *enormously alleviated* in the past when you would call HP's service and they would acknowledge the problem, research into it, suggest some workaround if at all possible, and even recall whole batches replacing them with new machines or ROMs free of charge !

As you have experienced in your own flesh, that's not exactly the case right now, that's why I think that an *enormous* part of the blame goes to

HP's piss-poor service, not only to the underpaid, overworked people who manufactured it.

Hope that makes it crystal clear for you. And please, next time do **not** put in my mouth or pen comments I haven't uttered or written.

Best of lucks with your sad affair and

Best regards from V.

### **Re: A horse of a different color**

*Message #18 Posted by [Arne Halvorsen \(Norway\)](#) on 9 Oct 2007, 6:28 p.m., in response to message #11 by Valentin Albillo*

I think there might been some fixing or some bad batches... Because I would be very suprised if I gave you \*mine\*, and you did the type of stuff you said you do and did not start to experience some problems after some (short) time...

For example have you written and edited a program using vector in \*equations\* and \*not\* got in to problems? You would on mine...

### **Re: A horse of a different color**

*Message #19 Posted by [Paul Dale](#) on 9 Oct 2007, 6:38 p.m., in response to message #18 by Arne Halvorsen (Norway)*

Quote:

For example have you written and edited a program using vector in \*equations\* and \*not\* got in to problems? You would on mine...

I have without problems. See the [game](#) I posted a while back.

My experiences with the 35s are similar to Valentin's. No problems yet and not for want of trying. I've not run it out of memory which might have something to do with my good fortune.

- Pauli

### **Re: A horse of a different color**

*Message #20 Posted by [Arne Halvorsen \(Norway\)](#) on 9 Oct 2007, 6:47 p.m., in response to message #19 by Paul Dale*

Ok, there are buggy machines out there then! HP should replace us that been unlucky...

### **Re: A horse of a different color**

*Message #21 Posted by [Valentin Albillo](#) on 9 Oct 2007, 6:42 p.m., in response to message #18 by Arne Halvorsen (Norway)*

Hi again, Arne:

Arne posted:

*"For example have you written and edited a program using vector in \*equations\* and \*not\* got in to problems?"*

Yes, many times. Matter of fact one of my HP35S articles to appear in the very next issue of Datafile, which will be released within a week or so, does include vectors in very long equations, both of the constant type and of the dynamic, components-computed-on-the-fly-with-tons-of-side-effects type, and I've edited them equations and run the program any number of times, even calling it as subroutines in loops, with not even the slightest trace of a problem.

I'm convinced this is either sheer luck, or much more probably, a different batch.

Best regards from V.

### **Re: A horse of a different color**

*Message #22 Posted by [Katie Wasserman](#) on 9 Oct 2007, 10:27 p.m.,  
in response to message #11 by Valentin Albillo*

Luiz and V-

Perhaps it's the way I press the keys on the 35s, but I have missed keystrokes frequently -- pretty much every time I use it. This never happens to me on the 32Sii (my regular calculator form many years). I've also experienced the vector syntax error several times now and I'm really irked by uselessness of the ALL display mode and CHECKSUM function. These are my biggest complaints.

The larger memory is nice but the speed of the calculator (or rather lack of it) means that it's impractical to do anything on a large set of numbers. I think that the 32Sii has just the right balance of memory, speed and power consumption for a simple programmable calculator with no i/o.

BTW, I measured the power consumption on the 35s -- it sucks 4.5ma from each of the CR2032 cells when it's running, this is higher than the rated maximum continuous discharge and no doubt degrades the capacity of the cell. I'd estimate the run time battery life on the 35s to be around 20 hours. The 32Sii draws just 1ma when running with similar capacity cells (silver oxide 357). My guess is that it would run at least 4 times longer.

-Katie

### **Re: A horse of a different color**

*Message #23 Posted by [DaveJ](#) on 9 Oct 2007, 11:05 p.m.,  
in response to message #22 by Katie Wasserman*

Quote:

---

BTW, I measured the power consumption on the 35s -- it sucks 4.5ma from each of the CR2032 cells when it's running, this is higher than the rated maximum continuous discharge and no doubt degrades the capacity of the cell. I'd estimate the run time battery life on the 35s to be around 20 hours. The 32Sii draws just 1ma when running with similar capacity cells (silver oxide 357). My guess is that it would run at least 4 times longer.

---

A 357 silver oxide cell is about 1/3 the capacity of a lithium manganese 2032 in watt-hours.

I have never seen a rated "maximum continuous discharge" figure for a 2032 cell. The maximum continuous current is effectively limited by the internal resistance (around 20ohms), but yes, the capacity changes based on load current

Dave.

### **Re: A horse of a different color**

*Message #24 Posted by [Katie Wasserman](#) on 10 Oct 2007, 5:16 a.m.,  
in response to message #23 by DaveJ*

The CR2032 maximum discharge seems to be rated by at least a few manufacturers, for example: [Renata](#) lists it as 3ma [Sanyo](#) as 4ma [EEMB](#) as 3ma.

Yes, the total watt-hours of a 357 cell is about .25W and a CR2032 is .63.

The 35s uses 2 cells (1.26Wh total) with a run-time consumption of .027 watts . The 32sii uses 3 cells (.75Wh total) with a run-time consumption of .0045 watts. So just on this basis the 32sii should run 3.5 times longer, but the excessive load on the CR2032 likely makes this factor even larger.

*Edited: 10 Oct 2007, 5:17 a.m.*

### **[OT?] Power consumption**

*Message #25 Posted by [Antonio Maschio \(Italy\)](#) on 10 Oct 2007, 5:38 a.m.,  
in response to message #24 by Katie Wasserman*

Very interesting (really!), Katie.

Could you list all HP-models power consumption for calculators you own or you know about?

How do you measure such power consumption? (This could sound a silly question, but I'm a civil engineer who builds roads, so I've got no knowledge about electricity!)

-- Antonio

### **Re: [OT?] Power consumption**

*Message #26 Posted by [Katie Wasserman](#) on 10 Oct 2007, 4:15 p.m.,  
in response to message #25 by Antonio Maschio (Italy)*

You use an external power source with a ammeter in series with it. In the case of the 35s you need two such power sources and two meters since it draw powers from both cells and the cells are not in series. They're not in parallel either they've got some sort of circuit (which might be more than a couple of diodes) between the two cells.

### **Re: [OT?] Power consumption**

*Message #27 Posted by [DaveJ](#) on 10 Oct 2007, 6:48 p.m.,  
in response to message #26 by Katie Wasserman*

Quote:

You use an external power source with a ammeter in series with it. In the case of the 35s you need two such power sources and two meters since it draw powers from both cells and the cells are not in series. They're not in parallel either they've got some sort of circuit (which might be more than a couple of diodes) between the two cells.

What do you measure with just one or the other cell installed?

Dave.

**Re: [OT?] Power consumption**

*Message #28 Posted by [Katie Wasserman](#) on 10 Oct 2007, 11:40 p.m., in response to message #27 by DaveJ*

The calculator (at least mine) won't run with just one cell installed, it will retain memory however.

**Re: [OT?] Power consumption**

*Message #29 Posted by [Antonio Maschio \(Italy\)](#) on 11 Oct 2007, 5:11 a.m., in response to message #28 by Katie Wasserman*

Thanks, Katie.

Well, I own none of the tools you named (nonetheless, I guess it would be terribly hard for me to use them, even in case I owned them), so would you list here the power consumption for the models you measured?

I'd appreciate it very much.

I thank you in advance.

-- Antonio

**Re: [OT?] Power consumption**

*Message #30 Posted by [Katie Wasserman](#) on 11 Oct 2007, 10:13 a.m., in response to message #29 by Antonio Maschio (Italy)*

Antonio,

I haven't measured any other calculators current draw recently and don't have any records of the ones that I have. But I'll try to find some time and do that in the future. Are there any models in particular that you want to measure?

-Katie

## Re: [OT?] Power consumption

Message #31 Posted by [Lyuka](#) on 15 Oct 2007, 8:59 a.m.,  
in response to message #25 by Antonio Maschio (Italy)

Hi.

I have just measured the power supply current of several models that I have.

Isb is the power supply current while power off.

Idle is the power supply current after while power on.

Irun is measured while solving functionally equal equations in the actual application that calculate microstrip transmission line parameters.

```
Ta=26C
HP15C : Vbat =4.72V, Irun=1.2mA, Idle= 27uA, Isb<0.1uA
HP42S : Vbat =4.70V, Irun=3.3mA, Idle=380uA, Isb=8.9uA,
      (Note.32KB RAM)
HP32SII: Vbat =4.60V, Irun=1.0mA, Idle=120uA, Isb<0.1uA
HP35S : VbatL=3.00V, Irun=4.5mA, Idle= 28uA, Isb=10uA
      : VbatR=3.01V, Irun=4.5mA, Idle= 28uA, Isb=10uA
```

(I think the HP32SII is really fast with very low power consumption.)

Regards, Lyuka

*Edited: 15 Oct 2007, 12:42 p.m.*

## Re: A horse of a different color

Message #32 Posted by [DaveJ](#) on 10 Oct 2007, 6:47 p.m.,  
in response to message #24 by Katie Wasserman

Quote:

---

The CR2032 maximum discharge seems to be rated by at least a few manufacturers, for example: [Renata](#) lists it as 3ma [Sanyo](#) as 4ma [EEMB](#) as 3ma.

---

They are not absolute maximum figures, they are simply reference figures based on a 50% drop in usable capacity (due to the internal resistance). See Note 2 on the Sanyo datasheet which explains it. There is no threshold value at which the usable capacity of the battery starts to decrease. It is a continuous (but non-linear) degradation in capacity from no load all the way up to a dead short.

So there is nothing wrong with using 2032 cells at 4mA, you just live with whatever capacity you get. If it was only 0.4mA, you get a different usable capacity again, and yet another one for 0.04mA etc. Until you approach the ideal "nominal capacity"

The extra consumption of the 35S over the 32S is disappointing, but not surprising. Much more careful engineering went into the 32S than the 35S. The 32S used a custom ASIC optimised for low power consumption, and all assembly language for a better performance/power ratio. And no doubt similar engineering went into the LCD and other aspects.

Dave.

**Re: A horse of a different color**

Message #33 Posted by [Valentin Albillo](#) on 10 Oct 2007, 10:46 a.m.,  
in response to message #22 by Katie Wasserman

Hi again, Katie:

Katie posted:

*"Perhaps it's the way I press the keys on the 35s, but I have missed keystrokes frequently -- pretty much every time I use it."*

This actually reinforces my feeling that there must be different batches some of which are defective as I've been using my HP 35s for at least 100 hours, interactively, and I haven't experienced *even a single missing keystroke*.

*"BTW, I measured the power consumption on the 35s [...] I'd estimate the run time battery life on the 35s to be around 20 hours."*

See ? Another point were your experience and mine utterly differ. As I've said above, I guesstimate that I've been using mine interactively for some 100 hours, plus another 50 hours it's been running standalone (i.e., the whole night or the whole 24-hour day) and I'm still in the original set of batteries.

Which is more, I got this machine secondhand and it came with signs of fairly heavy use and with batteries already installed in an unknown state of discharge. Guess what ? These batteries are still running perfectly fine after some 100+50 hours of my using it, give or take 20, plus an unknown number of hours they already had on them before I even turned it on for the first time.

There *MUST* exist different batches, else your experiences and mine don't make sense when confronted.

Best regards from V.

**Re: A horse of a different color**

Message #34 Posted by [Seth Morabito](#) on 10 Oct 2007, 1:53 p.m.,  
in response to message #33 by Valentin Albillo

Hello Valentin and Katie,

I would find it very useful if you could post your respective serial numbers. Perhaps we can at least determine whether they were made during the same week, or at the same factory.

-Seth

**Re: A horse of a different color**

Message #35 Posted by [Valentin Albillo](#) on 10 Oct 2007, 2:34 p.m.,  
in response to message #34 by Seth Morabito

Hi, Seth:

Your suggestion would indeed be the thing to do but most regrettably my HP

35S doesn't have a serial number.

Best regards from V.

**Re: A horse of a different color**

*Message #36 Posted by **Palmer O. Hanson, Jr.** on 11 Oct 2007, 2:44 a.m.,  
in response to message #35 by Valentin Albillo*

Quote:

Hi, Seth:

Your suggestion would indeed be the thing to do but most regrettably my HP 35S doesn't have a serial number.

Best regards from V.

How many of those HP-35S calculators without serial numbers are there?

How can I get one?

**Re: A horse of a different color**

*Message #37 Posted by **Walter B** on 11 Oct 2007, 2:58 a.m.,  
in response to message #36 by Palmer O. Hanson, Jr.*

Quote:

How can I get one?

Most easily ;)

**Re: A horse of a different color**

*Message #38 Posted by **Valentin Albillo** on 11 Oct 2007, 4:09 a.m.,  
in response to message #36 by Palmer O. Hanson, Jr.*

Hi, Palmer:

Sorry, the answer is the same for both questions: "no idea"

Best regards from V.

**Re: A horse of a different color**

*Message #39 Posted by **Walter B** on 11 Oct 2007, 3:51 p.m.,  
in response to message #38 by Valentin Albillo*

Buenas noches, Valentin,

you wrote "no idea", but you must be kidding. A 35s without a serial number is obtained as easily as a labelless 35s. But you knew that...



**Re: A horse of a different color**

Message #40 Posted by [Valentin Albillo](#) on 11 Oct 2007, 7:58 p.m.,  
in response to message #39 by Walter B

Hi, Walter:

Walter posted:

*"you wrote "no idea", but you must be kidding. A 35s without a serial number is obtained as easily as a labelless 35s."*

The story of my life: every time I'm kidding people think I'm dead serious, and every time I'm dead serious people think I'm kidding ... 8-P

In this case I'm dead serious: my 35s doesn't have a serial number. It's not my fault, I didn't do anything, it was like that when I got here ! ...

Best regards from V.

**Re: A horse of a different color**

Message #41 Posted by [Katie Wasserman](#) on 10 Oct 2007, 4:24 p.m.,  
in response to message #33 by Valentin Albillo

It could very well be that I have a defective one, it's serial number CNA 72500758, FYI.

As far as the current consumption is concerned perhaps my unit is bad as well, has anyone else reading this measured the current draw on theirs?

(I also have one late model 32sii -- the one with the horrible color scheme -- that has an excessive current draw but this is in the OFF state. It burns through the cells in 6 months of zero use.)

**Re: A horse of a different color**

Message #42 Posted by [Dave Shaffer \(Arizona\)](#) on 10 Oct 2007, 5:26 p.m.,  
in response to message #41 by Katie Wasserman

Quote:

As far as the current consumption is concerned perhaps my unit is bad as well, has anyone else reading this measured the current draw on theirs?

I just measured the current draw in mine, which is one of the ones HP handed out at the conference a week and a half ago. The serial number is CNA 73400342.

I used my DVM in series with each of the batteries separately, so reading the current flow from just one cell at a time. This means the internal resistance of the battery (in this case, Panasonic CR 2032) helps limit the maximum current. I get essentially the SAME readings for each cell.

In the OFF state, the current draw is 11-12 microamps.

When turned ON, but doing no calculating, the current is between 26 and 31 microamps, with the peak reading occurring every one or two seconds. The fluctuations are very regular, and I assume they are related to some internal (housekeeping?) event which occurs regularly.

I do not have any programs stored in my calc, so I just pushed the square root button to see what happened to the current draw. I get peaks of more than one milliamp on my meter. The peaks are probably too short to properly register on the DVM, so that is the minimum current draw while performing calculations.

Katie - what were your "idle" currents? If they are the 3-4 mA you mentioned, then I, too, believe you have a defective unit. If they refer to program execution, then your and my measurements are probably consistent (i.e. my 1+ mA could well be a few mA to which the meter is too slow to respond).

If the current flow as a function of time is deemed to be of great interest, I might to be able to hook the whole thing up to a 'scope and watch the current flow on the millisecond time scale!

### **Re: A horse of a different color**

*Message #43 Posted by [DaveJ](#) on 10 Oct 2007, 8:10 p.m.,  
in response to message #42 by Dave Shaffer (Arizona)*

That sounds more like it. You have to be careful taking these measurements though, as low current ranges on DVM's can use high value series shunt resistors. Typically 1Kohm on the uA range, and 10ohms on the mA range. So it's best to use the mA or A range, but you don't get good resolution of course, but good enough for ballpark figures.

A 2032 battery has about a 20 ohms internal resistance when fresh.

Dave.

### **Re: A horse of a different color**

*Message #44 Posted by [Dave Shaffer \(Arizona\)](#) on 10 Oct 2007, 9:47 p.m.,  
in response to message #43 by DaveJ*

I was using the 3 mA range on a Radio Shack DVM, so I don't think I was seriously limiting the total current because of the shunt value. The calculator displayed and operated normally while I was reading the current. I still had three digit precision (readout to the nearest 0.001 mA, or 1 microamp), so I suspect accuracy is OK.

### **Re: A horse of a different color**

*Message #45 Posted by [Katie Wasserman](#) on 10 Oct 2007, 11:46 p.m.,  
in response to message #42 by Dave Shaffer (Arizona)*

The run-time current draw I measured was when running a tight loop program (LBL A -- GTO A). The off state and idle state currents I measured were similar to what you measured. What do you get run you run a tight loop?

*Edited: 10 Oct 2007, 11:54 p.m.*

### **Re: A horse of a different color**

*Message #46 Posted by [Dave Shaffer \(Arizona\)](#) on 12 Oct 2007, 11:35 p.m.,  
in response to message #45 by Katie Wasserman*

I had to go find my better clip leads before I could measure the current while the calculator was hard at work.

When in a tight loop (LBL A, SQRT, GOTO A), I measure 4.74 mA for each cell, measuring one at a time. (You said the cells aren't in series, but whatever circuit they have is remarkably good at producing the same current draw from either cell. I can't see any difference between the current from either cell when the calc is OFF, ON but not doing anything, or performing calculations.)

To assauge DaveJ concerns, I also did a bit of microamp current testing of my mid-grade Radio Shack DVM. I put 50k (45.8k actual), 100k (97.0k), and 470k (455k) resisters in series with a 1.5 V (1.576 V actual) D cell - after measuring the actual resistance and battery voltage with the same meter - and measured currents of 36, 18, and 5 microamp respectively with the meter on its 3 mA scale, which has a least significant digit of 1 microamp. Based on the actual resistance and battery voltage values, 34, 16, and 3.5 microamp would be expected. So, I think the values I reported earlier are accurate, except for a bias of about +2 microamps.

### **Re: A horse of a different color**

*Message #47 Posted by [DaveJ](#) on 13 Oct 2007, 12:13 a.m.,  
in response to message #46 by Dave Shaffer (Arizona)*

Quote:

---

To assauge DaveJ concerns, I also did a bit of microamp current testing of my mid-grade Radio Shack DVM. I put 50k (45.8k actual), 100k (97.0k), and 470k (455k) resisters in series with a 1.5 V (1.576 V actual) D cell - after measuring the actual resistance and battery voltage with the same meter - and measured currents of 36, 18, and 5 microamp respectively with the meter on its 3 mA scale, which has a least significant digit of 1 microamp. Based on the actual resistance and battery voltage values, 34, 16, and 3.5 microamp would be expected. So, I think the values I reported earlier are accurate, except for a bias of about +2 microamps.

---

Sounds right. That would mean your Radio Shack DVM has a fairly standard 1Kohm shunt resistor on the uA range. You can easily confirm that by sticking your + probe into the uA jack and measuring it direct while on the ohms range.

Dave.

### **Re: A horse of a different color**

*Message #48 Posted by **DaveJ** on 10 Oct 2007, 8:21 p.m.,  
in response to message #41 by Katie Wasserman*

Perhaps a long shot, but what current range did you use? If you used the 10A range then the resolution on a typical meter will only be 1mA and can fluctuate a few counts around that. Perhaps that could explain it?

I find it hard to believe there are "defective" batches. There isn't much that can go wrong with a calculator like this. You have the battery, micro with oscillator, some simple power circuitry, a keypad and an LCD. And the microcontroller is almost certainly mask programmed, so they aren't going to be changing the code all that often.

Very puzzling.

Dave.

### **Re: A horse of a different color**

*Message #49 Posted by **Katie Wasserman** on 10 Oct 2007, 11:53 p.m.,  
in response to message #48 by DaveJ*

I've got a good meter, an HP 34401A, it's plenty accurate and agrees perfectly with my other good meter a Fluke 867B. I'm quite sure I have the right readings, but not at all sure if my calculator is defective or not.

### **Re: A horse of a different color**

*Message #50 Posted by **John Wasilewski** on 10 Oct 2007, 4:34 a.m.,  
in response to message #11 by Valentin Albillo*

I too had excellent experience with this calculator. That is, until I tried debugging my long program. It then behaved appallingly. Refuses to let me debug. Refuses to break out of a loop. Forces me to wipe the memory, losing all my work on this program and all other programs already keyed in and stored.

In the circumstances, knowing that it can suddenly turn nasty without reason, I dare not try to develop anything complex, long, or interesting on it.

John

### **Re: HP35s Help still needed NOW (real time) - still stuck in a loop**

*Message #51 Posted by **Patrick Rendulic** on 10 Oct 2007, 1:03 a.m.,  
in response to message #5 by Katie Wasserman*

Quote:

... I've put it in my display case never to be used again. ... -Katie

; ) That's also what I did. And mine has a scratched display although I only cleaned it once to remove some "China-dirt" sticking on the brand new screen..

*Edited: 10 Oct 2007, 4:49 a.m.*

**Re: HP35s Help still needed NOW (real time) - still stuck in a loop**

Message #52 Posted by [Trent Moseley](#) on 10 Oct 2007, 8:39 p.m.,  
in response to message #5 by [Katie Wasserman](#)

Katie,

I agree, I'm a 15C, 42s fan. The first thing I did when I received my 35s was to key in -4 SQRT and you know the rest.

tm

**Re: Help needed NOW (real time) - stuck in a loop**

Message #53 Posted by [Egan Ford](#) on 9 Oct 2007, 3:28 p.m.,  
in response to message #1 by [John Wasilewski](#)

I powered up my 35s, pressed reset once for a split sec (hole in back) and did not lose anything but the contents of X. All programs are intact.

I wrote the following:

```
Z001 LBL Z
Z002 GTO Z001
```

Ran it and ON killed it.

I ran it again, pressed reset once for a split sec and lost all memory.

If you cannot kill it I think you will lose all your memory again.

I suggest that you prototype your application using Free42. You can write all the code in any editor and use txt2raw.pl to convert it for Free42 or EMU42. Once you have it all worked out, then key it into the 35s. It is not 100% the same RPN, but is close enough.

**Re: Help needed NOW (real time) - stuck in a loop**

Message #54 Posted by [John Wasilewski](#) on 9 Oct 2007, 3:45 p.m.,  
in response to message #53 by [Egan Ford](#)

Thanks Egan. I have just tried each of these:

```
C
Blue-shift-C
Yell-shift-C
Blue-shift-C-GTO
Yell-shift-C-GTO
Blue-shift-C-R/S
Yell-shift-C-R/S
None of them worked. Sodding thing is still looping away.
```

If no-one else comes up with any ideas I might try your idea of a split-second pin in the back.

I also like very much your idea of using an emulator for the debugging. Pathetic state of affairs, isn't it?

**Re: Help needed NOW (real time) - stuck in a loop**

*Message #55 Posted by **Egan Ford** on 9 Oct 2007, 4:38 p.m.,  
in response to message #54 by John Wasilewski*

I only write large programs for devices that I have emulators for and that will take programs from text editors. E.g. 50g, 48GX, 71B, 41CX, and 42S. I prefer the first 4 because I can go from editor directly into emulator or device. The 42S requires manual input, but its not that bad since I can use editor/emulator to write/test.

The 42S RPN is similar to the 35s RPN. I'd use that. Google for Free42 and get txt2raw.pl as well. Life is too short to key in 400+ lines more than once.

### **Re: Help needed NOW (real time) - stuck in a loop**

*Message #56 Posted by **John B. Smitherman** on 10 Oct 2007, 12:14 a.m.,  
in response to message #54 by John Wasilewski*

Hi John. Your trials and tribulations on the 35s sound frustrating. What's the s/n on your 35s?

Just a thought... have you tried removing the batteries, waiting a few minutes, reinserting the batteries and then resetting the 35s?

Here's a tip from educalc.net for resetting memory:

"The following procedure will total erase all the memory and program store in the HP 35s. Press the following three keys all at the same time - [C] [R / S] [i]. It correctly reset, it should show "MEMORY CLEAR" on HP35S display."

<http://www.educalc.net/1207487.page>

Good luck and regards,

John

### **Re: Help needed NOW (real time) - stuck in a loop**

*Message #57 Posted by **John Wasilewski** on 10 Oct 2007, 3:44 a.m.,  
in response to message #56 by John B. Smitherman*

1.  
SN = CNA 72100255

2.  
Good idea about removing the batteries for a few secs.  
I will try that.

3.  
The "tip from educalc.net" is in the manual.  
I tried it. It failed to break the loop.  
---  
John

### **Re: Help needed NOW (real time) - stuck in a loop**

*Message #58 Posted by **Seth Morabito** on 10 Oct 2007, 2:06 p.m.,  
in response to message #57 by John Wasilewski*

Hello John,

That is one of the lowest serial numbers I have ever seen! It almost certainly came from the first batch off the assembly line made for public purchase.

I will try out your program later today if I have time [I'm located in California, so my "today" is not the same as your "today" :) ]. I also have a calculator from the first week, SN CNA 72101944. If I have similar results, perhaps that would lend strength to the "different batches" theory. It wouldn't make it any less frustrating, of course.

### **Re: Help needed NOW (real time) - stuck in a loop**

Message #59 Posted by **Maximilian Hohmann** on 9 Oct 2007, 4:14 p.m.,  
in response to message #1 by John Wasilewski

Hello!

Quote:

... I have keyed in the whole 473-line program a THIRD time to test a third time. ...

I am really a patient and quiet person, but I think in your position, what I would do (and with the greatest of pleasures and satisfaction!), is the following:

I would go to the garage and fetch my anvil. Then I would go to the garage again and fetch my largest hammer (and it is really large, I used it to drive the fenceposts in). This second walk to the garage is necessary, because anvil and hammer are too heavy to be carried together, at least for me. Then I would place the malfunctioning piece of equipment quietly and delicately on the anvil. I would quietly talk to it one more time and give it ten seconds to recover from its stalled condition. If it still doesn't want to listen, a very short while later I would be the proud owner of the world's thinnest pocket calculator :-)

Greetings, Max

NB: An alternative treatment is this one, that I applied to my first Ti30 when the keyboard went completely unusable: I removed the back cover. Then I plugged two cables into the 220V (as it was then, now we have 240V which works even better) wall outlet. Then I put on protective glasses. And only then, I connected one cable to one corner of the PCB and the other cable to the opposite corner.

*Edited: 9 Oct 2007, 4:15 p.m.*

### **Re: Help needed NOW (real time) - stuck in a loop**

Message #60 Posted by **John Wasilewski** on 9 Oct 2007, 4:28 p.m.,  
in response to message #59 by Maximilian Hohmann

Excellent plan. I was thinking of using the HP35s as part of the packing in the anvil of a Delmag D40 diesel piling hammer. That is something I think it would be really good for. It is always so rewarding to know that things can be put to good use...

### **Re: Help needed NOW (real time) - stuck in a loop**

Message #61 Posted by **Dave Shaffer (Arizona)** on 9 Oct 2007, 4:40 p.m.,  
in response to message #59 by Maximilian Hohmann

Quote:

NB: An alternative treatment is this one, that I applied to my first Ti30 when the keyboard

went completely unusable: I removed the back cover. Then I plugged two cables into the 220V (as it was then, now we have 240V which works even better) wall outlet. Then I put on protective glasses. And only then, I connected one cable to one corner of the PCB and the other cable to the opposite corner.

LOL! You don't happen to have a video??? Maybe John W can make a video if he decides to flatten his 35S .

### **Re: Help needed NOW (real time) - stuck in a loop**

*Message #62 Posted by **Maximilian Hohmann** on 10 Oct 2007, 2:43 a.m.,  
in response to message #61 by Dave Shaffer (Arizona)*

Hello!

Quote:

LOL! You don't happen to have a video???

No, this was long before home video became affordable... I got the idea to finish the calculator in this manner when I tried to repair my psychedelic lights (anybody remember those?) with a grounded soldering iron while the unit was still connected to the mains. Somehow it is kind of a miracle that we all survived our teenage years, isn't it?

Greetings, Max

BTW: Instead of sending the calculator to the "Blender Man" mentioned elsewhere, one could also send it to the bikini girls here. They will give it its deserved treatment with much more style:  
[http://www.bikinirama.de/img/user/Videos/BIKINIRAMA\\_iPhone\\_011\\_3224.mov](http://www.bikinirama.de/img/user/Videos/BIKINIRAMA_iPhone_011_3224.mov)

### **Re: Help needed NOW (real time) - stuck in a loop**

*Message #63 Posted by **Meenzer** on 10 Oct 2007, 3:20 a.m.,  
in response to message #62 by Maximilian Hohmann*

Quote:

[...]mentioned elsewhere, one could also send it to the bikini girls here. They will give it its deserved treatment with much more style:  
[http://www.bikinirama.de/img/user/Videos/BIKINIRAMA\\_iPhone\\_011\\_3224.mov](http://www.bikinirama.de/img/user/Videos/BIKINIRAMA_iPhone_011_3224.mov)

Style? It's just plain sexist.

### **Eve of Destruction (was: Re: Help needed NOW (real time) - stuck in a loop)**

*Message #64 Posted by **Walter B** on 10 Oct 2007, 3:25 a.m.,  
in response to message #62 by Maximilian Hohmann*

Ooooh ouch, that movie's really hardcore ;) (Naja, mit der Schraubzwinde muss sie noch ein bisschen üben ;)

Thanks for sharing!

*Edited: 10 Oct 2007, 3:27 a.m.*



---

**Re: Help needed NOW (real time) - stuck in a loop**

Message #65 Posted by [John Keith](#) on 9 Oct 2007, 6:56 p.m.,  
in response to message #59 by Maximilian Hohmann

As someone experienced with the wanton destruction of electronic equipment, I recommend applying the 240V, THEN the sledge hammer!

John

---

**Re: Help needed NOW (real time) - stuck in a loop**

Message #66 Posted by [gteague](#) on 9 Oct 2007, 8:05 p.m.,  
in response to message #65 by John Keith

the sad fact of history in the 21st century--if it ain't on youtube, it didn't happen ... [g]

/guy

---

**Re: Help needed NOW (real time) - stuck in a loop**

Message #67 Posted by [DaveJ](#) on 9 Oct 2007, 10:30 p.m.,  
in response to message #59 by Maximilian Hohmann

No, send it to [This Guy](#) He will make a video and post, and then we can all see if the 35S can be blended!

Dave.

---

**Re: Help needed NOW (real time) - stuck in a loop**

Message #68 Posted by [Vieira, Luiz C. \(Brazil\)](#) on 9 Oct 2007, 9:29 p.m.,  
in response to message #1 by John Wasilewski

HI, John;

I'm willing to enter the program you listed and run it. To do so, I want to know if you have a couple of executable examples with the expected results/behavior. Would that be possible? I'll also try to follow the listings and get the expressions/equations/formulas you had used.

In a previous post, you added:

Quote:

Probably-suitable date with which to test it are:

M=100,000,000

Y=460

F=35

C=40

H=360 (over-ride suggested value)

B=300 (over-ride suggested value)

Bar diameter = 20

---

Are these still valid data? In another thread you describe the following variables and their corresponding registers:

Quote:

---

|       |  |
|-------|--|
| A     | Working storage register                       |
| B     | Breadth of beam                                |
| C     | Cover (assumed same top, bottom, sides)        |
| D     | Effective depth (depth to centre of tens bars) |
| E ??? | Previous weight of tens + comp bars ???        |
| F     | fcu  |
| G ??? | Previous weight of tens + comp bars ???        |
| H     | Depth of beam                                  |
| I     | k1   |
| J     | k2   |
| K     | k3   |
| L     | Prev comp bar size                             |
| M     | MR   |
| N     | M carried on concrete                          |
| O     | Tens bar diameter d                            |
| P     | No of tens bars                                |
| Q     | Comp bar diameter d'                           |
| R     | No of comp bars                                |
| S     | Area of tens steel                             |
| T     | Area of comp steel                             |
| U     | Gm (steel) = 1.05                              |
| V     | Gm (concr) = 1.5                               |
| W     |  |
| X     | Depth of neutral axis                          |
| Y     | fy   |
| Z     | Lever arm tens bars to centre of conc comp     |

---

Later, you follow a more complete description with some values like:

Moment of resistance  
M=40,000,000 (or maybe 100,000,000)kn-m  
Steel characteristic strength f(y)  
Y=460 N/mm2

and so. Any changes? Comments?

I'll take my two-days vacation time plus the weekend, and do some things I like the most, using calculators being one of them.

Best regards.

Luiz (Brazil)

## **Re: Help needed NOW (real time) - stuck in a loop**

*Message #69 Posted by **John Wasilewski** on 10 Oct 2007, 3:39 a.m.,  
in response to message #68 by Vieira, Luiz C. (Brazil)*

Luis,

The data you quote from my previous postings are fine. Just be sure to over-ride the suggested section depth and width with smaller values (which will make it necessary to include compression steel), but then enter tension steel bar diameter only (leaving the program to decide on the compression steel bar diameter).

Also, please email me with your email address so that I can send you a properly formatted listing that has correct characters and is much easier to read.

NB I hope you also saw my message yesterday in which I described two small changes to the program before my most recent debugging attempt, which showed that it was stuck in a loop.

---  
John

**Re: Help needed NOW (real time) - stuck in a loop**

*Message #70 Posted by [Mark Storkamp](#) on 10 Oct 2007, 10:05 a.m.,  
in response to message #69 by John Wasilewski*

I did type your program into my 35S. I ran it per your directions, and I have not had any problem with it. The serial number on mine is CNA 72600768 in case someone knows how to decode that and tell if ours are from a different batch. I've had no strange behavior with mine other than missing and 'ENTER' or a '0' a few times (but I tend to push those in rapid succession).

**Re: Help needed NOW (real time) - stuck in a loop**

*Message #71 Posted by [Seth Morabito](#) on 10 Oct 2007, 1:56 p.m.,  
in response to message #70 by Mark Storkamp*

Your serial number indicates that your 35s was made at Chinese Factory "A" [CNA], in 2007 [7], in the 26th week of the year [26], and that it was number 768 made during that week [00768].

As soon as I have some time, I will try keying in John's program on my calculator, which came out of one of the first batches (CNA 72101944).

**Re: Help needed NOW (real time) - stuck in a loop**

*Message #72 Posted by [John Wasilewski](#) on 10 Oct 2007, 4:35 p.m.,  
in response to message #71 by Seth Morabito*

[pre] I have submitted this to HP:

HP 32sII scientific calculator e-mail support

Please verify that all the information below is correct, and then at the bottom of this page click Send to send your e-mail, or click Back to make any changes.

Select a problem area.\* hardware

When did you purchase your product?\* Sep2007

What is your serial number (SN)?\* CNA 72100255

If there is an error message, please specify. None

What is your model/product series number? HP 35s Scientific calculator

Please provide the exact problem description.\*

THIS IS NOT A REQUEST FOR HELP WITH MY PROGRAM. It is a report of a disastrous hardware fault that prevents me from developing serious software and forces me to erase all of the work stored on the calculator every time it happens. In short, when a simple bug in my program puts the calculator in an endless loop, it refuses to accept any keyboard command to

make it stop and let me find my error, and I am forced to erase all memory every time.

The HP35s scient.calculator sometimes becomes stuck in a loop which I cannot break out of. Ive tried C R/S, C+R/S, C+GTO, C+GTO+i, (from the manual) and none of these works. I have now lost all of my work THREE TIMES by having to use pin-reset, which clears everything from memory.

Ive lost three programs, one of which was 473-lines long, which I am now facing having to key in for a fourth time before I can debug it. The problem is that the calculator cannot be interrupted when stuck in a loop. This does not happen with all continuous loops but it does happen EVERY TIME with a particular piece of code. Result: impossible to debug a simple program and I lose ALL MY WORK since the beginning of time on the HP35s. Please dont reject my request with an unhelpful comment and then just ignore me.

THIS IS NOT A REQUEST FOR HELP WITH MY PROGRAM.

It is a report of a hadware fault - the calculator becomes uncontrollable unless I erase everything.

Please list previous troubleshooting steps, or information that can help HP assist you.

After having the calculator just hang for the first two times that I had to cold-reboot with the pin in teh back, I added some debug steps before trying again. Unfortunately, I used a PSE not a STOP statement, but this is why I know it is stuck in a loop. It just keeps displaying my PSE message for half a second then displaying "RUNNING" for 2.5 secs, then repeating forever, whilst refusing to let me interrupt it.

From a user-group forum, I now know that my calculator, serial number CNA 72100255, is an early one. I have learned also that the same calculator from a later manufacturing batch does not display this errant behaviour. The serial number of the "good" calculator was CNA72600768. For more information please see <http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/forum.cgi?read=126072#126072>

---- John Wasilewski 54 Yarnells Hill North Hinksey Oxford OX2 9BE

Has anything changed since the unit functioned properly (installation of SW, settings, cabling, etc.).

Nothing. Except that I have had my 10 Oct 2007 12:51 request for technical support on this (HP ref KMM20289652V17107L0KM) rejected by "Mike" of HPs "Total Care" at support-e@hpcalcs.com because I dont live in North America apparently.

Define your technical skill area: advanced

first name\* John

last name\* Wasilewski

e-mail address\* John@Wasilewski.co.uk

confirm e-mail address\* John@Wasilewski.co.uk

phone number\* +44(0)77900891107

country/region\* United Kingdom

I agree to receive HP email messages including free support updates, newsletters, exclusive offers and more. yes

[/pre]

**John, I'm sure HP will get this response...**

*Message #73 Posted by [Gene Wright](#) on 12 Oct 2007, 11:01 a.m.,  
in response to message #72 by John Wasilewski*

No need to worry. The proper people will get your report.

What to do?

Return the calculator to get another by returning it to where you bought it from and exchange it for another.

**Re: Help needed NOW (real time) - stuck in a loop**

*Message #74 Posted by [John Wasilewski](#) on 10 Oct 2007, 4:41 p.m.,  
in response to message #70 by Mark Storkamp*

Mark, please explain.

Do you mean the program went wrong (as it should because it is still not correct) and became stuck in a loop because of my programming error(s), and that, most importantly, you were then able to break out of the endless loop? A more detailed report would be very helpful, especially after you went to such a great effort to type in so many lines of draft code

-- John --

**Re: Help needed NOW (real time) - stuck in a loop**

*Message #75 Posted by [Mark Storkamp](#) on 10 Oct 2007, 4:58 p.m.,  
in response to message #74 by John Wasilewski*

"Do you mean the program went wrong (as it should because it is still not correct)"

I don't know what your program does, I don't know if it generates a correct answer or not. I just typed it in, and when it seemed to not give a correct answer I re-read through the listing to be sure I made no mistakes.

"and became stuck in a loop because of my programming error(s), and that, most importantly, you were then able to break out of the endless loop?"

It's never got stuck in a loop.

" A more detailed report would be very helpful, especially after you went to such a great effort to type in so many lines of draft code"

Again, I don't know the problem your program is trying to solve, but it isn't locking up the calculator.

**Re: Help needed NOW (real time) - stuck in a loop**

*Message #76 Posted by [John Wasilewski](#) on 13 Oct 2007, 3:03 p.m.,*

*in response to message #75 by Mark Storkamp*

Do you still have the code in the calculator, Mark?  
If so, could you run this test for me?

Input is prompted with M=? etc except where shown differently in the data below.

```
XEQ B
M=150,000,000 R/S
Y=460 R/S
F=36 R/S
```

At this point the program computes suggested values of H and B then prompts for user input.

Please over-ride the suggested values by reducing them by about 20% to 30%.

i.e.  
H={put in about 70% to 80% of suggested value} R/S  
D={put in about 70% to 80% of suggested value} R/S

Program will now prompt for "C,T BAR SIZES" then stop waiting for input, without a "?" prompt. It is asking for either a value in X and another in Y or just a value in X

please choose the latter and enter only this:  
20 R/S

Now watch.  
The program should enter an endless loop because of a mistake in my source code.

I need to know  
1. If it DOES enter an endless loop,  
2. Whether you can or cannot break the loop,  
3. Your serial number.

That is all.

If you are able to run this test for me then thanks in advance!

---  
John

## **My first review (was: Help needed NOW (real time) - stuck in a loop)**

*Message #77 Posted by [Vieira, Luiz C. \(Brazil\)](#) on 10 Oct 2007, 5:37 p.m.,  
in response to message #69 by John Wasilewski*

Hi, John;

please, feel free sending me a MS Word-formatted copy of the listing:

lodata [at] quantica (dot) com {dot} br

You will surely know how to un-SPAM the e-address above, right?

About the small changes you suggested: yes, I read about them. But for the fact that the calculator locks

up, these modifications may not actually change it, they will actually update L-register contents with current Q-register contents (step #323) and allow the message 'COMP BARS' to be shown when the program is computing their value (is that correct?). In fact, as far as I could check, nothing leads to a lock-up condition.

I had some spare moments to have a look at the program listings, and I checked a couple of routines that seemed fine:

B045 - returns  $((\text{beam depth}) \times (d-d')/2) - (2 \times \text{cover})$

B057 -  $(1 \pm f_y / (700 \times G_m))$

B157 - Main program - computes K1, K2 and K3 (up to B210)

Some things that called my attention:

B020 - it reads 'Get next bar size', but it has no valid code in this particular step it.

Also, it seems to me something is missing in this particular routine. Consider that we have any valid numbers in X- and Y-register, like A (X) and B (Y). B021 compares them both ( $x > y$ ?), and program execution may jump to step #B042 (true) or follow #B023 (false). If false, '10,00' is placed in X-register, the stack lifts and A is placed in the Y-register. Step #B024 compares 10 with A; again, program execution may jump to step #B042 (true) or follow #B026 (false). If false, '12,00' is placed in X-register, the stack lifts and '10,00' is placed in the Y-register. If this point is reached, program execution always jumps to #B042 (12 in X is greater than 10 in Y), whatever value is A, given that  $A > B$ ,  $A < 10$ , and the routine will return with '10,00' in the X-register.

Steps #B290 to #B294 also need attention. Please, follow:

```
290.    x>0?
291.    GTO B292
292.    1
293.    1
294.    +
```

Whatever you have in the X-register, being it zero or not, the sequence always returns 2 in the X-register.

A little improvement. Steps #B174 to #B176, you have:

```
174.    1
175.    64.96875
176.    ÷
```

It could be shortened in one step (and use one single stack register) with::

```
174.    64.96875
175.    1/x
```

In fact, if you go further, the whole sequence (step #B174 to #B182) might be improved. From the original:

```
174.    1
175.    64.96875
176.    ÷
177.    RCL F
178.    RCL V
179.    ÷
180.    1.5
181.    yx
182.    x
```

it could be:

```
174.    RCL F
175.    RCL V
176.    ÷
177.    1.5
178.    yx
179.    64.96875
180.    ÷
```

Just an improvement, does not change the result.

I'll keep investigating tonight, but I have not yet entered the program in the calculator. There is a program in memory I'm recording, but I guess I'll do it tonight.

Best regards.

Luiz (Brazil)

*Edited: 10 Oct 2007, 5:52 p.m.*

**Re: My first review (was: Help needed NOW (real time) - stuck in a loop)**

*Message #78 Posted by [John Wasilewski](#) on 10 Oct 2007, 6:14 p.m.,  
in response to message #77 by Vieira, Luiz C. (Brazil)*

Great to have your input Luiz. I've emailed teh code as an M\$Word attachment. I'll look at optimising the code if and if ever I get the calculator to work. Your ideas will be most welcome.

Pls note I will be offline for a fw days.

IF ANYONE ELSE WANTS A COPY OF THE CODE PLEASE SEND IT TO THEM

---

John

**Re: My first review (was: Help needed NOW (real time) - stuck in a loop)**

*Message #79 Posted by [Seth Morabito](#) on 10 Oct 2007, 6:26 p.m.,  
in response to message #78 by John Wasilewski*

I too would like a copy of the program in MS Word format, if you are still online. If not, Luiz, would you be so kind as to send it to me? My address is sethm {at} loomcom {dot} com

Thank you!

**Re: My first review (was: Help needed NOW (real time) - stuck in a loop)**

*Message #80 Posted by [Vieira, Luiz C. \(Brazil\)](#) on 10 Oct 2007, 7:46 p.m.,  
in response to message #79 by Seth Morabito*

Hi, Seth;

you have mail...

Best regards.

Luiz (Brazil)



---

**Re: My first review (was: Help needed NOW (real time) - stuck in a loop)**

Message #81 Posted by [vq](#) on 12 Oct 2007, 9:08 a.m.,  
in response to message #78 by John Wasilewski

Quote:

---

IF ANYONE ELSE WANTS A COPY OF THE CODE PLEASE SEND IT TO  
THEM --- John

---

After typing the whole program into my HP35S (thanks, John, for the formatted listing), I can fully confirm John's frustrating experience.

NO WAY to stop the running cycle but the pin-reset which clears everything. I'll type my set of short functions back but I definitely won't try to use HP35S for any longer code - no time to risk a total loss of data/code with an unstable calc (with no I/O to backup). What a shame.

Maybe others don't have problems like this which would be very interesting to know - can more other users do the test and send their experience (and S/N)?

My S/N is CNA 72100299, only 44 items from John's calc, most likely the same production day. Bought in UK by mail delivery. If it proves to be only a problem of a specific batch, I would consider returning/replacing the calc, though for me (not living in UK), the costs and troubles related to postage etc. make the warranty rather unattractive.

The recent experience, at least for me, raises very strong doubts about the HP35S:

1. The calc is far from optimal for hand calculations (Shifted STO, ENTER needs to be pressed when invoking any programmed function, R/S badly positioned far from the 'centre', cumbersome use of indirect addressing in hand calculations and more issues discussed in other posts). Probably worse than HP33S for hand calcs.
2. Keyboard layout looks more suitable for programming, BUT NOT ALLOWING RELIABLE DEBUGGING OF A LONGER CODE!

Maybe too sceptical conclusion, but a large ENTER key and a retro look is not all that matters :-( Sorry.

VQ, Prague, Czech Rep.

---

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## HP Forum Archive 17

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### HP 70 and 80 calculator???

Message #1 Posted by [Eric Fries](#) on 9 Oct 2007, 2:23 a.m.

What does the forum make of this strange looking HP 80 I recently purchased? You can view the eBay listing I bought it from at: <http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&rd=1&item=170149889457&ssPageName=STRK:MEWN:IT&ih=007>. Thanks for your opinions.

Strange, rare or practical joke????

### Re: HP 70 and 80 calculator???

Message #2 Posted by [Dave Johnson](#) on 9 Oct 2007, 9:26 a.m.,  
in response to message #1 by Eric Fries

Somebody had parts to two calcs and combined them into one..... Maybe there is a mathematical exercise of how many different possible combinations there may be???

### Re: HP 70 and 80 calculator???

Message #3 Posted by [Allen](#) on 9 Oct 2007, 9:39 a.m.,  
in response to message #1 by Eric Fries

I would guess that the calculator is an HP80 since the nomenclature on the face most closely fits that model. You could try the button in the lower right to see what the electronics are.

```
PI  -> HP35
0   -> HP70
1   -> HP45 or HP80
R/S -> HP 55,65, or 67 (not likely)
```

The Franken-calc CLX and STO keys are probably from a HP-35, while the six orange keys are obviously from a HP-70.

[http://www.enterhp.com/images/HP70\\_B-512.jpg](http://www.enterhp.com/images/HP70_B-512.jpg) [http://www.enterhp.com/images/80\\_4974-512.jpg](http://www.enterhp.com/images/80_4974-512.jpg)  
[http://www.enterhp.com/images/35\\_miscE2-512.jpg](http://www.enterhp.com/images/35_miscE2-512.jpg) -----> <http://members.chello.cz/eckstein/hp870-1.jpg>

NOTE: This is not a copy of the picture, but a direct link to <http://members.chello.cz/eckstein/hp870-1.jpg>

Edited: 9 Oct 2007, 1:08 p.m.

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## HP Forum Archive 17

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### Two new articles in next Datafile issue

Message #1 Posted by [Valentin Albillo](#) on 9 Oct 2007, 6:44 a.m.

Hi, all:

The very next V26N5 September/October 2007 [Datafile](#) issue, due within a week or so, will feature two new articles o'mine, this time *wholly centered on the brand-new HP 35s calculator*, namely

- *"Boldly Going ... - Going Back to the Roots"* (7-page article)
- *"HP35s - Storing Lotsa Lotsa Numbers"* (4-page article).

Both include programs specially created for each article.

Circumstances permitting (AGM and such), the next issue after that (V26N6 November/December 2007) will further include two new articles with a cherry on top, belonging to the *"Boldly Going ..."* and *"Long Live !"* series, respectively, the cherry beeing a short 3-page article, *"Time Voyager Revisited"*

If you're interested in **HP 35s'** *advanced programming* techniques, *state-of-the-art* numerical algorithms and their implementation in HP models, as well as some fun ramblings and elucubrations, you might consider making the necessary arrangements in advance in order to get your own copies as soon as they're released.

Best regards from V.

*Edited a typo out*

*Edited: 9 Oct 2007, 7:55 a.m.*

### Re: Two new articles in next Datafile issue

Message #2 Posted by [hugh steers](#) on 9 Oct 2007, 4:30 p.m.,  
in response to message #1 by Valentin Albillo

hi valentin,

thanks for the info. i shall certainly read them with interest.

incidentally, your mention of "elucubrations" reminded me of the chapter on Karl Weierstrass in calculus gems by george f.simmons. if anyone doesn't know what im talking about or hasn't read it. it's a ripping read for anyone whose interested in anything. not heavy on theory and excellently written.

### Re: Two new articles in next Datafile issue

Message #3 Posted by [Valentin Albillo](#) on 10 Oct 2007, 11:45 a.m.,  
in response to message #2 by hugh steers

Hi, Hugh:

Hugh posted:

*"thanks for the info. i shall certainly read them with interest."*

Thanks to you for your kind support, I sincerely hope you'll like them and even find both the techniques and resulting programs useful for your own work or personal enjoyment.

*"[...] reminded me of the chapter on Karl Weierstrass in calculus gems by george f.simmons."*

I'll get it at once, thanks for your recommendation.

The latest math book I'm currently re-reading is Klein's awesome "Lectures on the Icosahedron" but I'm afraid it's a little bit too technical and specialized for general recommendation.

Best regards from V.

### **Re: Two new articles in next Datafile issue**

Message #4 Posted by [james summers](#) on 10 Oct 2007, 4:20 p.m.,  
in response to message #1 by Valentin Albillo

Good news! I shall be watching the letterbox! Just hope the post strike here (UK) doesn't delay receipt.

### **Re: Two new articles in next Datafile issue**

Message #5 Posted by [Valentin Albillo](#) on 10 Oct 2007, 5:39 p.m.,  
in response to message #4 by james summers

Hi, james:

Thanks for your interest. I'm also suffering the UK post strike a bit as some materials I asked for can't be sent right now because of it, but fear not, I'm told it won't last.

Also, you'd probably be interested to know that I'm almost finished convincing a best friend of mine (who also happens to be an HPCC member and who on top of that owns an HP35s) to also write down a couple of HP35s-related high-quality articles for the November-December 2007 Datafile issue, so you're up for even more HP calc fun next Xmas.

Best regards from V.

### **Re: Two new articles in next Datafile issue**

Message #6 Posted by [P.Hart](#) on 10 Oct 2007, 3:41 p.m.,  
in response to message #1 by Valentin Albillo

Hooray! The last three Datafiles have not been worth opening with no contributions from VA. Now there is something good to look forward to again. Datafile should be renamed VAfile.

**LOL ! :-)**

Message #7 Posted by [Valentin Albillo](#) on 10 Oct 2007, 8:40 p.m.,  
in response to message #6 by P.Hart

Hi, P.Hart:

Really LOL, and as we say here: "*¡ Toma lo que quieras, yo invito !*" (i.e.: "*Help yourself to a drink, my treat !*" )

You know what ? Comments like yours are what it takes to get this guy to keep on writing articles for free at 5:00 AM to try and get them in the hands of the Editor before the inexorable issue deadline is past due, so that interested people would be able to find them there. Money wouldn't do.

In return I'll dedicate my very next "***Long Live ...***" article to you, kind reader, your enthusiastic comment's been the only thing that made me laugh today, at 2:40 AM local time. That's quite an accomplishment, believe me.

Thanks for your kind support and best regards from V.

**Re: LOL ! :-)**

*Message #8 Posted by **P.Hart** on 13 Oct 2007, 2:13 p.m.,  
in response to message #7 by Valentin Albillo*

Glad to have given you some encouragement.

an admiring P.Hart

**Re: Two new articles in next Datafile issue**

*Message #9 Posted by **Dave Colver** on 12 Oct 2007, 4:48 p.m.,  
in response to message #6 by P.Hart*

\*searches member list for p.hart\*

scratches head

\*wanders off mumbling to himself\*

---

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## HP Forum Archive 17

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### Vectors on 35s

Message #1 Posted by [reto](#) on 8 Oct 2007, 5:10 p.m.

Hello there.

This is my first post. I use hp rpn calculators since long and have some of them (45, 21, 41cv, 41cx, 11c, 12c, 28s, 48sx, 23sII). I also have a 20s, not rpn, but never used it.

Im looking forward to buy the new 35s, but here where I live I cant't test it, have to order it per internet.

Can someone tell me how good is the 35s for working with 2d and 3d vectors, changing them from rec to pol and so on?

And how good is it for solving linear equations systems and second degree equations?

Thank you very much for the help

Reto

### Re: Vectors on 35s

Message #2 Posted by [Meenzer](#) on 9 Oct 2007, 1:46 a.m.,  
in response to message #1 by reto

Get the [HP 33s \(!\) pdf manual](#) and read it. You'll get a pretty good impression what the 35s (!) can do, both (machines and manuals) are quite similar in many ways.

Go to [hp.com](#) and read the pdf training modules for the 35s (!) that I've linked you to about whatever interests you and find out more about that machine. Especially about [vectors here](#) as a pdf.

Vector support is limited, matrices are not supported at all, just a build in linear solver up to 3x3...

*Edited: 9 Oct 2007, 1:49 a.m.*

### Re: Vectors on 35s

Message #3 Posted by [reto](#) on 9 Oct 2007, 2:40 a.m.,  
in response to message #2 by Meenzer

Thank you for your answer Meenzer.

I already have read the pdf about vectors on the hp website. Not very useful, can't understand why they publish it, it says nothing about cross product or polar form, gives only two examples of sum and dot product.

Now I looked at the 33 manual. Looks like the the calculator itself can not do very much with vectors. If I understand in right, you have to write programs yourself for polar form, cross product, rectangular to polar

conversion and so on. Am I right?

On the 33 manual there is also a program to solve simultaneous equations. Can the 35s not solve such equations itself, I mean without writing a program?

Thank you very much

Reto

### Re: Vectors on 35s

Message #4 Posted by [Valentin Albillo](#) on 9 Oct 2007, 5:50 a.m.,  
in response to message #3 by reto

Hi, reto:

reto posted:

*" already have read the pdf about vectors on the hp website. Not very useful, can't understand why they publish it"*

Not very fair to Gene.

*"If I understand in right, you have to write programs yourself for polar form, cross product, rectangular to polar conversion and so on. Am I right?"*

More or less.

*"On the 33 manual there is also a program to solve simultaneous equations. Can the 35s not solve such equations itself, I mean without writing a program?"*

Just the 2- and 3-simultaneous-linear-equations cases, and not very convenient to use at that.

As a side comment, this machine has:

- no support for matrices or linear systems (save 2- and 3- cases)
- minimal support for vectors
- minimal support for alpha capabilities
- passable support for fractions
- decent ergonomoy and usability
- much better support for complex numbers (but still lacking in some important ways)
- good support for equations
- excellent programmability (also lacking some important features)

Best regards from V.

### Re: Vectors on 35s

Message #5 Posted by [Arne Halvorsen \(Norway\)](#) on 9 Oct 2007, 2:16 a.m.,  
in response to message #1 by reto

I belive you will be disapointed with the vector type. It has not been utilized much by the machine itself: Only absolute value, vector arithmetic between vectors and vector/scalar is provided and cross product is missing.

I \*do\* find them usefull since I am programming and as such do create new vector operations in this: [project](#).

But if you are not interested in programming with vectors you probably will be disappointed.

And the bad news does not stop: If you are going to be programming with vectors it is my experience that you will have big problems with the 'vector syntax bug'. The machine stop accepting vectors. I am almost positive this happens when one has been in programming mode and/or equation mode and return to 'user mode'. Strange magic gets you out of it. The only thing that saves this bug from render vectors useless on this machine is that it do not seem to happen when operating purely in 'user mode'.

In general see the museums HP-35s bug [article](#).

## Re: Vectors on 35s

Message #6 Posted by [Thomas Klemm](#) on 9 Oct 2007, 3:19 a.m.,  
in response to message #1 by reto

Still what I consider a cool feature is the ability to use vectors within the solver. Not as variable you solve for but as input parameters for an equation.

Here's an example:

- Points A and B define a straight line.
- Point M is the center of a ball with radius R.

Now you can solve the following equation for T:

$$\text{ABS}(A + T*(B - A) - M) = R$$

IMHO that's pretty straight forward. And the same equation can be used for 2-dimensional and 3-dimensional vectors.

## Solving for a vector variable (was Re: Vectors on 35s)

Message #7 Posted by [Valentin Albillo](#) on 9 Oct 2007, 5:28 a.m.,  
in response to message #6 by Thomas Klemm

Hi, Thomas:

Thomas posted (the underlining is mine):

*"Still what I consider a cool feature is the ability to use vectors within the solver. Not as variable you solve for but as input parameters for an equation."*

That's not exactly correct, there are cases where SOLVE can and will solve for a vector variable. For instance, in RUN mode key in this proof-of-concept example:

```
EQN  Tx5=[2,0,0]
SOLVE T  ->  T = [0.4, 0, 0]
```

which is correct; more complicated examples are possible. The rule is that SOLVE will correctly solve for a 2D (or 3D) unknown vector if it has the 2nd (and 3rd) components equal to 0. This is covered in the User's Guide, by the way.

Similar restrictions apply to solving for complex numbers: this is solvable:

```
EQN  5*T=2i3
SOLVE T  ->  T = 0.4i0.6
```

but this is not:



```
EQN 5*T*T=2i3
SOLVE T -> BAD GUESS or NO ROOT FND
```

depending on the contents of variable T and stack register X.

Not tremendously useful, but it doesn't hurt to know about it either.

Best regards from V.

*Edited: 9 Oct 2007, 5:38 a.m.*

## Re: Vectors on 35s

Message #8 Posted by **Walter B** on 9 Oct 2007, 6:19 a.m.,  
in response to message #1 by reto

Of the RPN calculators "available" today, a 42s would fulfill your requirements best. Please read about its features in this museum. Many members of this forum consider the 42s being the best RPN calc ever built (though it has some shortcomings, too).

The bad news: This calc is pretty expensive to get your hands on, because many people share the opinion about its value, and it is almost exclusively available on auction sites.

Based on reported sales success of the 35s, there may be another calc following it, possibly a 42s-successor, but so far this is pure speculation or wishful thinking, whatever you want to call it.

HTH, Walter

## Re: Vectors on 35s

Message #9 Posted by **John Wasilewski** on 9 Oct 2007, 3:27 p.m.,  
in response to message #1 by reto

I will be excellent, if a little slow, but that won't matter for relatively small numbers of equations. With banded symmetrical equations, I'd guess you could get up to 12 or 15 equations into it, including the half-bandwidth solver. Skyline storage or a frontal solver might do better.

It is also an excellent calculator, and I'm pleased to bits with it except for one problem. This one problem is, however, fairly catastrophic. Mine gets stuck in a loop from which I cannot break out, if my code makes it possible to do that by accident before I have finished debugging.

From your question, I would guess that, like me, you will be developing some complex software, some of which could also be quite long. Well, here's the thing. If your machine is like mine then you probably cannot develop advanced software like this. This is because, unless you can guarantee there will be no loops with bugs in them, you will not be able to debug your program without constantly losing the entirety of your work - yes, ALL OF IT - in both the current program and everything else you have also written.

The only way of brealing out of a loop, I have found, is to use a hard-reset, which clears the entire memory. Unless I do this, I can't even switch the calculator off when it gets into its stuck-in-a-loop modes.

John Wasilewski

## HP Forum Archive 17

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### Wiki HP50g - 50g Basics Update

Message #1 Posted by [Eddie W. Shore](#) on 7 Oct 2007, 9:27 p.m.

This page is aimed for the beginner and/or inexperienced user - aimed to give a quick introduction to the 50g calculator. The URL is: <http://hp50g.pbwiki.com/50g+Basics?l=S>

If you want to comment or ask questions, please email me. Thanks!

Have the great rest of Sunday.

*Edited: 7 Oct 2007, 9:55 p.m.*

### Re: Wiki HP50g - 50g Basics Update

Message #2 Posted by [John \(Corvallis\)](#) on 8 Oct 2007, 1:40 a.m.,  
in response to message #1 by Eddie W. Shore

Please check the first example problem. It is shown as:  $8 + 2 * (16 \div 4) - 2$ . This evaluates to 14, not 38. Changing the expression to  $(8 + 2) * (16 \div 4) - 2$  yields 38. Or have I missed something?

### Re: Wiki HP50g - 50g Basics Update

Message #3 Posted by [Les Bell](#) on 8 Oct 2007, 1:54 a.m.,  
in response to message #2 by John (Corvallis)

Quote:

Changing the expression to  $(8 + 2) * (16 \div 4) - 2$  yields 38.

Or change the keystroke sequence to:

8 [Enter] 2 [Enter] 16 [Enter] 4 [ $\div$ ] [x] [+] 2 [-]

which would reflect the expression as written.

Best,

--- Les

[<http://www.lesbell.com.au>]

### Re: Wiki HP50g - 50g Basics Update

Message #4 Posted by [Rodger Rosenbaum](#) on 8 Oct 2007, 3:47 a.m.,  
in response to message #1 by Eddie W. Shore

You say:

"The neat thing is that the Factorial function can accept all real numbers as well as complex ones. In fact the 48 series, 49 series, 50g, 33s, and 35s does this. Just make sure x is not a negative integer."

The 48 series has only the factorial (!) function, and it does not accept complex arguments. And even in the later machines, the "!" function doesn't accept complex arguments; on my HP49G+ and HP50G, it's the "gamma" function that does.

### **Re: Wiki HP50g - 50g Basics Update**

*Message #5 Posted by [Eddie W. Shore](#) on 8 Oct 2007, 9:46 a.m.,  
in response to message #4 by Rodger Rosenbaum*

Thank you Rodger, John, and Les:

The edits have been made, and I appreciate the feedback. (Keep it coming)

As far as the factorial section, I changed it say "it can accept all real numbers" and nothing else.

*Edited: 9 Oct 2007, 9:10 a.m.*

### **Re: Wiki HP50g - 50g Basics Update**

*Message #6 Posted by [Hal Bitton in Boise](#) on 8 Oct 2007, 3:55 p.m.,  
in response to message #1 by Eddie W. Shore*

Hi Eddie,

Nice page. Just a couple of things I notice. Concerning the reciprocal key, it divides the number into 1, not by 1. Also, you may want to mention that if there is a command line present, the action will be performed on it (rather than on level 1).

Best regards, Hal

---

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## HP Forum Archive 17

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### **48gx door prize Paul Shannonhouse on case**

Message #1 Posted by *[Don Shepherd](#)* on 7 Oct 2007, 9:02 p.m.

To the person at HCC2007 who got the door prize of the 48gx with the case with "Paul Shannonhouse" written on it. Mr. Shannonhouse just sent me the "HP 48G Series Quick Start Guide." It looks like a lot of useful info. If you would like me to send it to you, let me know.

---

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## HP Forum Archive 17

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### Trivia quiz and mini-challenge: Classic HP35

Message #1 Posted by [Allen](#) on 7 Oct 2007, 11:57 a.m.

Two quick quizzes for your Sunday pleasure:

1. Who bought the first HP 35 when it was first released in 1972?
2. Sometimes you will see a calculator display read:

123456789

as proof that the keyboard is working. But there is more than one way to get the calculator to display this. What keystroke sequence (on the HP35 or HP35s) provides the FEWEST number of keys used. Obviously there are two easy answers:

1. (1 key) Press Sigma+ 123 Million times, or
2. (9 keys) Press the numbers in 1-9

is there another way??

### Trivia quiz and mini-challenge: Classic HP35

Message #2 Posted by [Jake Schwartz](#) on 7 Oct 2007, 5:10 p.m.,  
in response to message #1 by [Allen](#)

Quote:

1. Who bought the first HP 35 when it was first released in 1972?

Hint: Check HP Key Notes, Volume 6 Number 1 (February 1982) Page 14 in the lefthand column for the answer.

Jake Schwartz

### Re: Trivia quiz and mini-challenge: Classic HP35

Message #3 Posted by [Paul Dale](#) on 7 Oct 2007, 5:19 p.m.,  
in response to message #1 by [Allen](#)

I'm not sure of the sequence that requires the fewest keystrokes, I've not thought up anything shorter than keying in the digits.

What might be more interesting would be a practical method (i.e. at most a couple of hundred keystrokes) that uses a minimum of \*different\* keys to get the number 123456789 on the display. I.e. what minimal functionality is required in order to get this display.

Off the top of my head, I can think of a simple algorithm that requires four different functions / five different

keys (need that shift). To get the '1' digit do something like:

```
CLx
orange shift 10^x
ENTER
ENTER
+
ENTER
+
ENTER
+
+
orange shift 10^x
```

Repeat similar sequences for the other digits and add them together. I think I could replace the shift 10^x sequence with a CLx, COS, +, ENTER, y^x series but this doesn't reduce the number of different keys which have to function and would increase the length significantly.

I'm sure somebody here can do better...

- Pauli

### Re: Trivia quiz and mini-challenge: Classic HP35

Message #4 Posted by [Gerson W. Barbosa](#) on 7 Oct 2007, 5:57 p.m.,  
in response to message #3 by Paul Dale

On the HP-35, the best I was able to come up with was this 10-key sequence:

```
10
ENTER
x^y
91
-
81
/
```

Simpling typing 123456789 is still better...

Gerson.

### Re: Trivia quiz and mini-challenge: Classic HP35

Message #5 Posted by [Paul Dale](#) on 7 Oct 2007, 6:07 p.m.,  
in response to message #4 by Gerson W. Barbosa

You mean  $y^x$  instead of  $x^y$  I hope :-)

This sequence is one operation shorter but the same number of keystrokes:

```
10
10^x
91
-
81
/
```

- Pauli

### Re: Trivia quiz and mini-challenge: Classic HP35

Message #6 Posted by [Gerson W. Barbosa](#) on 7 Oct 2007, 6:14 p.m.,  
in response to message #5 by Paul Dale

Quote:

\_\_\_\_\_

You mean  $y^x$  instead of  $x^y$  I hope :-)

No, on the classic HP-35, that's the way it is!

Unfortunately it also lacks  $10^x$ . Anyway, your sequence is great on the newer HP-35S.

Regards,

Gerson.

**Re: Trivia quiz and mini-challenge: Classic HP35**

*Message #7 Posted by **Paul Dale** on 7 Oct 2007, 6:24 p.m.,  
in response to message #6 by Gerson W. Barbosa*

Oops, somewhere between between reading the question and attempting to solve it, I slipped from a 35 to a 35s :-( My earlier algorithm is also wrong for a 35.

- Pauli

**Re: Trivia quiz and mini-challenge: Classic HP35**

*Message #8 Posted by **Allen** on 7 Oct 2007, 8:07 p.m.,  
in response to message #3 by Paul Dale*

Quote:

\_\_\_\_\_

I'm not sure of the sequence that requires the fewest keystrokes..

\_\_\_\_\_

Not necessarily looking for the fewest keystrokes, but the fewest number of working keys. E.g.

81  
+  
91  
+

would be 4 different keys: +,1,8 and 9.

**Re: Trivia quiz and mini-challenge: Classic HP35**

*Message #9 Posted by **Paul Dale** on 7 Oct 2007, 8:26 p.m.,  
in response to message #8 by Allen*

huh?

That sequence doesn't seem like it would work properly... Does it?

However, here is a sequence that only requires three working keys and 83 keystrokes:

1  
ENTER + 1 +  
ENTER + 1 +  
ENTER +  
ENTER + 1 +  
ENTER +

```
ENTER + 1 +  
ENTER + 1 +  
ENTER +  
ENTER + 1 +  
ENTER + 1 +  
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ENTER +  
ENTER +  
ENTER + 1 +  
ENTER +  
ENTER + 1 +  
ENTER +  
ENTER + 1 +
```

You can get rid of the single numeric (1) keystrokes and use CLx, COS and extra ENTERs appropriately.

To understand what I did, take the binary expansion of 123456789 and read the bits left to right.

- Pauli

### Re: Trivia quiz and mini-challenge: Classic HP35

Message #10 Posted by [Gerson W. Barbosa](#) on 7 Oct 2007, 9:25 p.m.,  
in response to message #9 by Paul Dale

```
11111.11111  
ENTER  
*  
1.1  
-
```

17 keystrokes but five keys. You're the winner!

Gerson.

### Re: Trivia quiz and mini-challenge: Classic HP35

Message #11 Posted by [Paul Dale](#) on 7 Oct 2007, 9:34 p.m.,  
in response to message #10 by Gerson W. Barbosa

What about this slight modification:

```
9  
1/x  
EEX  
5  
*  
ENTER  
*  
1.1  
-
```

11 key strokes, 9 different keys.

- Pauli

*Edited: 7 Oct 2007, 9:35 p.m.*



### Re: Trivia quiz and mini-challenge: Classic HP35

Message #12 Posted by [Namir](#) on 7 Oct 2007, 9:00 p.m.,  
in response to message #1 by Allen

How about:

987654321

9

-

8

/

I started with a number that is the reverse of 123456789.

Also,

1111111111

10

-

9

/

Namir

*Edited: 7 Oct 2007, 9:05 p.m.*

### Re: Trivia quiz and mini-challenge: Classic HP35

Message #13 Posted by [Paul Dale](#) on 7 Oct 2007, 9:30 p.m.,  
in response to message #1 by Allen

Another almost solution at 7 commands:

5

10<sup>x</sup>

9

/

x<sup>2</sup>

1

-

To avoid the "10<sup>x</sup>", use: "EEX 5 ENTER" instead of the first two lines. Likewise, replace the "x<sup>2</sup>" with "ENTER \*"

Eight keystrokes on my 15c, no idea on the 35. Looks okay in FIX 0 mode.

- Pauli

### Re: Trivia quiz and mini-challenge: Classic HP35

Message #14 Posted by [Paul Dale](#) on 7 Oct 2007, 9:32 p.m.,  
in response to message #13 by Paul Dale

Change the final '1' to '1.1' to remove the dependency on the display setting at the cost of two additional keystrokes. This puts us more than typing the number in directly :-)

- Pauli

### Re: Trivia quiz and mini-challenge: Classic HP35

Message #15 Posted by [designnut](#) on 8 Oct 2007, 12:27 a.m.,  
in response to message #14 by Paul Dale

I just key in .0081 1/x Sam

### Answer missing a digit!!

Message #16 Posted by [Namir](#) on 8 Oct 2007, 1:16 a.m.,  
in response to message #15 by designnut

You get:

123.45679

Notice that there is an 8 missing ..... so it's back to the drawing board my friend!!

Namir

PS: I saw this same mistake on another web site. Hmmmmmmmmm .. did you copy your answer from that site?

*Edited: 8 Oct 2007, 11:57 a.m.*

### Re: Trivia quiz and mini-challenge: Classic HP35

Message #17 Posted by [Alex L](#) on 8 Oct 2007, 1:57 p.m.,  
in response to message #1 by Allen

Quote:

What keystroke sequence (on the HP35 or HP35s) provides the FEWEST number of keys used. Obviously there are two easy answers:

1. (1 key) Press Sigma+ 123 Million times, or 2. (9 keys) Press the numbers in 1-9

is there another way??

3 keys, but lots of keystrokes: 9 ENTER ENTER ENTER + (13717421 times)

This has the added "advantage" of allowing one to truthfully declare: "Tested basic math operation and numeric keyboard."

### Re: Trivia quiz and mini-challenge: Classic HP35

Message #18 Posted by [Stefan Vorkoetter](#) on 8 Oct 2007, 1:59 p.m.,  
in response to message #1 by Allen

How about:

3 ENTER x 3803 x 3607 x

Thirteen keystrokes, seven different keys, only five working digit keys.

Stefan

**Re: Trivia quiz and mini-challenge: Classic HP35**

*Message #19 Posted by [Stefan Vorkoetter](#) on 8 Oct 2007, 2:02 p.m.,  
in response to message #18 by Stefan Vorkoetter*

Or the slightly shorter:

9 ENTER 3803 x 3607 x

Twelve keystrokes, but eight different keys of which six are digit keys.

**Re: Trivia quiz and mini-challenge: Classic HP35**

*Message #20 Posted by [Namir](#) on 8 Oct 2007, 3:26 p.m.,  
in response to message #1 by Allen*

Enter the number as the hexadecimal:

75BCD15h

And then convert it to the decimal. Still not less than 9 keys.

And another method. Store 1E9 in register A and then repeat:

```
RCL A
ENTER
<RS> RAND
*
+
```

You are generating random numbers between 1E9 and 2E9. A lucky random number will give you 123456789. The process uses 7 keys.

These keystrokes test how touch the keyboard is!!

**Re: Trivia quiz and mini-challenge: Classic HP35**

*Message #21 Posted by [Stefan Vorkoetter](#) on 8 Oct 2007, 3:33 p.m.,  
in response to message #20 by Namir*

I don't think the Classic HP35 has a RAND key.

**Re: Trivia quiz and mini-challenge: Classic HP35**

*Message #22 Posted by [Namir](#) on 8 Oct 2007, 4:48 p.m.,  
in response to message #21 by Stefan Vorkoetter*

We are having fun with this problem. Not adhering 100% to the rules is part of the fun.

If we want to get serious, this challenge is downright meaningless!! But like I said, we are having fun.

Namir

*Edited: 8 Oct 2007, 4:50 p.m.*

## Re: Trivia quiz and mini-challenge: Classic HP35

Message #23 Posted by **Paul Dale** on 8 Oct 2007, 3:46 p.m.,  
in response to message #1 by Allen

Finally got one that is less than nine keystrokes on a 15c. Not applicable to a 35 though.

A total of 7 commands, 8 keystrokes and 7 working keys required:

```
9
ENTER
10x
delta%
9
0
/
```

There are plenty of other ways to produce the 90 if we're in degrees mode (e.g. 0 COS<sup>-1</sup>; 1 SIN<sup>-1</sup> or ENTER TAN<sup>-1</sup>).

- Pauli

## Re: Trivia quiz and mini-challenge: Classic HP35

Message #24 Posted by **Namir** on 8 Oct 2007, 4:52 p.m.,  
in response to message #23 by Paul Dale

Your solution also works with the HP-41C/CV/CX. Good show man!!

Namir

## (Spoiler) Trivia quiz and mini-challenge: Classic HP35

Message #25 Posted by **Allen** on 8 Oct 2007, 5:12 p.m.,  
in response to message #23 by Paul Dale

Wow! Excellent submissions!!

1. Jake definitely got the award for the first part. He found the source of the trivia. HP Keynotes reports that a Professor R.J. Donnelly of the University of Oregon purchased the first production HP35, which as of 1982 is not in use, rather kept in a Bank box for safe keeping.
2. The part 2 award goes to Pauli for both the number of solutions and for the solution with the fewest KEYS needed to create the display:

```
123456789
```

Namir's submission was the closest to my original solution requiring 4 keys, but Pauli managed to find a solution with only 3 keys!!! EXCELLENT! My original 4-key solution could be done a few different ways, but the general formula, starting from a cleared stack (this can be done without pressing any buttons) is:

```
11111111111
-
-
1
-
1
-
1
-
-
```

```
1
-
1
-
1
-
1
-
1
-
1
-
1
-
9
/
```

Four keys: 1,9,[-] and [/]. This could also be done with (4444444444-40)/6/6 using 4 keys:4,6,[-],and [/].

## Re: Trivia quiz and mini-challenge: Classic HP35

Message #26 Posted by [Paul Dale](#) on 8 Oct 2007, 6:00 p.m.,  
in response to message #23 by Paul Dale

And of course if we're after a display of 1234567890 we can use this sequence which is one keystroke shorter but again not good for a 35 (6 commands, 7 keystrokes, 6 working keys on the 15c):

```
9
ENTER
10x
delta%
9
/
```

If we're happy with 12345.6789 displayed FIX 4 there is this one again for the 15c (6 commands, 10 keystrokes, 9 working keys):

```
9
ENTER
TANH
CHS
delta%
x2
```

- Pauli

---

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## HP Forum Archive 17

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### First Impression of HP 35s

Message #1 Posted by [DavidB](#) on 7 Oct 2007, 1:37 a.m.

Hello all,

I've been visiting HP Museum for about a year now. I enjoy this site because I have been using HP calculators for about 22 years. For the past week, I have been thinking a lot about HP calculators - mainly because of the 35s. Here is my 1st impression of the new calculator from HP.

When I found out about the new HP 35s, I knew I had to get one, even though my HP 32sII works just fine. My first HP calculator was the HP 15C, built like a tank and very practical in use. It was the best engineering calculator in the 80's. However, I lost that calculator many years ago.

Although I missed the HP party in San Diego, CA, I purchased the 35s as a sort of "thank you HP" for several reliable, high quality precision tools that they had created through the years. I just received the 35s this week. The key layout reminds me of the older C series calculators and is a positive improvement over the cluttered 32sII key layout. If there is one change I could make on the keyboard layout, it would be to have a separate STO key. To my eyes, the annunciators seem a bit too small on the display. Also, the 35s LCD screen has more reflections than the screen on my 32sII; with indoor lighting, it is more difficult to see the numbers on the 35s.

I'm not sure how to benchmark calculators; however, during some calculations, such as  $nCr$  ( $n=800$ ,  $r=400$ ), my 32sII found the result faster than the 35s. Other times, such as integration of the bessel function with  $x=2$ , the 35s was slightly faster. Again, these were subjective tests, nothing scientific about them.

I doubt I will use the 35s to its full capability (i.e. programmable features), unless I catch the RPN programming bug. Despite my display preferences, I hope the 35s sells well and will encourage HP to design future calculators with the same user-centered design approach and reliability that they have been famous for.

The 35s is a well thought out machine. I like the case that is supplied with it. The manual appears thorough (similar to the 32sII manual) and contains some errors in grammar and details. I wished HP had provided an electronic copy of the manual on the "bonus" CD video. Perhaps it will be available on the HP website.

The last time I was excited about a calculator was when I purchased a 15C in 1985. I'm glad I purchased this new 35s and am looking forward to future scientific/engineering RPN calculators from HP.

Sincerely, David Bailey, graduate student, Industrial and Systems Engineering Virginia Polytechnic Institute and State University, Blacksburg, VA

*Edited: 7 Oct 2007, 1:56 p.m. after one or more responses were posted*

### Re: First Impression of HP 35s

Message #2 Posted by [Eddie W. Shore](#) on 7 Oct 2007, 9:39 a.m.,  
in response to message #1 by [DavidB](#)

Welcome David, Hopefully you will be with us for a long time.

The cover of the 35s is the best one ever. However, you are right about the STO key. Also, the Polar/Rectangular conversions we have to perform ourselves. Overall, I am impressed.

All of the attendents received a 35s (Thank you HP!), and since I have one, one of my goals is to make someone else the 2nd person at the Cal Poly Pomona campus to have one. (I'm sure I am the first).

### Re: First Impression of HP 35s

Message #3 Posted by **Walter B** on 7 Oct 2007, 12:02 p.m.,  
in response to message #2 by Eddie W. Shore

Hi, Eddie,

Quote:

\_\_\_\_\_

The cover of the 35s is the best one ever.

\_\_\_\_\_

What do you mean by "cover" here?

### Re: First Impression of HP 35s

Message #4 Posted by **Eddie W. Shore** on 7 Oct 2007, 12:17 p.m.,  
in response to message #3 by Walter B

The hard cover that is on the calculator case.

### Re: First Impression of HP 35s

Message #5 Posted by **DavidB** on 7 Oct 2007, 1:50 p.m.,  
in response to message #2 by Eddie W. Shore

Hi Eddie,

I'm sure whoever will get your 35s will greatly appreciate it. On the 35s, HP placed the Polar  $\leftrightarrow$  Rectangular conversion functions within the DISPLAY menu. On the 32sII, the conversion functions are placed over the numerical 4 key. I find the Polar/Rect conversions on the 35s are just as easy as on the 32sII. On the 35s, if I want to convert polar coordinates (25 degree, 15) to rectangular (x,y), press the following keys:

15

right-shift (blue) key

Theta

25

left-shift (yellow) key

DISPLAY

xiy (selection 9)

ENTER may be required depending on how you select in the menu

The (x,y) coordinate is (13.5946, i6.3393) in degree MODE. The conversion on the 32sII is similar except there is no menu to use. I like the way complex numbers are shown on the 35s. I have to use the X exchange Y key on the 32sII to see the imaginary part.

Clarification: By reflections of the LCD screen on the 35s, I mean the glossy look of the screen. Placed at certain angles, the 35s screen is overwhelmed by the light source, hence, obscuring my view of the display information. The LCD screen of the 32sII is not glossy and does not reflect as much light into your eyes;

yet, the information is just as viewable as on the 35s.

Cheers,  
David Bailey

*Edited: 7 Oct 2007, 1:58 p.m.*

### **Re: First Impression of HP 35s**

*Message #6 Posted by **DavidB** on 7 Oct 2007, 2:12 p.m.,  
in response to message #1 by DavidB*

I am curious. In addition to the 35s, what other hand-held RPN scientific calculator does not have a separate STO (or RCL) key?

David Bailey

*Edited: 7 Oct 2007, 2:14 p.m.*

### **Re: First Impression of HP 35s**

*Message #7 Posted by **Allen** on 7 Oct 2007, 2:37 p.m.,  
in response to message #6 by DavidB*

The third generation 28c, 28s, 48/49/50 series.

Also a number of algebraic: 8s, 10s, 10b, 10bii,

### **Models lacking unshifted STO and RCL**

*Message #8 Posted by **Karl Schneider** on 7 Oct 2007, 2:55 p.m.,  
in response to message #7 by Allen*

- *Q: I am curious. In addition to the 35s, what other hand-held RPN scientific calculator does not have a separate STO (or RCL) key?*
- *A: The third generation 28c, 28s, 48/49/50 series.*

Ah, but RCL is shifted in the RPL-based models, while STO is shifted on the HP-35s. Why is that?

Answer: RCL is often unnecessary in RPL, as ENTER or other operation will recall a named variable.

In RPN, STO need be used only once for storing a given value to a register, while RCL might be used many times.

-- KS

### **Re: First Impression of HP 35s**

*Message #9 Posted by **DavidB** on 7 Oct 2007, 4:12 p.m.,  
in response to message #7 by Allen*

Hi Allen and KS!

Thanks for your response. I am curious, though, about non-RPL, non-graphing HP calculators. Is the 35s perhaps the first RPN without a dedicated STO (or RCL) key?



Cheers!  
David Bailey

Quote:

\_\_\_\_\_

The third generation 28c, 28s, 48/49/50 series.

Also a number of algebraic: 8s, 10s, 10b, 10bii,

\_\_\_\_\_

*Edited: 7 Oct 2007, 4:14 p.m.*

### **Re: First Impression of HP 35s**

*Message #10 Posted by **Walter B** on 7 Oct 2007, 4:44 p.m.,  
in response to message #9 by DavidB*

Hi David,

Quote:

\_\_\_\_\_

Is the 35s perhaps the first RPN without a dedicated STO (or RCL) key?

\_\_\_\_\_

As far as I see it is the first RPN scientific with less than 2 keys for STO/RCL. It is also the first RPN scientific with a shifted STO. For financial calcs, other members are more competent.

Enjoy, Walter

### **Re: First Impression of HP 35s**

*Message #11 Posted by **DaveJ** on 7 Oct 2007, 6:39 p.m.,  
in response to message #10 by Walter B*

Quote:

\_\_\_\_\_

Hi David,

As far as I see it is the first RPN scientific with less than 2 keys for STO/RCL. It is also the first RPN scientific with a shifted STO. For financial calcs, other members are more competent.

Enjoy, Walter

\_\_\_\_\_

Mine has a "shifted" STO key.

<http://www.alternatezone.com/stuff/sneakpeak2.jpg>

Given that there is no shift key, you simply press the button a 2nd time to access STO. Works very well indeed, and I think it's actually more intuitive than a shift key anyway.

Dave.

**Re: First Impression of HP 35s**

*Message #12 Posted by **DavidB** on 7 Oct 2007, 7:14 p.m.,  
in response to message #11 by DaveJ*

Nice watch calculator prototype! Will this make it to market?

David Bailey

**Re: First Impression of HP 35s**

*Message #13 Posted by **DaveJ** on 7 Oct 2007, 8:03 p.m.,  
in response to message #12 by DavidB*

Quote:

\_\_\_\_\_  
Nice watch calculator prototype! Will this make it to market?  
\_\_\_\_\_

In some way, shape or form, yes. Can you solder?

Dave.

**Re: First Impression of HP 35s**

*Message #14 Posted by **DavidB** on 7 Oct 2007, 11:57 p.m.,  
in response to message #13 by DaveJ*

LOL. No. I gave up soldering in 1990.

David Bailey

Quote:

\_\_\_\_\_  
In some way, shape or form, yes. Can you solder?

Dave.  
\_\_\_\_\_

**Re: First Impression of HP 35s**

*Message #15 Posted by **megar** on 8 Oct 2007, 7:13 p.m.,  
in response to message #13 by DaveJ*

I can solder, and I think your watch looks awesome. Any details?

**Re: First Impression of HP 35s**

*Message #16 Posted by **DaveJ** on 8 Oct 2007, 8:02 p.m.,  
in response to message #15 by megar*

Quote:

\_\_\_\_\_  
I can solder, and I think your watch looks awesome. Any details?  
\_\_\_\_\_

I don't want to give away major details just yet, but I'm fairly certain I'll make a

kit available, perhaps partially assembled, and maybe even fully assembled (but that would cost a lot more). Also, full design details will eventually be released. So the watch you see there will be available for those who are keen enough to own one. More news in the coming months.

Dave.

### **Re: First Impression of HP 35s**

*Message #17 Posted by [Meenzer](#) on 9 Oct 2007, 7:02 a.m.,  
in response to message #16 by DaveJ*

For all the geeks who can't solder, but desperately need a watch with a calculator -um- [slide rule](#) ...

### **Re: First Impression of HP 35s**

*Message #18 Posted by [Les Bell](#) on 9 Oct 2007, 8:03 a.m.,  
in response to message #17 by Meenzer*

And the batteries - for the whiz-wheel - never go flat.

I wear [one of these](#), but the trouble is that after a certain age, the slide rule is too small to read. . . . :-(

Best,

--- Les

[<http://www.lesbell.com.au>]

### **Re: First Impression of HP 35s**

*Message #19 Posted by [Karl Schneider](#) on 7 Oct 2007, 2:39 p.m.,  
in response to message #1 by DavidB*

Welcome, David --

I'll echo Eddie's greetings.

You've made a few accurate and widely-accepted observations about the HP-35s. I share most of your sentiments.

The shifted STO key is indeed a small annoyance -- a compromise driven by the limited supply of 43 keys, as four were dedicated to moving the cursor, one to "i", one to "EQN", and one to "()".

The speed issue has been discussed -- the HP-35s is indeed a bit slower than its predecessors HP-33s and HP-32SII. The HP-35s uses the same CR2032 3V "wafer" cells as the HP-33s, which experienced abysmal cell life. It's possible that some changes were made to remedy the problem.

The faster numerical integration you observed is probably due to the problem chosen and the accuracy you selected. The HP-35s methods are the same as those of the HP-33s, which differ slightly from those of the HP-32SII, even though the syntax is exactly the same. Here's more than you may have wanted to know about numerical integration in HP's RPN calculators:

<http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/articles.cgi?read=556>

Best regards,

-- KS

### **Re: First Impression of HP 35s**

*Message #20 Posted by **DavidB** on 7 Oct 2007, 3:29 p.m.,  
in response to message #19 by Karl Schneider*

KS,

Thanks for the information. I wonder what the clock speed is of the 8502 processor in the 35s. The 33s uses a Sunplus SPLB31A running at 5Mhz, according to <http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv014.cgi?read=63140>

As others have discussed on this forum, the HP 35s overall keyboard layout design approach seems to focus more on programmability functions than on direct input/output calculation. Maybe (just maybe) the 35s will encourage me to start programming it. I only recall programming the 15C many years ago, but not on any other HP calculator.

The 35s is my first calculator that uses the 3-volt lithium coin batteries. Perhaps an OLED display will someday enhance battery life (and display clarity) for HP calculators?

David Bailey

*Edited: 7 Oct 2007, 3:36 p.m.*

### **Re: First Impression of HP 35s**

*Message #21 Posted by **DaveJ** on 7 Oct 2007, 6:42 p.m.,  
in response to message #20 by DavidB*

Quote:

KS,

Thanks for the information. I wonder what the clock speed is of the 8502 processor in the 35s. The 33s uses a Sunplus SPLB31A running at 5Mhz, according to <http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv014.cgi?read=63140>

As others have discussed on this forum, the HP 35s overall keyboard layout design approach seems to focus more on programmability functions than on direct input/output calculation. Maybe (just maybe) the 35s will encourage me to start programming it. I only recall programming the 15C many years ago, but not on any other HP calculator.

The 35s is my first calculator that uses the 3-volt lithium coin batteries. Perhaps an OLED display will someday enhance battery life (and display clarity) for HP calculators?

I can't see how OLED will ever match LCD for low power consumption.

Dave.

### **Re: First Impression of HP 35s**

*Message #22 Posted by **vq** on 7 Oct 2007, 2:41 p.m.,  
in response to message #1 by DavidB*

I bought HP35S a month ago, more or less for its nice retro look and improved memory usage (compared to HP33S which I used until now). From my point of view (civil engineering, bridge design practice), the pros and cons of this calc are as follows:

Keyboard Nice retro shape, good key response. Bad positioning of some frequently used commands to shifted keys and vice versa: - STO,  $x^2$  used very often but placed on shifted keys - GTO, "i" seldom used, these could be on a shifted position (well, "i" is possibly more used in electrical calculations? - then the position is fine) - R/S quite frequently used, much more than EQN; R/S should be closer to the numeric keys block, possibly at EQN position?

Display Quality is good, appears the same as on my HP33S (#CNA 51500563) which was described as very bad by some people here (probably older models than mine 33s). Totally wrong behaviour when showing "ALL" with Exx part of the number out of display - HP33S works slightly better here.

Memory usage is much better, only now the 30 kB RAM can be really used (much better than HP33s). However, while the access to the variables 1--800 by indirect addressing is fine when programming, it is very slow when used in hand calculations. I would like additional set of RCL() and STO() keys which would ask for the address rather than for the label. This way, the sequence "123 STO I RCL (I)" could be replaced by much shorter "RCL() 123" (or, maybe better "123 RCL()").

Also, the nice possibility of addressing label AND line number slows down normal hand calculations - one HAS to run program A001 with XEQ A and ENTER which is annoying. On other calculators (e.g. the old TI59, the superb old SHARP PC-1211 very well described in <http://membres.lycos.fr/albillo/calc/pdf/DatafileVA027.pdf>, CASIO FX-602P etc.) one could define a function and run it just by pressing a function key (one keypress); on HP33s, it's XEQ A (two keys), which is still fine; on HP35S, three keys are too many. This may seem to be a negligible issue, but when running a (trivial) program many times, it's not pleasant at all.

Minor flaw: Pressing just E3\* results in "Syntax error" while on 33S it was OK. Now one has to (remember to) enter 1E3\*.

Overall, HP35S is really a nice piece of hardware - a "must have" for many users. However, as most complex and programmed calculations are done on a PC now, the calc should be designed with more priority for quick hand calculations.

VQ, Prague, Czech Republic

## Re: First Impression of HP 35s

Message #23 Posted by [DavidB](#) on 7 Oct 2007, 3:54 p.m.,  
in response to message #22 by vq

VQ,

Thanks for your very thorough observation of the 35s. I, too, like the retro look of the keyboard - reminds me of my beloved 15C. I don't program calculators, but I see what you mean concerning the extra keystroke, ENTER, required on the 35s compared to your 33s.

Concerning the powers of ten E key, I guess HP had decided to standardize its use even if the mantissa is 1. That's ok as long as the E key works the same on near future RPN calculators and is well documented.

I understand what you mean concerning the SHOW key. Only HP can answer why the display does not also show the exponent when you perform the following:

- (1) enter an integer larger than 999,999,999,999 or smaller than -999,999,999,999;
- (2) press left-shift key;
- 3) press SHOW.

Cheers,  
David Bailey

Quote:

---

I bought HP35S a month ago, more or less for its nice retro look and improved memory usage (compared to HP33S which I used until now). From my point of view (civil engineering, bridge design practice), the pros and cons of this calc are as follows:.

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Also, the nice possibility of addressing label AND line number slows down normal hand calculations - one HAS to run program A001 with XEQ A and ENTER which is annoying. On other calculators (e.g. the old TI59, the superb old SHARP PC-1211 very well described in <http://membres.lycos.fr/albillo/calc/pdf/DatafileVA027.pdf>, CASIO FX-602P etc.) one could define a function and run it just by pressing a function key (one keypress); on HP33s, it's XEQ A (two keys), which is still fine; on HP35S, three keys are too many. This may seem to be a negligible issue, but when running a (trivial) program many times, it's not pleasant at all.

Minor flaw: Pressing just E3\* results in "Syntax error" while on 33S it was OK. Now one has to (remember to) enter 1E3\*.

Overall, HP35S is really a nice piece of hardware - a "must have" for many users. However, as most complex and programmed calculations are done on a PC now, the calc should be designed with more priority for quick hand calculations.

VQ, Prague, Czech Republic

---

*Edited: 7 Oct 2007, 4:25 p.m.*

## **Re: First Impression of HP 35s**

*Message #24 Posted by **vq** on 7 Oct 2007, 4:42 p.m.,  
in response to message #23 by DavidB*

Quote:

---

I understand what you mean concerning the SHOW key. Only HP can answer why the display does not also show the exponent when you perform the following:

- (1) enter an integer larger than 999,999,999,999 or smaller than -999,999,999,999;
  - (2) press left-shift key;
  - 3) press SHOW.
- 

David, what's even worse, in mode Display/All, pressing 4 ENTER 9 / shows only 4.4444444444E- (and a little annunciator - right hand arrow), hiding the (most?) important part of the result, which makes the "Display/ALL" mode practically unusable. It was discussed here in an earlier thread and is a bitter innovation over HP33S. Fixed notation is therefore much better for normal work. I wonder if the designers ever tried to do some calculations with ALL mode set? Regards, VQ

### Re: First Impression of HP 35s

Message #25 Posted by **DavidB** on 7 Oct 2007, 7:05 p.m.,  
in response to message #24 by vq

You are correct, VQ. It is a bit annoying. With both the 32sII and 35s in display ALL mode, the irrational number pi is displayed with 12 digits:  
3.14159265359

When I perform a division such as 1 divided by 3, the 32sII shows the repeating fraction with a 9 digit mantissa, followed by the letter E, a negative sign, and exponent value 1:  
3.33333333E -1

However, with the 35s, this same fraction is shown with a 12 digit mantissa, the letter E, and negative sign:  
3.33333333333E - (rest is cut off)

Blunder or intentional by HP?

David Bailey

Quote:

---

David, what's even worse, in mode Display/All, pressing 4 ENTER 9 / shows only 4.4444444444E- (and a little annunciator - right hand arrow), hiding the (most?) important part of the result, which makes the "Display/ALL" mode practically unusable. It was discussed here in an earlier thread and is a bitter innovation over HP33S. Fixed notation is therefore much better for normal work. I wonder if the designers ever tried to do some calculations with ALL mode set? Regards, VQ

---

*Edited: 7 Oct 2007, 7:44 p.m.*

### Re: First Impression of HP 35s

Message #26 Posted by **Walter B** on 7 Oct 2007, 4:57 p.m.,  
in response to message #23 by DavidB

David,

Quote:

---

Concerning the powers of ten E key, I guess HP had decided to standardize its use even if the mantissa is 1. That's ok as long as the E key works the same on near future RPN calculators and is well documented.

---

AFAIK each and every RPN scientific interpreted "E 17" or "EEX 17" as 1E17 so far, except the HP35s. So if you vote for standardization (and ease of use), the HP35s shall be changed. And I hope sincerely this feature will be brought back to normal with further calcs.

## Re: First Impression of HP 35s

Message #27 Posted by [Walter B](#) on 7 Oct 2007, 5:20 p.m.,  
in response to message #22 by [vq](#)

Dobrou noc, VQ,

Quote:

---

I would like additional set of RCL() and STO() keys which would ask for the adress rather than for the label. This way, the sequence "123 STO I RCL (I)" could be replaced by much shorter "RCL() 123" (or, maybe better "123 RCL()").

---

Thanks for posting this very nice idea! Maybe also Cyrille of HP is reading your post.

With respect to alternative keyboard layouts for the 35s, some proposals were published here already (e.g. [this one](#)) and at HHC2007.

Naskledanou!

Walter

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## HP Forum Archive 17

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### MCODE utility Programs

Message #1 Posted by [Jeff Davis](#) on 6 Oct 2007, 4:11 p.m.

I have been looking over many issues of the PPC Journal and the Datafile as well as reading MCODE for Beginners. I have found some general utility functions that I have added that can assist while using MCODE. HEX-OCT, OCT-HEX (from MCODE for Beginners), ASRCH (from Datafile V8N2 used with the labels ROM), ROMSUM (from Datafile V3N1 and I tried to get the "CALC" MCODE program to work but there must be some typo's in the code from Datafile V8N6.

Are there any other utility type programs that you may have used that assist with MCODE generation?

I am Currently using the DAVID-2C with Mainframe Labels.

Has anyone ever tried to get this "CALC" program to work?

This program calculates the Jump distances much like the User Code program in the HEPAX manual.

Please let me know your thoughts.

Thanks much,

Jeff

### HP-41 MCODE Programming

Message #2 Posted by [Jeff Davis](#) on 9 Oct 2007, 6:58 p.m.,  
in response to message #1 by [Jeff Davis](#)

Is there anyone out there that stills likes to program the HP-41 with MCODE? I need a little help on how to make a MCODE program Prompt for data. Any help would be appreciated. Jeff

### Re: HP-41 MCODE Programming

Message #3 Posted by [Doug](#) on 9 Oct 2007, 10:26 p.m.,  
in response to message #2 by [Jeff Davis](#)

Hi Jeff,

Exactly what type of data and when? I ask when because there are some auto-prompts at entry. Mcode for Beginners covers these and devotes a large section to a hex data input function.

Best

### Re: HP-41 MCODE Programming

Message #4 Posted by [Jeff Davis](#) on 14 Oct 2007, 11:58 a.m.,  
in response to message #3 by [Doug](#)

Thanks for all who responded. I am trying to write a MCODE program to calculate the inductance of a coil. There are three inputs, Coil Length, Coil Diameter and Number of turns on the coil. I have tried using some of the technics in the MCODE for Beginners that are used on the OCT-HEX and HEX-OCT programs. The best I can get is the Prompt to Flash in the display but it does not R/S. Below is the listing for this. I have found the PROMPT function in the VASM and it uses the XPROMP routine which prompts and R/S. I will be trying this this evening to see if this works. My goal would be to

load directly to C and not have to use READ 3(x) to get the data to C. I would like the program to R/S with , for example, Coil Lg.? in the display. Then accept the number entered like 1.500" or 1.750" similar to the User Code PROMPT. Any way, thanks for responding and any suggestions would be greatly appreciated.

```

FUNCTION 00C4 ... .. "IND1"
F 00C4 345 040 ... ?NC XQ 10D1
F 00C6 3C1 0B0 ... ?NC XQ 2CF0
F 00C8 003 ... .. JNC +00 00C8
F 00C9 00F ... .. JC +01 00CA
F 00CA 009 00C ... ?NC XQ 0302
F 00CC 020 ... .. XQ->GO
F 00CD 00C ... .. ?FSET 3
F 00CE 007 ... .. JC +00 00CE
F 00CF 03F ... .. JC +07 00D6
F 00D0 220 ... .. C=KEY
F 00D1 115 038 ... ?NC XQ 0E45
F 00D3 3E0 ... .. RTN
F 00D4 220 ... .. C=KEY
F 00D5 3DD 0AC ... ?NC XQ 2BF7
F 00D7 149 024 ... ?NC XQ 0952
F 00D9 375 03C ... ?NC XQ 0FDD
F 00DB 1FA ... .. C=C+C M
F 00DC 38C ... .. ?FSET 0
F 00DD 360 ... .. ?C_RTN
F 00DE 268 ... .. WRIT ( 9)Q
F 00DF 278 ... .. READ ( 9)Q
F 00E0 0E8 ... .. WRIT ( 3)X

```

Thanks Meindert for this great Disassembler in the Mld12k software!

## Re: MCODE utility Programs

*Message #5 Posted by **Vieira, Luiz C. (Brazil)** on 10 Oct 2007, 1:28 a.m.,  
in response to message #1 by Jeff Davis*

Hi, Jeff;

the only info (I think) I can add is to have a look at the AECROM listings and technics. I remember reading in the MCODE for beginners that a user-coded program may be 'disguised' as MCODE (function), so the calculator executes it as a function, although it behaves as a running program. If there is no restriction to what functions to use, data might be input thru PROMPT, I guess. Have no idea of what would happen if [PRGM] is pressed while the 'disguised' program is stopped. I mentioned the AECROM because some of its functions seem to be coded this way.

My 2¢ (maybe 1¢...)

Luiz (Brazil)

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## HP Forum Archive 17

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### "Auxiliary functions" in consumer electronics

Message #1 Posted by [Karl Schneider](#) on 6 Oct 2007, 3:37 p.m.

Oftentimes, discussion of desired features for calculators leads to high-tech communication and other things that are not central to the intended function of the device. Here's an edited short excerpt from [a cell-phone review I read recently](#), and found to be inadvertently humorous:

(The phone has) *"NO CAMERA and NO BLUETOOTH and NO MEMORY EXPANSION. A camera and Bluetooth technology are the most used features on a phone (except texting of course)."*

Read the full text at:

<http://www.phonesreview.co.uk/2007/05/18/motorola-w370-has-no-camera-or-bluetooth/>

-- KS

*Edited: 6 Oct 2007, 3:48 p.m.*

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## HP Forum Archive 17

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### TI NSpire now supports user programs

Message #1 Posted by [Don Shepherd](#) on 6 Oct 2007, 9:54 a.m.

The latest operating system now supports user-defined programs in addition to user-defined functions. Lack of programming capability was a major deficiency of the original NSpire. It looks like they listened to those who complained.

### Re: TI NSpire now supports user programs

Message #2 Posted by [Namir](#) on 6 Oct 2007, 12:31 p.m.,  
in response to message #1 by Don Shepherd

Thank you for the update Don. I just updated one OS of one TI NSpire CAS calculator, and working on updating the second one!

Looks like TI also updated the manuals for the calculator.

Namir

*Edited: 6 Oct 2007, 5:50 p.m.*

### Re: TI NSpire now supports user programs

Message #3 Posted by [Bruce Bergman](#) on 6 Oct 2007, 6:44 p.m.,  
in response to message #1 by Don Shepherd

So, what do the programs look like? Is it a TI-specific language? Something akin to BASIC?

thanks, bruce

(btw, Don, I'll get back to your email shortly... ;-)

### Re: TI NSpire now supports user programs

Message #4 Posted by [Don Shepherd](#) on 6 Oct 2007, 7:17 p.m.,  
in response to message #3 by Bruce Bergman

It's a lot like BASIC, or TI-BASIC. Here is our HCC2007 programming contest (rearrange the digits of an input number into numerical order) done on the NSpire:

```
Define rev_digits(num)=Prgm
:Local i,a,n
:a:={ }
:For i,0,iPart(log(num,10))
:a:=augment(a,{mod(intDiv(num,10^(i)),10)})
:EndFor
:SortA a
:n:=0
:For i,1,dim(a)
:n:=n+a[i]*10^(dim(a)-i)
:EndFor
```

```
:Disp n  
:EndPrgm
```

I just get each digit of the input number and store it in a list, then sort the list, then convert the list items back into an integer number.

### **Re: TI NSpire now supports user programs**

*Message #5 Posted by [Namir](#) on 6 Oct 2007, 7:37 p.m.,  
in response to message #4 by Don Shepherd*

Nice listing Don. Thanks!!

Namir

### **Re: TI NSpire now supports user programs**

*Message #6 Posted by [hugh steers](#) on 7 Oct 2007, 4:57 p.m.,  
in response to message #4 by Don Shepherd*

hi Don,

for comparison, here's the same problem in LUA on the 50g,

```
function sortNum(n)  
  a = {tostring(n):byte(1,-1)} -- unpack unto array  
  table.sort(a)  
  return tonumber(string.char(unpack(a))) -- pack back and return  
end
```

*Edited: 7 Oct 2007, 4:58 p.m.*

### **Re: TI NSpire now supports user programs**

*Message #7 Posted by [Don Shepherd](#) on 7 Oct 2007, 5:29 p.m.,  
in response to message #6 by hugh steers*

Very compact code, Hugh, thanks. Is LUA an add-on language to the 50g? I'm not familiar with it, but then I'm not really an RPL guy.

### **Re: TI NSpire now supports user programs**

*Message #8 Posted by [hugh steers](#) on 7 Oct 2007, 6:45 p.m.,  
in response to message #7 by Don Shepherd*

hi don,

"not an RPL" guy", i'm with you there. although i like RPN, ive always found RPL clumsy and almost totally unreadable.

you might like to try your hand at lua on the 50g. get my latest release at:

<http://sourceforge.net/projects/hplua>

should be hplua-1.0.1.zip. this contains the source code, but all you need is the ARMTtoolbox and the flua.hp program. once loaded you can try some of my samples like sunset.lua and sudoku.lua

also checkout [www.lua.org](http://www.lua.org) for the language reference and also the book, "Programming in Lua,

Second Edition (Paperback) by Roberto Ierusalimschy", is highly recommended.

good luck!

**Re: TI NSpire now supports user programs**

*Message #9 Posted by [Don Shepherd](#) on 7 Oct 2007, 8:59 p.m.,  
in response to message #8 by hugh steers*

Thanks, Hugh. I don't have a 50g (there was a door prize of same, but they didn't call my number early enough!). I will check out that book, however, as I am intrigued by how such a small bit of code can do what it does. Very nice.

**Re: TI NSpire now supports user programs**

*Message #10 Posted by [Don Shepherd](#) on 7 Oct 2007, 8:50 a.m.,  
in response to message #3 by Bruce Bergman*

There is a significant omission from the BASIC instruction set on the NSpire: the Input command. From what I have read, I think this was done on purpose. TI apparently wants the NSpire to be strictly an educational tool, not a "gaming" machine with interactive inputs. Without an Input command, kids who are supposed to be learning the characteristics of a right triangle will not be playing Legends of Doom instead. This is probably the reason that only functions were originally supported.

The only way to provide inputs to your program is to pass them as arguments when you run the program. Hey, that's how FORTRAN worked on the Univac 1108 when I started programming in 1974!

**Re: TI NSpire now supports user programs**

*Message #11 Posted by [Namir](#) on 7 Oct 2007, 9:15 a.m.,  
in response to message #10 by Don Shepherd*

I checked the Reference Manual of the TI nspire and, you are right, there is no Input statement!!!!

Having not gone over the entire Reference Manual yet, can you access individual matrix elements using [row,col] or (row,col)?

Namir

**Re: TI NSpire now supports user programs**

*Message #12 Posted by [Don Shepherd](#) on 7 Oct 2007, 9:17 a.m.,  
in response to message #11 by Namir*

I believe so. I have not done a matrix yet, but you access individual list entries like this: if list a = {1, 2, 3, 4}, then a[3] = 3.

**Re: TI NSpire now supports user programs**

*Message #13 Posted by [Namir](#) on 7 Oct 2007, 9:19 a.m.,  
in response to message #12 by Don Shepherd*

Thanks!!

BTW in the HHC2007 group picture I appear right behind you in the line of vision!!! I hold in my hands my new HP-35s and an early version of the HP-41C that my son's university was

willing to retire in my care. Thank you NAU!!!

:~)

Namir

*Edited: 7 Oct 2007, 9:20 a.m.*

### **Re: TI NSpire now supports user programs**

*Message #14 Posted by [Eric Smith](#) on 8 Oct 2007, 4:00 a.m.,  
in response to message #10 by Don Shepherd*

Quote:

I think this was done on purpose. TI apparently wants the NSpire to be strictly an educational tool, not a "gaming" machine with interactive inputs.

And we all know that INPUT serves no purpose other than games.

What a crock. :-(

Quote:

The only way to provide inputs to your program is to pass them as arguments when you run the program. Hey, that's how FORTRAN worked on the Univac 1108 when I started programming in 1974!

I'm 99.99% certain that FORTRAN IV on the 1108 supported input files.

### **Re: TI NSpire now supports user programs**

*Message #15 Posted by [Don Shepherd](#) on 8 Oct 2007, 7:26 a.m.,  
in response to message #14 by Eric Smith*

Yeah, that's true. I meant interactive input with a live user. In those days of mainframes only, it was all file processing.

### **Re: TI NSpire now supports user programs**

*Message #16 Posted by [Eric Smith](#) on 8 Oct 2007, 5:05 p.m.,  
in response to message #15 by Don Shepherd*

The 1108 supported interactive terminals (e.g., model 33 or 35 Teletypes, Univac DCT 500 or 100, or Uniscope 100 or 300), which could be opened as files. Your site may not have had any, but it wasn't a fundamental limitation of the computer or software.

There was even a "Conversational Fortran V" for it.

### **Re: TI NSpire now supports user programs**

*Message #17 Posted by [Don Shepherd](#) on 8 Oct 2007, 5:58 p.m.,  
in response to message #16 by Eric Smith*

Eric, I worked on that Univac 1108 as my first programming job in 1974 at the US Census

Bureau in Suitland Maryland (just outside Washington DC). In those days, we punched our FORTRAN program source code on punch-cards, submitted a batch job overnight to compile the program, and came back the next day to see how many errors we had. Those were the days! Then came the model 33 teletypes, then came the DCT interactive terminals. But the 1108 was never as good at interactive things as it was at batch things. The Census Bureau was a huge file processing organization. All of our programs were designed to read tape files, update the data with various transactions, and write back out onto tape. I forget the tape density, but I think it was 6250 bpi when I left the Bureau around 1983. A file for the whole US might be 100 tapes.

Since our applications did so much IO, the Bureau system guys wrote their own IO system that all us programmers used, called CENIO. It was (supposedly, I never doubted them though) much faster than standard FORTRAN IO.

In those glory days before the personal computer, we never imagined that anyone could actually have and use a computer at home. How times have changed.

### **Re: TI NSpire now supports user programs**

*Message #18 Posted by **Bruce Bergman** on 8 Oct 2007, 6:55 p.m.,  
in response to message #17 by Don Shepherd*

This was my experience also. Big fat decks of cards, HOPEFULLY numbered so that the inevitable "whoops!" didn't cause 52-card-pickup (or in some cases, 1052-card-pickup :-), and data was provided inline or in a separate deck. I was lucky if the results came back the next day; it usually took a day or so to get my job run. That was, after all, the value in desk checking your program -- you didn't want to have to resubmit it because you screwed it up somewhere.

I didn't even see "real" input methods until the paper tape machine came along. I could feed my program in again and again after meticulously punching the tape the first time. Back then, the paper tape seemed like MAGIC compared to decks of Fortran cards. ;-)

Ah, how quickly we take technology for granted these days...

thanks, bruce

*Edited: 8 Oct 2007, 6:58 p.m.*

### **Re: TI NSpire now supports user programs**

*Message #19 Posted by **Eric Smith** on 8 Oct 2007, 7:19 p.m.,  
in response to message #17 by Don Shepherd*

My point is that Fortran on the 1108 was certainly capable of both:

- use of interactive terminals
- data input from various sources, including interactive terminals

Sure, it was better at batch, and that was how most people used it, but it wasn't the only possibility. The Executive had support for interactive use before 1970, though I'm not sure exactly when it became available. I didn't use an 1100 series machine until the early 1980s, so I'm not as well-versed in its history as the DEC machines.

Quote:

---



I forget the tape density, but I think it was 6250 bpi when I left the Bureau around 1983.

---

Sounds about right. The switch from 800 bpi NRZI to 1600 bpi PE occurred in the early to mid 1970s, and 6250 bpi GCR became available in the late 1970s. Some vendors offered 3200 bpi (PE?), but it wasn't a standard and never caught on. (Before 9-track tape there was 7-track at 200, 556, or 800 BPI.)

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## HP Forum Archive 17

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### A serious bug on HP 35s

Message #1 Posted by [Marcel Pelletier](#) on 5 Oct 2007, 3:43 p.m.

First, type in this short program:

```
A001 LBL A A002 10 A003 STO I A004 1 A005 STO(I) A006 0.01 A007 STO I A008 VIEW(I) A009 ISG I
A010 GTO A008 A011 RTN
```

If you press XEQ A ENTER, you will see the content of the 10 registers create with a zero value. At each stop, you have to press the R/S key...BUT if you want to automate this, enter a PSE instruction after the VIEW(I) like this...

```
... A008 VIEW(I) A009 PSE ...
```

and now if you press XEQ A ENTER you will see...

```
(27)= 0.0000 (28)= 0.0000
```

So it like the count of the register have change!

You view (27) but in fact this is (0)...

So what's up Doc?

### Re: A serious bug on HP 35s

Message #2 Posted by [Gene Wright](#) on 5 Oct 2007, 5:19 p.m.,  
in response to message #1 by Marcel Pelletier

Yes, this was reported here and on comp.sys.hp48 over a month ago.

Seems to be a bug to update the value shown for (I) during a VIEW (I) PSE sequence in a program.

### Re: A serious bug on HP 35s

Message #3 Posted by [Pavneet Arora](#) on 6 Oct 2007, 6:36 p.m.,  
in response to message #2 by Gene Wright

Quote:

Yes, this was reported here and on comp.sys.hp48 over a month ago.

Is there a published list of HP35S bugs, so that we can avoid them if possible?

Many thanks.

### Re: A serious bug on HP 35s

*Message #4 Posted by **Seth Morabito** on 6 Oct 2007, 9:57 p.m.,  
in response to message #3 by Pavneet Arora*

The list of bugs compiled by Paul Drake has a permanent home here:

<http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/articles.cgi?read=735>

**Re: A serious bug on HP 35s**

*Message #5 Posted by **Paul Dale** on 7 Oct 2007, 4:35 p.m.,  
in response to message #4 by Seth Morabito*

Dale not Drake please :-)

- Pauli

**Re: A serious bug on HP 35s**

*Message #6 Posted by **Seth Morabito** on 16 Oct 2007, 12:33 a.m.,  
in response to message #5 by Paul Dale*

Oops! Sorry about that, Paul!

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## HP Forum Archive 17

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### Numerical Recipes 3rd Edition is Here!!!

Message #1 Posted by [Namir](#) on 5 Oct 2007, 7:13 a.m.

UPS finally dropped off the latest edition of Numerical Recipes, which I consider the Bible for numerical analysis. While the C++ code is in a more object-oriented form than the second edition, it offers a very good insight on how algorithms tick! One can translate the C++ into BASIC, RPN, RPL, and so on with various degrees of ease or difficulty.

It would be nice to have a MatLab version of the Numerical Recipes.

Namir

### Re: Numerical Recipes 3rd Edition is Here!!!

Message #2 Posted by [hugh steers](#) on 5 Oct 2007, 8:11 a.m.,  
in response to message #1 by Namir

are there any more algorithms? or is it the same + fixes ?

### Re: Numerical Recipes 3rd Edition is Here!!!

Message #3 Posted by [Namir](#) on 5 Oct 2007, 10:10 a.m.,  
in response to message #2 by hugh steers

The 3rd edition has added more material and made the C++ code more object-oriented than the 2nd edition.

### Re: Numerical Recipes 3rd Edition is Here!!!

Message #4 Posted by [Thomas Chrapkiewicz](#) on 5 Oct 2007, 8:39 a.m.,  
in response to message #1 by Namir

Namir: Yes, the NR Recipes book has been a useful resource, but as I recall, some algorithms in the early editions had some issues. I have most all editions from the original FORTRAN, Pascal, C and BASIC.

I too have wondered if there was a demand for a matlab/octave, Excel or RPN/RPL versions of these algorithms. Certainly with the large program and data memory space of the 35s, it is a potential target for some of these algorithms.

TomC

### Re: Numerical Recipes 3rd Edition is Here!!!

Message #5 Posted by [Jonathan Eisch](#) on 5 Oct 2007, 7:35 p.m.,  
in response to message #1 by Namir

For those of you who don't really know what these books are about, you can take a look at older versions on

their web site. I think they require you to download a plugin for acrobat, but free is free.

<http://www.nr.com/oldverswitcher.html>

-Jonathan

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## HP Forum Archive 17

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### Got the HP35s from Samson cables

Message #1 Posted by [Stefan K.](#) on 5 Oct 2007, 2:36 a.m.

I hope this isn't annoying too much for US residents, but maybe some EU citizens are still thinking about getting this beauty:

- Shipping to Austria took about 2.5 weeks (with cheapest shipping option).
- For some odd reason it was sent from the US (instead the EU), so I had to pay taxes (and customs was responsible for a couple of days delay).
- Within a couple of hours I got a reply from Samson that they'll refund the extra expenses.

IMO Samson's customer support is much better than your average (US or international) company, I already feared to go through endless hassles and email conversations.

Now to the calculator itself (and my 2 cents):

- I like it, the case really makes the difference (compared with the "cheap" leatherettes included with eg. the 32s).
- Why can't I use SQRT on negative (or complex) numbers?
- A calculator with a printed user manual (instead of an instruction sheet)! Not everything in the world is going worse.

For me it was definitely worth the buy.

Stefan

### Re: Got the HP35s from Samson cables

Message #2 Posted by [Walter B](#) on 5 Oct 2007, 2:51 a.m.,  
in response to message #1 by [Stefan K.](#)

Hallo Stefan,

welcome to the club!

Your SQRT-of-negative-question was discussed here already, so please check earlier posts.

HTH, Walter

### Re: Got the HP35s from Samson cables

Message #3 Posted by [Karl Schneider](#) on 5 Oct 2007, 5:20 p.m.,  
in response to message #1 by [Stefan K.](#)

Hi, Stefan --

Here's one of the "earlier posts" that Walter referred to:

<http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv017.cgi?read=119576#119576>

The post *does* address the questions you asked, although the presentation is a bit formal.

The quick answer is as follows: square root of a negative-real or complex-valued argument was never supported in the models whose algorithms served as the basis of the HP-35s (HP-32S, HP-32SII, HP-33s).

-- KS

### **Re: Got the HP35s from Samson cables**

*Message #4 Posted by [Stefan K.](#) on 7 Oct 2007, 3:16 p.m.,  
in response to message #3 by Karl Schneider*

Hi,

thanks for the link. I was following the forum, so I already knew about this "problem". My remark was less a question, more a complaint. With a complex valued  $y^x$ , some functions become obsolete (sin, cos, sinh, cosh, sqr, sqrt, exp,  $10^x$ , and so on). So why do we have keys for them - to make life easier. I don't know much about the internals, but would it be hard to implement some operator overloading? So for real arguments the calculator behaves like it does now (and uses the same algorithms), and for complex numbers we get the complex function?

At least from my point of view (and I am only a user) this would make sense.

Stefan

---

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## HP Forum Archive 17

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### **Basic HP 50 and/or 35s How to**

Message #1 Posted by [Eddie W. Shore](#) on 5 Oct 2007, 12:29 a.m.

Would there be any interest if I made a "quick cheat sheet" of some of the most common features of the HP 50g and/or 35s?

If you do and you want some specific topic, please email or respond. Many thanks!

P.S. I am enjoying using the 41C that I got last weekend. Just got a 10BII to round out the collection.

---

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## HP Forum Archive 17

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### **My 35 (not 35s) story.**

*Message #1 Posted by [Hal Bitton in Boise](#) on 4 Oct 2007, 4:40 a.m.*

Hi everybody... I was at a family reunion about a month ago. My cousin, who is a retired Air Force colonel, upon finding out that I collected HP calculators, asked me if I had an HP35, to which I answered no. He then asked me if I wanted one, to which I answered YES. As a young AF Academy cadet in the early 70's, he had purchased a brand new HP35 at the cadet bookstore, and had managed to hang on to it for all these years, and was now willing to give it to me. Good fortune had smiled on me.

The calculator arrived a couple weeks ago, and aside from being quite dirty (food all over the keyboard), it also suffered from intermittent operation. Complete disassembly, and scrubbing the case halves in hot soapy water cleaned it up beautifully. Carefully spreading the fingers (for better contact) of the keyboard array contacts resolved the intermittent operation issue, and it now works perfectly. The one sour note is that the corners of the back label (which was perfect) are now creased from being pulled back to access the screws. If anybody has a source for these labels, I would be very interested.

Lastly, a question if I could. What's the purpose of the metal plates in the lower case half? They seem to contact, by design, a couple of the finger connectors at the bottom edge of the calculator. Is this some sort of RF shielding? ...Or perhaps some sort of capacitive device? I would be most curious if anybody knows.

Thanks, and best regards, Hal

### **Re: My 35 (not 35s) story.**

*Message #2 Posted by [Giancarlo \(Italy\)](#) on 4 Oct 2007, 5:34 a.m.,  
in response to message #1 by Hal Bitton in Boise*

Hi Hal.

Congrats to you and to your generous cousin! (I guess many of us would like to have different relatives... ;-).

Did you check if \*by chance\* there's also a tiny red dot by the switch's side ? :-)

I'm really happy for your new HP collectible!

Best regards.

Giancarlo

### **Re: My 35 (not 35s) story.**

*Message #3 Posted by [Hal Bitton in Boise](#) on 4 Oct 2007, 2:48 p.m.,  
in response to message #2 by Giancarlo (Italy)*

Thanks Giancarlo,

It's not a red dot model. I think it's probably a later model, as the 35 appears on the lower edge placard, and it does not have the 2.02 ln-e^x bug. the SN is 1302A95884.

Best regards, Hal

### **Re: My 35 (not 35s) story.**

*Message #4 Posted by [Miguel Toro](#) on 4 Oct 2007, 8:17 p.m.,*

*in response to message #3 by Hal Bitton in Boise*

Talking about the HP 35, I have, what I think, a third version unit, sn 1302A 81058. The sticker in the back still shows a PATENT PENDING legend. I saw photos of other units without this legend. I wonder when this message has been removed?

Regards,

Miguel

**Re: My 35 (not 35s) story.**

*Message #5 Posted by **Palmer O. Hanson, Jr.** on 4 Oct 2007, 10:09 p.m.,  
in response to message #4 by Miguel Toro*

Quote:

Talking about the HP 35, I have, what I think, a third version unit, sn 1302A 81058. The sticker in the back still shows a PATENT PENDING legend. I saw photos of other units without this legend. I wonder when this message has been removed?

I have two HP-35's: sn 1302A 30261 and sn 1346A 22104. Both have the PATENT PENDING legend.

---

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## HP Forum Archive 17

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### **The HHC2007 Conference Commemorative Calendar**

Message #1 Posted by [Jake Schwartz](#) on 4 Oct 2007, 12:54 a.m.

Hi,

At the HHC2007 HP Calculator Conference last weekend, an HP Calculator calendar (created by the conference committee) was given to every attendee. These commemorative calendars, featuring images of every HP calculator ever made (and some made but never sold), cover 16 months from September, 2007 through December, 2008. The 2007 pages feature special calculator themes while the 2008 pages cover each and every HP calculator series from the Classics beginning in 1972 through the current machines from the San Diego Calculator Division. They are spiral bound and printed on heavy, glossy paper on roughly A4-sized (8.25 by 11.5-inch) sheets. A limited number of additional copies are available now. If you wish to obtain a copy of this calendar, check out <http://holyjoe.net/hhc2007/hhc2007%20calendar.htm> on the web. Funds will go to help finance the HHC2008 conference on September 20-21, 2008 (at a location to be determined).

Thanks,

Jake Schwartz

### **Re: The HHC2007 Conference Commemorative Calendar**

Message #2 Posted by [sjthomas](#) on 4 Oct 2007, 1:11 a.m.,  
in response to message #1 by Jake Schwartz

What Jake doesn't mention is the great resolution at which these calendars are printed. The function labels -- even the shifted ones! -- are easily readable. This is not a calendar which will be thrown away at the end of 2008, but something which will be treasured. I highly recommend obtaining one of these works of art and labors of love. You **won't** be disappointed.

Disclaimer: I was in no way responsible for the production of these calendars, and do not benefit from their sale (particularly since I will not be able to attend HHC2008).

### **The HHC2007 Conference Commemorative Calendar**

Message #3 Posted by [Jake Schwartz](#) on 4 Oct 2007, 7:56 a.m.,  
in response to message #2 by sjthomas

Hi Guys,

My apologies for the various broken image links on the web page. They should be all fixed now. It was late last night when it was initially posted.

Jake

### **Re: The HHC2007 Conference Commemorative Calendar**

Message #4 Posted by [Howard Owen](#) on 5 Oct 2007, 3:48 a.m.,

*in response to message #2 by sjthomas*

Obtaining that resolution was the subject of a talk given by Jake and Richard Nelson, the two perpetrators of the calculator calendar caper. Suffice to say that in the face of Murphy at his most malevolent, they pulled the high-resolution prize from the threatening jaws of defeat, or something along those lines.

Hyperbole to one side, it is a *wonderful* calendar, and a worthy addition to your stash of HP apocrypha.

While I'm plugging stuff from the conference, I can't overlook Wlodek Mier-Jedrzejowicz's new edition of "A Guide to HP Handheld Calculators and Computers," which is marked "Fifth Edition, HHC 2007 Printing." It is full of stuff about machines I thought I knew. But Wlodek comes up with insight and opinion that make them seem brand new. Plus the edition is complete up to the new (so far exclusively) European version of the 17BII+ with the double wide INPUT key.

Regards,  
Howard

### **The HHC2007 Conference Commemorative Calendar**

*Message #5 Posted by [Jake Schwartz](#) on 7 Oct 2007, 5:17 p.m.,  
in response to message #4 by Howard Owen*

Hi,

A total of twenty HHC2007 calendars have already been mailed. If you placed an order and have NOT YET received an email indicating that it has been mailed, yours will be from the second batch which are en route to me from Richard Nelson as we speak. Those will be mailed as soon as I receive them. We are also seriously considering doing another print run due to the strong response so far.

Thanks,

Jake Schwartz

### **Re: The HHC2007 Conference Commemorative Calendar**

*Message #6 Posted by [Meindert Kuipers](#) on 8 Oct 2007, 9:42 a.m.,  
in response to message #5 by Jake Schwartz*

Just received my copy of the calendar, absolutely great!

Meindert

### **Re: The HHC2007 Conference Commemorative Calendar**

*Message #7 Posted by [DavidB](#) on 7 Oct 2007, 7:19 p.m.,  
in response to message #4 by Howard Owen*

Hello Howard,

where can I find out more about the calculator/computer guide book?

David Bailey

Quote:

Obtaining that resolution was the subject of a talk given by Jake and Richard Nelson, the

two perpetrators of the calculator calendar caper. Suffice to say that in the face of Murphy at his most malevolent, they pulled the high-resolution prize from the threatening jaws of defeat, or something along those lines.

Hyperbole to one side, it is a *wonderful* calendar, and a worthy addition to your stash of HP apocrypha.

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Regards,  
Howard

---

### **The HHC2007 Conference Commemorative Calendar**

*Message #8 Posted by [Jake Schwartz](#) on 8 Oct 2007, 11:06 p.m.,  
in response to message #7 by DavidB*

> Hello Howard,

> where can I find out more about the calculator/computer guide book?

Hi,

You can find details regarding Wlodek's book here: <http://www.hpcalculatorguide.com/>

Jake Schwartz

### **Re: The HHC2007 Conference Commemorative Calendar**

*Message #9 Posted by [Matt Kernal](#) on 8 Oct 2007, 12:58 p.m.,  
in response to message #1 by Jake Schwartz*

>featuring images of every HP calculator ever made (and some made but never sold)..

Just curious, whose collection of HP's were used in the photos? Or were the images possibly gathered from various on-line sources?

As others have said, the calendars are really awesome, so please understand I'm not complaining when I ask this, but is there a reason the HP-01 watch didn't make the cut?

To prove I'm not complaining, and realizing the level of detail you and Richard demanded in this printing, I can say with full confidence that, without a doubt, this is "categorically the most concise and complete collection of carefully critiqued and correctly cropped color copies of HP calculators on a commemorative calendar" I have ever seen! That was over the top, but both of you should know the high standards you set for this project are greatly appreciated!

Matt

## **The HHC2007 Conference Commemorative Calendar**

*Message #10 Posted by [Jake Schwartz](#) on 8 Oct 2007, 11:03 p.m.,  
in response to message #9 by Matt Kernal*

Hi,

The calculator images mostly came from a CD which I received third hand about ten years ago, containing professional photos of all the machines up to that time. The remaining images were collected from various places. Now that I think about it, we probably could have placed the HP-01 on the "Sting/Roo/Titan" page, where the timeframe would have been just about right and there was probably plenty of room. In retrospect, leaving it out was a serious omission. Oh well, there is always next year. When Richard Nelson and I first discussed the possibility of doing a calendar, we realized that a new one could be done each year with a different theme, so this doesn't have to be the end of the line. Originally, we kicked around about ten different possibilities of themes for the pages. Since this was the anniversary year, Richard thought that including pictures of everything was in order.

Jake

## **Re: The HHC2007 Conference Commemorative Calendar**

*Message #11 Posted by [DaveJ](#) on 8 Oct 2007, 11:40 p.m.,  
in response to message #1 by Jake Schwartz*

I just got my calendar (all the way to Australia), and it is terrific, thanks Jake + everyone involved!

I had my camera phone and couldn't resist taking a happy snap:

<http://www.alternatezone.com/stuff/SneakPeakCalendar.jpg>

Dave.

## **Re: The HHC2007 Conference Commemorative Calendar**

*Message #12 Posted by [Walter B](#) on 9 Oct 2007, 3:12 a.m.,  
in response to message #11 by DaveJ*

Hi, Dave, you're advertising everywhere, don't you? :)

---

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## HP Forum Archive 17

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### Sneak Peak #2

Message #1 Posted by [DaveJ](#) on 3 Oct 2007, 5:58 p.m.

Look mum, no hands:

<http://www.alternatezone.com/stuff/sneakpeak2.jpg>

Dave.

### Re: Sneak Peak #2

Message #2 Posted by [Seth Morabito](#) on 3 Oct 2007, 6:08 p.m.,  
in response to message #1 by [DaveJ](#)

You tease. I'm still waiting to send you money ;)

### Re: Sneak Peak #2

Message #3 Posted by [Walter B](#) on 3 Oct 2007, 6:29 p.m.,  
in response to message #1 by [DaveJ](#)

:)

This looks like MODE and STO/RCL buttons are on the side face of your calc. Is MODE going to act like a shift key? If not, how do you select e.g. F1? Why is there a dedicated key for closing parenthesis only? What will this be good for in RPN?

Oh, and BTW, will there be a time display, too?

### Re: Sneak Peak #2

Message #4 Posted by [DaveJ](#) on 3 Oct 2007, 8:54 p.m.,  
in response to message #3 by [Walter B](#)

Quote:

\_\_\_\_\_

:)

This looks like MODE and STO/RCL buttons are on the side face of your calc. Is MODE going to act like a shift key? If not, how do you select e.g. F1? Why is there a dedicated key for closing parenthesis only? What will this be good for in RPN?

Oh, and BTW, will there be a time display, too?

\_\_\_\_\_

Yes Virginia, there is a time/date display mode (+bonus extra's), it is a watch after all. MODE shifts between Time/Date, Calculator, and setup modes etc. The function keys are accessed with the MENU

button which calls up various rolling soft key menus. So common functions like say 1/x only take two key presses. You need a closing parentheses key for Algebraic mode, and that button currently does nothing in RPN mode.

Dave.

**Re: Sneak Peak #2**

*Message #5 Posted by **Walter B** on 4 Oct 2007, 2:37 a.m.,  
in response to message #4 by DaveJ*

Quote:

Yes Virginia, ...

???

**Re: Sneak Peak #2**

*Message #6 Posted by **DaveJ** on 4 Oct 2007, 3:30 a.m.,  
in response to message #5 by Walter B*

Quote:

???

As in, "Yes Virginia, there is a Santa Clause".

[http://en.wikipedia.org/wiki/Yes,\\_Virginia,\\_There\\_is\\_a\\_Santa\\_Claus](http://en.wikipedia.org/wiki/Yes,_Virginia,_There_is_a_Santa_Claus)

Dave.

**Re: Sneak Peak #2**

*Message #7 Posted by **Diehl-Peshkur** on 3 Oct 2007, 6:44 p.m.,  
in response to message #1 by DaveJ*

Very cool! So when does the tease end and the reality begin? Interesting idea, so tell us more about it...And what is it going to cost :-) Good luck with your project! Tadeyev

**Re: Sneak Peak #2**

*Message #8 Posted by **DaveJ** on 3 Oct 2007, 8:59 p.m.,  
in response to message #7 by Diehl-Peshkur*

Quote:

Very cool! So when does the tease end and the reality begin?

Well, it's reality for me, I'm wearing one every day :-P

Quote:

Interesting idea, so tell us more about it...And what is it going to cost :-)



---

All in good time!, can't tell all just yet, you'll have to wait and see. Early adopters may need the ability to solder...

I wonder how much I can get on That Auction Site for the world's only Programmable RPN scientific calculator watch? :->

Dave.

---

**Re: Sneak Peak #2**

*Message #9 Posted by **Pal G.** on 4 Oct 2007, 10:14 a.m.,  
in response to message #8 by DaveJ*

Davej,

Can you give us some ideas regarding what's running under the hood? Like processor type, memory size, display specs (annunciators?), batter(y/ies) type.

How about the software? Did you "borrow" a rom from HP, or are you running your own code?

If any of this is has already been covered, pointer please. If it's top secret, I understand.

...

Also, if you want my two cents, if you could, I would put a (much) wider bracelet on the watch. Something Rambo size, to compliment the attitude and stance of the watch itself.

Best regards, Pal

---

**Re: Sneak Peak #2**

*Message #10 Posted by **DaveJ** on 4 Oct 2007, 5:07 p.m.,  
in response to message #9 by Pal G.*

Quote:

---

Davej,

Can you give us some ideas regarding what's running under the hood? Like processor type, memory size, display specs (annunciators?), batter(y/ies) type.

How about the software? Did you "borrow" a rom from HP, or are you running your own code?

If any of this is has already been covered, pointer please. If it's top secret, I understand.

---

It's kinda secret at the moment, but I'm not that good at keeping secrets for too long, I can usually be prodded ;-)

It uses a modern 16bit micro with decent amounts of internal FLASH and SRAM. There is also another non-volatile memory for program and other storage. Display is just a 16x2 dot matrix, no extra annunciators. It uses either one or two lithium coin cell batteries. It's got more grunt and memory than the new 35S anyway.

It's completely all my own code.

Quote:

Also, if you want my two cents, if you could, I would put a (much) wider bracelet on the watch. Something Rambo size, to compliment the attitude and stance of the watch itself.

I went with standard size watch spring bars, I'm not aware of any wider ones? Then again, I didn't specifically look for anything wider. I'm not a big fan of the wide watch band, but I can see your point given the rest of the watch is fairly wide.

Dave.

### Re: Sneak Peak #2

Message #11 Posted by [Eric Smith](#) on 6 Oct 2007, 2:03 a.m.,  
in response to message #10 by [DaveJ](#)

Quote:

It uses a modern 16bit micro with decent amounts of internal FLASH and SRAM.

Sounds like it might be one of:

- Renesas H8SX - max 512KB flash, 40KB RAM (1M flash, 56KB RAM in forthcoming parts)
- TI MSP430 - max 48KB flash, 10KB RAM, or 116KB flash, 8KB RAM
- Microchip PIC24F - max 128KB flash, 8KB RAM
- Microchip PIC24H - max 128KB flash, 16KB RAM

The H8SX and PIC24H have the disadvantage of requiring a regulated 3.3V supply, but then, the LCD module probably does as well. The MSP430 and PIC24F can run directly from a battery.

I've used other H8 parts in the past, but not the H8SX series. I'd probably use an MSP430 if I was designing something like this, unless more than 10KB of RAM was desired.

What's the overall width of the LCD module? The smallest 16x2 character LCD module I've found is 56.3mm wide.

### Re: Sneak Peak #2

Message #12 Posted by [DaveJ](#) on 6 Oct 2007, 7:56 a.m.,  
in response to message #11 by [Eric Smith](#)

Quote:

What's the overall width of the LCD module? The smallest 16x2 character LCD module I've found is 56.3mm wide.

53mm

Dave.

---

---

**Re: Sneak Peak #2**

Message #13 Posted by [Allen](#) on 3 Oct 2007, 8:40 p.m.,  
in response to message #1 by DaveJ

Interesting, The /\*-+ keys are in the same order as the Pioneer/Voyager and later series, but are on the left like The HP 41 and earlier calculators. This is a slick looking calculator! I'd be interested in one as well. This may be a silly question, but does it also function as a watch? I assume not since there are no controls for such. Looks nice!

---

**Re: Sneak Peak #2**

Message #14 Posted by [sjthomas](#) on 3 Oct 2007, 11:31 p.m.,  
in response to message #1 by DaveJ

Can't you make the ENTER key wider? :-)

---

**Re: Sneak Peak #2**

Message #15 Posted by [Eddie W. Shore](#) on 5 Oct 2007, 12:30 a.m.,  
in response to message #1 by DaveJ

Nice! Is it just a calculator or a watch as well?

---

**Re: Sneak Peak #2**

Message #16 Posted by [DaveJ](#) on 5 Oct 2007, 12:47 a.m.,  
in response to message #15 by Eddie W. Shore

Quote:

\_\_\_\_\_  
Nice! Is it just a calculator or a watch as well?  
\_\_\_\_\_

Due to popular demand, a photo of the watch mode, to prove it's real.

<http://www.alternatezone.com/stuff/SneakPeakWatch.jpg>

and yes, that's a temperature display as well. My fridge is 3.3degC in case anyone wanted to know :->

Dave.

---

**Re: Sneak Peak #2**

Message #17 Posted by [Walter B](#) on 5 Oct 2007, 12:58 a.m.,  
in response to message #16 by DaveJ

Dave, thanks for showing!

You may have expected my questions: Does it have a 24h mode, too? And is it able to display the date the European way (e.g. 5.10.2007)? Any extra functions like a stopwatch? (You may notice I carefully avoid questions starting with "is there...?" ;)

---

**Re: Sneak Peak #2**

*Message #18 Posted by **DaveJ** on 5 Oct 2007, 1:15 a.m.,  
in response to message #17 by Walter B*

Quote:

Dave, thanks for showing!

You may have expected my questions: Does it have a 24h mode, too? And is it able to display the date the European way (e.g. 5.10.2007)? Any extra functions like a stopwatch? (You may notice I carefully avoid questions starting with "is there...?" ;)

Of course, I wouldn't want it to miss out on anything my Timex can't do. Well, almost, it's a not waterproof, so I won't be wearing it canyoning this season.

Dave.

## **Re: Sneak Peak #2**

*Message #19 Posted by **Ren** on 9 Oct 2007, 11:31 a.m.,  
in response to message #1 by DaveJ*

I'm looking forward to getting one...

The problem is, I'll probably wear it,  
everywhere...

until it is held together by duct tape...

and my wife would refuse to be seen in public with me.

Ren

dona nobis pacem

## **Re: Sneak Peak #2**

*Message #20 Posted by **Ren** on 9 Oct 2007, 11:37 a.m.,  
in response to message #19 by Ren*

On further thought...

Maybe I'll develop a water tight hinged Lexan cover for it...

and market it to Special Forces...

but they'll probably want me to include a 1MW CO2 cutting laser...

and an external trigger for the timer countdown function...

GPS...

Oh well...

Ren

dona nobis pacem

---

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## HP Forum Archive 17

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### **Honolulu hp35 s retailer?**

Message #1 Posted by *[geoff quickfall](#)* on 3 Oct 2007, 4:14 p.m.

I get to Honolulu alot during the month, does anyone know of a retailer for the HP 35s.

Maybe one of the universities?

Cheers, Geoff

---

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## HP Forum Archive 17

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### Initializing Values in a Program (HP35s)

Message #1 Posted by [Chuck](#) on 3 Oct 2007, 12:41 p.m.

Suppose you need to initialize X=2 and Y=3 in a program. One method is:

```
001  2
002  STO X
003  3
004  STO Y
```

A second method is to use EQN before each line

```
001  2 -> X
002  3 -> Y
```

where -> is the STO command.

The second method obviously reduces the number of lines of code, but is one method any more efficient (timewise) over the other? I haven't been able to discern a difference in my small programs, so it's just really a matter of curiosity.

CHUCK

### Re: Initializing Values in a Program (HP35s)

Message #2 Posted by [Egan Ford](#) on 3 Oct 2007, 1:02 p.m.,  
in response to message #1 by Chuck

Create a loop and time it:

E.g.:

```
A001 100
A002 STO I
A003 your code here
...
An   DSE I
An+1 GTO A003
An+2 RTN
```

This will run your code 100 times. Use a stopwatch to time it.

*Edited: 3 Oct 2007, 1:03 p.m.*

### Re: Initializing Values in a Program (HP35s)

Message #3 Posted by [Arne Halvorsen \(Norway\)](#) on 3 Oct 2007, 1:20 p.m.,  
in response to message #2 by Egan Ford

```
Y001 LBL Y
Y002 0.999
Y003 STO X
```

```
Y004 2
Y005 STO Y
Y006 ISG X
Y007 GTO Y004
Y008 RTN
```

Used 1m 8s

```
Y001 LBL Y
Y002 0.999
Y003 STO X
Y004 eq 2>Y
Y005 ISG X
Y006 GTO Y004
Y007 RTN
```

Used 1m 57s

*Edited: 3 Oct 2007, 1:22 p.m.*

### **Re: Initializing Values in a Program (HP35s)**

*Message #4 Posted by **Chuck** on 3 Oct 2007, 2:01 p.m.,  
in response to message #2 by Egan Ford*

Okay, I looped it 100 times.

11 seconds with

```
2
sto x
3
sto y
```

and 20 seconds with

```
2 -> x
3 -> y
```

Looks like there is definitely a trade-off with speed -vs- size.

### **Re: Initializing Values in a Program (HP35s)**

*Message #5 Posted by **Meenzer** on 3 Oct 2007, 2:40 p.m.,  
in response to message #4 by Chuck*

The difference in length is only

```
LBL A
2
STO
LN=67
```

```
LBL A
2>A
LN=66
```

*Edited: 3 Oct 2007, 2:43 p.m.*



---

---

**Re: Initializing Values in a Program (HP35s)**

*Message #6 Posted by [Arne Halvorsen \(Norway\)](#) on 3 Oct 2007, 3:04 p.m.,  
in response to message #5 by Meenzer*

Equation are parsed run time every time used, so clearly there will be an overhead.

---

---

**Re: Initializing Values in a Program (HP35s)**

*Message #7 Posted by [Paul Dale](#) on 3 Oct 2007, 5:08 p.m.,  
in response to message #5 by Meenzer*

I've not checked if this is the case here or not but don't trust the reported program lengths, they are wrong.

To measure sizes more accurately, try looking at the change in the bytes free in the memory menu.

- Pauli

---

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## HP Forum Archive 17

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**HP-97 battery pack substitute?**

Message #1 Posted by [Mike McCauley](#) on 3 Oct 2007, 12:13 a.m.

I have a HP-97 that I purchased some time ago off eBay. I use it almost daily, and it works great, save for one problem that pops up periodically. Every few years, it gobbles up a battery pack.

I use the machine on AC power only, never off the battery pack. As I think of it I unplug the wall wart and turn the machine on to run the battery down, but most times it is plugged in and turned off. As is well known, in time this trashes the batteries.

I chopped the battery pack open some time ago, and I rebuild it myself as required. This is not big deal, but the sub-C batteries aren't cheap, and NiCds are getting harder to find all the time.

After reading a number of posts on the site about how the charger/PS circuit works, I decided that I could substitute an electrolytic cap and a zener for the battery pack, the cap to provide the filtering to eliminate the "fluttering digit" problem, and the zener to insure that the machine would not be exposed to a high voltage spike resulting from the cap charging to the peak voltage of the wall wart.

I paralleled a 2200 uF 10V cap and a 5.1V 5W zener and attached it to the battery pack spring clips inside the battery compartment with clip leads. This works very well... for the most part.

When the machine is on, the wall wart/cap combo voltage gets pulled down to about 4.89V and the zener dissipates essentially zero power. When I turn the machine off, the cap voltage is clamped at 5.1V, and turning the machine on and off produces no obvious problems. All in all, the idea works great, except for one problem.

With the machine off, the zener heats up, quickly and to a relatively high temperature. Obviously, this indicates that the current limiting resistors on the output side of the unregulated supply in the machine are sized to allow too much current to flow though the zener.

I could use a higher voltage zener, but I'm concerned that a turn-on spike from the cap would harm the machine.

I could use a simple zener-transistor shunt regulator circuit with a small heat sink to spread the heat out. But the power being dissipated is still the same, and I am concerned about burning out the series resistors in the calculator

The idea behind all of this is to simply eliminate the "low power" LED being on when the next set of batteries gives out, and thus the buying of one set after another of batteries in the first place, batteries that, in my situation, are acting as no more than short-life filter caps.

Higher voltage zener? Shunt regulator? Bad idea, won't work? Something else?

Thanks in advance for your comments,

Mike

**Re: HP-97 battery pack substitute?**

Message #2 Posted by [Patrick Rendulic](#) on 3 Oct 2007, 1:42 a.m.,

*in response to message #1 by Mike McCauley*

Hello. At the moment I have no answer to your question, but I just want to tell you how I "power" my HP-97.

I have rebuilt the battery pack with Ni-MH cells from Sanyo, 3.700 mAh. To charge them, I put the switched off machine on AC power for a whole day. I then remove the AC power adapter and use the machine on battery power.

I don't use it as often as you, so in my case the charge is sufficient for several months of use. In your case the charge would certainly be sufficient for several weeks.

Up to now, no problems with the Ni-MH cells.

### **Re: HP-97 battery pack substitute?**

*Message #3 Posted by [marais](#) on 3 Oct 2007, 3:00 a.m.,  
in response to message #2 by Patrick Rendulic*

I use mine as often as Mike and wear out cells at an alarming rate. For some time I was wondering if a stabilized 4.8V (or 5V, for that matter) supply with 2A would not be a better solution. Does anyone know the max. current the 97 draws?

Andreas

### **Re: HP-97 battery pack substitute?**

*Message #4 Posted by [Eric Smith](#) on 3 Oct 2007, 3:14 a.m.,  
in response to message #3 by marais*

My bench power supply shows peaks over 3A, but its display update rate is fairly slow, so the actual peak could be somewhat higher.

### **Re: HP-97 battery pack substitute?**

*Message #5 Posted by [Randy](#) on 3 Oct 2007, 10:21 a.m.,  
in response to message #1 by Mike McCauley*

I have modified a number of units to use an external power supply. A Digikey T989-P5P wall wart switcher works well, 6V, 2.5A, 5% regulation for \$17.00. It's a simple matter to move the 97's charger plug out of the way, let it dangle inside and route the PS wires through the holes in the 97 and solder to the pcb areas marked + and -. The battery connects to the other side of the pins which you should pull off and tape up just in case anybody puts a battery into the unit. Simple and working well for many years now.

*Edited: 3 Oct 2007, 10:24 a.m.*

### **Re: HP-97 battery pack substitute?**

*Message #6 Posted by [Mike McCauley](#) on 3 Oct 2007, 10:40 a.m.,  
in response to message #5 by Randy*

Thanks for the tip. Given my situation, this sounds like the best option for me.

Given what you say regarding connecting the switcher PS, am I correct in thinking that where you have it connected is at the same points in the circuit as the existing battery pack?

Also, depending on design, some switchers don't work properly under zero load. Using the PS you specify,

is turning the machine off a problem, or must it be left on all the time?

Thanks again for the info!

Mike

**Re: HP-97 battery pack substitute?**

*Message #7 Posted by [randy](#) on 3 Oct 2007, 2:33 p.m.,  
in response to message #6 by Mike McCauley*

Quote:

am I correct in thinking that where you have it connected is at the same points in the circuit as the existing battery pack?

Yes, it connects to the battery input.

Quote:

Also, depending on design, some switchers don't work properly under zero load. Using the PS you specify, is turning the machine off a problem, or must it be left on all the time?

It's a wall wart consumer power supply. Zero load is an acceptable condition.

**Re: HP-97 battery pack substitute?**

*Message #8 Posted by [Mike McCauley](#) on 4 Oct 2007, 1:22 a.m.,  
in response to message #7 by randy*

Understood. Given all of what's been thrown out, for me, I think this is the best option.

Thanks again,

Mike

**Re: HP-97 battery pack substitute?**

*Message #9 Posted by [Mike McCauley](#) on 3 Oct 2007, 10:41 a.m.,  
in response to message #1 by Mike McCauley*

Thanks to all who responded. I appreciate the help and show of interest.

Mike

**Re: HP-97 battery pack substitute?**

*Message #10 Posted by [Chan Tran](#) on 3 Oct 2007, 11:18 a.m.,  
in response to message #9 by Mike McCauley*

When I rebuilt my battery pack I didn't glue them back together but simply taped them. It makes it easy to replace the cells again. I used NiMH instead of NiCad so the pack last at least 3 times longer than the original pack.

### **Re: HP-97 battery pack substitute?**

*Message #11 Posted by [Mike McCauley](#) on 3 Oct 2007, 1:56 p.m.,  
in response to message #10 by Chan Tran*

I, too, use only tape. Works fine.

Did you have to make any circuit changes in order to use NiMH?

I'm sure they would last much longer, and they would also be far easier and cheaper to obtain than NiCd. In my area (Dallas, Texas, USA), sub-C NiCd cells are tough to obtain. And on the Internet, with shipping and sometimes minimum order charges, it's not a cheap prospect.

Every 2-3 years, the cost of the cells is more than the cost of a brand new TI scientific calculator. But then, that's not an HP...

;<)

### **Re: HP-97 battery pack substitute?**

*Message #12 Posted by [Chan Tran](#) on 3 Oct 2007, 4:10 p.m.,  
in response to message #11 by Mike McCauley*

No it just takes longer to charge. About 2 to 3 days to fully charge the battery with the stock walwart. Besides the walwart is charging the battery so slowly, it's almost safe to keep it plugged in all the time.

*Edited: 3 Oct 2007, 4:14 p.m.*

### **battery pack**

*Message #13 Posted by [geoff quickfall](#) on 3 Oct 2007, 4:11 p.m.,  
in response to message #11 by Mike McCauley*

I have rebuilt 5 battery packs with Nimh and have yet to have a problem. I do however, recharge them in the accessory battery charger that HP sold at the time. I also do this with my hp67's, which I use in the 'office' recharging the batteries on the 82004a instead of the calculator.

I do this for a two reasons, the heat generated in the calculator cannot be good after 30 years of use and the stress on the older circuits in the calculator is just not required if you can use the external chargers. Number 2, the external chargers are easy to fix and do not involve dis-assembly of the units to get to the recharging circuitry.

I may be a bit paranoid here but my HP 97, HP 92 and the 4 67's I have (I use the 97 and one of the 67's still) keep their charges for very long times.

Cheers, Geoff

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## HP Forum Archive 17

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### HP35s Program Logger (sort of)

Message #1 Posted by [Chuck](#) on 2 Oct 2007, 10:10 p.m.

Well, this is not quite the program logger I wanted to write, but my programming days are long past. Instead, I created an Excel spreadsheet that automatically creates line numbering. Changing a LBL variable will change the line accordingly. You can also leave a space between programs for easier reading. The spreadsheet allows for 100 lines of program (I can make it longer if needed, or just use a new page for larger programs.) Enter program commands in the "Command" column beginning with the LBL command.

Not sure if anyone will find it useful, but it was a good self-test on creating Excel functions to do this.

If the formatting of the line number isn't the same as in the graphic, let me know, and I'll fix it (or tell you how). Here's what it will look like.

<http://home.wavecable.com/~stevensc/mathmuseum/HP35sLogger.jpg>

[HP35s Logger Spreadsheet](#)

CHUCK

### Re: HP35s Program Logger (sort of)

Message #2 Posted by [Don Shepherd](#) on 2 Oct 2007, 10:31 p.m.,  
in response to message #1 by Chuck

Hey Chuck, that's pretty clever! Good job.

### Re: HP35s Program Logger (sort of)

Message #3 Posted by [Jeff O.](#) on 10 Oct 2007, 1:20 p.m.,  
in response to message #1 by Chuck

Chuck, thanks for your effort, I found it useful. Not being able to leave well enough alone, I considered what improvements might be desirable. In addition to auto-numbering, it would be nice to find a way to keep track of the jump start points and the targets. A column for comments would also be handy. With these concepts in mind, I took the liberty of modifying your workbook. Here is a screenshot of what I came up with:

| A  | B            | C               | D                                    | E            | F             | G                         |
|----|--------------|-----------------|--------------------------------------|--------------|---------------|---------------------------|
| 1  |              |                 | <b>Name: HP 35s Programming Form</b> |              |               |                           |
| 2  |              |                 |                                      | <b>Jump</b>  |               |                           |
| 3  | <b>Line#</b> | <b>Command</b>  |                                      | <b>Start</b> | <b>Target</b> | <b>Comments</b>           |
| 4  | A 001        | LBL A           |                                      |              |               | Label A                   |
| 5  | A 002        | ..              |                                      |              |               | comment                   |
| 6  | A 003        | ..              |                                      |              |               | comment                   |
| 7  | A 004        | ..              |                                      |              |               | comment                   |
| 8  | A 005        | ..              |                                      |              |               | comment                   |
| 9  | <b>A 006</b> | <b>GTO A041</b> |                                      | 1            |               | first jump                |
| 10 | A 007        | ..              |                                      |              |               | comment                   |
| 11 | A 008        | ..              |                                      |              |               | comment                   |
| 12 | A 009        | ..              |                                      |              |               | comment                   |
| 13 | A 010        | ..              |                                      |              |               | comment                   |
| 14 | A 011        | ..              |                                      |              |               | comment                   |
| 15 | A 012        | ..              |                                      |              |               | comment                   |
| 16 | A 013        | ..              |                                      |              |               | comment                   |
| 17 | A 014        | ..              |                                      |              |               | comment                   |
| 18 | <b>A 015</b> | <b>RCL N</b>    |                                      |              | 2             | target of second jump     |
| 19 | A 016        | ..              |                                      |              |               | comment                   |
| 20 | A 017        | ..              |                                      |              |               | comment                   |
| 21 | A 018        | ..              |                                      |              |               | comment                   |
| 22 | A 019        | ..              |                                      |              |               | comment                   |
| 23 | A 020        | ..              |                                      |              |               | comment                   |
| 24 | A 021        | ..              |                                      |              |               | comment                   |
| 25 | A 022        | ..              |                                      |              |               | comment                   |
| 26 | A 023        | ..              |                                      |              |               | comment                   |
| 27 | A 024        | ..              |                                      |              |               | comment                   |
| 28 | <b>A 025</b> | <b>GTO A015</b> |                                      | 2            |               | second jump               |
| 29 | A 026        | ..              |                                      |              |               | comment                   |
| 30 | A 027        | ..              |                                      |              |               | comment                   |
| 31 | <b>A 028</b> | <b>RCL (J)</b>  |                                      |              | 5             | target of the fifth jump  |
| 32 | A 029        | ..              |                                      |              |               | comment                   |
| 33 | <b>A 030</b> | <b>GTO A039</b> |                                      | 3            |               | third jump                |
| 34 | <b>A 031</b> | <b>RCL N</b>    |                                      |              | 4             | target of the fourth jump |
| 35 | A 032        | ..              |                                      |              |               | comment                   |
| 36 | A 033        | ..              |                                      |              |               | comment                   |
| 37 | A 034        | ..              |                                      |              |               | comment                   |
| 38 | A 035        | ..              |                                      |              |               | comment                   |
| 39 | A 036        | ..              |                                      |              |               | comment                   |
| 40 | A 037        | ..              |                                      |              |               | comment                   |
| 41 | <b>A 038</b> | <b>GTO A031</b> |                                      | 4            |               | fourth jump               |
| 42 | <b>A 039</b> | <b>ISG J</b>    |                                      |              | 3             | target of the third jump  |
| 43 | <b>A 040</b> | <b>GTO A028</b> |                                      | 5            |               | fifth jump                |
| 44 | <b>A 041</b> | <b>RCL N</b>    |                                      |              | 1             | target of the first jump  |
| 45 | A 042        | STOP            |                                      |              |               | end                       |
| 46 | Program 1    |                 |                                      |              |               |                           |

The workbook looks for and sequentially numbers the GTO and XEQ commands, placing a sequence number in the “Start” column. It also changes the font color to green. You have to manually enter the sequence numbers in the “Target” column at the target line, and then the font color is changed to red. To insert a program step or steps, I have not found a better way than to copy everything in columns D, E, F, and G below the line where you want to insert down one or more lines. Then type the new instruction(s) in the newly created line(s). The jump starts and targets have to be manually reviewed and edited as required. Extra care must be taken if a new jump start is inserted between two existing ones as that will change the sequence numbers of all jump starts after the new jump instruction, so the sequence numbers of their targets will no longer match. (Automating the insertion and jump tracking and editing process would be very helpful, of course, but so far I haven’t tried to tackle that.)

[Here is the workbook](#) if you are interested....

## HP Forum Archive 17

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### **Early HHC2007 conference report / tidbits**

Message #1 Posted by [Gene Wright](#) on 2 Oct 2007, 9:26 p.m.

70 total attendees, 65 non-HP attendees. Biggest attendance at a conference in YEARS!

HP provided lunch and dinner on Saturday and lunch on Sunday.

Cyrille was voted best speaker for his talk. Don Shepherd gave a very good talk about the nSpire. Other speakers can be found here:

[Conference program \(which changed, but more or less was like this\)](#)

Everyone received at least one door prize (someone actually walked away with a very rare TI 1200 calculator) and two gifts from HP.

Two auctions of rare goodies was held, one of which I won.

Each attendee received a special edition 16 month HP Calculator calendar in their conference proceedings folder.

Jake video recorded everything - except the NDA stuff.

Sunday night, several attendees gathered at the Elephant Bar restaurant for hours and then continued talking in the parking lot of the Holiday Inn.

One of the attendees missed Saturday morning because his wife went into labor, giving birth around 7-8am. Fortunately :- ) he was able to drop by Saturday afternoon to register and get his goodies...with his wife's blessing!

Speaking of wives, there were 3 non-HP female attendees this year, 2 more than the previous year. I call that an important percent change!

Hopefully some of you who registered but were unable to attend can do so next year. Stay tuned for more non-NDA info about the conference past and conference future.

### **Re: Early HHC2007 conference report / tidbits**

Message #2 Posted by [Jeff Davis](#) on 3 Oct 2007, 9:44 a.m.,  
in response to message #1 by Gene Wright

Can anyone post Mr. Owens presentation on the MLDL2000 and the Hepax (How to). It would be nice to review this.

### **Re: Early HHC2007 conference report / tidbits**

Message #3 Posted by [Howard Owen](#) on 3 Oct 2007, 11:02 a.m.,  
in response to message #2 by Jeff Davis

[MLDL2000 and HEPAX presentation](#)



This is mostly Meindert's work, with a couple of additional slides for my HEPAX how-to.

Regards,  
Howard

**Re: Early HHC2007 conference report / tidbits**

*Message #4 Posted by **Meindert Kuipers** on 3 Oct 2007, 1:10 p.m.,  
in response to message #3 by Howard Owen*

Howard,

Thanks for doing the presentation. Maybe it would be good to make the paper about your HEPAX how-to public as well, that really explains how to do it!

Meindert

**Re: Early HHC2007 conference report / tidbits**

*Message #5 Posted by **Walter B** on 3 Oct 2007, 1:23 p.m.,  
in response to message #4 by Meindert Kuipers*

Maybe I misunderstood, but I thought there shall be a CD or DVD with all the HHC papers and presentations on it (except the NDA stuff of course). When will it be released? For those of us who live far away from San Diego this would be very much appreciated: so we may read at least what was going on.

**Re: Early HHC2007 conference report / tidbits**

*Message #6 Posted by **Gene Wright** on 3 Oct 2007, 2:24 p.m.,  
in response to message #5 by Walter B*

Jake Schwartz puts together a DVD of the proceedings (edited to remove NDA type stuff), but that usually takes several months due to life events, etc.

I'm sure he will post a link here when it is ready.

As far as printed proceedings, not every talk had associated paper handouts, so that may be tougher to gather.

**Re: Early HHC2007 conference report / tidbits**

*Message #7 Posted by **BruceH** on 4 Oct 2007, 1:20 p.m.,  
in response to message #1 by Gene Wright*

Quote:

70 total attendees, 65 non-HP attendees. Biggest attendance at a conference in YEARS!

I think you'll find that there were 65 1/2 non-HP attendees.

Congratulations to Katie and Tim.

:-)

**Early HHC2007 conference report / tidbits**

*Message #8 Posted by **Jake Schwartz** on 7 Oct 2007, 5:14 p.m.,  
in response to message #7 by BruceH*

For what it's worth, the conference group photo is posted on the HHC2007 web site at <http://holyjoe.net/hhc2007/> . Another nine people appeared after the photo was taken.

A detailed conference report is being prepared and will be posted as soon as it is completed.

Jake Schwartz

**Re: Early HHC2007 conference report / tidbits**

*Message #9 Posted by **Walter B** on 7 Oct 2007, 5:29 p.m.,  
in response to message #8 by Jake Schwartz*

Hi Jake,

thanks for posting the photo. Looks like a very cheerful crowd! For us who could not attend: Who's who? Can you add the names e.g. from left to right? Thanks in advance!

**Re: Early HHC2007 conference report / tidbits**

*Message #10 Posted by **Gene Wright** on 7 Oct 2007, 8:48 p.m.,  
in response to message #9 by Walter B*

In some cases, no.

For the first time in memory, we had 2 attendees who were adamant that their name not be used on any lists made public.

Not sure if the fear is terrorists or the government, but ...

If their names get out, it won't be my doing, but it goes against my view of a community

**Re: Early HHC2007 conference report / tidbits**

*Message #11 Posted by **Walter B** on 8 Oct 2007, 2:43 a.m.,  
in response to message #10 by Gene Wright*

Quote:

\_\_\_\_\_

In some cases, no.

\_\_\_\_\_

Gene, I'd be perfectly satisfied when you omit just *\*some\** names ;) This will allow for putting faces to well known names for those members of this forum who couldn't spend the money for travelling half around the globe for a weekend, though a very valuable one.

Well, and whoever doesn't want to show up named in public, which is a perfectly rightful wish for sure, shall be vigilant (and modest) enough not to be group-photographed. Else I'd not reckon that "adamant" but something else :)

*Edited: 8 Oct 2007, 5:12 a.m.*

**Re: Early HHC2007 conference report / tidbits**

*Message #12 Posted by **Matt Kernal** on 7 Oct 2007, 6:59 p.m.,  
in response to message #1 by Gene Wright*

>Each attendee received a special edition 16 month HP Calculator calendar in their conference proceedings folder.

Along with the printed proceedings and calendar, I want to add that each conference folder also included some *very, very generous* media items as follows:

- 1) Museum of HP Calculators 2-DVD set (Ver. 6.00) - Thanks Dave!!
- 2) HP Calculator Archive CD (i.e. entire copy of hpcalc.org) - Thanks Eric!!
- 3) 24 Years of Datafile 1982-2005 CD (HPCC UK) - Thanks Wlodek, Bruce, Hugh, et al !!)

Additionally, when HP handed out the free 35S's, they also gave each attendee an "HP Invent" logoed unisex watch (for some reason the HP watch I received was an old LED display jobbie with a bunch of tiny little buttons ;-). The 35S and watch were really nice gestures on HP's part. Thanks Sam, Cyrille, Wing, and Amy!!

And of course, a BIG THANK YOU to the HHC2007 committee members: Richard, Jake, Gene, Wlodek, and Joe!! Joe wasn't able to attend due to a serious medical condition he is fighting, so please keep him in your prayers - he certainly needs them right now. Thanks guys for all your hard work. We'll never know the extra effort you put into making this another highly-enjoyable conference.

I think one of my favorite aspects of these conferences are meeting and talking with friends that have traveled from other countries to attend. You know it cost them plenty of time and money to be there! We have been enriched by your presence. Thanks for coming! It's really nice to be able to put a face with the names we see *here* often (that goes for everyone).

There are lots of other good things to mention, but I just wanted to say thank you to some pretty special people.

Matt

*Edited: 8 Oct 2007, 1:17 p.m. after one or more responses were posted*

### **Re: Early HHC2007 conference report / tidbits**

*Message #13 Posted by **Paul Brogger** on 8 Oct 2007, 11:54 a.m.,  
in response to message #12 by Matt Kernal*

I seem to remember reading somewhere that there would be a programming challenge. If there was one as part of the conference, what was the problem?

How many original HP-35's made it? (All versions?) Does the freebie 35s have the "Commemorating 35 Years" (or whatever) on it?

(I'm calculating how much jealousy I should work up.) (If these answers are already available, please point me in some general direction . . . )

*Edited: 8 Oct 2007, 1:54 p.m.*

### **Re: Early HHC2007 conference report / tidbits**

*Message #14 Posted by **sjthomas** on 8 Oct 2007, 8:06 p.m.,  
in response to message #13 by Paul Brogger*

Quote:  
\_\_\_\_\_

I seem to remember reading somewhere that there would be a programming challenge. If there was one as part of the conference, what was the problem?

On the 35S ONLY,

1. Accept as input an integer from 1 to 9,999,999,999 in which no digit is a zero.
2. Sort the digits of the integer into increasing order and display the result as one integer.
3. No external program initiation.
4. Restore original calculator state.

Example, for input of 9991188, return 1188999

Quote:

How many original HP-35's made it? (All versions?)

I don't think there was a count. Some are being held in the posted photo.

Quote:

Does the freebie 35s have the "Commemorating 35 Years" (or whatever) on it?

Sadly, no.

### **The HHC2007 Conference Commemorative Calendar**

*Message #15 Posted by **Jake Schwartz** on 8 Oct 2007, 11:10 p.m.,  
in response to message #13 by Paul Brogger*

> How many original HP-35's made it? (All versions?) Does the freebie 35s have the "Commemorating 35 Years" (or whatever) on it?

I counted at least eleven HP35A models there. The machines HP gave out were the "regular" 35S units, not the commemorative ones which went to only a select few people, as I recall.

Jake Schwartz

### **Re: The HHC2007 Conference Commemorative Calendar**

*Message #16 Posted by **Paul Brogger** on 9 Oct 2007, 10:07 a.m.,  
in response to message #15 by Jake Schwartz*

Seems like they had the "select few" attending the conference!

Whatever -- I'd better not indulge in "glass 1/8 empty" rumination. Sounds like it was fun.

Thanks for the info.

### **Re: Early HHC2007 conference report / tidbits**

*Message #17 Posted by [sjthomas](#) on 13 Oct 2007, 3:33 p.m.,  
in response to message #13 by Paul Brogger*

Quote:

---

I seem to remember reading somewhere that there would be a programming challenge. If there was one as part of the conference, what was the problem?

---

There is a nice write-up of the evaluation of the programming challenge submissions (but not the listings themselves -- dang it! that the 35s doesn't have IR printer output) by Gene W. in Richard Nelson's Conference Report posted at the HHC website:

[http://holyjoe.net/hhc2007/Final\\_HHC2007\\_Conference\\_Report\\_R2.pdf](http://holyjoe.net/hhc2007/Final_HHC2007_Conference_Report_R2.pdf)

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## HP Forum Archive 17

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**Unrecoverable crash to lock-up**

Message #1 Posted by [John Wasilewski](#) on 2 Oct 2007, 9:42 a.m.

Anyone seen this problem?

Any advice available?

**Unrecoverable crash problem*****Causing total loss of all previous software development work***

In final tweak/adjust/debug stage, XEQting a 473-line program caused the screen and keyboard to freeze. None of the keystroke combination reset procedures in the manual worked.

i.e. neither of the following freed the lock-up.

C + GTO

C + R/S + i

Consequences were very bad. I had to stick a pin in the back. I therefore lost not only this long program but also ALL other code I had entered for previous programs.

Hoping that this was just an unfortunate rare occurrence, I re-typed the entire 473-line program from notes I had kept. When I tried to XEQute it again to resume where I had left off, it worked partially as before and then at exactly the same place in the data entry, exactly the same problem happened again.

I'm therefore faced with having to type it all in yet again (that is, AT LEAST one more time, and probably more than one). Naturally, I'll try stepping through it next time, but when it crashes again, I will again be back to zero.

This is very exasperating and time-wasting.

*It is also extremely discouraging. I had planned to build up gradually (and post to this site) a library of most-useful structural engineering code that would just lie in memory, preserved by always having a spare battery pair and replacing batteries carefully. This unrecoverable crash means I can expect to lose the lot. And that is a big big disincentive to software development on a system I can't trust, that has no possibility for external filesaves.*

John Wasilewski  
Civil engineer  
Oxford and London

**Re: Unrecoverable crash to lock-up**

Message #2 Posted by [Arne Halvorsen \(Norway\)](#) on 2 Oct 2007, 10:07 a.m.,  
in response to message #1 by John Wasilewski

And on what machine did this happen?

## **Re: Unrecoverable crash to lock-up**

*Message #3 Posted by [randy](#) on 2 Oct 2007, 11:52 a.m.,  
in response to message #2 by Arne Halvorsen (Norway)*

My semi-educated guess: 35S

And some wonder why others want still 41's, 67's and 97's. It's those blasted silly little magnetic cards...  
oops, forgot the 65.

IMO, the 35S is not a "system".

*Edited: 2 Oct 2007, 11:56 a.m.*

## **Re: Unrecoverable crash to lock-up**

*Message #4 Posted by [Arne Halvorsen \(Norway\)](#) on 2 Oct 2007, 12:09 p.m.,  
in response to message #3 by randy*

Yep must be, checked the manual.

I wonder how much more expensive the bug would had been with the simplest form of I/O (USB or memory card) for program backup...

## **Re: Unrecoverable crash to lock-up**

*Message #5 Posted by [John Wasilewski](#) on 2 Oct 2007, 1:07 p.m.,  
in response to message #3 by randy*

Good guess, Randy, it is a 35S.

Also, you may be right that I shouldn't refer to it as a 'system' and I'm grateful to you for the comment. Please note, however, that I posted the original message because I have a fairly major problem here, that I really do need some solid help with if I can possibly find it, so I hope everyone won't mind, and no-one will be offended, if I ask that we keep focused on the technical problem, and avoid side issues like this.

In particular,

- 1) Has anyone else had any similar experience?
- 2) Does anyone have any ideas of what type of code might cause it, so that I can search through my code to try to find MY bug?
- 3) Has anyone any ideas about how to force a non-destructive reset when the instructions in the manual don't succeed?

Be in no doubt, if this problem persists and we can't find out why then the HP35S, which is otherwise a superb calculator, becomes totally crippled for all serious users. You can't write serious programs on a "calculator-that-isn't-a-system" (!) if there is no save facility AND occasional crashes wipe all programming you have ever done.

I see this as very, very important.

---

John

**Re: Unrecoverable crash to lock-up**

Message #6 Posted by **John Wasilewski** on 2 Oct 2007, 12:50 p.m.,  
in response to message #2 by Arne Halvorsen (Norway)

It happened/happens on an **HP35s**. Sorry I didn't make this clear - I forgot it was not a machine-specific section of the forum --- John

**Re: Unrecoverable crash to lock-up**

Message #7 Posted by **Patrick Rendulic** on 2 Oct 2007, 1:01 p.m.,  
in response to message #6 by John Wasilewski

Is it the HP35-scientific or the HP35-s\*\*\* ?

I may be very rude, but at this stage, the HP-35 cannot be trusted. There seem to be to many bugs or "undocumented features". Maybe most problems will get fixed, but that means replacing the calculator.

Nevertheless I hope that the given problem will be solved!

**Re: Unrecoverable crash to lock-up**

Message #8 Posted by **John Wasilewski** on 2 Oct 2007, 1:12 p.m.,  
in response to message #7 by Patrick Rendulic

Its the brand-new just-launched shiny new  
**HP 35s Scientific Calculator**

Thanks for your encouragement and hopes for a solution Patrick,

---

John

**Re: Unrecoverable crash to lock-up**

Message #9 Posted by **John Wasilewski** on 2 Oct 2007, 1:53 p.m.,  
in response to message #8 by John Wasilewski

I have sent a detailed description of this problem to the calculators section of <http://wwemail.support.hp.com> and my report has been acknowledged by an autogen email from HP Calculator E-mail Support <calculator\_support\_en@mail.support.hp.com> with reference number KMM20282596V46293L0KM.

I'll pass on anything useful or otherwise I manage to obtain from HP.

If anyone would like to see the 473-line code that caused this, just let me have an email address to send it to you. I have a PC .txt file of it. The program does a rigorous parabolic-rectangular stress-block analysis of a rectangular RC section for a required moment of resistance in accordance with BS8110:Pt1:1997. It then recommends a section size (for the user to over-ride with his/her own choice), and, finally, optimises the compression and tension reinforcement bar sizes for minimum steel weight in the user's chosen section size.

----

John

**Way to go!**



*Message #10 Posted by [Arne Halvorsen \(Norway\)](#) on 2 Oct 2007, 2:02 p.m.,  
in response to message #9 by John Wasilewski*

That was a novel idea! Actual complain to HP about 35s problem.

Anybody actual did that regarding the vector-syntax bug? Perhaps I should, thats \*my\* beef the with thing... Have not had to reset the 'system' though...., Mr. Wasilewski has my symphaties...

*Edited: 2 Oct 2007, 2:03 p.m.*

### **Re: Unrecoverable crash to lock-up**

*Message #11 Posted by [Seth Morabito](#) on 2 Oct 2007, 2:39 p.m.,  
in response to message #9 by John Wasilewski*

If possible, I would also suggest trying to bring this up directly to Cyrille de Brebisson. I know he reads the Usenet newsgroups, and he may read this board as well. He is very keen on documenting and fixing all the bugs in the 35s, as we discussed at HHC, although of course due to the rest of HP being involved, he cannot comment on exactly what bugs may get fixed, nor when they will get fixed. But I know he is personally invested in the 35s and wants to see it bug-free.

Googling for his name is probably a good way to get his contact information. He'll want to see the program that causes the lock-up, I'm sure.

Regards,

Seth

### **Re: Unrecoverable crash to lock-up**

*Message #12 Posted by [John Wasilewski](#) on 2 Oct 2007, 4:06 p.m.,  
in response to message #11 by Seth Morabito*

Thank you Seth.

I have just sent the following message by email:

to cyrille\_de-brebisson@hp.com  
date 2 Oct 2007 21:03  
subject HP 35s unrecoverable crash problem

Dear Cyrille,

HP 35s Scientific calculator  
Serial no. CNA72100255

Someone on the HP calculators users' forum at [www.hpmuseum.org](http://www.hpmuseum.org) has suggested that I write to you about what may be a very serious fault with the seemingly excellent HP35s. I'm told you will certainly want to know about this.

I short, I may have discovered a system instability causing occasional unrecoverable crashes, under as-yet unknown circumstances. The gravity of this comes from the fact that, with no means of saving programs, crashes needing a hard reset (causing total memory erasure) will make it untenable to develop serious software because one loses everything. All software that a user has ever developed is lost.

Here's what has happened to me.

In final tweak/adjust/debug stage, XEQuting a 473-line program caused the screen and keyboard to freeze. None of the keystroke combination reset procedures in the manual worked.

i.e. neither of the following freed the lock-up.

C + GTO

C + R/S + i

Consequences were very bad. I had to stick a pin in the back. I therefore lost not only this long program but also ALL other code I had entered for previous programs.

Hoping that this was just an unfortunate rare occurrence, I re-typed the entire 473-line program from notes I had kept. When I tried to XEQute it again to resume where I had left off, it worked partially (just as before) and then, at exactly the same place in the data entry, exactly the same problem happened again.

I'm therefore faced with having to type it all in yet again (that is, AT LEAST one more time, and probably more than one). Naturally, I'll try stepping through it next time, but when it crashes again, I will again be back to zero.

This is very exasperating and time-wasting.

It is also extremely discouraging. I had planned to build up gradually (and post to an HP calculators users' forum site) a library of most-useful structural engineering code that would just lie in memory, preserved by always having a spare battery pair and replacing batteries carefully. This unrecoverable crash means I can expect to lose the lot. And that is a big big disincentive to software development on a calculator I can't trust, that has no possibility for external filesaves.

I have posted a request for help on the excellent calculator users forum at [www.hpmuseum.org](http://www.hpmuseum.org) .

I have asked,

- 1) Has anyone else had any similar experience?
- 2) Does anyone have any ideas of what type of code might cause it, so that I can search through my code to try to find MY bug?
- 3) Has anyone any ideas about how to force a non-destructive reset when the instructions in the manual dont succeed?

Be in no doubt, if this problem persists and we can't find out why, then the HP35S, which is otherwise a superb calculator, becomes totally crippled for all serious users. One cannot write serious programs on a calculator with no save facility if it suffers from occasional crashes that wipe the entire library of all programming ever done on it.

I have sent a detailed description of this problem to the calculators section of <http://wwemail.support.hp.com> and my report has been acknowledged by an autogen email from HP Calculator E-mail Support <[calculator\\_support\\_en@mail.support.hp.com](mailto:calculator_support_en@mail.support.hp.com)> with reference number KMM20282596V46293L0KM.

I don't know if you will be interested to see the 473-line code that caused this, but I am attaching details in a PC Micro\$oft Word file, just in case you would like to see it. The program is for structural engineering design. It does a rigorous parabolic-rectangular stress-block analysis of a rectangular RC section for a required moment of resistance in accordance with BS8110:Pt1:1997. It then recommends a section size (for the user to over-ride with his/her own choice), and, finally, optimises the compression and tension reinforcement bar sizes for minimum steel weight in the user's chosen section size.

Probably-suitable date with which to test it are:

M=100,000,000

Y=460

F=35

C=40

H=360 (over-ride suggested value)

B=300 (over-ride suggested value) Bar diameter = 20

Please note that the above program is still only in its final testing/debugging stage. The problem is not that the program doesn't work. Its that it kills the calculator so totally that I hae had to wipe out all programs in it with a hardware reset.

I hope you can help.

Many people on the users' forum are starting to say the same.

-----

John Wasilewski

Civil engineer

Oxford and London

## **Re: Unrecoverable crash to lock-up**

*Message #13 Posted by **John Wasilewski** on 2 Oct 2007, 10:22 p.m.,  
in response to message #12 by John Wasilewski*

```
On 02/10/2007, HP Calculator E-mail Support
<calculator_support_en@mail.support.hp.com> wrote:
> Hello John,
>
> Thank you for contacting HP Total Care.
>
>
> Unfortunately we do not support programming.  If it is a program
from
> the manual or the HP website please link the url or a copy of the
> program code.  If it is a 3rd party program you would need to
contact
> that party.
>
>
> Sincerely,
> Mike
> HP Total Care
>
>
> Our advice is strictly limited to the question(s) asked and is
based on
> the information provided to us.  HP does not assume any
responsibility
> or liability for the advice given and shall not be liable for any
> direct, indirect, special, incidental or consequential damages in
> connection with the use of this information.  Always back up your
data.
> For more information, including technical information updates,
please
> visit our Web site at http://www.hp.com/support.
```

Dear Mike,

Thank you for your prompt reply. I'm sorry that my original message was rather long. I tried to be as informative as I could but the result was that I seem to have lost you, because I was not asking for programming support.

The problem I was reporting is a suspected hardware/firmware defect that could have very serious consequences for the HP35s product -- which will be a great pity.

Could you possibly look again more closely at my original message? You'll see that I was reporting some as-yet not fully identified condition that caused teh calculator to freeze so badly that none of the reset commands in the handbook worked, and it became necessary to wipe the entire memory of all programming to date. This is a very serious worry because if it can crash like this then users will never be able to make full use of this product.

Nobody can take the risk of losing days, weeks and months of work if unrecoverable crashes can happen, when there is no way of saving the work.

I had hoped you would have something constructive or encouraging to say, like, "here is what to do when that happens" or, "we know about it and we're developing a fix", or "we agree, that is worrying, please tell us more."

Please take this seriously. I am not pestering you vexatiously. I'm worried about a possible serious latent defect in your product. I'd like to help you track it down if there is a problem, and I'd like some assurance (and support) that I can make full use of the calculator without having a great deal of my work being wiped out.

---  
John

### **Re: Unrecoverable crash to lock-up**

*Message #14 Posted by [Katie Wasserman](#) on 2 Oct 2007, 5:18 p.m.,  
in response to message #9 by John Wasilewski*

John,

I'd like to see your code that caused this problem, I'm sure that others here would like too as well, maybe you can just post it instead of dealing with separate emails.

Are you using vectors in the program? They seem particularly buggy and I've had lots of problems with them particularly in conjunction with "memory full" error messages.

-Katie

### **Re: Unrecoverable crash to lock-up**

*Message #15 Posted by [John Wasilewski](#) on 2 Oct 2007, 8:03 p.m.,  
in response to message #14 by Katie Wasserman*

As requested by Katie Wasserman, here's the program. Please bear in mind it was still in

final testing stages.

The problem for us to resolve, remember, is not how to make my program work (it was very close to being all finished, debugged and tested). The problem here, though, is to discover why the HP35s filled up suddenly with liquid nitrogen, and how to defrost it if it happens again without having to poke it in the warm-me-up-hole in the back, which consigns its contents to oblivion.

I've tried in haste to make the listing readable using limited character set available in this forum web editor. If anyone wants the M\$Word version (more readable, more reliable) just email me at John@Wasilewski.co.uk (shock horror, a real email address!).

HP35s program : Beam 8110  
John Wasilewski  
02 Oct 07

#### TECHNICAL REFERENCE

Reynolds and Steadman, Reinforced CONcrete Designer's Handbook, 10th Ed.

#### STORAGE

|       |  |
|-------|--|
| A     | Working storage register                       |
| B     | Breadth of beam                                |
| C     | Cover (assumed same top, bottom, sides)        |
| D     | Effective depth (depth to centre of tens bars) |
| E ??? | Previous weight of tens + comp bars ???        |
| F     | fcu  |
| G ??? | Previous weight of tens + comp bars ???        |
| H     | Depth of beam                                  |
| I     | k1   |
| J     | k2   |
| K     | k3   |
| L     | Prev comp bar size                             |
| M     | MR   |
| N     | M carried on concrete                          |
| O     | Tens bar diameter d                            |
| P     | No of tens bars                                |
| Q     | Comp bar diameter d'                           |
| R     | No of comp bars                                |
| S     | Area of tens steel                             |
| T     | Area of comp steel                             |
| U     | Gm (steel) = 1.05                              |
| V     | Gm (concr) = 1.5                               |
| W     |  |
| X     | Depth of neutral axis                          |
| Y     | fy   |
| Z     | Lever arm tens bars to centre of conc comp     |

#### CODE

|     |                   |
|-----|-------------------|
| 1.  | LBL B             |
| 2.  | SF 10             |
| 3.  | BEAM 8110         |
| 4.  | PSE               |
| 5.  | 0                 |
| 6.  | STO O             |
| 7.  | STO P             |
| 8.  | STO Q             |
| 9.  | STO R             |
| 10. | STO E             |
| 11. | STO L             |
| 12. | 1.05              |
| 13. | STO U             |
| 14. | 1.5               |
| 15. | STO V             |
| 16. | CF 1              |
| 17. | SF 5              |
| 18. | FIX 0             |
| 19. | GTO B157          |
| 20. | Get next bar size |
| 21. | x>y?              |
| 22. | GTO B042          |
| 23. | 10                |

```

24.      x>y?
25.      GTO B042
26.      12
27.      x>y?
28.      GTO B042
29.      16
30.      x>y?
31.      GTO B042
32.      20
33.      x>y?
34.      GTO B042
35.      25
36.      x>y?
37.      GTO B042
38.      32
39.      x>y?
40.      GTO B042
41.      40
42.      X<>y
43.      R|
44.      RTN
45.      RCL H           Calc steel-to-steel lever arm Z'
46.      RCL O
47.      RCL Q
48.      +
49.      2
50.      ÷
51.      -
52.      RCL C
53.      2
54.      x
55.      -
56.      RTN
57.      RCL Y           (1 ± fy/700Gm) depending on calling ±1
58.      x
59.      700
60.      ÷
61.      RCL U
62.      ÷
63.      1
64.      +
65.      RTN
66.      RCL D
67.      STO X           Initial value of X
68.      0.25
69.      RCL I
70.      x
71.      RCL J
72.      ÷           .25 k1/k2
73.      RCL N
74.      RCL B
75.      +
76.      RCL D
77.      x2
78.      ÷           M/BD2
79.      x>y?
80.      GTO B98           If M/BD2 > .25 k1/k2 then keep X=1
81.      RCL D
82.      2
83.      +
84.      RCL J
85.      +
86.      STO X           D/2k1
87.      x2
88.      RCL N
89.      RCL I
90.      ÷
91.      RCL J
92.      ÷
93.      RCL B
94.      ÷
95.      -           (D/2k1)2 - M / (B k1 k2)
96.      SQRTx
97.      STO- X           X = D/2k1 - ((D/2k1)2 - M / (B k1 k2))½
98.      RCL D           X = the calculated value but not > D
99.      1
100.     XEQ B57           (1 + fy/700Gm)
101.     +           Keep X <= (D / (1 + fy/700Gm))
102.     RCL X
103.     x<>y
104.     x>y?           X > (D / (1 + fy/700Gm)) ?

```

```

105. GTO B107      Yes; leave as-is
106. STO X        Else change X to (D / (1 + fy/700Gm))
107. CF 1
108. RCL D        Calculate Z
109. STO Z
110. RCL J
111. RCLx X
112. STO- Z       Z = D-k2X
113. RTN
114. RCL D        Calculate total moment of resistance
115. RCL C
116. -
117. RCL Q
118. 2
119. ÷
120. -
121. RCL Z
122. -           D - Z - cover - D'/2
123. RCL T
124. x           (D-Z-cover-D'/2)As'
125. RCL Q
126. x2
127. x           (Z'-Z) As' D'2 = (D-Z-cover-D'/2) As' D'2
128. RCL S
129. RCL O
130. x2
131. x
132. RCL Z
133. X
134. +
135. Pi
136. x
137. RCL Y
138. x
139. 4
140. ÷
141. RCL U
142. ÷
143. FIX 3
144. RTN         MR = Pi fy(As D2 + (Z'-Z) As' D'2) / 4Gm
145. RCL O       Weight of tension and compression bars
146. x2
147. RCL S
148. x
149. RCL Q
150. x2
151. RCL T
152. x
153. +
154. 162.1961
155. ÷
156. RTN         kg/m of reinforcement
157. INPUT M     MAIN PROGRAM
158. F(Y)
159. PSE
160. INPUT Y
161. F(CU)
162. PSE
163. INPUT F
164. COVER
165. PSE
166. INPUT C
167. 2
168. 3
169. ÷
170. RCL F
171. x
172. RCL V
173. ÷
174. 1
175. 64.96875
176. ÷
177. RCL F
178. RCL V
179. ÷
180. 1.5
181. yx
182. x
183. -
184. STO I
185. RCL F

```

```

186. RCL V
187. ÷
188. SQRTx
189. 144.4375
190. ÷
191. STO K
192. 4
193. ÷
194. 1
195. x<>y
196. -
197. RCL K
198. x
199. 3
200. ÷
201. 0.5
202. x<>y
203. -
204. 1
205. RCL K
206. 3
207. ÷
208. -
209. ÷
210. STO J
211. 1
212. RCL J
213. 2
214. ÷
215. -
216. RCL I
217. 4
218. ÷
219. x
220. RCL M
221. x<>y
222. ÷
223. 3
224. 1/x
225. yx
226. 3
227. +
228. RCL C
229. +
230. 0.97
231. ÷
232. STO H
233. INPUT H
234. 19
235. ÷
236. 5
237. +
238. 2
239. ÷
240. RCL C
241. +
242. RCL H
243. X<>y
244. -
245. STO D          H - cover - (H/19 + 5)/2
246. x2
247. 1
248. RCL J
249. 2
250. ÷
251. -
252. x
253. RCL I
254. 2
255. ÷
256. x
257. RCL M
258. x<>y
259. ÷
260. STO B
261. INPUT B
262. RCL Q
263. RCL O
264. C,T BAR SIZES
265. STO O
266. R|

```



```

267.   STO Q
268.   STO L
269.   RCL H
270.   RCL C
271.   -
272.   RCL O
273.   2
274.   ÷
275.   -
276.   STO D
277.   RCL B
278.   RCL D
279.   x
280.   .008
281.   x
282.   Pi
283.   ÷
284.   RCL Q
285.   x=0?
286.   GTO B309           No comp bars entered yet
287.   x2
288.   ÷           For comp steel >= 0.2%BD, No of bars=.008 BD/ Pi d2
289.   INTG
290.   x>0?
291.   GTO B292
292.   1
293.   1
294.   +
295.   STO R           No of comp bars = .008 BD/ Pi d2 but at least 2
296.   Pi
297.   x
298.   RCL Q
299.   x2
300.   x
301.   4
302.   ÷           Area of at least 2 bars with >= 0.2%BD
303.   RCL Y
304.   x
305.   RCL U
306.   ÷           Comp force in min comp bars
307.   XEQ B45         Steel-to-steel lever arm Z'
308.   x           M from minimum comp bars
309.   +/-
310.   STO N           -M from minimum comp bars (0 if none entered)
311.   RCL M
312.   STO+ N         Balance of M still needed after min comp M
313.   XEQ B66         X for balance of M still needed but not > D
314.   RCL D
315.   2
316.   ÷
317.   RCL X
318.   x<=y?
319.   GTO B332
320.   RCL Q
321.   x>0?           Comp bars entered?  If not then get some
322.   GTO B360
323.   RCL L
324.   X>0?
325.   GTO B329
326.   RCL O
327.   3
328.   ÷
329.   XEQ B020         Get next bar size
330.   STO Q
331.   GTO B277
332.   RCL Q
333.   x=0?
334.   GTO B343         No comp bars entered
335.   2
336.   ÷
337.   RCL C
338.   +           D'
339.   -1
340.   XEQ B057         1 - fy/700Gm
341.   x<>y
342.   ÷           Xmin for full fy/Gm = D'/(1-fy/700Gm)
343.   RCL X
344.   x>y?
345.   GTO B354         X is > Xmin
346.   R|           X is too small.  Increase it
347.   STO X

```

```

348. SF 1 Flag the change in X
349. 1
350. XEQ B057 1 + fy/700Gm
351. RCL D
352. x<>y
353. + Xmax for full fy/Gm = D/(1+fy/700Gm)
354. RCL X
355. x<=y?
356. GTO B360 X is < Xmax
357. R| X is too large. Reduce it
358. STO X
359. SF 1 Flag the change in X
360. FS? 1 Has X changed?
361. XEQ B107 Yes it has. Recalculate Z
362. RCL M
363. STO N
364. RCL I
365. RCL B
366. x
367. RCL X
368. x
369. STO A
370. RCL Z
371. x
372. STO- N
373. RCL A
374. RCL Y
375. +
376. RCL U
377. x
378. STO P
379. RCL Q
380. x=0?
381. GTO B391
382. RCL N
383. XEQ B45
384. +
385. RCL Y
386. +
387. RCL U
388. x
389. STO+ P
390. STO R
391. RCL P
392. 4
393. x
394. Pi
395. +
396. RCL O
397. x2
398. +
399. STO P
400. RCL Q
401. x=0?
402. GTO B412
403. RCL R
404. 4
405. x
406. Pi
407. +
408. RCL Q
409. x2
410. +
411. STO R
412. 2.0000001
413. RCL R
414. X<y?
415. GTO B422
416. INTG
417. 1
418. +
419. STO T
420. RCL Q Calc clear space between comp bars
421. x
422. +/-
423. RCL C
424. 2
425. x
426. -
427. RCL B
428. +

```

```

429.   RCL T
430.   1
431.   -
432.   ÷                Clear space betwn bars = (B-2xcover-nd)/(n-1)
433.   RCL Q            Calc min reqd clear space betwn bars
434.   XEQ B020
435.   10
436.   +                Min (1) = (say) next bar size plus 10
437.   X>y?
438.   GTO B323        Too small cos too many bars.  Use next bar size
439.   R|
440.   25                Min (2) = Agg size plus 5mm = (say) 25mm
441.   X>y?
442.   GTO B323        Too small cos too many bars.  Use next bar size
443.   RCL P
444.   INTG
445.   1
446.   +
447.   STO S
448.   XEQ B145        Calc weight of tens + comp bars
449.   STO E
450.   COMP,TENS BARS
451.   PSE
452.   CF 10
453.   [T,Q]
454.   [S,O]
455.   STOP
456.   XEQ B145        Calc weight of tens + comp bars
457.   STO G
458.   XEQ B114
459.   STO A
460.   RCL R
461.   STO T
462.   RCL P
463.   STO S
464.   XEQ B114
465.   RCL A
466.   x<>y
467.   FIX 0
468.   STOP
469.   FIX 2
470.   XEQ B145        Calc weight of tens + comp bars
471.   RCL G
472.   x<>y
473.   RTN

```

THINGS TO INVESTIGATE Resolve the mix-up between storage registers E and G (have I accidentally assigned both to the same use, when I intended them for different purposes?). I haven't had time to check this yet. Did a misplaced CF 10 instruction cause the program to hang? In the code that caused the crash, line 452 was between 411 and 412. I've run a simple test to see if clearing flag 10 before encountering teh text string display lines at 450 and 451 would cause a crash and it seems not to. I therefore do NOT think that this misplaced CF 10 instruction cause the program to hang.

### Re: Unrecoverable crash to lock-up

Message #16 Posted by [Meenzer](#) on 3 Oct 2007, 3:52 a.m.,  
in response to message #15 by John Wasilewski

Just to clarify before I (maybe) start keying this in my HP 35s: line 357 is supposed to mean "R down"?

What was your input when you ran the program to its crash?

I think I will SF/CF flag 10 before and after each text message, just to make sure...

### Re: Unrecoverable crash to lock-up

*Message #17 Posted by **John Wasilewski** on 3 Oct 2007, 4:30 p.m.,  
in response to message #16 by Meenzer*

Yes, R| means 'Roll down.'

If I can have your email address, I'll send you a more reliable M\$Word listing of the code.

About the program test data...

-----  
I forget what exactly my input was but it was something like the following. I don't know whether the units will be meaningful to you but I've included them below in case they are. Ignore if not.

Moment of resistance  
M=40,000,000 (or maybe 100,000,000)kn-m

Steel characteristic strength f(y)  
Y=460 N/mm2

Concrete characteristic strength f(cu)  
F=35 N/mm2

Cover to the reinforcement (top, bottom and sides)  
C=25 or maybe 40mm

Program then suggests a beam depth (eg H=450)  
Over-ride it with a shallower depth  
H=350 mm

Program then suggests a beam width (eg B=517)  
Over-ride it with a narrower width  
H=240 mm

Note that the suggested depth and width, if accepted or over-ridden with slightly larger sizes will result in a singly reinforced beam, needing only tension reinforcement. Using a smaller beam size than suggested will force the program to include compression reinforcement.

Standard reinforcement bar sizes are  
6, 8, 10, 12, 16, 20, 25, 32 and 40mm

Program now asks for reinforcing bar diameters.  
There will be a prompt and a pause, then NO prompt.  
Enter one or the other of the following  
(these are my suggested reinforcing bar sizes):

20 R/S for tension steel only  
-or-  
16 ENTER 20 R/S for sizes of  
both compression steel (top) and tension steel (btm)

IT IS AT THIS POINT WHERE MY CRASH-TO-LOCK-UP HAS  
OCCURED ON TWO SUCCESIVE OCCASIONS.  
Both tests were with under-sized beams, to force the prog to test  
the compression steel routines.

Program is supposed to:

Try to find a design with the chosen bar sizes.  
If it works then enter a loop of retries with ever increasing  
compression bar sizes until the bar configuration is found that

minimises the weight of steel.

eg display reads  
[4,16]  
[3,20]

This would mean use four 16mm compression bars  
and three 20mm tension bars for optimised design.

If no compression bar size is entered, and the program finds it  
needs compr steel then it should decide its own initial  
compression bar size and then enter the same optimisation loop.

Program also checks clear space between bars. If too small then  
increases the bar diameter (which reduces the number needed and  
increases the clear space between them.

Most of the above is written and was being tested when I  
discovered this crash-and-die behaviour. The only things missing  
were checks on tension bar spacing and an outer loop to optimise  
for tension steel bar size. These details are in there for  
compression steel though.

I hope the above will be sufficient for you.  
Very many thanks for considering that you might have a look at  
this problem.

---  
John

### **Re: Unrecoverable crash to lock-up**

*Message #18 Posted by [Meenzer](#) on 4 Oct 2007, 2:13 a.m.,  
in response to message #17 by John Wasilewski*

I'm still considering keying that stuff in - but to be honest, the chances are  
very weak ;-)

Anyway you should send these above informations to HP, too.

And to be frank: as the program uses no rocket science functionality, I'd grab  
the cheapest calculator I have on my shelf that I can connect to the PC (i.e.  
the Casio CFX-9850GB+) and do it on that one, while having the  
convenience to type it on the PC keyboard and running it on an emulator first.  
You could even have 7-line-menus and coloured graphs for the result ;-)  
If it is not obvious by now, I only use the HP 35s for some ad hoc  
programming and every day calculating - no problem if all stored data gets  
lost in a crash.

### **Re: Unrecoverable crash to lock-up**

*Message #19 Posted by [John Wasilewski](#) on 4 Oct 2007, 3:14 p.m.,  
in response to message #18 by Meenzer*

But I actually WANT to do it on an HP35s.  
Why?

Because I...

- 1) prefer the RP notation to infix very greatly,
- 2) rather like this new machine (though less and less!),
- 2) prefer HP key presses above all others,
- 3) like to impress other engineers with my flash calculator,

4) don't want more than one calculator.

---  
John

### **Re: Unrecoverable crash to lock-up**

*Message #20 Posted by **Meenzer** on 4 Oct 2007, 3:30 p.m.,  
in response to message #19 by John Wasilewski*

Quote:

---

But I actually WANT to do it on an HP35s.  
Why?

Because I...

- 1) prefer the RP notation to infix very greatly,
- 2) rather like this new machine (though less and less!),
- 2) prefer HP key presses above all others,
- 3) like to impress other engineers with my flash calculator,
- 4) don't want more than one calculator.

---  
John

---

;-) For 1, 2a, 2b, and 4 you could use the HP 48G AND have the link option. I concede it's no good for impressing anyone ;-)

### **Re: Unrecoverable crash to lock-up**

*Message #21 Posted by **Antoine M. Couët** on 4 Oct 2007, 3:25 a.m.,  
in response to message #17 by John Wasilewski*

Oct 04 th, 2007

Dear John and Meenzer,

Certainly it is extremely sad to go through the hard if not painful experience of losing your entire data/programs you have taken so much time refining, John. It can ruin your day, or even week, or even worse.

So in order to help, I am just offering the following comments with the - hopefully right - assumption that HP35s language is pretty similar to HP 41 language as detailed here under. If such is not the case, then all the following lines are irrelevant, and I do apologize for bringing up some " unwanted noise " to this high quality Forum.

Most the following comments are plain good sense, and I certainly would not like to offend both of you through these " over simplistic " or underlined comments. In my own experience, even after many, very many ... HP41 programming hours/days/weeks and months ... ( far too many in my Wife's opinion and judgement ... ) I still occasionally get caught short and keep stumbling on " easy to avoid " traps. The only advantage experience has brought to me here is that I generally can debug my own programs much faster than in earlier times because I have acquired some kind of a " feeling "

about the potential areas where my own programming instructions might eventually go wrong ...

**Through reading your last detailed comments on your program, John, I am just wondering whether your various computation loops are correctly labelled and also whether they do not exceed the maximum authorized " depth level " ( if any applicable on the HP35s ).**

I am not familiar with HP35s programming, still HP35s language at a first glance seems to be rather similar to a combination of HP41 and HP25 languages with line addressing ( like in the HP25 C ) rather than label addressing ( like in the HP 41 ). This line addressing feature does save programming space, but it forces one to very/extremely carefully keep track of line numbers. Since any time you add or remove one instruction, all subsequent instructions are " line renumbered " and therefore have a different line address, it in turn implies to modify all subsequent/relevant line number references into your XEQ's and GTO's instructions.

So, before any more in depth crosschecking - and by comparison with HP 41 and HP 25 C programming practices - I would check :

- that all GTO's and XEQ's instructions refer to correctly numbered ( or correctly " newly/recently renumbered " ) lines,

- that all GTO's and XEQ's instructions finish up where they are supposed to. My guess is that if they are similar to the HP 41 loops addressing system, all " XEQ " instructions will finish at the first " RTN " or " END " instruction and then resume to the line immediately after the initial " XEQ " , while all " GTO " instructions are simply " plain branching/jumping instructions " just going from one point to another in the programm. **So it is extremely important to realize that an " XEQ " instruction cannot be inadvertently replaced by a " GTO " instruction, since, among unwanted results, it WILL ( sorry to write loud ... ) have an ( again most ) undesirable effect on loop(s) depth.**

- and most importantly, that the " loop depth " does not exceed the authorized " depth level " in the HP 35s. Loop depth on HP41 is a maximum of 6 pending returns if you want to finally exit all loops where you started them. What is " loop depth " on the HP45s ???

Again, I certainly do not want to offend both of you through my " over simplistic and dumb " thoughts. All these comments just to help, unfortunately and maybe not very much of an immediate help since the cross checking path I am suggesting requires a lot of extremely careful understanding /checking /testing about what is going on.

Since at a first glance, your Program seems quite " compact and condensed " - which is a very beautiful feature John - maybe it is worth verifying all the hereabove.

Another way to look at it is realizing that " nothing is more stupid that a Computer or a Calculator " but once you " cornered it " into doing exactly what you want it to do, then nothing is more " computation/numbers crunching efficient " .

Hope it does help ...

Hello from " Douce France " in Vendée where we are currently enjoying a wonderful and warm night with a beautiful 1/3 Moon just next to Pollux !

Best Regards and Good Luck - and keep us posted - from

Antoine

PS : BTW, I am no longer flying the good old Cargo DC10-30 Aircraft, but just transitioned to the B 757/767 flying again passengers now. Love flying, more than ever ...

*For HrastProgrammer, on last Friday early afternoon, I flew just a few miles north of Zagreb, and had - again - a quite thankful thought about you and about your wonderful HP 41 Emulator for the HP 48/49/50.... Thank you again here !*

**Re: Unrecoverable crash to lock-up**

*Message #22 Posted by [HrastProgrammer](#) on 4 Oct 2007, 11:57 a.m., in response to message #21 by Antoine M. Couët*

Why didn't you land? :-)

**Re: Unrecoverable crash to lock-up**

*Message #23 Posted by [Thor Lansen](#) on 4 Oct 2007, 12:41 p.m., in response to message #21 by Antoine M. Couët*

My question is, in those many hours of programming have you had a complete crash of your HP41 (as apparently happened with the HP35s)? I do not own and I have no desire for a HP35s, but I own a HP41CX and a HP25C and I had programmed them a great deal (not anymore) and to my recollection (even stuck in infinite loops) I have never experienced something like John mentions. I can relate the problem he described to the annoying blue screens I get with "el crapo" OS that came with my PC (fortunately I have a hard drive to save my work to). It seems to me this is totally unacceptable and even more HP's response (or lack of) to the problem.

Regards, Thor

**Re: Unrecoverable crash to lock-up**

*Message #24 Posted by [Arne Halvorsen \(Norway\)](#) on 4 Oct 2007, 12:58 p.m., in response to message #23 by Thor Lansen*

Kind of my thoughts to! While I havent had a serious problem as the one described in this thread I have spent more time that I would like knowing getting out of the 'vector syntax bug state' doing this [project](#) on the HP-35s. It has turned out the be a fight between me and the machine.



Remember having no such problems with my old 41! Note to self:  
Get my act together and ship the good old one to fixthatcalc!

To bad hp rushed the 35s to the market :-)

### **Re: Unrecoverable crash to lock-up**

*Message #25 Posted by [Antoine M. Couët](#) on 4 Oct 2007, 1:51 p.m.,  
in response to message #23 by Thor Larsen*

You are very right, Thor : through using standard/conventional programming techniques never either did I experience one single serious HP41 crash similar to the one John described.

Still, it came to my mind to carefully check his HP35s program " loop structure " because line addressing is in essence certainly more delicate than using local or global labels. And John made a frequent use of the GTO and XEQ instructions.

In this current Program case, if one were absolutely sure that the entire " loop syntax " is fully respected and correct, then we would have a better documented case about a potentially quite serious Machine bug, even more crucial since apparently the HP35s seems to lack ( of ? ) any convenient data saving tool.

From recent posts, and in particular for the one related to " vector syntax ", the HP 35s seems somewhat deficient, either because it might lack comprehensive and accurate documentation, or simply because it was not extensively tested prior to Market Introduction.

And as earlier stated, so long as my guesses about the HP35s programming techniques are valid, I am certainly not pretending to deliver a full and definite answer or explanation to John's serious problems, but just and only giving indications of an area probably worth exploring.

Best Regards, Antoine

### **Re: Unrecoverable crash to lock-up**

*Message #26 Posted by [John Wasilewski](#) on 4 Oct 2007, 3:22 p.m.,  
in response to message #25 by Antoine M. Couët*

Good chance that loop structure is why the program fails.  
That's not my problem.

The problem is why does THE CALCULATOR fail,  
not why does the program fail?  
And how do I prevent it?

We cannot have a programmable calculator that can't be used  
to try running any code that might have bugs in it!

How can we develop and debug new code

```
if the calculator might wipe out all
our work unless the code is already perfect
before we start debugging?
----
```

John

### **Re: Unrecoverable crash to lock-up**

*Message #27 Posted by [John Wasilewski](#) on 4 Oct 2007, 3:06 p.m.,  
in response to message #21 by Antoine M. Couët*

It was very kind of you to take time to prepare such a good list of tips and I am not in the least offended. They look really interesting and I will study them. I'm sure I won't have thought of all of them.

Please bear in mind, however, that my problem is not how to debug my program - I have no worries about finding the last few glitches. The problem is how either to prevent calculator crashes to a locked-up state or how to recover if it happens again, without wiping out all my work

-----  
John

### **Re: Unrecoverable crash to lock-up**

*Message #28 Posted by [Meenzer](#) on 4 Oct 2007, 6:45 a.m.,  
in response to message #17 by John Wasilewski*

Puhh, I just keyed in the first 200 lines and am sorry to say: I've had it. No more. Basta! I really give up. If maybe one day there will be a beaming device to transfer code to the HP 35s, I might start anew ;-)

### **Re: Unrecoverable crash to lock-up**

*Message #29 Posted by [Katie Wasserman](#) on 4 Oct 2007, 9:59 a.m.,  
in response to message #15 by John Wasilewski*

John,

I think that I understand the mnemonics of all the lines in the program except number 264.

```
263.      RCL O
264.      C,T BAR SIZES
265.      STO O
```

Is the "STO O" supposed to be a PSE?

-Katie

### **Re: Unrecoverable crash to lock-up**

*Message #30 Posted by [John Wasilewski](#) on 4 Oct 2007, 2:39 p.m.,  
in response to message #29 by Katie Wasserman*

STO O means Store to register 'O'  
(The alpha letter O not numeric zero). Like STO B only to O ! ---- John

### **Re: Unrecoverable crash to lock-up**

*Message #31 Posted by **John Wasilewski** on 4 Oct 2007, 3:08 p.m.,  
in response to message #29 by Katie Wasserman*

Katie, what's your email address?

I need to send you a properly formatted listing with recognisable characters.

---  
John@Wasilewski.co.uk

### **Re: Unrecoverable crash to lock-up**

*Message #32 Posted by **John Wasilewski** on 4 Oct 2007, 3:33 p.m.,  
in response to message #29 by Katie Wasserman*

Sorry Katie, I explained 263, so I replied to the wrong question.

```
263.      RCL O
264.      C,T BAR SIZES
265.      STO O
```

264 is a text string placed in the display using EQN, followed by a momentary PSE, to prompt the user to enter bar sizes. I did it this way because data entry at this point might consist of either tension steel bar size only (entered in the X line) or both compression and tension steel bar sizes (entered in the Y and X display lines)

eg

User data entry following this prompt might be just

```
16 R/S
(for 16mm tension bars)
```

or

```
16 ENTER 25 R/S
(for 16mm compression bars and 25mm tension bars)
```

----  
John

### **Re: Unrecoverable crash to lock-up**

*Message #33 Posted by **Katie Wasserman** on 4 Oct 2007, 4:53 p.m.,  
in response to message #32 by John Wasilewski*

Thanks for the explanation.

I've been playing with parts of your program trying to recreate the lock-up bug with no luck so far.

### **Re: Unrecoverable crash to lock-up**

*Message #34 Posted by **John Limpert** on 10 Oct 2007, 10:30 a.m.,  
in response to message #15 by John Wasilewski*

I typed in your program, although I won't guarantee that I didn't make any errors. My aging eyes have a hard time distinguishing between the symbols used for addition and division. It seemed to run OK, and it did not lockup or crash.

**John Wasilewski ... here's what I suggest...**

*Message #35 Posted by **Gene Wright** on 10 Oct 2007, 10:49 a.m.,  
in response to message #34 by John Limpert*

I'm not sure what country you are in, but I think you have a valid reason to return the unit for an exchange.

It seems that you have a machine with a problem that no one else is experiencing. Perhaps that is a result of a bad batch. More likely there is just something wrong with the innards of your machine.

Despite Katie's frustrations :- ) many of us are using the 35s and taxing the unit in many ways without ever seeing any crashes or behavior that gives us problems the way you are seeing them.

So, call HP's phone number, patiently explain that your HP 35s is not operating properly. I would not say that you are programming the machine, etc, as that would confuse the issue with whoever answers the phone. I would say that it locks up and does not function correctly, that you cannot reset the machine using the steps described in the manual without using the reset pin on the back which causes you to lose your data.

Explain how your friends with a 35s are not experiencing this type of problem and that you want to exchange your unit for another one that should not have this problem.

Do remember that the person on the phone talking to you from HP is part of the entire HP corporate world and will probably know little to nothing about HP calculators.

Let us know what the response is. If they are not helpful, let me know. A 35s should not behave like this and yours should be exchanged.

ok? :-)

Gene

**Re: Unrecoverable crash to lock-up**

*Message #36 Posted by **John Wasilewski** on 11 Oct 2007, 4:37 p.m.,  
in response to message #34 by John Limpert*

Reply to John Limpert.

Thank you for taking so much trouble to help with this problem.

Did you over-ride the prompt-suggested depth and width sizes with smaller values as input? THis is necessary to force the program to calculate compression steel.

When the program reaches line 264 it issues an alpha prompt for comp and tension steel then stops to wait for input (this is the action obtained when no PSE statement follows an alpha string whilst flag 10 is set). id you then enter just a tension steel diameter and press R/S (eg 20 R/S)?

It is only after the above steps have been passed that the endless loop is reached which I can't break out of.

---

John

(ps sent from an Internet cafe)

## Re: Unrecoverable crash to lock-up

*Message #37 Posted by [bill platt](#) on 4 Oct 2007, 12:59 p.m.,  
in response to message #1 by John Wasilewski*

Hi John,

You wrote an impressive program, beautifully arranged, but I have to ask the question: why bother? I can't stand putting more than a few lines together on a calculator; I'd rather do that sort of thing on a proper computer. Nowadays, the only thing going for calculators is, well, calculating.

I am curious: you have a specific reason for putting that kind of program on a calculator?

## Re: Unrecoverable crash to lock-up

*Message #38 Posted by [John Wasilewski](#) on 4 Oct 2007, 3:00 p.m.,  
in response to message #37 by bill platt*

Programs like this get built gradually in spare moments, on train journeys. One starts with a short bit of code that performs some useful function, and works. Then add a little more functionality. And again. It grows.

I also DO WANT a small library on my calculator of really good programs that will do things for me that I don't do a lot, so might need to look stuff up in text books when occasionally I need to check something or make an ad hoc design calculation.

In my case I have in mind some tight, smart code for (eg)

- Concrete beam analysis and design check
- Bearing capacity calculation
- Slope stability analysis
- Section properties calculation
- Principal stresses
- Earth pressure calculations
- Polynomial regression curve fit

My present guess is that that's about the limit that could fit into memory.

If I feel really ambitious I might also explore implementing a simple frame analysis program I once wrote for the TI59.

A library in my pocket of all the above, always instantly accessible, could be very valuable to me.

That's why.

---

John

### **Re: Unrecoverable crash to lock-up**

*Message #39 Posted by [bill platt](#) on 4 Oct 2007, 4:37 p.m.,  
in response to message #38 by John Wasilewski*

I appreciate the train journey aspect, being a train buff myself.

For me, I/O becomes important for larger programs, libraries etc. It seems to me that the 50G makes a lot more sense (or for retro a 48GX). You can run an emulator on it for the 41cx, and therefore you can develop in RPN rather than RPL if it suits you. And you have backup, and I/O.

Best regards,

Bill

### **Re: Unrecoverable crash to lock-up**

*Message #40 Posted by [DaveJ](#) on 4 Oct 2007, 8:06 p.m.,  
in response to message #37 by bill platt*

Quote:

Hi John,

You wrote an impressive program, beautifully arranged, but I have to ask the question: why bother? I can't stand putting more than a few lines together on a calculator; I'd rather do that sort of thing on a proper computer. Nowadays, the only thing going for calculators is, well, calculating.

I am curious: you have a specific reason for putting that kind of program on a calculator?

That is precisely why I don't understand the reasoning behind the new 35S. Fair enough having programming capability on a non-I/O calculator, it's very useful, but why optimise the keypad layout for programming at the expense of ease of regular calculations? They changed this from the 33S to the 35S, why?

Dave.

---

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## HP Forum Archive 17

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**HHC2007 & HP Xpander**

Message #1 Posted by [Joerg Woerner](#) on 2 Oct 2007, 12:23 a.m.

First of all I like to say thank you to the great HP calculator community! I was a little scared before the trip to San Diego - imagine ONE Texas Instruments collector and SIXTY-EIGHT Hewlett Packard fans. But the wonderful event demonstrated easily:

The fans of the HP 35 are like their calculator: Simply perfect!

Thinking about the TI-Nspire on the nice calendar side-by-side with the Casio Classpad 300 and the Xpander prototype convinced me, that I should add them to my Datamath Calculator Museum ([www.datamath.org](http://www.datamath.org)).

I know that there are some Xpander's out. Is there a collector willing to borrow me his working or non-working unit for a week or so? Please remember that I live in the meantime in Rochester, NY.

Thanks in advance for your help.

Regards, Joerg

**Re: HHC2007 & HP Xpander**

Message #2 Posted by [Namir](#) on 2 Oct 2007, 1:39 a.m.,  
in response to message #1 by [Joerg Woerner](#)

Joerg,

It was a great pleasure to have you among friends. We all share the love of calculators from simple to advanced.

It was a pleasure to finally meet you in person, since I visit your web site often to check out technical details about different TI calculators. Also not to mention the wonderful eBay auctions you put, presenting a wide variety of very interesting calculators.

I hope you also won some interesting door prizes.

I can speak for many attendees and say you are most welcome to attend future HHC conferences.

Namir

PS: Two years ago I gave a talk about comparing the SOLVER function in various HP calculators, as well as the TI-200. The comparison was very interesting and offered a challenge for HP to update its SOLVER algorithms.

**Re: HHC2007 & HP Xpander**

Message #3 Posted by [Bruce Bergman](#) on 2 Oct 2007, 10:46 a.m.,  
in response to message #2 by [Namir](#)

Namir, is that comparison of solver's online somewhere? I'd be interested in reading that...

thanks, bruce

**Re: HHC2007 & HP Xpander**

*Message #4 Posted by [Namir](#) on 2 Oct 2007, 10:56 a.m.,  
in response to message #3 by Bruce Bergman*

Bruce,

You can downolad the presentation from [my web site](#).. It is the first link.

Namir

**Re: HHC2007 & HP Xpander**

*Message #5 Posted by [Seth Morabito](#) on 2 Oct 2007, 3:51 a.m.,  
in response to message #1 by Joerg Woerner*

I am so very glad you came to HHC 2007! It was a great pleasure to be there among so many other calculator enthusiasts.

Although we HP users often poke fun at TI in a light-hearted way, in reality I suspect that all of us appreciate a good calculator when we see one, no matter who has made it. :)

---

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## HP Forum Archive 17

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### **The coolest thing since the HP-01**

Message #1 Posted by [DaveJ](#) on 1 Oct 2007, 10:22 p.m.

Super-duper sneak peak: <http://www.alternatezone.com/stuff/SneakPeak.jpg>

Dave.

### **Where did it come from? (N.T.)**

Message #2 Posted by [Vieira, Luiz C. \(Brazil\)](#) on 1 Oct 2007, 10:33 p.m.,  
in response to message #1 by [DaveJ](#)

### **Re: The coolest thing since the HP-01**

Message #3 Posted by [Ren](#) on 2 Oct 2007, 10:45 a.m.,  
in response to message #1 by [DaveJ](#)

Is that a USB port peeking out under the keyboard?

Ren

dona nobis pacem

### **Re: The coolest thing since the HP-01**

Message #4 Posted by [Mike T.](#) on 2 Oct 2007, 3:11 p.m.,  
in response to message #1 by [DaveJ](#)

Way to go... That is an even better looking prototype than the images you sent me a while ago. Definately super duper...!

Nice work.

Mike T.

### **Re: The coolest thing since the HP-01**

Message #5 Posted by [Seth Morabito](#) on 2 Oct 2007, 5:15 p.m.,  
in response to message #1 by [DaveJ](#)

Where do I send my money? ;)

### **Re: The coolest thing since the HP-01**

Message #6 Posted by [Walter B](#) on 2 Oct 2007, 5:18 p.m.,  
in response to message #1 by [DaveJ](#)

Wow! This looks like 50mm x 50mm ...

## Re: The coolest thing since the HP-01

Message #7 Posted by [DaveJ](#) on 2 Oct 2007, 5:51 p.m.,  
in response to message #1 by DaveJ

Thanks guys. All answers in the one post:

It's a bit smaller in area than 50x50mm, quite comfortable to wear.

No, it's not a USB port, but it could be. It's a "universal" I/O port that supports anything you can plug in, like RS232, IrDA, USB, or your own custom gadget. At the moment I only have an RS232 adapter for uploading and downloading programs (yes, it might very well be programmable ;-))

Note the WIDE ENTER key :-> Yes, the buttons are tactile.

Oh, and yes, it's both RPN and Algebraic.

And, no, you can't buy one, yet...

Dave.

*Edited: 2 Oct 2007, 5:54 p.m.*

## Re: The coolest thing since the HP-01

Message #8 Posted by [Wayne Brown](#) on 2 Oct 2007, 5:54 p.m.,  
in response to message #7 by DaveJ

Quote:

Oh, and yes, it's both RPN and Algebraic.

Any chance of an RPN-only model (eventually) being available?

## Re: The coolest thing since the HP-01

Message #9 Posted by [DaveJ](#) on 2 Oct 2007, 6:03 p.m.,  
in response to message #8 by Wayne Brown

Quote:

Any chance of an RPN-only model (eventually) being available?

You can permanently switch it to RPN mode.

If you are scared that the algebraic mode might pop out and eat you alive at some point, it could be easily removed from the firmware. And the keypad overlay is replaceable so you could have any key layout you want, if you didn't want those horrid parentheses. Perhaps I should add a "nuke algebraic" function that self erases the algebraic code from the firmware...

Dave.

**Re: The coolest thing since the HP-01**

*Message #10 Posted by [Howard Owen](#) on 3 Oct 2007, 11:08 a.m.,  
in response to message #1 by [DaveJ](#)*

Great to see this "in the flesh" Dave!

Now, where's the emulator so we can run and critique your dream calculator software? 8)

Regards,  
Howard

**Re: The coolest thing since the HP-01**

*Message #11 Posted by [DaveJ](#) on 3 Oct 2007, 5:00 p.m.,  
in response to message #10 by [Howard Owen](#)*

Quote:

Now, where's the emulator so we can run and critique your dream calculator software? 8)

Emulator, what's that? :-P I'm more of a hardware guy, so I like to scratch'n'sniff bits of plastic coated silicon instead of 1's and 0's.

No doubt someone will do some "real" software for it eventually where the 20th digit matters, and the war between BCD and floating point can rage eternal.

It'll be essentially an open design.

Dave.

---

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## HP Forum Archive 17

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### O.K. -- So, How Was It?

Message #1 Posted by [Paul Brogger](#) on 1 Oct 2007, 5:57 p.m.

HHC2007, that is. Some of us *weren't* there . . .

(Any freebies -- or announcements -- worthy of mention?)

(Sure has been quiet around here -- as if everyone is off at some convention or something!)

*Edited: 1 Oct 2007, 6:17 p.m. after one or more responses were posted*

### Re: O.K. -- So, How Was It?

Message #2 Posted by [Don Shepherd](#) on 1 Oct 2007, 6:08 p.m.,  
in response to message #1 by Paul Brogger

Hey Paul, I'm just back from it. I'm sure Gene and Richard will respond. All I can say is GREAT!!!!

### Re: O.K. -- So, How Was It?

Message #3 Posted by [Les Bell](#) on 1 Oct 2007, 6:35 p.m.,  
in response to message #1 by Paul Brogger

Aaahhh . . . Of course! I'd been *wondering* why things were so quiet around here.

Best,

--- Les

[<http://www.lesbell.com.au>]

### Re: O.K. -- So, How Was It?

Message #4 Posted by [db \(martinez, ca.\)](#) on 1 Oct 2007, 7:33 p.m.,  
in response to message #1 by Paul Brogger

It was real good, well worth the expense and time. Some highlights to me were:

>A free 35s, caoching on it by Gene, and Ted's talk encouraging people to develop and market applications for it (and his offering help to anyone doing so).

>The revelation by John Cadick that every electrical device is a fuse. That splanes it Lucy.

>The good food provided by hp and beer after hours (we were on our own there).

>Tim Wessmans explanation of why GPS says you can be here.....and there too. I will quote that, but i won't give him credit.

>Eric Rechlin's "perverse pleasure" in describing how he developed and markets a cable for the 50g at \$20 shipped - that Samson was gouging over \$70 for. I think he should raise the price a bit though, after i buy mine.

>The Q&A session with Cyrille and Sam - Cyrille and Sam being there at all - and having their boss Wing attend and be interested in this too.

>Cyrille's project that we can't talk about.

...and of course, seeing Mr. T.I., the Datamath Museum's Joerg Woerner, using his new HP35s in RPN mode for 2 days without a hitch. I think we made a convert.

### Hey Dennis!

Message #5 Posted by **Gene Wright** on 2 Oct 2007, 10:10 a.m.,  
in response to message #4 by db (martinez, ca.)

Eric Smith has your door prize. Email him to arrange a time to visit to pick it up!

### Re: Hey Dennis!

Message #6 Posted by **Gene Wright** on 2 Oct 2007, 3:51 p.m.,  
in response to message #5 by Gene Wright

Um, on second thought, I can't remember if Eric has it or if Ted Kerber has it. One of the two...honest!

And, you actually have TWO door prizes you won...so email one of them. :-)

### Re: O.K. -- So, How Was It?

Message #7 Posted by **Antonio Maschio (Italy)** on 2 Oct 2007, 12:31 p.m.,  
in response to message #4 by db (martinez, ca.)

Quote:

>Cyrille's project that we can't talk about.

Why? What is it about? Can you give some details, at least?

You simply cannot write something like this on \*this\* Forum and expect it won't rise any curiosity!

-- Antonio

### Re: O.K. -- So, How Was It?

Message #8 Posted by **Walter B** on 2 Oct 2007, 12:46 p.m.,  
in response to message #7 by Antonio Maschio (Italy)

Buona sera, Antonio,

since I didn't attend HHC2007 either (though contributed a tiny bit) I am free to guess. Let's try based on experience: On HHC2006, there was a talk given under an NDA (=non disclosure agreement, quite popular in USA), and 9 months later (seems to be a natural constant :) ) it turned out to have covered the HP35s or however this baby was called then. So, if an R&D person has a project, what will it be about?!?

So, let us rejoice and sing and dance (end of quotation) -- and hope that some of the ideas of this forum or at least those presented on HHC2007 will in whatever way succeed diffusing into said project :) so the output will be at least as nice as the last one :))

HTH, Walter

*Edited: 2 Oct 2007, 12:48 p.m.*

### **Re: O.K. -- So, How Was It?**

*Message #9 Posted by [Dave Hicks](#) on 2 Oct 2007, 12:53 p.m.,  
in response to message #7 by Antonio Maschio (Italy)*

Quote:

\_\_\_\_\_

Can you give some details, at least?

\_\_\_\_\_

Sorry but it was all NDA'd. I didn't actually read the NDA before signing it, but I don't think they usually contain a "some details are OK" clause. On the hand, since you didn't sign it, your curiosity is completely legal. :-)

I don't mean to spoil the fun, but the day we break the NDA is the day those cool futures presentations from Cyrille stop. Try to get to an HHC sometime if you can!

### **Re: O.K. -- So, How Was It?**

*Message #10 Posted by [Arne Halvorsen \(Norway\)](#) on 2 Oct 2007, 1:06 p.m.,  
in response to message #9 by Dave Hicks*

This is what we do: Poor bastards that could not go to the party makes posts trying to guess whats comming. Lucky guys make fun at posts way of mark, but not if close to home. Its an iterative process...

### **Re: O.K. -- So, How Was It?**

*Message #11 Posted by [Seth Morabito](#) on 2 Oct 2007, 12:09 a.m.,  
in response to message #1 by Paul Brogger*

It was my first HHC ever, and boy I'm glad I went. I had a wonderful time.

HP was extraordinarily generous in letting us use and abuse their space for two days, and I want to say a public thank you to our hosts.

My highlight was finally getting to meet Sam Kim and Cyrille de Brebisson. These guys are passionate about calculators. They were also running around all day Saturday and most of Sunday doing things like getting ice and drinks and setting up snacks. Talk about involvement! You don't expect an HP product manager to be getting drinks for you, but Sam seemed happy to be doing so.

I came away from the meeting with renewed confidence in the direction HP is taking. They gave us a good insight into their world, and I'm extremely grateful. The division is in really good hands right now.

And no, they couldn't tell us about any new product ship dates, so we don't know anything more about that than you guys do :)

I would say that if you're thinking about it, do try to come next year. It was well worth the travel for me.

### **Re: O.K. -- So, How Was It?**

*Message #12 Posted by [Wayne Brown](#) on 2 Oct 2007, 7:20 a.m.,  
in response to message #11 by Seth Morabito*

Quote:

\_\_\_\_\_

I would say that if you're thinking about it, do try to come next year.

If they ever have one that focuses only on the old machines (no new stuff at all), and doesn't involve any official presence from HP, I'd love to be there.

**Re: O.K. -- So, How Was It?**

Message #13 Posted by **Bernard Rochlin** on 2 Oct 2007, 9:06 p.m.,  
in response to message #1 by Paul Brogger

Is the HP50g the end of the road? or have without giving and secrets away has Hewlett-Packard something better up their sleeves?

**Re: O.K. -- So, How Was It?**

Message #14 Posted by **Gene Wright** on 2 Oct 2007, 9:16 p.m.,  
in response to message #13 by Bernard Rochlin

Again, how can any possible answer to that avoid violating a non-disclosure agreement!

C'mon people! Be reasonable!

Gene

P.S. That said, unless HP exits the calculator business, which I consider unlikely, there should be calculators sold over the next 10 years that are not being sold today. Some sort of new calculator is bound to be introduced.

**Re: O.K. -- So, How Was It?**

Message #15 Posted by **DaveJ** on 2 Oct 2007, 10:17 p.m.,  
in response to message #14 by Gene Wright

Quote:

Again, how can any possible answer to that avoid violating a non-disclosure agreement!

C'mon people! Be reasonable!

Gene

P.S. That said, unless HP exits the calculator business, which I consider unlikely, there should be calculators sold over the next 10 years that are not being sold today. Some sort of new calculator is bound to be introduced.

I'll put my order in now then: Can I just have a nice basic non-programmable scientific calculator with lots of dedicated keys please! (with the new old style look and feel of course)

Dave.

**Re: O.K. -- So, How Was It?**

Message #16 Posted by **Eric Smith** on 2 Oct 2007, 11:27 p.m.,  
in response to message #15 by DaveJ

Quote:

Can I just have a nice basic non-programmable scientific calculator with lots of dedicated keys please! (with the new old style look and feel of course)

Sure, they're readily available. You can buy them on eBay.

**Re: O.K. -- So, How Was It?**

*Message #17 Posted by [DaveJ](#) on 2 Oct 2007, 11:30 p.m.,  
in response to message #16 by [Eric Smith](#)*

Quote:

Sure, they're readily available. You can buy them on eBay.

I want that "new product smell".

Dave.

**Re: O.K. -- So, How Was It?**

*Message #18 Posted by [Eric Smith](#) on 3 Oct 2007, 12:14 a.m.,  
in response to message #17 by [DaveJ](#)*

Just buy yourself some Medo Industries Ozium OZ-22 spray. Problem solved!

**Re: O.K. -- So, How Was It?**

*Message #19 Posted by [Eddie W. Shore](#) on 3 Oct 2007, 9:26 a.m.,  
in response to message #1 by [Paul Brogger](#)*

Awesome. I believe there was a record number of participants this year. We went all day Saturday, literally, starting at 8:00 in the morning to almost 10:00 that night.

Some of the many highlights: many calculator designs. One person proposed that the HP 35s menu be changed to HP 17/42 like menus.

There was a talk about whether Einstein would have used a calculator, and the speaker, Wlodek Mier-Jedrzejowicz, stated that Einstein's calculator would require symbolic algebra, compact tensor notation, and matrices that allows equations.

Jean-Yves Avenard introduced a great program to handle implicit function graphing, the EDGE by Hyrdix.

Jake Schwartz gave us his review of changes to HP calculators. Thumbs up for the big ENTER key, raised angled keys instead of two shifted functions above the key. Thumbs down: lack of accessibility of base functions, lack of overlays, several color schemes (i.e. 6S, 30S).

Prizes ranged from the 14B, 32SII, 40g (39g with CAS) to many calculators from the 48 and 49 series. I won one of the 14B calculators and won a surprise auction to purchase a 41C.

I have officially joined the club of 41 owners.



**Re: O.K. -- So, How Was It?**

*Message #20 Posted by [sjthomas](#) on 3 Oct 2007, 11:35 p.m.,  
in response to message #19 by Eddie W. Shore*

Quote:

\_\_\_\_\_

I won one of the 14B calculators and won a surprise auction to purchase a 41C.

I have officially joined the club of 41 owners.

\_\_\_\_\_

And your port cover will be in the mail on Thursday.

**Re: O.K. -- So, How Was It?**

*Message #21 Posted by [Eddie W. Shore](#) on 5 Oct 2007, 12:31 a.m.,  
in response to message #20 by sjthomas*

Thank you sjthomas! However, what would I do with it when it arrives?

**Re: O.K. -- So, How Was It?**

*Message #22 Posted by [sjthomas](#) on 5 Oct 2007, 7:09 p.m.,  
in response to message #21 by Eddie W. Shore*

It plugs into that little hole on the left side of the calculator.

---

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## HP Forum Archive 17

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### TI in the news in Washington, DC - But what about the HP35?

Message #1 Posted by [S. Martin](#) on 1 Oct 2007, 1:56 p.m.

I live in the Washington, DC metro area and have been hearing a lot about TI calculators lately with their donations to the Smithsonian's National Museum of American History:

<http://www.washingtonpost.com/wp-dyn/content/article/2007/09/30/AR2007093001332.html?hpid=sec-tech>  
<http://americanhistory.si.edu/news/pressrelease.cfm?key=29&newskey=604>

Even on local TV there has been some coverage of this event, with reference to TI making the first portable electronic slide rule (although we would like to think that honor goes to the HP35).

Ironic considering this should be the year of the 35!

### Re: TI in the news in Washington, DC - But what about the HP35?

Message #2 Posted by [Doug](#) on 1 Oct 2007, 5:19 p.m.,  
in response to message #1 by [S. Martin](#)

I agree, they are getting it wrong. I didn't retire my slide rule (Pickett N-500-ES) until the HP35 was in my hands. There was no other replacement for the sliderule. I was there, it was not a TI, if TI had introduced one I would have spent my \$395+ on a TI.

Best

### Other HP fans near Washington, DC?

Message #3 Posted by [Allen](#) on 1 Oct 2007, 7:58 p.m.,  
in response to message #1 by [S. Martin](#)

I wonder if there would be enough folks in the northeast (Wash. D.C.) area to have our own small east coast gathering of hp fanatics?? I myself am near Dulles airport (IAD). At least one or two other regulars are with 2 hours driving distance. I think it would be very interesting to exchange tips and programs.

I wanted very badly to attend either the HHC or the London meeting, but my daughter was just born last weekend.. the wife barely endures the calculator addiction as it is, but I'd be treading thin ice if I left just after a newborn!!

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## HP Forum Archive 17

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### A few questions concerning HP calculators

Message #1 Posted by [Chris Foley](#) on 1 Oct 2007, 8:07 a.m.

Hello,

I'm kind of HP addict for calculators and I have a few questions in mind:

#### HP 50G:

- Does this calculator include all the development tools for assembly programing (i.e. MASD, StringWriter...)?
- Are programs already written (and downloadable) to take advantage of the ARM processor?
- Is there already a successor programmed yet (HP 51 G)?
- What is the future to HP's calculators (compared to other ClassPad / Nspire)? In other way, will kind of Xpander calculator show up sometimes in the future?

#### HP 71B:

- Is it possible to program this calculator in assembly language without the (expensive) ASM/FORTH module? If not, is there another way to finding this module cheap enough? Can these modules be copied (RAM, EPROM) in some way?
- How to connect this calculator easily to a PC (using HP-IL interface)?
- Is there a trick to expand memory without installing the (again expensive) Corvallis memory module?
- What is the biggest memory Corvallis produced for this calculator, and are they still available?

#### HP 48SX:

My screen is defective: 1 entire column is missing pixels. How can I (if possible) change the screen to a new one? Is it worth the effort, or should I jump directly for a HP 50G?

Thanks for reading!

Chris.

### Re: A few questions concerning HP calculators

Message #2 Posted by [Valentin Albillo](#) on 1 Oct 2007, 8:45 a.m.,  
in response to message #1 by [Chris Foley](#)

Hi, Chris:

Chris posted:

*"HP 71B: - Is it possible to program this calculator in assembly language without the (expensive) ASM/FORTH module? If not, is there another way to finding this module cheap enough?"*

The easiest, cheapest, and fastest method by far would be to do all your HP-71B development using [the freeware HP-71B emulator Emu71](#) running on a Windows PC. The FORTH/Assembler ROM image is freely available as well (as are many other important ROMs and LEX files, such as the Math ROM) and it typically runs at least 350x faster, which means entering and assembling long assembler source code file is both feasible and convenient. Emu71 also emulates large amounts of RAM as well, HP-IL disk drives, and an 80-column HP-IL display for easy editing.

Once assembled, you would have to transfer the resulting BIN or LEX file to your physical HP-71B, if desired. This can be done but I'll let the explanation to other people more knowledgeable than me. In any case, you can contact Emu71's author for the details.

*"What is the biggest memory Corvallis produced for this calculator, and are they still available?"*

I do own a 128 Kb Corvallis RAM module, which plugs in the card reader port. I got it from eBay for \$90 at the time. It looks very nice when plugged in, what with the deep dark reed and gold lettering.

Best regards from V.

### **Re: A few questions concerning HP calculators**

Message #3 Posted by [Chris Foley](#) on 1 Oct 2007, 9:26 a.m.,  
in response to message #2 by Valentin Albillo

Hi Valentin,

Quote:

The easiest, cheapest, and fastest method by far would be to do all your HP-71B development using [the freeware HP-71B emulator Emu71](#) running on a Windows PC. The FORTH/Assembler ROM image is freely available as well (as are many other important ROMs and LEX files, such as the Math ROM) and it typically runs at least 350x faster, which means entering and assembling long assembler source code file is both feasible and convenient. Emu71 also emulates large amounts of RAM as well, HP-IL disk drives, and an 80-column HP-IL display for easy editing.

Once assembled, you would have to transfer the resulting BIN or LEX file to your physical HP-71B, if desired. This can be done but I'll let the explanation to other people more knowledgeable than me. In any case, you can contact Emu71's author for the details.

I've downloaded Jean-François' software, though I haven't used it yet. My point was to use my calculator to program (easier to carry, and BTW, I love the contact of this calculator when keys are pressed!) rather than my computer ;-).

### **Re: A few questions concerning HP calculators**

Message #4 Posted by [Valentin Albillo](#) on 1 Oct 2007, 10:43 a.m.,  
in response to message #3 by Chris Foley

Hi again, Chris:

Chris posted:

*"I've downloaded Jean-François' software, though I haven't used it yet. My point was to use my calculator to program"*

Yes, I understand your feelings, so to say, but I own and have extensively used the real, physical FORTH/Assembler ROM plugged in a physical HP-71B and entering, debugging, and assembling source code is a real pain, incredibly slow, error prone, tiring, time-consuming, and ultimately frustrating.

Even a short assembler source code file requires a lot of time to compile, and if there's some error, you'll have to debug and repeat the compilation any number of times. Memory consumption is also very high, and it all combines to the point where assembling moderate size source code files is either out of the question of you must be willing to spend many, many hours, and have many, many K's of free RAM to allocate to the task.

None of those problems apply when running a 350x-faster emulation loading its large, fully-commented source code from emulated disk, with 128 Kb of emulated RAM in a 80-column x 50-line full-screen display with a life-size PC keyboard. This takes away all the frustration and lets you concentrate in the assembler code instead. Then you can transfer your brand-new, shiny LEX file to your physical HP, if you want to use it there.

Just some friendly advice.

Best regards from V.

### **Re: A few questions concerning HP calculators**

Message #5 Posted by [Chris Foley](#) on 1 Oct 2007, 11:21 a.m.,  
in response to message #4 by Valentin Albillo

Quote:

---

*"Even a short assembler source code file requires a lot of time to compile, and if there's some error, you'll have to debug and repeat the compilation any number of times. Memory consumption is also very high, and it all combines to the point where assembling moderate size source code files is either out of the question of you must be willing to spend many, many hours, and have many, many K's of free RAM to allocate to the task."*

---

Hum... I understand what you mean. I won't bother finding this rather expensive module in that case. Thanks Valentin for sharing your experience.  
Now I need to find how to download the LEX files from my computer.

## Re: A few questions concerning HP calculators

Message #6 Posted by **Vieira, Luiz C. (Brazil)** on 1 Oct 2007, 10:48 a.m.,  
in response to message #1 by Chris Foley

Hi, Chris;

Quote:

---

- What is the future to HP's calculators (compared to other ClassPad / Nspire)? In other way, will kind of Xpander calculator show up sometimes in the future?

---

I'd guess neither HP would try an answer to that. Users are the ones to determine such future, i.e., will users be using HP calculators in the future? My HP41C helped me to understand many engineering situations once I decided to write programs to help solving them. And understanding RPN allowed me to reason in a different way when solving problems. I think not too many people care too much for these subjects.

Quote:

---

HP 48SX: My screen is defective: 1 entire column is missing pixels. How can I (if possible) change the screen to a new one? Is it worth the effort, or should I jump directly for a HP 50G?

---

First, one must be sure where is the problem. I have an HP42 with two columns and one row missing in the display. I replaced the LCD (a dead HP17BII) and the same lines were off. The problem was in the processor. As many of us have already seen, the HP42 has a single chip with ROM, keyboard and LCD interface included (RAM is external). So, there is no way to repair such thing. I have once replaced an HP48G LCD, and the fact is that it must be completely disassembled: the LCD itself is glued to a metal frame that can only be removed after breaking many plastic rivets that are accessible only after opening the calculator (plastic lockers and other rivets) and removing the main PCB (fixed in place with six twisted metal tabs). I'd not do that again unless it is a vintage HP48SX needing a new LCD (my HP48SX has a spot in the LCD; I have one spare HP48G carcass, and I am not willing to open the HP48SX so far...). To be honest, I'd give a new HP50G a try.

Not much of a help, I know, but I'd like to think of it as my 2¢.

Success.

Luiz (Brazil)

Edited: 1 Oct 2007, 10:51 a.m.

## Re: A few questions concerning HP calculators

Message #7 Posted by **Chris Foley** on 1 Oct 2007, 11:34 a.m.,  
in response to message #6 by Vieira, Luiz C. (Brazil)

Hi Luiz,

Quote:

---

I'd guess neither HP would try an answer to that. Users are the ones to determine such future, i.e., will users be using HP calculators in the future? My HP41C helped me to understand many engineering situations once I decided to write programs to help solving them. And understanding RPN allowed me to reason in a different way

when solving prblems. I think not too many people care too much for these subjects.

Question is: is there an ear listening somewhere in HP's office? For instance, could the next calculator have the same *feeling* when pressing a key compared to my 48SX? What about using a 16 or 256 grey level LCD display? ...

Quote:

Not much of a help, I know, but I'd like to think of it as my 2¢.

On the contrary, it helps. I'll continue using my poor old 48SX that way instead of trying doing my *Mac Giver's* sort of thing (I have no particular skills in micro electronics...).

The HP50G seems a good calculator if I can use some already implemented assembly langage programming tools.

### **Re: A few questions concerning HP calculators**

Message #8 Posted by **Vieira, Luiz C. (Brazil)** on 1 Oct 2007, 5:35 p.m.,  
in response to message #7 by Chris Foley

Hi, Chris (some spare time, again);

Quote:

The HP50G seems a good calculator if I can use some already implemented assembly langage programming tools.

About assembly language: I'm a Z-80, 8086-scratcher, meaning that I learnt how to program in assembly language with those guys... an actual bit-shrinker.

Assembly language demands hardware (internal processor architecture), peripheral and OS knowledge, unless you are programming in a second- or third-layer, i.e., an emulator. I first read about resident emulation with the Transmeta's Crusoe documentation. In this case, assembly documentation itself may fill the blanks.

I felt a bit disappointed after getting together many documentation about the Saturn assembly and then knowing that the new HP48/49/50 use ARM architecture instead... Learning assembly fundamentals is not that hard, what bothers me is to transpose existing knowledge base to new mnemonics, register set, addressing, flags... I guess new programming tools might provide existing codes to be ported, though.

Let us know if there is any news, O.K.?

Success!

Luiz (Brazil)

*Edited: 1 Oct 2007, 5:40 p.m.*

### **Re: A few questions concerning HP calculators**

Message #9 Posted by **James M. Prange (Michigan)** on 1 Oct 2007, 8:23 p.m.,  
in response to message #8 by Vieira, Luiz C. (Brazil)

Quote:

I felt a bit disappointed after getting together many documentation about the Saturn assembly and then knowing that the new HP48/49/50 use ARM architecture instead... Learning assembly fundamentals is not that hard, what bothers me is to transpose existing knowledge base to new mnemonics, register set, addressing, flags... I guess new programming tools might provide existing codes to be ported, though.

Almost everything that you learned about hardware Saturn assembly still applies to the ARM-based models. What you may well want to learn are new syntax rules and new features for the new programming tools. True, the new Saturnator is an emulated processor running in the ARM system, but it includes everything that's in the legacy hardware Saturn, as well as a good many new assembly language instructions.

The new instructions may make things easier, but you don't have to use them; it's your choice. For example, note that the ROMs for the emulators included with Debug4x don't use any of the new opcodes or access the ARM system, yet all of the legacy hardware Saturn and 49 series RPL code can be used with the emulators.

Regards,  
James

### Re: A few questions concerning HP calculators

Message #10 Posted by [Chris Foley](#) on 2 Oct 2007, 11:35 a.m.,  
in response to message #8 by Vieira, Luiz C. (Brazil)

Hi Luiz,

Quote:

About assembly language: I'm a Z-80, 8086-scratcher, meaning that I learnt how to program in assembly language with those guys... an actual bit-shrinker.

I learnt assembly language on both Z-80 (I also own a Sharp PC-1600) and SC61860 (sharp's other pocket computers), so I'm not afraid to program a 4 bit processor!

Quote:

I felt a bit disappointed after getting together many documentation about the Saturn assembly and then knowing that the new HP48/49/50 use ARM architecture instead... Learning assembly fundamentals is not that hard, what bothers me is to transpose existing knowledge base to new mnemonics, register set, addressing, flags... I guess new programming tools might provide existing codes to be ported, though.

As long as programming the Saturn is still possible, I don't bother.  
The only thing I find interesting in the HP49 series is the possibility to program the ARM directly on the calculator (if such a tool is available someday).

Chris.

### Re: A few questions concerning HP calculators

Message #11 Posted by [James M. Prange \(Michigan\)](#) on 1 Oct 2007, 7:56 p.m.,  
in response to message #7 by Chris Foley

Quote:

Question is: is there an ear listening somewhere in HP's office?

Based on the release of the 50g and 35s, I expect that someone at HP has been listening. I can't be absolutely certain that any current HP employees monitor this Museum Forum, but [Cyrille de Brebisson](#) occasionally posts to comp.sys.hp48.

Quote:

For instance, could the next calculator have the same *feeling* when pressing a key compared to my 48SX?

The 50g's keyboard doesn't seem as nice as the 48 series, but it's certainly an improvement over the 49G and early 49g+ units; maybe someday....

I suspect that my 48SX's keyboard may be somewhat "softer" than when it was new.

Quote:

What about using a 16 or 256 grey level LCD display? ...

I don't have any experience with it, but do some searches for "greyscale" (or perhaps "grayscale") and "OpenFire" at

comp.sys.hp48 and hpcalc.org.

Quote:

The HP50G seems a good calculator if I can use some already implemented assembly language programming tools.

You can, if you want to. However, many entry points have changed, so for any RPL code, the new Suprom49 files should be used.

All of the legacy hardware Saturn opcodes from the 48 series still work in the ARM-based models. Of course, if you want to use new tools, such as the built-in MASD, some adjustments to the source code syntax will be needed.

Regards,  
James

### Re: A few questions concerning HP calculators

Message #12 Posted by **Tim Wessman** on 1 Oct 2007, 1:12 p.m.,  
in response to message #1 by Chris Foley

- Does this calculator include all the development tools for assembly programming (i.e. MASD, StringWriter...)?

[http://groups.google.com/group/comp.sys.hp48/browse\\_thread/thread/e5c9e2a946f350c8/](http://groups.google.com/group/comp.sys.hp48/browse_thread/thread/e5c9e2a946f350c8/)

- Are programs already written (and downloadable) to take advantage of the ARM processor?

Yes. Not as many as in sysRPL and such. COming from and SX though, anything will be so much faster you won't care if it is saturn or ARM at all.

TW

### Re: A few questions concerning HP calculators

Message #13 Posted by **Chris Foley** on 2 Oct 2007, 11:44 a.m.,  
in response to message #12 by Tim Wessman

Hi Tim,

Quote:

[http://groups.google.com/group/comp.sys.hp48/browse\\_thread/thread/e5c9e2a946f350c8/](http://groups.google.com/group/comp.sys.hp48/browse_thread/thread/e5c9e2a946f350c8/)

Thanks for this interesting URL. I also gained some information on this post:

[http://groups.google.com/group/comp.sys.hp48/browse\\_thread/thread/84c0f5aa19f39cf6/4d48618956d5aa4a#4d48618956d5aa4a](http://groups.google.com/group/comp.sys.hp48/browse_thread/thread/84c0f5aa19f39cf6/4d48618956d5aa4a#4d48618956d5aa4a)

Quote:

COming from and SX though, anything will be so much faster you won't care if it is saturn or ARM at all.

Whenever I put a hand on this calculator, I'll post my comments in this folder!

### Re: A few questions concerning HP calculators

Message #14 Posted by **Egan Ford** on 1 Oct 2007, 1:20 p.m.,  
in response to message #1 by Chris Foley

Quote:

Does this calculator include all the development tools for assembly programming (i.e. MASD, StringWriter...)?

The same tools for the 48 should work for the 50g Saturn emulation.



Quote:

Are programs already written (and downloadable) to take advantage of the ARM processor?

Yes. There are a few. Recently I posted a PI program written in C and cross compiled for the ARM processor. It can compute 15000 digits of PI in < 7 minutes and save the output to the SD card.

Quote:

How to connect this calculator easily to a PC (using HP-IL interface)?

You need an HP-IL ISA adapter and a PC with an ISA slot and the registered version of EMU71. One you have this setup you can transfer from 71B <-> EMU71 as if EMU71 was a 71B.

Optionally you can get an HP-IL/RS-232 device.

Lastly you can always key in BASIC and with a BASIC program object code.

Quote:

or should I jump directly for a HP 50G?

Yes.

### Re: A few questions concerning HP calculators

Message #15 Posted by [Chris Foley](#) on 2 Oct 2007, 4:08 p.m.,  
in response to message #14 by Egan Ford

Quote:

Yes. There are a few. Recently I posted a PI program written in C and cross compiled for the ARM processor. It can compute 15000 digits of PI in < 7 minutes and save the output to the SD card.

Is there a *repository* website dedicated to these programs?

Quote:

You need an HP-IL ISA adapter and a PC with an ISA slot and the registered version of EMU71. One you have this setup you can transfer from 71B <-> EMU71 as if EMU71 was a 71B.

Not very easy for me (and probably expensive too).

I'm surprised that nobody worked on a HP-IL <-> USB adapter, considering the size of HP calculator's community. The only drawback with keying programs is loss of data, without possibility of saving months of work :-).

### Re: A few questions concerning HP calculators

Message #16 Posted by [Egan Ford](#) on 3 Oct 2007, 12:29 p.m.,  
in response to message #15 by Chris Foley

Quote:

Is there a *repository* website dedicated to these programs?

hpcalc.org has a few, grouped by function, not by language. It is a small community, the best place for examples are the examples included with HPGCC. Use the HPGCC mailing list and comp.sys.hp48 for support.

Quote:

Not very easy for me (and probably expensive too).

1. HP-IL ISA Adapter: ~\$50 (if you can find one).
2. Old ISA PC: ~\$20 (thrift store).
3. Software ~20 Euros.
4. 71B HP-IL Adapter: ~\$50-\$100
5. Two cables: ~\$50

The alternative is RS-232/HP-IL.

1. HP-IL/RS-232 Gateway: ~\$125 (one/month on eBay).
2. 71B HP-IL Adapter: ~\$50-\$100
3. Two cables: ~\$50

IMHO, if you value your time and data the first solution is inexpensive. The 2nd is more time consuming.

If you are only looking for backup:

1. 9114B floppy drive: ~\$200-\$300 (one known working/month on eBay).
2. 71B HP-IL Adapter: ~\$50-\$100
3. Two cables: ~\$50

Quote:

I'm surprised that nobody worked on a HP-IL <-> USB adapter, considering the size of HP calculator's community.

I'd be surprised if someone created an HP-IL <-> USB adapter, considering the size of *legacy* HP calculator's community. :-)

*Edited: 3 Oct 2007, 12:31 p.m.*

## Re: A few questions concerning HP calculators

Message #17 Posted by **James M. Prange (Michigan)** on 1 Oct 2007, 6:46 p.m.,  
in response to message #1 by Chris Foley

Quote:

**HP 50G:**

In general, the usenet group comp.sys.hp48 specializes in discussions of RPL models, and many downloads are available from <http://www.hpcalc.org/>.

Quote:

- Does this calculator include all the development tools for assembly programming (i.e. MASD, StringWriter...)?

The 49 series (49G, 49g+, 48gII, and 50g) have MASD built-in, as part of the "Development Library" application. However, to use mnemonic SysRPL command names, an extable library needs to be installed. Without extable installed, numeric pointers can be used. The extable library supplied by HP includes the supported entry points, and the extable2 library included with Emacs also includes some "unsupported but stable" entry points. You could also make a "customized" extable library with whichever entry points you chose.

With the ARM-based models (49g+, 48gII, and 50g), the Saturn processor is emulated, and includes additional assembly language instructions; this emulated processor is sometimes referred to as the "Saturnator" or "Saturn+".

[Debug4x](#) includes emulators that run in MS Windows, but note that it's the legacy "Hardware Saturn" processor that's emulated, not the ARM processor and Saturnator. As a result, it's not possible to run anything that attempts to access the ARM processor or use the new Saturnator opcodes on the emulators.

Apparently, the firmware ("ROM") for the ARM-based models is developed (perhaps using an emulator?) using only legacy

hardware Saturn code; and at this point, they will run on the emulators, or on the calculators themselves, including the hardware Saturn-based 49G. Then selected pieces of code are replaced (presumably to run faster), and the resulting firmware can be used only on a real ARM-based calculator.

I'm not familiar with StringWriter, but the built-in 49 series editor has added features, such as BEGIN, END, COPY, CUT, PASTE, FIND, and REPLACE. Various editors, notably Emacs, can be downloaded from [hpcalc.org](http://hpcalc.org).

Quote:

\_\_\_\_\_  
- Are programs already written (and downloadable) to take advantage of the ARM processor?  
\_\_\_\_\_

Well, in a sense, all programs that run on the ARM-based models are running on the ARM processor, although usually through a layer of emulation, so to some extent, they do "take advantage" of the ARM processor. Some are available that access the underlying ARM processor, and perhaps some that use the new Saturnator opcodes. Also see <http://hpgcc.org/> and <http://sourceforge.net/projects/hpgcc>.

Quote:

\_\_\_\_\_  
- Is there already a successor programmed yet (HP 51 G?)  
\_\_\_\_\_

The 50g is still pretty new, but I hope that HP is at least thinking about what to do for its successor. I expect that anyone who really knows has signed an NDA, so isn't allowed to publicly comment on this.

Quote:

\_\_\_\_\_  
- What is the future to HP's calculators (compared to other ClassPad / Nspire)? In other way, will kind of Xpander calculator show up sometimes in the future?  
\_\_\_\_\_

I don't know. Personally, I'd prefer that HP concentrate on working on the successor to the 50g, or perhaps a successor to the 35s, or an "updated" release of some other "Classic RPN" model.

Regards,  
James

## Re: A few questions concerning HP calculators

Message #18 Posted by [Chris Foley](#) on 2 Oct 2007, 4:22 p.m.,  
in response to message #17 by James M. Prange (Michigan)

Hi James,

Quote:

\_\_\_\_\_  
The 49 series (49G, 49g+, 48gII, and 50g) have MASD built-in, as part of the "Development Library" application. However, to use mnemonic SysRPL command names, an extable library needs to be installed. Without extable installed, numeric pointers can be used. The extable library supplied by HP includes the supported entry points, and the extable2 library included with Emacs also includes some "unsupported but stable" entry points. You could also make a "customized" extable library with whichever entry points you chose.

With the ARM-based models (49g+, 48gII, and 50g), the Saturn processor is emulated, and includes additional assembly language instructions; this emulated processor is sometimes referred to as the "Saturnator" or "Saturn+".

Debug4x includes emulators that run in MS Windows, but note that it's the legacy "Hardware Saturn" processor that's emulated, not the ARM processor and Saturnator. As a result, it's not possible to run anything that attempts to access the ARM processor or use the new Saturnator opcodes on the emulators.

Apparently, the firmware ("ROM") for the ARM-based models is developed (perhaps using an emulator?) using only legacy hardware Saturn code; and at this point, they will run on the emulators, or on the calculators themselves, including the hardware Saturn-based 49G. Then selected pieces of code are replaced (presumably to run faster), and the resulting firmware can be used only on a real ARM-based calculator.

I'm not familiar with StringWriter, but the built-in 49 series editor has added features, such as BEGIN, END,

COPY, CUT, PASTE, FIND, and REPLACE. Various editors, notably Emacs, can be downloaded from [hpcalc.org](http://hpcalc.org).

That is perfectly clear, thanks for this long answer.

I'm not personally keen on using StringWriter, it's only because it's much quicker than my HP 48SX text editor!

The built-in editor your describing is just fine. As said before, coming from a 2Mhz calculator, every program will be fast enough for me.

Quote:

Well, in a sense, all programs that run on the ARM-based models are running on the ARM processor, although usually through a layer of emulation, so to some extent, they do "take advantage" of the ARM processor. Some are available that access the underlying ARM processor, and perhaps some that use the new Saturnator opcodes. Also see <http://hpgcc.org/> and <http://sourceforge.net/projects/hpgcc>.

I meant "natively" programmed for the ARM processor (using C or assembly language in that case).

I visited HPGCC's web site, but it doesn't propose programs to run on the HP 49 series, just the C compiler.

Quote:

I don't know. Personally, I'd prefer that HP concentrate on working on the successor to the 50g, or perhaps a successor to the 35s, or an "updated" release of some other "Classic RPN" model.

I find the new 35S terrific. I havn't used it yet, but it really has the *HP look*. So a successor to the HP50G using the same *look* philosophy is fine!

### **Native ARM programs**

Message #19 Posted by [James M. Prange \(Michigan\)](#) on 2 Oct 2007, 5:46 p.m.,  
in response to message #18 by Chris Foley

Quote:

I meant "natively" programmed for the ARM processor (using C or assembly language in that case).

I haven't heard of any written in ARM assembly language, but try some searches of [hpcalc.org](http://hpcalc.org) for C language programs for the 50g (or the 49g+, which should also work on the 50g), or ask on [comp.sys.hp48](http://comp.sys.hp48).

Quote:

I visited HPGCC's web site, but it doesn't propose programs to run on the HP 49 series, just the C compiler.

Won't the compiler allow you to write your own C language programs for the ARM-based models?

Regards,  
James

### **Re: A few questions concerning HP calculators**

Message #20 Posted by [Chris Foley](#) on 2 Oct 2007, 3:57 p.m.,  
in response to message #1 by Chris Foley

Some more questions:

#### **HP 48SX**

- What is the instruction to display the ROM version?
- Can I use a card without merging it to local memory, and execute a program saved on this card?

#### **HP 71B**

- What is the instruction to display the ROM version?
- Where can I find a list of *entry points*?

Thanks,  
Chris

## Re: A few questions concerning HP calculators

Message #21 Posted by **James M. Prange (Michigan)** on 2 Oct 2007, 7:39 p.m.,  
in response to message #20 by Chris Foley

Quote:

HP 48SX - What is the instruction to display the ROM version?

There are various methods of finding the ROM version of a 48SX/S:

1. The SysRPL command VERSTRING returns the "version string" in the form "HHP48-A", where the last letter represents the ROM version.
2. In the 48 series only, the address of the VERSTRING command is #30794h, so in UserRPL,

```
#30794h SYSEVAL
```

returns the version string.

Caution: Be sure to use the correct address, including the trailing h, unless you're willing to lose all user memory.

3. Transfer any object to a PC in binary mode, and open the file with a text editor. The version string is used as the "binary transfer header", that is, the first eight bytes of the file.
4. For the 48SX/S only:  
Hold down the ON key, press and release the D key, release the ON key; this starts the "interactive self-test".

Press the backspace key; this starts the "memory scanner" at address 705D9, showing the address and sixteen nibbles of memory starting at that address as:

```
705D9:1B8DA178E5A111B6
```

Press EVAL to execute this particular address, briefly displaying a version and copyright message in the form:

```
Version HP48-A  
Copyright HP 1989
```

If you want to see the message again, just press EVAL again.

Caution: Don't try to execute any other address, unless you're willing to lose all user memory.

To return to normal operation (at any point in the above), invoke a warmstart: Hold down the ON key, press and release the C key, release the ON key.

Of course, starting with the 48G series, the UserRPL command VERSION is available, but the VERSTRING methods can still be used, and may be used for distinguishing the 48SX/S (versions A-J) from the 48GX/G/G+ (versions K-R).

Quote:

- Can I use a card without merging it to local memory, and execute a program saved on this card?

Yes, with a "free" RAM card, (not "merged" with system RAM), you can execute a program stored on the card.

Well, actually, the program will be stored on the card within a named "backup object" or using different terminology, as a "port variable", and for execution, it will be copied to a temporary memory location within system RAM, but that's pretty much transparent to the user.

Regards,  
James

## FAQs at hpcalc.org

Message #22 Posted by **James M. Prange (Michigan)** on 3 Oct 2007, 6:34 a.m.,

*in response to message #21 by James M. Prange (Michigan)*

PS:

You might want to see <http://www.hpcalc.org/search.php?query=FAQ+Schoorl> and <http://www.hpcalc.org/hp49/docs/faq/>.

## **Re: A few questions concerning HP calculators**

Message #23 Posted by [Valentin Albillo](#) on 3 Oct 2007, 5:43 a.m.,  
*in response to message #20 by Chris Foley*

Hi again, Chris:

Chris posted:

*"HP 71B - What is the instruction to display the ROM version? Where can I find a list of entry points?"*

The ROM version is displayed by simply executing the VER\$ command, like this:

```
>VER$
```

```
HP71:2CDCC HPIL:1B MATH:1A STRU:A RCPY:E
```

This tells you that your HP-71B comes with four internal ROMs (ROM1, ROM2, ROM3, ROM4) and their versions are 2C,2D,2C, and 2C, respectively. This particular HP-71B also had the HP-IL ROM plugged in (version 1B), a Math ROM (version 1A) and two LEX files, STRU (version A) and RCPY (version E).

As for the entry points, all of them (lots and lots) are listed in Volume 2 of the Internal Design Specification (IDS).

Volume 1 discusses the internals of the HP-71B system and data structures in detail, and Volume 3 is the *commented* assembler source code for all 4 internal ROMs. They are available in this very Museum of HP's DVD. If you're interested in assembly programming for the HP-71B, these volumes are an absolute *\*must\**, period.

Best regards from V.

---

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## HP Forum Archive 17

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### US\$ 975 wanted for a defective HP10

Message #1 Posted by [Walter B](#) on 30 Sept 2007, 5:48 p.m.

[This is the offer at TAS.](#)

### (eBay warning) Sorry, old news

Message #2 Posted by [randy](#) on 30 Sept 2007, 7:59 p.m.,  
in response to message #1 by Walter B

Let's call that trolling for a sucker, Version 2.0 He tried that a year or so ago with the same item and had no takers. IIRC he paid about \$75 for it scored in a BIN. The box alone was worth what he paid for it but even doubling his money ins't enough for him...

TAS provides a steady stream of fools and their money. He recently sold a very unremarkable 35 and 55 for way more than market value. But hey, everybody has to learn somehow. The way I see it, classics have come way up the value scale of late. I found this way more interesting than Cobubba silliness: [HP67 with box](#)

### Re: (eBay warning) Sorry, old news

Message #3 Posted by [Raymond Del Tondo](#) on 1 Oct 2007, 12:36 a.m.,  
in response to message #2 by randy

Wow, the 67 itself seems to look relatively good,  
but the box is in a terrible state IMHO...

Raymond

### Re: (eBay warning) Sorry, old news

Message #4 Posted by [Walter B](#) on 1 Oct 2007, 2:12 a.m.,  
in response to message #2 by randy

Sorry, I did not remember Cobubba's a(u)ctions for 12 months -- and I will not do this in future :)

The 67 looks nice, but certainly not nice enough to spend US\$ 456 IMO. Anyway, it's a free market as you told. Luckily, I've got nearly all the vintage calcs I'm interested in for now (incl. a working 67).

### Re: (eBay warning) Sorry, old news

Message #5 Posted by [Maximilian Hohmann](#) on 1 Oct 2007, 6:41 a.m.,  
in response to message #4 by Walter B

Hello!

Quote:

---

The 67 looks nice, but certainly not nice enough to spend US\$ 456 IMO.

Totally crazy. Collector or not, I would rather donate that money to Unicef rather than waste it like this. Last month I bought a very nice hp-67 (without box (who cares anyway?) but with pouch, charger and battery, that are missing from this 456\$ calculator) for 66 Euros on german eBay and this is exactly what it is worth.

Greetings, Max

**Re: (eBay warning) Sorry, old news**

Message #6 Posted by *Meenzer* on 1 Oct 2007, 9:35 a.m.,  
in response to message #5 by Maximilian Hohmann

Quote:

Last month I bought a very nice hp-67 [...] for 66 Euros on german eBay and this is exactly what it is worth.

We could discuss even this! Most people wouldn't pay 1 Euro for such an item and only consider it trash... These things have no value of their own. We only attribute a value to them - and that may differ with your individual point of view.

**Re: (eBay warning) Sorry, old news**

Message #7 Posted by *Maximilian Hohmann* on 2 Oct 2007, 5:01 a.m.,  
in response to message #6 by Meenzer

Good Morning!

Quote:

We could discuss even this! Most people wouldn't pay 1 Euro for such an item and only consider it trash... These things have no value of their own. We only attribute a value to them - and that may differ with your individual point of view.

Yes, you are certainly right. But to people, who need a scientific calculator at work/school/university (or at least think they need one, or convince themselves, that they do...), a good, durable, reliable and efficient to use calculator does indeed have a value which is reflected in the market price of such units. So I think, that a good 67 should be valued more or less like the current 35S -both have their advantages and disadvantages with respect to the other, making them more or less equal valued in my eye. This is why I pay 66 Euros for an HP-67 but not more.

Greetings, Max

*Edited: 2 Oct 2007, 5:01 a.m.*

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## HP Forum Archive 17

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### To Julián Miranda (this message will be removed soon)

Message #1 Posted by [Vieira, Luiz C. \(Brazil\)](#) on 30 Sept 2007, 2:45 p.m.

Hi, folks;

again, sorry to add personal issues to this common place. Julián did not get a message from me and I just want him to know I sent it again.

In a couple of days I'll remove this message.

Sorry to you all, Dave mostly included.

Thanks and best regards.

Luiz (Brazil)

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## HP Forum Archive 17

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### **I think zero also is a number to remember...**

Message #1 Posted by [Arne Halvorsen \(Norway\)](#) on 29 Sept 2007, 2:12 p.m.

Found errors in my hp-35s programs due to the stupid way memory is managed on it, yea, yea, it's my fault, but still:

While not a bug I think the 35s indirect register handling is pretty ..... stupid ....

Say you want to store N numbers in register 0...N-1, god forbid some or your last numbers happens to be 0 (a perfectly okey number) AND register N,... happens not to be allocated. You get an INVALID when trying to learn that number N-1 was 0!

What you must do is to *allocate* your N registers by putting a 'watermark' non zero in register N.

I do not mind allocating and deallocating memory, but this reality of hp-35s is: a) implication not well documented, b) error prone. What I think should been here is commands to allocate registers and free registers!

*Edited: 29 Sept 2007, 5:16 p.m. after one or more responses were posted*

### **Re: I think zero also is a number to remember...**

Message #2 Posted by [Ed Look](#) on 29 Sept 2007, 5:12 p.m.,  
in response to message #1 by [Arne Halvorsen \(Norway\)](#)

I agree to a point.

It IS right now making it hard for me to complete a program to pick the mode out of a set of numbers (I'll, of course, keep working on it), but one also has to switch values in and out of the I or J registers, after initializing a block of memory registers with that first value.

Perhaps I am not making efficient enough use of the registers at hand, but it does seem as if I never have enough registers.

---

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## HP Forum Archive 17

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### **remove your screen cover.**

Message #1 Posted by [joan cardenas](#) on 28 Sept 2007, 4:52 p.m.

And you'll find a lot nicer 35's display.

regards.

### **Re: remove your screen cover.**

Message #2 Posted by [Seth Morabito](#) on 29 Sept 2007, 12:23 a.m.,  
in response to message #1 by joan cardenas

Hello Joan,

What procedure did you use to remove your screen cover?

Regards,

Seth

### **Re: remove your screen cover.**

Message #3 Posted by [Howard Owen](#) on 29 Sept 2007, 1:09 a.m.,  
in response to message #1 by joan cardenas

Hmm. Exactly like the 49g.

Is there I downside, I wonder? The cover may protect the LCD.

Regards,

Howard

### **Re: remove your screen cover.**

Message #4 Posted by [joan cardenas](#) on 29 Sept 2007, 3:15 a.m.,  
in response to message #3 by Howard Owen

Is a piece of crap plastic between the frame and the LCD. To dismantle it is easier than the 49 because the screws. That thing would avoid the warranty but I don't care.

When the LCD protector was out I could see plenty of scratches on it, and I only clean it twice. Really soft material.

Very easy to see also the reason of the missalignment display, but difficult to fix. The LCD is glued to a piece of metal with the proper guide to get a good position, but there's not any guide to glue it properly.

Regards.

**Re: remove your screen cover.**

*Message #5 Posted by **Jean-Michel** on 30 Sept 2007, 2:54 p.m.,  
in response to message #1 by joan cardenas*

Hi,

do you have some pictures of the result ?

Regards.

---

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## HP Forum Archive 17

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**41CX fast timeout**

Message #1 Posted by [Greg Swartz](#) on 28 Sept 2007, 3:52 p.m.

I recently got a 41CX that, as far as I can tell, operates flawlessly. The only issue is that the timeout for the display is ~10 seconds, not 10 minutes like my other 41's. You can turn it right back on with the ON key, but if you were entering ALPHA characters you have to start over if you delay at all. Very annoying...

Anyone seen this before?

**Re: 41CX fast timeout**

Message #2 Posted by [Raymond Del Tondo](#) on 28 Sept 2007, 4:15 p.m.,  
in response to message #1 by Greg Swartz

Did you perform a memory reset (Memory Lost) ?

Raymond

**Re: 41CX fast timeout**

Message #3 Posted by [Greg Swartz](#) on 28 Sept 2007, 4:52 p.m.,  
in response to message #2 by Raymond Del Tondo

Yup. Tried the ON with the Arrow key. Also left batteries out for a few days with foil on the calc batt terminals to try to drain any residual memory. And, as a second note, the timer functions are accurate. I set the clock and only lost a few seconds over a few days before using CORRECT. But the display still time's out after ~10 seconds.

**Re: 41CX fast timeout**

Message #4 Posted by [Doug](#) on 28 Sept 2007, 6:14 p.m.,  
in response to message #3 by Greg Swartz

Not easy to fix, guess you are going to have to assign ON to a key and eat batteries and always remember to turn it off. Best

**Re: 41CX fast timeout**

Message #5 Posted by [Raymond Del Tondo](#) on 28 Sept 2007, 6:41 p.m.,  
in response to message #3 by Greg Swartz

May also be a hardware defect.

If it's not a halfnut CX, you could test the unit with another CPU board, to see if the problem comes from the CPU board, the display chip, or maybe even the connection strips...

The test unit doesn't necessarily have to be a CX. A C or CV pcb will also work.

I had some units with similar symptoms, where the problem were either the zebra stripes and/or the battery contact block.

One unit also had a 'cold' solder pin between the display pcb and the keyboard backplane.

In any case, if ou decide to open your CX, do it very carefully to not crack the screw posts, and always make sure beeing grounded to avoid ESD.

HTH

Raymond

**Re: 41CX fast timeout**

*Message #6 Posted by [Greg Swartz](#) on 28 Sept 2007, 9:45 p.m.,  
in response to message #5 by Raymond Del Tondo*

I have contemplated both assigning the ON finction and taking the thing apart (I've taken a few others apart before) but figured I'd troll the wealth of knowledge here before taking more drastic measures.

Thanks for the responses!

Greg

**Re: 41CX fast timeout - FIXED!!!**

*Message #7 Posted by [Greg Swartz](#) on 29 Sept 2007, 12:47 a.m.,  
in response to message #6 by Greg Swartz*

It was indeed a cold solder joint between the keyboard and LCD display. A little touch-up work and presto! Actually, all the connections at the LCD were a bit flaky. Just using the tip of an Exacto blade to test for movement broke away a few of the joints.

Thanks again for the suggestions! It got me where I needed to be to dis-assemble this one and actually fix it!

Greg

---

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## HP Forum Archive 17

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**HP 71B**

Message #1 Posted by [Alejandro Rodriguez](#) on 28 Sept 2007, 4:17 a.m.

hi i want to contact the person who is sell the couple 71B. Thanks.

**Re: HP 71B - You Have Mail**

Message #2 Posted by [Bill \(Smithville, NJ\)](#) on 28 Sept 2007, 6:48 a.m.,  
in response to message #1 by [Alejandro Rodriguez](#)

I have sent you an email.

Bill

---

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## HP Forum Archive 17

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### HP35s Display Of Sign

Message #1 Posted by [Walter B](#) on 28 Sept 2007, 12:32 a.m.

This has probably been discussed here before, but I can't find it:

WHY does this calc display the unary minus in an elevated position?? IMO it looks really ugly, so there must be a technical reason but I am not able to imagine any.

### Re: HP35s Display Of Sign

Message #2 Posted by [bill platt](#) on 28 Sept 2007, 8:42 a.m.,  
in response to message #1 by [Walter B](#)

Probably in an attempt to make it identifiable. Unfortunately the unary minus is one of those never-get-it-quite-right "features". Although different from each other in important ways, I find the 27s approach and the 48 series approach very good and much better than anything in the 32s and its descendants.

### Re: HP35s Display Of Sign

Message #3 Posted by [Walter B](#) on 30 Sept 2007, 5:30 p.m.,  
in response to message #2 by [bill platt](#)

IMHO, the 48 series approach is the same as used in every reasonable HP calculator so far, i.e. 20 micrometer below zero are entered

20 +/- E 6 +/-

and are displayed as -2E-5 with the minus signs at half the number height.

I find the 27s approach strange because you must use the binary minus to enter a negative exponent, e.g.

20 +/- E - 6

meaning you use the operation minus for entering an unary minus.

However, the way to enter such numbers was not my point, but the display of negative mantissae and exponents with a \*misplaced\* minus. No earlier model does it this way, even the 33s has a correct minus in front of the mantissa at least.

### Re: HP35s Display Of Sign

Message #4 Posted by [bill platt](#) on 1 Oct 2007, 8:11 a.m.,  
in response to message #3 by [Walter B](#)

Quote:

However, the way to enter such numbers was not my point, but the display of negative



mantissae and exponents with a \*misplaced\* minus. No earlier model does it this way,

Actually, this is incorrect.

The 32sii has the unary minus displayed just as the 35s does, except that it is very bad in the 32sii because in the leading position, the unary minus is not "displaced" whereas it is displaced in positions to the right. (And in the 32sii, the unary minus takes precedence over exponentiation. There is some discussion of this in A DATAFILE article by Jordi Hidalgo, written about the 33s).

## Re: HP35s Display Of Sign

Message #5 Posted by **Walter B** on 1 Oct 2007, 5:44 p.m.,  
in response to message #4 by bill platt

Quote:

Quote:

However, the way to enter such numbers was not my point, but the display of negative mantissae **and** exponents with a \*misplaced\* minus. No earlier model does it this way,

Actually, this is incorrect.

The 32sii has the unary minus displayed just as the 35s does, except that ... in the leading position, the unary minus is not "displaced" whereas it is displaced in positions to the right.

The 33s does it the same way as the 32sii. I regarded that as a **half way** decent display still. Therefore, I wrote "and" in my earlier post (see quote above).

So far, however, no one did explain the reason why to elevate the minus at all. Why not leave it standing on the normal level like in the 48, 42s and all the earlier models? Why make a simple thing complicated? Please explain to me like a 4-year-old :)

*Edited: 1 Oct 2007, 5:48 p.m.*

## Re: HP35s Display Of Sign

Message #6 Posted by **Valentin Albillo** on 1 Oct 2007, 7:06 p.m.,  
in response to message #5 by Walter B

Hi, Walter:

Walter posted:

*"So far, however, no one did explain the reason why to elevate the minus at all. Why not leave it standing on the normal level like in the 48, 42s and all the earlier models? Why make a simple thing complicated? Please explain to me like a 4-year-old :)"*

I'll try to provide a rationale for it. First of all, I'm not claiming that I'm right or that this is a valid reason from the ergonomic point of view, this is just my opinion.

I think that the display distinction between the subtraction "minus" symbol (correct level) and the unary "minus" symbol (raised) has to do with the fact that, for equation-parsing purposes, both are *different* operations and thus get parsed as unique, *distinct* internal keycodes, one for the 2-argument arithmetic subtraction, the other for the 1-argument unary minus.

The distinct symbols are needed because else it would be an ambiguous situation if they were to appear in an equation which some user must key in (from a listing or an screen dump, say). If both were graphically equal, the user could get confused and not know whether he needed to press the "+/-" key or the "-" key to get that particular "-" symbol on the screen. And why is this important ? Because the wrong key would get you a syntax error. For instance:

```
A001 EQN SIN(-X)
```

where the "-" is obtained by pressing the "+/-" key, parses and executes correctly, as it is an unary operation being applied to a single argument X, while the very same equation but with the "-" obtained by pressing the "-" key results in a **SYNTAX ERROR** upon execution, as the internally parsed keycode corresponds to the 2-argument subtraction operation and here it's missing its left argument.

Hope that helps.

Best regards from V.

*Edited to correct a glaring typo*

*Edited: 2 Oct 2007, 5:40 a.m. after one or more responses were posted*

### Re: HP35s Display Of Sign

Message #7 Posted by **bill platt** on 1 Oct 2007, 9:13 p.m.,  
in response to message #6 by Valentin Albillo

Hi Valentin:

What you point out about syntax is what I like about the 48, and the 27s, even though they are different. There is only one thing--a minus--and it is parsed by its location (in the 48) and in the 27s, there isn't a +/- in the equation parser--you get beeped at and that is that. In both cases, it parses like on paper (more or less:-).

### Re: HP35s Display Of Sign

Message #8 Posted by **Walter B** on 2 Oct 2007, 1:51 a.m.,  
in response to message #6 by Valentin Albillo

Buenas dias, Valentin, y muchas gracias! Finally, this is a reasonable explanation. So the strange display is because of the equation function only. Well :/

After this, I'd like to second Bill. When you key in an equation, you use your calc in kind of alpha mode. So a "-" is a "-" is a "-", and the parser should be intelligent enough to separate unary and binary "-".

### A bit of history (was Re: HP35s Display Of Sign)

Message #9 Posted by [Valentin Albillo](#) on 2 Oct 2007, 5:32 a.m.,  
in response to message #8 by Walter B

Hi again, Walter:

Walter posted:

*"Buenas dias, Valentin, y muchas gracias!"*

You're welcome ! :-)

*"So a '-' is a '-' is a '-'', and the parser should be intelligent enough to separate unary and binary '-'"*

From a purely ergonomic and traditional point of view, I do agree that both the unary minus and subtraction symbols have both always been portrayed in math literature as the one symbol "-", no questions about that.

However, there exist very well known, stablished math software which departs from tradition and perhaps ergonomoy in the name of mathematical consistency. That would mean that, since unary minus and subtraction are wholly *different* operations, it isn't consistent to have just *one* symbol to represent both and thus each should be assigned a *unique* symbol.

This is seen, for instance, in **Mathematica**, one of the worldwide famous, leading math packages. In Mathematica, to mean "sine of X" you must write it this way:

Sin[X]

i.e.: using square *brackets* for the argument of the sine function, instead of the traditional *parentheses* seen in math literature everywhere. This bold departure is grounded in sound consistency reasons, because parentheses already have a use, namely to change order of evaluation, and have no business being also used as argument delimiters, this would only create ambiguities which, for a powerful symbolic package, can't be tolerated. So mathematical consistency it is, and tradition must take a back seat.

That said, I think the HP35s design team were a little lazy on this one, because for such a product there's no valid reason to annoy the user by having two distinct "-" symbols where consistency isn't paramount and it would have been quite easy to avoid.

For instance, vintage SHARP BASIC handhelds do parse each algebraic expression as it is entered, recognizing identifiers and substituting them for appropriate internal codes, deciding on the fly where a "-" is a unary operation and where it is a subtraction. Some early models did have a separated, bold "E" for exponents, as opposed to the regular alphanumeric "E", but even that was removed in later models, where "E" would be properly recognized as an exponent or a letter (variable, etc) depending on the context. A side benefit of this pre-parsing was increased speed of execution and reduced memory usage, as "RADIANS" would be internally stored as a 1-byte token instead of a 7-byte alpha string, and would be instantly executed on encountering it again, not reparsed each time.

Some other machines did even better. The HP-85, for instance, would parse any algebraic expression entered by the user (for immediate execution or as a program line) into an internal fully RPN representation, which was the one being stored, the original algebraic expression being discarded. Whenever the program encountered the expression, it would execute it directly in its RPN form (similarly to Java bytecodes), no parsing and no further conversion necessary, so speed was maximal. Upon the user requiring a LIST of the program, the RPN expression would be decompiled to algebraic representation just for that one purpose and sent to the output device.

That clever working was normally transparent to the user, who was unaware of the compiling-to-RPN, decompiling-to-output procedures, but sometimes the effect was visible: should you enter an algebraic expression with redundant, unnecessary parentheses, the compilation to RPN would get rid of them, and so any subsequent LIST operations would reconstruct an optimized algebraic, with just the right amount of necessary parentheses. So, in a way, it did optimize your expressions for you.

Those were the times ! Sadly, I don't think present day HP has either the spirit or the budget allotment necessary to keep with that "Utmost Excellency Above All" paradigm of old anymore.

Best regards from V.

### **Re: A bit of history (was Re: HP35s Display Of Sign)**

*Message #10 Posted by [Meenzer](#) on 2 Oct 2007, 5:53 a.m.,  
in response to message #9 by Valentin Albillo*

Well, there is a use for having unary and binary minus entered and displayed in different ways on the HP 35s - and receiving a "Syntax Error" when having done it the wrong way:

Suppose you wanted to key in  $\sin(y-x)$  as an EQN but you accidentally skip the y and key in  $\sin(-x)$ . When you now XEQ the equation, the HP 35s will respond with a "Syntax Error" because it parses a binary minus where it expects a unary minus. So you have the chance to correct your mistake which you would not have had, had the 35s assumed that the binary minus should be a unary one.

### **Re: A bit of history (was Re: HP35s Display Of Sign)**

*Message #11 Posted by [Walter B](#) on 2 Oct 2007, 6:30 a.m.,  
in response to message #10 by Meenzer*

THINK!

(Sorry, else we'll end with calcs asking "Is the operation you pressed the one you really meant?" and similar stuff. Or in German: Für jede Sicherheitsregelung findet man einen Menschen, der sie braucht.)

### **Re: A bit of history (was Re: HP35s Display Of Sign)**

*Message #12 Posted by [Meenzer](#) on 2 Oct 2007, 7:25 a.m.,  
in response to message #11 by Walter B*

Quote:

THINK!

Here is no reason to scream!

If you view it your way (and you're entiteled to do so), there is no reason for syntax or grammar in any programming language or even error messages. If you only think hard and long enough why the result is not as expected, you will eventually find out what you typed in wrong.

In the worst case scenario however, you'll never know that you made a mistake in the first place because you have no indication that the result could be wrong...

**Re: A bit of history (was Re: HP35s Display Of Sign)**

*Message #13 Posted by **Walter B** on 2 Oct 2007, 10:12 a.m.,  
in response to message #12 by Meenzer*

You are right in Mainz, of course. BTW, I wasn't screaming, just quoting a famous little frame posted over the desk of an IBM chairman in the sixties (which you cannot know presumably).

As you do, I appreciate any support for users of a technical device like a scientific calc is one. There is a limit, however, where well meant support starts being an encumbrance. IMHO this limit is reached where the user is confused or annoyed by such "help". And that was my starting point for this thread.

*Edited: 2 Oct 2007, 10:15 a.m.*

**Re: A bit of history (was Re: HP35s Display Of Sign)**

*Message #14 Posted by **Meenzer** on 2 Oct 2007, 1:08 p.m.,  
in response to message #13 by Walter B*

Quote:

I wasn't screaming

FYI, words in capital letters are considered screaming in forums and such...

**Re: A bit of history (was Re: HP35s Display Of Sign)**

*Message #15 Posted by **bill platt** on 3 Oct 2007, 7:35 a.m.,  
in response to message #14 by Meenzer*

Well, not automatically. It is contextual. What did you learn first-- to read, or to read the internet :-)

**Re: A bit of history (was Re: HP35s Display Of Sign)**

*Message #16 Posted by **Walter B** on 2 Oct 2007, 6:37 a.m.,  
in response to message #9 by Valentin Albillo*

Buenas dias una vez mas, Valentin,

thanks for your insight into pre-parsing. That exactly was what I had in mind when thinking about modern calcs with processors exceeding the power of those antique ones by far. But, as you wrote: Those were the times, my friend ...

*Edited: 2 Oct 2007, 6:39 a.m.*

### **Re: A bit of history (was Re: HP35s Display Of Sign)**

*Message #17 Posted by **Stefan Vorkoetter** on 2 Oct 2007, 3:32 p.m.,  
in response to message #9 by Valentin Albillo*

Quote:

---

However, there exist very well known, stablished math software which departs from tradition and perhaps ergonomy in the name of mathematical consistency. That would mean that, since unary minus and subtraction are wholly different operations, it isn't consistent to have just one symbol to represent both and thus each should be assigned a unique symbol.

This is seen, for instance, in Mathematica, one of the worldwide famous, leading math packages. In Mathematica, to mean "sine of X" you must write it this way:

Sin[X]

i.e.: using square brackets for the argument of the sine function, instead of the traditional parentheses seen in math literature everywhere. This bold departure is grounded in sound consistency reasons, because parentheses already have a use, namely to change order of evaluation, and have no business being also used as argument delimiters, this would only create ambiguities which, for a powerful symbolic package, can't be tolerated. So mathematical consistency it is, and tradition must take a back seat.

---

That's a lame excuse on Mathematica's part. There is no ambiguity using parentheses for both grouping and function calling. The somewhat more well established mathematical package Maple has no trouble using parentheses for both grouping and function calling. The same can be said for 99% of the programming languages out there. Heck, even Fortran managed to do this in the 1960s.

The only place I've ever seen a valid reason for two different minus signs is in APL. There, the traditional "-" symbol was used for both subtraction and negation. The raised minus symbol was used as part of a number. In other words, "-" was always an operation, whereas the raised minus was basically a number entry symbol, just like the digits and decimal point were. The reason this was necessary in APL is because of the vector syntax. Consider the following examples (where I use "\_" to represent the raised minus):

$$-1 \ 2 \ 3$$

$$\quad \_1 \ \_2 \ \_3$$

$$1 \ \_2 \ 3 \ - \ \_4 \ 5 \ \_6$$

$$\quad \quad \quad 5 \ \_7 \ 9$$

So the raised minus ("\_") applies only to individual syntactic numbers, whereas "-", whether unary or binary, applies to expressions.

Stefan

*Edited: 2 Oct 2007, 3:32 p.m.*

## Re: A bit of history (was Re: HP35s Display Of Sign)

Message #18 Posted by [Valentin Albillo](#) on 3 Oct 2007, 6:58 a.m.,  
in response to message #17 by Stefan Vorkoetter

Hi, Stefan:

Stefan posted:

*"That's a lame excuse on Mathematica's part. There is no ambiguity using parentheses for both grouping and function calling."*

That's a subjective opinion on your part and unless you sustain it with valid arguments it doesn't have to necessarily be taken as the truth.

As this is an off-topic matter as far as HP calculators are concerned, I won't enter into a long discussion about it and this will be my last message on the subject, but let's check your "no ambiguity" statement.

**Mathematica** is a very complex software package which has to deal with extremely complex mathematical symbolic objects and operations. As such, it is essential that *no* ambiguities are allowed to crop in, and every distinct object or operation must have a *distinct*, non-ambiguous set of symbols associated with them.

Classical mathematical notation uses parentheses for at least two different, non-related purposes: (1) To define grouping of operations so as to be able to specify a particular order (2) to enclose the arguments to be passed to a function. Both uses have *nothing to do with one another*, and having the same symbol for both of them is potentially ambiguous and inconsistent.

For instance, suppose that you find this expression:

$$\text{Scale} ( \text{Adist} + \text{Bdist} )$$

what is the intended meaning ? It could be interpreted two ways, namely:

- A variable, *Scale*, which multiplies the sum of two variables, *Adist* and *Bdist*, or

- A function, *Scale*, which is passed the sum of two variables, *Adist* and *Bdist*, as an argument to operate upon.

Unless you know substantial additional information about the environment where that expression will be evaluated, you can't tell which interpretation applies, i.e., the meaning is ambiguous.

Mathematica's development team realized this problem and cut the feet under it at once, preferring to promote consistency rather than indulging in extra programming to further promote ambiguity. Thus, in Mathematica you'll have:

```
Scale ( Adist + Bdist)    for the first
interpretation
```

```
Scale[ Adist + Bdist ]   for the second
interpretation
```

and I don't see the lameness nor the excuse at all.

Thanks for your comment and

Best regards from V.

### **Re: A bit of history (was Re: HP35s Display Of Sign)**

*Message #19 Posted by [Stefan Vorkoetter](#) on 3 Oct 2007, 12:35 p.m., in response to message #18 by Valentin Albillo*

Quote:

Mathematica's development team realized this problem and cut the feet under it at once, preferring to promote consistency rather than indulging in extra programming to further promote ambiguity. Thus, in Mathematica you'll have:

```
Scale ( Adist + Bdist)    for the first
interpretation
```

```
Scale[ Adist + Bdist ]   for the second
interpretation
```

Or they could have just required a multiplication symbol whenever multiplication was desired. That's less intrusive than making people learn a whole new syntax for function calls. In fact, I don't think implied multiplication is allowed in Mathematica, although I could be wrong about that.

Stefan

### **Re: A bit of history (was Re: HP35s Display Of Sign)**

*Message #20 Posted by [Valentin Albillo](#) on 3 Oct 2007, 2:25 p.m., in response to message #19 by Stefan Vorkoetter*

Hi again, Stefan:



Stefan posted:

*"Or they could have just required a multiplication symbol whenever multiplication was desired [...] In fact, I don't think implied multiplication is allowed in Mathematica, although I could be wrong about that."*

You're wrong, of course. Implied multiplication *is* allowed in Mathematica from day one. The mere fact you didn't know about it implies that you are criticizing a math package you don't know well, if at all. I don't intend this to sound derogatory, just plain fact.

As for having a multiplication symbol explicitly stated when multiplication is desired instead of parameter passing, I'll simply quote Mr. Theodore W. Gray, one of the chief creators of Mathematica:

*"It's a mistake to use the same symbols to mean these two completely different things, and Mathematica corrects this mistake by using round parentheses only for order of evaluation, and square brackets only for function arguments [...]"*

*Although I'm all in favor of interesting, quirky languages for writing novels and poetry (English comes to mind), it's really a bad idea to use an ambiguous language for something like mathematics [...]"*

*An alternative would be to insist on using \* for all multiplication [...] We decided it was better to remove an inconsistency than to force people to use an extra symbol. Another option would have been to have Mathematica "know" what was a variable and what was a function. This turns out to have serious consequences and it's really not a good idea."*

As you can see, they thought pretty hard about this and what was best and why. You may disagree, of course, even though you don't seem to know Mathematica in depth if at all, but you can't say that their rationale was just "*a lame excuse*".

I rest my case.

Again, thanks for your comments and

Best regards from V.

**Re: A bit of history (was Re: HP35s Display Of Sign)**

Message #21 Posted by [Karl Schneider](#) on 4 Oct 2007, 12:00 a.m.,  
in response to message #18 by Valentin Albillo

Hi, Stefan --

You posted,

Quote:

---

There is no ambiguity (*in Mathematica*) using parentheses for both grouping and function calling.

---

This brings to mind the Fortran constructs (at least, in '77 and previous) for arrays and function calls. Fortran was originally developed for input devices having austere keyboards that lacked many of the characters of modern 101- or 102-key English-language keyboards. "{ }" and "[ ]" were unutilized in the language, for example -- and likely unavailable in the early days. This led to ambiguities that had to be resolved by rule and context:

The statement

A = B( 3, 4)

could be interpreted as either

"A is the result returned by function B using input arguments 3 and 4"

or

"A is set equal to element (3, 4) of array B."

The only way to distinguish function-involutions from arrays was that, if B was declared in the routine's non-executable code as an array, it would be handled as such. Else, B was a function, which would not need to be declared because Fortran did not require prototyping -- unless, of course, B was an *internal* function, which would be defined in the routine, and unavailable to other routines.

Implicit multiplication -- which was not supported by these versions of Fortran -- would have added a third possibility, as long as only one item was enclosed within the parentheses. This brings to mind the following: "(3, 4)" could also represent a complex number, in which case "B(3, 4)" would be improper syntax.

-- KS

*Edited: 4 Oct 2007, 12:29 p.m. after one or more responses were posted*

### **Re: A bit of history (was Re: HP35s Display Of Sign)**

*Message #22 Posted by [bill platt](#) on 4 Oct 2007, 7:26 a.m.,  
in response to message #21 by Karl Schneider*

And to Valentin's point, these ambiguities did nothing to improve or simplify FORTRAN.

### **Re: HP35s Display Of Sign**

*Message #23 Posted by [sjthomas](#) on 28 Sept 2007, 10:38 a.m.,  
in response to message #1 by Walter B*

It is written this way in many mathematical and scientific texts. Since this is the way I write it myself, I rather like it. Perhaps it might have been better one pixel lower???

## **Re: HP35s Display Of Sign**

*Message #24 Posted by **Walter B** on 30 Sept 2007, 4:57 p.m.,  
in response to message #23 by sjthomas*

Quote:

Perhaps it might have been better one pixel lower???

I'd like to see it TWO pixels lower.

Quote:

It is written this (elevated) way in many mathematical and scientific texts.

(Text in parentheses is from me).

Please show some examples (or link to them). So far, I've only seen unary minus printed in the normal position like a binary minus.

---

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## HP Forum Archive 17

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### HP 35S number width exceeds display

Message #1 Posted by [Wolfgang Jacques \(Germany\)](#) on 27 Sept 2007, 6:30 p.m.

Hello everyone, I just got my HP 35S and I noticed that when "all" digits are to be shown, I get:

2345678 1/x = "4,26315973463E-" ... .. scrolling to the right ... "7"

Very brave of the calculator to show all known digits, but very annoying that I have to scroll to view the last digit of the exponent.

The 33S for example reveals "4,2631597346E-7" which is just fine and as it should be.

Is there an explanation or even a workaround for this? I'd hate to go back to the fixed decimal places as known from the 12C.

Regards, Wolfgang

### Re: HP 35S number width exceeds display

Message #2 Posted by [Karl Schneider](#) on 28 Sept 2007, 12:14 a.m.,  
in response to message #1 by Wolfgang Jacques (Germany)

Wolfgang --

Welcome! (I saw your earlier post in response to mine from several weeks ago...)

No, I don't believe that it was the best idea, either. I'll be presenting a constructive suggestion in the near future.

-- KS

### Re: HP 35S number width exceeds display

Message #3 Posted by [Walter B](#) on 28 Sept 2007, 12:18 a.m.,  
in response to message #1 by Wolfgang Jacques (Germany)

Hallo Wolfgang,

with SCI 7 you'll be sure to see everything. IMHO there are very few practical cases where you have >8 significant digits.

HTH

Walter

### Re: HP 35S number width exceeds display

*Message #4 Posted by [Wolfgang Jacques \(Germany\)](#) on 28 Sept 2007, 6:14 a.m.,  
in response to message #3 by Walter B*

Hello Walter, you're right of course, but I'd love to leave the setting to "all" decimal places and get a reasonable reading for every calculation - and sadly that does not seem to work :-)

**Re: HP 35S number width exceeds display**

*Message #5 Posted by [vq](#) on 28 Sept 2007, 6:51 a.m.,  
in response to message #4 by Wolfgang Jacques (Germany)*

Yes, the "ALL" setting is extremely inconvenient on HP35S, hiding the most important part of a result quite often. I wonder if someone at HP ever tried to do some trivial calculations on HP35S before production?

Using SCI7 is not a good workaround as most numbers easily fit in the display without the E notation - 0.07645 is (for me at least) easier to read than 7.645E-2. I use FIX7 instead, which works quite fine for most occasions, though not an ideal solution.

**Re: HP 35S number width exceeds display**

*Message #6 Posted by [bill platt](#) on 28 Sept 2007, 8:39 a.m.,  
in response to message #5 by vq*

For some of us that grew up on Voyagers and earlier, we are quite happy with a FIXed notation and find the ALL notation quite useless most of the time.

**Re: HP 35S number width exceeds display**

*Message #7 Posted by [Martin Pinckney](#) on 28 Sept 2007, 8:52 a.m.,  
in response to message #6 by bill platt*

I guess we civil engineers must do only approximate calculations. I can't imagine routinely needing 7 significant digits. I usually use FIX 3, sometimes FIX 4, and even FIX 2!

**Re: HP 35S number width exceeds display**

*Message #8 Posted by [Kelly Huckman](#) on 28 Sept 2007, 9:35 a.m.,  
in response to message #7 by Martin Pinckney*

My god, fix 2? Isn't [this](#) what happened the last time a civil engineer used fix 2?

Kidding of course. ;)

**Re: HP 35S number width exceeds display**

*Message #9 Posted by [Meenzer](#) on 28 Sept 2007, 10:06 a.m.,  
in response to message #8 by Kelly Huckman*

Some years ago civil engineers in Switzerland and Germany had a problem that even could not have been solved with FIX 20...

A bridge was build, starting on the Swiss border and ending on the German side - 50 cm to low. The reason for this was the fact that Swiss cartographers refer to an AMSL (above mean sea level) taken in the Mediterranean, Germans measure the North Sea as zero (Austria refers to the Adriatic, Eastern Europe to the Baltic Sea). And these zeros

are different as the Earth is not a perfect sphere.  
The real joke was that the engineers KNEW it - but corrected their measurements in the wrong direction ;-)

**Re: HP 35S number width exceeds display**

*Message #10 Posted by [Forrest Switzer](#) on 28 Sept 2007, 3:54 p.m.,  
in response to message #8 by Kelly Huckman*

It depends upon whether we are talking centimeters or miles. :)

**Re: HP 35S number width exceeds display**

*Message #11 Posted by [db \(martinez, ca.\)](#) on 28 Sept 2007, 7:46 p.m.,  
in response to message #6 by bill platt*

bill; i've used fix to remind myself where i am in the output of a program not written for the 41 (i know-why bother?): fix 4 for angle, fix 3 when distance comes up. since i never remember which way i'm going: ft>m is fix three, m>ft is fix two. it's kind of a sneaky way to label output on a calc that doesn't arclx.

**Re: HP 35S number width exceeds display**

*Message #12 Posted by [bill platt](#) on 29 Sept 2007, 9:32 p.m.,  
in response to message #11 by db (martinez, ca.)*

That is clever. And since the meter is a larger unit, it makes sense to give it more decimal places and so it is easy to remember the hidden meaning.

Oh, and on my 32sii, I store 0.3048 in "H" (so that pushing RCL twice brings it up). It gets a lot of use :-)

*Edited: 29 Sept 2007, 9:33 p.m.*

**Re: HP 35S number width exceeds display**

*Message #13 Posted by [Brad Davis](#) on 28 Sept 2007, 6:23 p.m.,  
in response to message #1 by Wolfgang Jacques (Germany)*

Here's a related question.

Just for example, say I divide 10 by 12 and get 0.8333 with the 3 repeating forever, of course. I keep mine set at Fix 4, so this one displays no problem. Say, for the sake of argument, that I wanted to use the ->ENG. Mine comes up as 833.3333333E- and the 3 off the right side of the screen. The exponent's sign stayed on the screen, but the number was booted off.

I've had this happen on several real calcs and it's irritating to have to scroll to the right to see the exponent. Is there a way to keep it from doing this?

---

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## HP Forum Archive 17

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### **New version of the 35s vector bug.**

Message #1 Posted by [Arne Halvorsen \(Norway\)](#) on 27 Sept 2007, 12:04 p.m.

I had my share of the syntax error prompt bug when using the hp 35s' vector type.

Always been able make it go away somehow without reset the calc. But now I got the bug in a new way and can't shake it:

I can enter any vector fine when in normal mode, BUT all my programs containing equation with vectors that used to work fine now produces SYNTAX error.

This is really bad...

*Edited: 27 Sept 2007, 12:06 p.m.*

### **Did get out of it!!**

Message #2 Posted by [Arne Halvorsen \(Norway\)](#) on 27 Sept 2007, 1:11 p.m.,  
in response to message #1 by [Arne Halvorsen \(Norway\)](#)

Okey, did not have to reset the machine!

What I have done before when get the vector bug entering vectors is to go into alg mode and do something with vectors there, usual when return to sanity mode (that would be rpn mode) the bug is gone...

Okey, since this now happened for vectors in equations inside programs when run, I made the following silly program:

```
Z001 LBL Z
Z002 eq [0,1]x[0,1]
Z003 R/S
Z004 eq [1,0,0]x[0,1,0]
Z005 RTN
```

And run it in *alg* mode, switched to rpn mode and found my other programs now worked!!

No gurantee this will work every time! But one may wanna try if get into same problem as described here...

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### hp42s ROT XY function

Message #1 Posted by [joe santavicca](#) on 26 Sept 2007, 6:56 p.m.

How does the function work - I've recently come across a need for performing binary math. This is one of the rare instances where my intuition has failed when using my hp. The manual is a bit thin on the subject. Help if you know.

### Re: hp42s ROT XY function

Message #2 Posted by [Raymond Del Tondo](#) on 27 Sept 2007, 4:18 a.m.,  
in response to message #1 by joe santavicca

ROTXY - Rotate Y by X bits. Simply works as expected;-)

HTH

Raymond

### Re: hp42s ROT XY function

Message #3 Posted by [John Limpert](#) on 27 Sept 2007, 4:30 a.m.,  
in response to message #1 by joe santavicca

What are you having trouble with? I looked it up in the manual and it does a standard rotate left or rotate right on a 36-bit number. If you look at the y-register as an array of 36 bits, where index 0 is the least-significant-bit and index 35 is the most significant bit, and the x-register contains 1, then:

```
t = y[0]
y[0] = y[1]
y[1] = y[2]
...
y[33] = y[34]
y[34] = y[35]
y[35] = t
```

That was a rotate right by one bit. You can think of it as a circular shift-register where the most-significant-bit is connected to the least-significant-bit.

### Re: hp42s ROT XY function

Message #4 Posted by [Thomas Okken](#) on 27 Sept 2007, 6:19 a.m.,  
in response to message #3 by John Limpert

Also note that the sign of X indicates the direction of the rotation: 2 means rotate **right** by 2 bits, -3 means rotate **left** by 3 bits, etc.

*Edited: 27 Sept 2007, 6:21 a.m.*

### Re: hp42s ROT XY function



*Message #5 Posted by **Doug** on 27 Sept 2007, 7:47 a.m.,  
in response to message #3 by John Limpert*

On the 41C, ROTXY uses 32 bits but I will assume it works the same. Assign HEXIN and HEXVIEW (or the equivalents) to keys to get a better feel for what is going on. Assign the AND/OR/NOT functions as well. Wish I had a 42s.

Best

*Edited: 27 Sept 2007, 7:53 a.m.*

## **Re: hp42s ROT XY function**

*Message #6 Posted by **Walter B** on 27 Sept 2007, 9:32 a.m.,  
in response to message #1 by joe santavicca*

The shortest & easiest explanation of binary rotation commands is found [on the back label of the HP 16C](#).

HTH

Walter

*Edited: 27 Sept 2007, 9:36 a.m.*

---

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## HP Forum Archive 17

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**Pal G.**

*Message #1 Posted by [Pal G.](#) on 26 Sept 2007, 5:33 p.m.*

We were kicking this around at work today, ...er, when we weren't working.

Anyone want to take a stab at an answer for problem 2?

[Link](#)

or

<http://www.tc.umn.edu/~beck0778/velociraptors/velociraptors.html>

Note: Problem 1 includes acceleration information.

Cheers, Pal

*Edited: 27 Sept 2007, 10:47 p.m. after one or more responses were posted*

**Pal G.**

*Message #2 Posted by [Pal G.](#) on 27 Sept 2007, 2:04 p.m.,  
in response to message #1 by Pal G.*

While everyone is quietly working on the first post in this thread, here's another one:

[Link](#)

or

[http://xkcd.com/blue\\_eyes.html](http://xkcd.com/blue_eyes.html)

*Edited: 27 Sept 2007, 10:48 p.m.*

**Re: Math challenge?**

*Message #3 Posted by [Chuck](#) on 27 Sept 2007, 4:21 p.m.,  
in response to message #1 by Pal G.*

I got number 1, but I had to revisit the Dog-Rabbit problem to remember how to set up and solve the differential equation for the path. Now I only need replace Dog with VR and rabbit with human (and make the axis at a variable angle.) I'll see what happens.

---

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## HP Forum Archive 17

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### Recent Apple Gadgets Reminiscent of HPs of Old

Message #1 Posted by [Les Wright](#) on 26 Sept 2007, 12:01 p.m.

Greetings all,

I have recently concluded that, after a busy year, I have about all of the HP calculators I want for now.

I have turned my attention to Apple's new gadgetry. I already own a well used iPod mini and some peripherals and have recently acquired the tiny perfect iPod nano and beautiful iPod touch. I am eager to get the much praised iPhone if it ever finds a carrier in Canada.

The usability and design of Apple's new issues titillate and satisfy me in a way I have not know since getting my first HP calculator over 20 years ago. I suspect that these devices will be regarded by many as throwaways to be replaced when faster and smaller ones come along in a year or two, but I still see collectibility potential here.

Thoughts?

Les

### Re: Recent Apple Gadgets Reminiscent of HPs of Old

Message #2 Posted by [Thomas Okken](#) on 26 Sept 2007, 12:14 p.m.,  
in response to message #1 by [Les Wright](#)

Quote:

I suspect that these devices will be regarded by many as throwaways to be replaced when faster and smaller ones come along in a year or two, but I still see collectibility potential here.

The only Apple product I currently own is a third-generation iPod; it's not very collectible any more since it got pretty scratched up over time -- heck, I actually use the thing and when I shove it in the same pocket as my keys these things happen. ;-)

Anyway, to answer your question, even though a 3rd gen iPod is obsolete in many ways, I think it has stood the test of time pretty well so far. My only beef with it, and also with other recent portable Apple devices, is the non-user-changeable battery. Fortunately, there are third parties that offer battery replacement kits (including the tools needed to open the darn devices without damaging them), but it shouldn't be this hard. (I have the same complaint about my Palm Z22, which is a great little device in all other respects.)

- Thomas

### Re: Recent Apple Gadgets Reminiscent of HPs of Old

Message #3 Posted by [Eric Smith](#) on 26 Sept 2007, 1:45 p.m.,  
in response to message #1 by [Les Wright](#)

I'm not sure I share your enthusiasm for all things Apple, but I am reminded of a quote:

There is a tactile, almost sensuous pleasure  
in a beautiful piece of equipment.  
-- Stanley Kubrick

### **Re: Recent Apple Gadgets Reminiscent of HPs of Old**

*Message #4 Posted by [gteague](#) on 26 Sept 2007, 8:44 p.m.,  
in response to message #3 by Eric Smith*

being a film director, he was perhaps thinking of a camera and i've had cameras i thought of exactly like that:

the nikon f3 the nikon fm2t the canon a1 the minox b the contax t

and, in the modern era, my nikon d200 approaches this elegance and attention to detail, but doesn't quite hit the mark.

note to photo buffs that i've owned leicas, but none are on the list ... [g]

/guy

*Edited: 26 Sept 2007, 8:45 p.m.*

### **Re: Recent Apple Gadgets Reminiscent of HPs of Old**

*Message #5 Posted by [Eric Smith](#) on 27 Sept 2007, 1:45 p.m.,  
in response to message #4 by gteague*

You're correct, the quote was in reference to motion picture cameras.

### **Re: Recent Apple Gadgets Reminiscent of HPs of Old**

*Message #6 Posted by [Maximilian Hohmann](#) on 26 Sept 2007, 3:34 p.m.,  
in response to message #1 by Les Wright*

Hello!

Quote:

\_\_\_\_\_

Thoughts?

\_\_\_\_\_

I don't think that the current Apple gadgets will ever become true collectibles. The production numbers are much too high and due to their internal construction (failure prone hard disks and non-replacable batteries) they are not going to work forever.

Even the (then) expensive and therefore quite rare Newton Message Pad is not popular among collectors as the extremely low prices on eBay show.

I have been a convinced fan and user of Apple Computers since nearly 20 years and cannot imagine of ever switching to a different brand again, but as for their gadgets, I couldn't care less. I would rather wish they dedicated all this effort into the development of innovative and stable computer hard- and software (as they used to do before they invented the iPod, whatever the latter did to their bank balance)! BTW: This is my favourite iPhone Website :-): <http://www.willitblend.com/videos.a...fe&video=iphone>

Greetings, Max

NB: You can get unlocked iPhones for less than 500 \$ US on eBay now that should work fine in Canada and everywhere else!

**Re: Recent Apple Gadgets Reminiscent of HPs of Old**

*Message #7 Posted by **Chuck** on 26 Sept 2007, 3:46 p.m.,  
in response to message #6 by Maximilian Hohmann*

Quote:

NB: You can get unlocked iPhones for less than 500 \$ US on eBay now that should work fine in Canada and everywhere else!

Or until next week when Apple releases the automatically enforced update to disable unlocked phones. Those whascally wabbits.

**Re: Recent Apple Gadgets Reminiscent of HPs of Old**

*Message #8 Posted by **Gene Wright** on 26 Sept 2007, 4:16 p.m.,  
in response to message #7 by Chuck*

I don't believe ANY updates to the iPhone are "forced".

If you update to get the latest features, etc., yes, they may do other feature removals. :-)

See everyone at HHC2007!

---

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## HP Forum Archive 17

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### **HHC2007 Conference Program Posted**

Message #1 Posted by [Jake Schwartz](#) on 26 Sept 2007, 9:54 a.m.

Hi, The initial speaker schedule has been posted for the HHC2007 HP Conference at Hewlett-Packard's facility in San Diego this weekend. For a glimpse at the schedule, check <http://holyjoe.net/hhc2007/program.html> on the web.

Jake Schwartz

### **Re: HHC2007 Conference Program Posted**

Message #2 Posted by [hugh steers](#) on 27 Sept 2007, 3:08 a.m.,  
in response to message #1 by Jake Schwartz

8:45pm! can't you fit me in any earlier?

### **Re: HHC2007 Conference Program Posted**

Message #3 Posted by [Namir](#) on 27 Sept 2007, 8:12 a.m.,  
in response to message #2 by hugh steers

Hugh,

I have a bigger problem, because my talk ends around teh time Cloud 9 transport picks me up from the hotel for a ride to the airport. I contacted Richard, and he said to work it out with other presenters.

Namir

---

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## HP Forum Archive 17

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### arithmetic used in the HP 50g

Message #1 Posted by [Arne Halvorsen \(Norway\)](#) on 26 Sept 2007, 9:49 a.m.

Seing me getting back to [working with hp calculators](#) recalled a lot of (happy I think) memories by my boss, a mathematician. He recalled he had an hp-28c somewhere and asked me recently:

-->

One of the reasons I bought the HP 28c, so many years ago now, was that HP were one of the first implementers of the IEEE floating point standard, and at that time I was doing some work that involved the standard.

It would be interesting to know or get any publications that describe the arithmetic used in the HP 50g.

If you see or know of links to any such publications please let me know.

<--

Background is company just ordered a hp-50g. Being one of the programmers here I will get to spend some quality time with it :-) But not for a while (I am getting into the habit of waiting for hp calcs) since it turns out the HP-50g is not selling in Norway yet because manual not translated yet! I think most customer of it would be quite happy with english manual...

Perhaps someone here know anything about this topic of my manager's question?

(before any goes totally RTFM on me; specs I have seen does not give such details and the manual links on hp.com are dead now(!) and done some googling)

### Re: arithmetic used in the HP 50g

Message #2 Posted by [Thomas Okken](#) on 26 Sept 2007, 10:42 a.m.,  
in response to message #1 by [Arne Halvorsen \(Norway\)](#)

I just tried [the links at hp.com](#) and I could download the HP-50g user's guide and the manual with no problem.

(Don't worry, this is not an RTFM -- I don't know the answer to you question about HP-50g arithmetic, but I thought it was worth mentioning that the manuals **are** still available on-line.)

- Thomas

### Re: arithmetic used in the HP 50g

Message #3 Posted by [Arne Halvorsen \(Norway\)](#) on 26 Sept 2007, 10:51 a.m.,  
in response to message #2 by [Thomas Okken](#)

Thanks, it must be my problem somehow then! I am ofcourse interested in downloading the manuals since it seems I will be using the machine at some point in the near future.

BUT : I get to this place:

[http://h20000.www2.hp.com/service/site/404/Bsc404\\_en.html](http://h20000.www2.hp.com/service/site/404/Bsc404_en.html)

whenever trying those links! I am banned or something!

*Edited: 26 Sept 2007, 10:58 a.m.*

**Re: arithmetic used in the HP 50g**

*Message #4 Posted by [Thomas Okken](#) on 26 Sept 2007, 11:06 a.m.,  
in response to message #3 by Arne Halvorsen (Norway)*

Did you try going via the link in my post?  
Since I downloaded both files already anyway, I'd be happy to send them to you via yousendit.com.  
Just send me an email if you're interested.

- Thomas

**Re: arithmetic used in the HP 50g**

*Message #5 Posted by [Arne Halvorsen \(Norway\)](#) on 26 Sept 2007, 11:19 a.m.,  
in response to message #4 by Thomas Okken*

Yes I did use your link! And the page I got to had the manual links in a color telling I had clicked on them before, so pretty sure those are the links I have been trying.

Only explanation I can think of is one branch from where one visit page... But find it very strange!

I think I send you an email!

**Re: arithmetic used in the HP 50g**

*Message #6 Posted by [Giancarlo \(Italy\)](#) on 26 Sept 2007, 11:21 a.m.,  
in response to message #3 by Arne Halvorsen (Norway)*

Hi Arne.

Have you tried the "ever-green" [Hpcalc.org](http://Hpcalc.org) ?

"Of course" there you can find:

[Advanced User's Reference Manual](#)

and

[HP50G User's Manual](#)

You can try to get the manuals from the Educalc site as well:

[Educalc Manual Page](#)

Hope this helps.

Best regards.

Giancarlo

**Re: arithmetic used in the HP 50g**

*Message #7 Posted by [Arne Halvorsen \(Norway\)](#) on 26 Sept 2007, 11:29 a.m.,  
in response to message #6 by Giancarlo (Italy)*

Thanks! Got the manuals now! Had missed that could get from there!



**Re: arithmetic used in the HP 50g**

*Message #8 Posted by [Pal G.](#) on 26 Sept 2007, 12:08 p.m.,  
in response to message #7 by Arne Halvorsen (Norway)*

While you are waiting for your hardware, have you thought about downloading a nice hp 50g emulator? You can download the manuals and start using an hp 50g (emulated) today..

<http://www.educalc.net/881486.page>

; ) Pal

**Re: arithmetic used in the HP 50g**

*Message #9 Posted by [Eric Smith](#) on 26 Sept 2007, 2:46 p.m.,  
in response to message #1 by Arne Halvorsen (Norway)*

Quote:

One of the reasons I bought the HP 28c, so many years ago now, was that HP were one of the first implementers of the IEEE floating point standard, and at that time I was doing some work that involved the standard.

The HP-71B was the only HP calculator that used IEEE floating point, and it used IEEE 854 radix-independent floating point rather than the more common IEEE 754 binary floating point.

The Saturn-based calculators, including the 28C, used arithmetic code derived from that of the 71B, but did not provide full IEEE 854 compliance.

Quote:

It would be interesting to know or get any publications that describe the arithmetic used in the HP 50g.

I think the 50g still uses the Saturn arithmetic code derived from the 71B, but I haven't dug into it enough to know it for a fact. The 49g+ and 50g did move some low level functions from Saturn code to native ARM code, but I haven't heard of that being done to the floating point arithmetic.

**Re: arithmetic used in the HP 50g**

*Message #10 Posted by [Arne Halvorsen \(Norway\)](#) on 27 Sept 2007, 4:14 a.m.,  
in response to message #9 by Eric Smith*

From my manager :-): Thanks, very helpful.

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## HP Forum Archive 17

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### 82143A printer battery pack

Message #1 Posted by [Neil Miller](#) on 26 Sept 2007, 9:43 a.m.

Hi

I have just bought a 82143A printer for my 41CV off eBay that seems all there including 3 spare rolls but no battery pack. I was going to make one up using subC Nicads but I don't know the polarity of the two contacts in printer.

Can anyone enlighten me?

Thanks

Neil, UK.

### Re: 82143A printer battery pack

Message #2 Posted by [Ignazio Cara \(Italy\)](#) on 26 Sept 2007, 1:07 p.m.,  
in response to message #1 by Neil Miller

Ok, I can help you. With the printer up side down, and the battery room open on the right, the upper contact is (+) and, obviously, the lower is (-). I hope this could be useful. Regards

Ignazio

### Re: 82143A printer battery pack

Message #3 Posted by [Neil Miller](#) on 28 Sept 2007, 4:06 a.m.,  
in response to message #2 by Ignazio Cara (Italy)

Thanks for the information

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## HP Forum Archive 17

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### OT: Excel strikes again!

Message #1 Posted by [Rodger Rosenbaum](#) on 26 Sept 2007, 5:38 a.m.

Can you believe it?

And we complain when a calculator can't get  $\sin(89.99999999)$  right!

<http://www.downloadsquad.com/2007/09/25/excel-2007-cant-do-math-unless-850-77-1-100-000/>

### Re: OT: Excel strikes again!

Message #2 Posted by [Thomas Okken](#) on 26 Sept 2007, 5:50 a.m.,  
in response to message #1 by Rodger Rosenbaum

I've read about this -- apparently any calculation that should yield 65535 prints 100000 instead. I haven't been able to reproduce this in Excel 2000; from what I hear the bug was introduced in Excel 2007. I suspect, though, that the bug is not that Excel 2007 calculates the wrong result; it sounds more like it **displays** the wrong number. Can anyone verify -- i.e. what happens when you calculate  $850 * 77.1 + 1$  ?

- Thomas

### Re: OT: Excel strikes again!

Message #3 Posted by [Namir](#) on 26 Sept 2007, 8:06 a.m.,  
in response to message #2 by Thomas Okken

Thomas,

My Excel 2007 displays 100001 as the result of  $850 * 77.1 + 1$ .

When I remove the ".1", Excel displays 65451.

I also tried variations of the bug-causing expression that you mentioned, such as  $'=5*170*2*(19*2+0.55)+1'$  and still got 10001.

I am less than amused with this bug.

Namir

*Edited: 26 Sept 2007, 8:16 a.m.*

### Re: OT: Excel strikes again!

Message #4 Posted by [Giancarlo \(Italy\)](#) on 26 Sept 2007, 8:26 a.m.,  
in response to message #3 by Namir

Hi Namir.

Don't wanna keep going at you ;-) but you may want to have a look at this thread:

[microsoft.public.excel](mailto:microsoft.public.excel)

Best regards.  
Giancarlo

**Re: OT: Excel strikes again!**

*Message #5 Posted by **Chuck** on 26 Sept 2007, 2:29 p.m.,  
in response to message #3 by Namir*

I just did a few calculations...

$77.1 * 850 + 1$  is not correct, but  $+2$  is.

Also, putting  $77.1 * 85$  in one cell, and 2 in another, sums to 65537, but replacing with a 1 sums to 1000001. Way strange.

However,  $5 * 13107$  does give 65535, so it is only for particular equations giving 65535. Hmmm,

**Re: OT: Excel strikes again!**

*Message #6 Posted by **Les Wright** on 27 Sept 2007, 12:39 a.m.,  
in response to message #3 by Namir*

I have become a fan of the freeware open source OpenOffice suite.

OpenOffice's wordprocessor, spreadsheet, and presentation components look and act a lot like the very expensive Microsoft product.

The spreadsheet product in OpenOffice doesn't seem to have this bug. And, in some very unscientific tests of mine, seems to achieve better accuracy in trigonometrics and some special functions than Excel.

Sometimes you don't get what you pay for!

For folks who want to spend money on software, the Numbers application in Apple iWork '08, whose full price is a mere \$79US, doesn't seem to have the MS but.

Les

**Re: OT: Excel strikes again!**

*Message #7 Posted by **Eamonn** on 26 Sept 2007, 12:11 p.m.,  
in response to message #2 by Thomas Okken*

Thomas,

Yes, it looks like some kind of display issue.  $850 * 77.1 + 1$  displays 100001. However,  $850 * 77.1 - 1$  displays 65534.

Best Regards,

Eamonn.

OT: Excel strikes again!

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### MoHPC Plagiarism?

Message #1 Posted by [SteveH](#) on 26 Sept 2007, 2:37 a.m.

Paying one of my occasional visit to the UK eBay site I was interested to see that there is an [HP15C for sale at the moment](#).

As I read through the listing I started to get a sense of deja vu (again) and compared the listing against the entry for the HP 15C at this site. They match word-for-word including the links within the article, the use of the American 'math' rather than the 'maths' that one would normally see in Nantwich and the MoHPC watermark on the photos. After all that I was hugely amused to see the seller assert his copyright at the end of the listing.

When I've sold stuff on eBay in the past I've looked around the Internet for reference material to use in creating the listing but I have always felt that you should try to create that information to create your own listing. Would I be correct in thinking that this problem is pretty common with eBay sellers? If so this seems like a pretty egregious example.

-- Cheers,

Steve

### Re: MoHPC Plagiarism?

Message #2 Posted by [Maximilian Hohmann](#) on 26 Sept 2007, 3:26 a.m.,  
in response to message #1 by SteveH

Hello!

Quote:

Would I be correct in thinking that this problem is pretty common with eBay sellers?

Yes, you would be... Just read the text in the yellow box at the bottom of the front page of Joerg Woerner's Datamath-Website: <http://www.datamath.org/> It has been there for quite some time!

One problem is that eBay does not allow external links in the article description any more (for whatever reason?). So instead of just placing a link to a site with more information, people are forced to either write their own text, or copy-paste whatever they can find. And according to the laws of physics, the path that offers the least resistance or effort is the preferred one...

Greetings, Max

*Edited: 26 Sept 2007, 3:27 a.m.*

### Re: MoHPC Plagiarism?

Message #3 Posted by [Namir](#) on 26 Sept 2007, 10:33 a.m.,  
in response to message #2 by Maximilian Hohmann

The auction in question does have a link to the HP museum. So it looks like eBay does allow at least some external links.

Namir

### Re: MoHPC Plagiarism?

Message #4 Posted by **Maximilian Hohmann** on 26 Sept 2007, 10:55 a.m.,  
in response to message #3 by Namir

Hello!

Quote:

\_\_\_\_\_

The auction in question does have a link to the HP museum. So it looks like eBay does allow at least some external links.

\_\_\_\_\_

This seems to be one of the subtle national differences of eBay. On german eBay, some automatic mechanism removes every auction that contains external links within a couple of hours! I thought this was the same everywhere. And in this case, I really can't understand why the seller should copy-paste the contents of the site he links to into his item description?

Greetings, Max

*Edited: 26 Sept 2007, 10:55 a.m.*

### Re: MoHPC Plagiarism?

Message #5 Posted by **Thomas Okken** on 26 Sept 2007, 11:12 a.m.,  
in response to message #4 by Maximilian Hohmann

Quote:

\_\_\_\_\_

On german eBay, some automatic mechanism removes every auction that contains external links within a couple of hours! I thought this was the same everywhere.

\_\_\_\_\_

I thought the different national eBay sites (ebay.de, ebay.nl, etc.) were just language-specific front-ends to the same global eBay system. I guess there is more eBay weirdness than is dreamt of in my philosophy. ;-)

I also find it odd that an automatic system would remove auctions with external links after a couple of hours... Why use a cron job for that kind of cleanup when it would be so much easier and more efficient to filter such content the instant the user tries to submit it...?

- Thomas

### Re: MoHPC Plagiarism?

Message #6 Posted by **Walter B** on 26 Sept 2007, 11:35 a.m.,  
in response to message #5 by Thomas Okken

Quote:

\_\_\_\_\_

I guess there is more eBay weirdness than is dreamt of in my philosophy.

---

= quoted from (without naming) J.W.v.Goethe, Faust (without TAS, of course).

Copy & paste (= quoting without naming a source) is very common on TAS and in the internet in general. More educated people mention the source at least. Even pictures are taken, erasing the watermark. This is in no way correct, but such is life. If everything would be deleted which is incorrect or unfair or irrational (besides numbers ;), the world would be a lot easier, but it is not.

### Re: MoHPC Plagiarism?

Message #7 Posted by **Thomas Okken** on 26 Sept 2007, 11:40 a.m.,  
in response to message #6 by Walter B

Quote:

---

Quote:

---

I guess there is more eBay weirdness than is dreamt of in my philosophy.

---

= quoted from (without naming) J.W.v.Goethe, Faust (without TAS, of course).

---

Actually, Shakespeare, "[Hamlet](#)".

*Edited: 26 Sept 2007, 11:45 a.m.*

### Re: MoHPC Plagiarism?

Message #8 Posted by **Frank Boehm (Germany)** on 26 Sept 2007, 4:53 p.m.,  
in response to message #4 by Maximilian Hohmann

I'd rather think there are hordes of students checking every auction for any possible break of rules. I have had auctions being pulled due to putting my ebay name as a copyright protection into my pictures. No links at all. It's against their rules though, since my ebay name is one of my websites URLs - with no content however. They obviously didn't care to check, nor did they care about me being a member for more than 10 years now :/

### Re: MoHPC Plagiarism?

Message #9 Posted by **Mark W Paris** on 26 Sept 2007, 7:05 a.m.,  
in response to message #1 by SteveH

Quote:

---

the use of the American 'math' rather than the 'maths' that one would normally see in Nantwich

---

[sarcasm]

I'm the token American in a large research group peopled mostly by elements of the Australian mafia. Despite their logical arguments on why that extra 's' is there in "maths" -- well, I'll just never get it into my head that this sounds right.



I don't think I'll ever start saying "ground floor" either.

Another stupid American, Mark

[/sarcasm]

### Re: MoHPC Plagiarism?

Message #10 Posted by **Palmer O. Hanson, Jr.** on 26 Sept 2007, 9:44 p.m.,  
in response to message #9 by Mark W Paris

Ceertainly any copying should at least identify the source. Once such identification is in place there is another way of looking at all of this. In the early 1800's Charles Caleb Colton wrote "Imitation is the sincerest of flattery."

### Re: MoHPC Plagiarism?

Message #11 Posted by **Allen** on 27 Sept 2007, 6:29 a.m.,  
in response to message #1 by SteveH

Quote:

Would I be correct in thinking that this problem is pretty common with eBay sellers?

Unfortunately, yes. I have seen many sellers (sometimes experienced sellers) use material from the Museum website. Most of the time I send a short request like:

Greetings, Do you have a picture of the actual calculator instead of the photo you stole from the Museum of HP website?"

I then attach a link to the [IMAGE AND PICTURE THEFT](#) Policy.

Just as Joerg Woerner has said in his disclaimer, many sellers respond and remove the copied material, BUT some others respond with some pretty nasty verbal abuse. Even If I can't report the copyrighted material stolen from MoHP website, I can report obscene emails.

The worst of these emails is from the TAS administrators themselves!! As frequent a victim of image/text theft, I will tell you, the department that handles this kind of abuse is full of incompetent people. Their response is a three-day process which always follows this pattern:

REP: I'm sorry we couldn't find any evidence of stolen images or text in the listing you reported.

ME: How about my name typed on the screen in the picture? And the links to my store in the auction text?

REP: (one day later) The auction text seems generic or is from the manufacturer.

ME: Google the first 20 words of [this] paragraph! There are no other paragraphs like this on the internet.

REP: (two days later) Oh, we'll take some action we can't tell you about.

This is **completely** obscene for a company that charges as much as they do for their services.

Unfortunately if your copyrighted material is not in another (active or still archived) listing, it is MUCH more difficult to spur the VeRO team into action. The process involves a Faxed [NOCI](#) form. **NOTE:** there are provisions on this form for Dave to delegate reporting authority to others if he desires.

In contrast, I recently found some of my items on craigslist, and with one short email titled [NOTIFICATION OF CLAIMS OF INFRINGEMENT](#) the stolen ad was removed within a few hours without fuss. I didn't have to write and explain what a 'link' or 'jpg' was.



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## HP Forum Archive 17

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**71B battery problem**

Message #1 Posted by [Ciaran](#) on 26 Sept 2007, 12:15 a.m.

So my 71B, which has been working faithfully for the last three years (on the same batteries!) recently had it's batteries 'liberated' when no other AAA's could be found around the house. A month later I replace them (with bog-standard alkaline AAA's from Ikea) and it's not happy.

The display has every element turned on, and it won't respond to any key presses. Anyone know what's wrong with it, or what I can do?

**Re: 71B battery problem**

Message #2 Posted by [Namir](#) on 26 Sept 2007, 12:45 a.m.,  
in response to message #1 by Ciaran

Try take the batteries out and connect the battery contacts to each other with a metal wire. You may have some kind of static build up.

**Re: 71B battery problem**

Message #3 Posted by [Ciaran](#) on 26 Sept 2007, 1:02 a.m.,  
in response to message #2 by Namir

Just tried that - alas it's still the same.

**Re: 71B battery problem**

Message #4 Posted by [Valentin Albillo](#) on 26 Sept 2007, 5:28 a.m.,  
in response to message #1 by Ciaran

Hi,

Did you try pressing the [ON] key and the [/] (divide) key simultaneously, holding for a couple of seconds, then releasing ?

The manual suggests this:

- Unplug all modules and peripherals
- Remove batteries
- Press the [ON] key for 30 seconds
- Insert new batteries (correct voltage and polarity, etc)
- Press [ON] and [/] simultaneously for a couple of seconds

This should completely reset the machine. If this doesn't work, I would let it without batteries for 24 hours then try again.

Hope that helps.

Best regards from V.

**Re: 71B battery problem**

*Message #5 Posted by [Ciaran](#) on 26 Sept 2007, 11:40 a.m.,  
in response to message #4 by Valentin Albillo*

Success! The reset worked. Thanks all!

I should probably get a manual for it...

**Re: 71B battery problem**

*Message #6 Posted by [Alex L](#) on 26 Sept 2007, 9:43 a.m.,  
in response to message #1 by Ciaran*

Also, since every element is turned on, double-check that the contrast is not out of whack. Good luck!

---

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## HP Forum Archive 17

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### **Application to convert Hp 41C programs into Hp 50g pgs.?**

Message #1 Posted by [Miguel Reznicek](#) on 25 Sept 2007, 2:39 p.m.

Friends:

This is a shot in the dark:

Has anyone out there written an application that converts Hp 41C programs into Hp 50g programs? I'm looking through my Mechanical Engineering stuff and have some useful little applications...

Migs

### **Re: Application to convert Hp 41C programs into Hp 50g pgs.?**

Message #2 Posted by [Thomas Okken](#) on 25 Sept 2007, 8:48 p.m.,  
in response to message #1 by Miguel Reznicek

I'm not aware of any 41-to-50g program converters, but you could give HrastProgrammer's (commercial) HP-41X emulator a try; see <http://www.hrastprogrammer.com/>.

Note that Hrast himself is not very enthusiastic about running his emulators on the 49g+ and 50g (see <http://www.hrastprogrammer.com/hp49gp.htm>, the paragraph near the bottom of the page), but maybe you can try a demo version to check if it will do the job for you.

HTH,

- Thomas

### **Re: Application to convert Hp 41C programs into Hp 50g pgs.?**

Message #3 Posted by [James M. Prange \(Michigan\)](#) on 25 Sept 2007, 11:55 p.m.,  
in response to message #1 by Miguel Reznicek

Quote:

\_\_\_\_\_

Has anyone out there written an application that converts Hp 41C programs into Hp 50g programs?

\_\_\_\_\_

I rather doubt it; programming these different models is just so, well, different.

Other than Thomas's suggestion of using a 41 emulator on the 50g, I'd think that the best thing would be to study the programs enough so that you really understand how they work, and then, otherwise pretty much "from scratch", write programs to accomplish the same things on the 50g.

If RPL models are new to you, then you might start by reading Bill Wickes's *HP 41/HP 48 Transitions*, available on the Museum CD/DVD set. See <http://www.hpmuseum.org/cd/cddesc.htm>.

Regards,

James

**Re: Application to convert Hp 41C programs into Hp 50g pgs.?**

*Message #4 Posted by [Miguel Reznicek](#) on 26 Sept 2007, 4:34 p.m.,  
in response to message #3 by James M. Prange (Michigan)*

James and Thomas: Thanks for the two links. I think I need to make the programming jump. The book should do me well. There is a huge leap between programming the 41 and the 50. Oh well... Thanks again,  
-Migs

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## HP Forum Archive 17

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### [HP50G] Screen Capture on MacOSX

Message #1 Posted by [Miguel Saiz](#) on 25 Sept 2007, 2:02 p.m.

I would like to capture a text screen [from the solver results]. I was reading through the manual, but the print screen function looks like that only works for Windows PC (I am using MAC and HPConnect), any way to do that?

Thanks in advance

Miguel

### Re: [HP50G] Screen Capture on MacOSX

Message #2 Posted by [James M. Prange \(Michigan\)](#) on 25 Sept 2007, 11:20 p.m.,  
in response to message #1 by Miguel Saiz

Quote:

I would like to capture a text screen [from the solver results]. I was reading through the manual, but the print screen function looks like that only works for Windows PC (I am using MAC and HPConnect), any way to do that?

Well, I don't see any mention of screen captures at <http://hpconnect.sourceforge.net/>, or in the 0.9.1 release notes, so I doubt that they're available with HPConnect.

But the author sometimes posts on the comp.sys.hp48 usenet group, so you could ask about (or request) this feature on the newsgroup, or you could e-mail the author instead. Perhaps, if there's enough enthusiasm for screen captures, maybe he'll add this feature.

In case you don't already use a newsreader, the newsgroup can also be accessed at <http://groups.google.com/group/comp.sys.hp48/>.

Or maybe post a "feature request" at <http://sourceforge.net/projects/hpconnect/>.

Come to think of it, maybe complain to HP that they should develop their own connectivity kit for the Mac, instead of relying on unpaid volunteers for such things. I doubt that it would do much good, but it might make you feel better, at least temporarily.

Regards,  
James

*Edited: 26 Sept 2007, 2:51 p.m. after one or more responses were posted*

### Re: [HP50G] Screen Capture on MacOSX

Message #3 Posted by [Miguel Saiz](#) on 26 Sept 2007, 1:51 p.m.,  
in response to message #2 by James M. Prange (Michigan)

Thank you James. It is really a shame that HP doesn't provide Mac Connectivity. TI is doing that with, like you can see at <http://www.electronista.com/articles/07/09/25/ti.ti.nspire/>

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## HP Forum Archive 17

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### Hp 41CV function does not exist

Message #1 Posted by [Catello](#) on 25 Sept 2007, 12:17 p.m.

In the manual there is a function †"REG?" which should return the number of the statistical registers. But this function does not exist in my calculator! Anyone knows something about this problem? Thanks

### Re: Hp 41CV function does not exist

Message #2 Posted by [Thomas Okken](#) on 25 Sept 2007, 12:48 p.m.,  
in response to message #1 by [Catello](#)

I think you're using the wrong manual! The SigmaREG? function is only available on the HP-41CX. The HP-41C/CV does not have it, nor does the X-Functions module.

- Thomas

### Re: Hp 41CV function does not exist

Message #3 Posted by [Catello](#) on 25 Sept 2007, 12:52 p.m.,  
in response to message #2 by [Thomas Okken](#)

Thanks! I think I need a new set of manuals. Thank you again.

### HP-41 SigmaREG? and SIZE? functions

Message #4 Posted by [Karl Schneider](#) on 26 Sept 2007, 1:41 a.m.,  
in response to message #1 by [Catello](#)

Quote:

"SigmaREG?" which should return the number of the statistical registers...

Thomas' answer is correct, but you misdescribed the function. "SigmaREG?" returns the identifier of the first of the six numbered registers used for statistical summation. The user can set that register using "SigmaREG". The HP-42S retained both functions, perhaps for compatibility with the HP-41. However, the "HP-42S' little brother" HP-32S designated stat registers in a *better* way: the six stat registers are taken from the free memory pool.

For statistical summation, earlier models use the lowest-numbered registers (last to be de-allocated for programming), except that the HP-15C used R2 through R7, reserving R0 and R1 for matrix indices.

There is a similar function called "SIZE?" which supplements SIZE on the HP-41. SIZE? returns the number of registers allocated to data storage, which is settable by SIZE. SIZE?, however, is available on the X-Functions module as well as the HP-41CX.

Here's yet another example where the HP-15C trumped the HP-41C/CV: The equivalent of SIZE? was

available on the HP-15C as "RCL DIM (i)".

-- KS

*Edited: 5 Oct 2007, 3:25 p.m.*

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## HP Forum Archive 17

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### Editor on Mac or PC for 50g programs

Message #1 Posted by [Miguel Reznicek](#) on 25 Sept 2007, 11:37 a.m.

Friends: What do you all use to edit and prepare programs for the 50g when doing so on an Win XP driven PC? Does anyone use a Mac with OS X for this? I was thinking a text editor like BBEdit, then saving to the SD card, then into the 50g. What file extension should be used? Comments? Ideas? Suggestions?

Thanks, -Migs

### Re: Editor on Mac or PC for 50g programs

Message #2 Posted by [James M. Prange \(Michigan\)](#) on 25 Sept 2007, 10:33 p.m.,  
in response to message #1 by Miguel Reznicek

Quote:

Friends: What do you all use to edit and prepare programs for the 50g when doing so on an Win XP driven PC?

Well, I simply use my favourite text editor, [TSE Pro](#).

I normally use translation mode 3, which can be set by doing 3 TRANSIO, or by editing the last element in IOPAR to 3, or by choosing Xlat:CHR 128-255 in an input form.

Of course you could use a different translation mode, but depending on the character set in use, it may be difficult to read some non-ASCII characters, and somewhat of a pain to enter them.

Quote:

Does anyone use a Mac with OS X for this? I was thinking a text editor like BBEdit,

I don't have any experience with a Mac, but any text editor should be okay; even MS Notepad will work in a pinch. Just use whichever one you prefer. Even a "word processor", such as MS Word or WordPerfect, should work, as long as the files are saved as plain text, to avoid having the word processor's control codes or escape sequences stored in the file.

Using an ordinary text editor means that you have to learn some translation sequences for non-ASCII character, but I expect that the ones that you frequently use will be easy to remember. For a User-RPL program that builds a character string that looks like a translation table for characters 128-255, you could use the program:

```
%%HP: T(3)A(R)F(.);
@ For 49G, 49g+, 48gII, or 50g only.
@ Checksum: # A162h
@ Size:      116.5
\<<
  " "
  128 255
```

```

FOR n
  "\010"
  n
  " "
  OVER R\ ->B
  OVER +
  PICK3 CHR
  PICK3
  OVER
  # 2F34Eh SYSEVAL      @ KVIS for 49 series.
  + + + + +
NEXT
"\010" +
\>>

```

Or a faster SysRPL version is included with my "ASCII on SD" package.

Which characters are actually translated by the above program depends on which translation mode is in effect when the program is run. Of course, how the characters look depends on which font is current when the string is viewed.

Of course, once the string is built, you could store it as a global variable, so you wouldn't have to run the program again.

In addition, in modes 1-3, LineFeed codes are translated to CarriageReturn-LineFeed pairs, and in modes 2 and 3, \ is translated to \\.

Quote:

---

then saving to the SD card, then into the 50g.

---

Well, there's a minor problem with that. Any transfers between the flash card and the calculator are "binary" transfers, so the entire file contents would be stored within a character string object, instead of being translated and compiled as the intended object. For a work-around, see <http://www.hpcalc.org/search.php?query=ASCII+on+SD>.

For some more general information, see my [recent post](#).

The source code file should have an ASCII transfer header similar to:

```
%%HP: T(3)A(R)F(.);
```

This header tells the calculator, first, that it's to be treated as an ASCII transfer, then the T() parameter tells it which translation mode (0-3) to use, then the A() tells it which angular mode, D for Degree, R for Radian, or G for Grad, and the F() tells it which is the fraction mark, . for period or , for comma. These parameters can be in any order, and if any parameters are missing, then the current mode is used. A very minimal ASCII transfer header would be:

```
%%HP: ;
```

This would tell the calculator that it's an ASCII transfer, but whichever modes happened to be current would be used.

Unfortunately, the ASCII transfer header doesn't include any information on whether a number without any fraction mark should be treated as a "real number" or a zint (exact integer). In general, if the source code was originally written for (or transferred from) a 48 series, have the 49 series in "approximate" mode, so that such numbers will be compiled as reals, or if the source code was originally for the 49 series, have the 49 series in "exact" mode, so that such numbers will be compiled as zints. This also applies to "real arrays" and "symbolic matrices".

Quote:

---

What file extension should be used?

---

The calculator doesn't pay any attention to a file extension; it's just part of the global name that will be used, **except** that if you have the "fraction mark" set to comma instead of period (dot), then the "dot" will be treated as a separator instead of part of the name. So if you use the comma for a fraction mark, it's best not to use any file extension, or if you use the period as the fraction mark, use any valid file extension that you like.

Other than that, Conn4x can be set up to use a .hp extension for files that it stores on the PC, and the .hp is removed before the variables are stored on the calculator.

Quote:

---

Comments? Ideas? Suggestions?

---

If you'd like to use a USB connection instead of a flash card, you could try [HPConnect](#) on a Mac with OS X 10.3 or later.

Just so they don't feel left out, any Linux users could try [HPTalx](#).

A "special" (MS Windows) editor that many seem to like is [HPUserEdit](#). This editor uses a character set that matches the calculator's, and if I recall correctly, you select a non-ASCII character with a mouse click. I find it much easier to use my text editor and simply type in any translation sequences, but I realize that preferences do vary.

Regards,  
James

*Edited: 27 Sept 2007, 7:18 a.m. after one or more responses were posted*

---

### **Re: Editor on Mac or PC for 50g programs**

*Message #3 Posted by [Miguel Reznicek](#) on 26 Sept 2007, 4:40 p.m.,  
in response to message #2 by James M. Prange (Michigan)*

Hi James:

Quite a bit of info there! OK. I'm going to do as you say step by step and post if I get stuck. I'll also look at those other links to see how I relate to them.

I appreciate your explanation in detail! I have it printed out and am beginning to work it.

All the best, -Migs

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## HP Forum Archive 17

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### HP 41CV freezes on pressing ALPHA

Message #1 Posted by [Martin Sonntag](#) on 25 Sept 2007, 5:36 a.m.

Dear Experts,

I have acquired a HP41 CV from eb\*\*. It looks okay, and I can calculate with it and write little programs, but each time I press ALPHA the display goes blank (except for the ALPHA annunciator) and freezes. Entering letters or digits is not possible. If I press (ON-Backspace) or (ON-Enter) it goes back to the 'normal' mode and displays the last stack alright. Several tries with MEMORY LOST/battery removals did not change this.

Has anyone of you seen this? Is there a possibility to fix this or should I just forget about the machine and buy another one?

Thanks for any hints, Martin

### Re: HP 41CV freezes on pressing ALPHA

Message #2 Posted by [Karl Schneider](#) on 26 Sept 2007, 12:42 a.m.,  
in response to message #1 by Martin Sonntag

Martin --

Is the HP-41CV a fullnut (1980-1984, rectangular display window), or a halfnut (1985-1990, window with rounded corners)?

If it's a fullnut, it may benefit from an ultrasonic cleaning and re-soldering of bad joints. My two misbehaving fullnuts were both fixed by this service.

-- KS

### Re: HP 41CV freezes on pressing ALPHA

Message #3 Posted by [Martin Sonntag](#) on 26 Sept 2007, 6:26 a.m.,  
in response to message #2 by Karl Schneider

Karl,

yes, it's a fullnut, so not all hope is lost :-). Examining the PCB closely, I found a few tiny metal chips stuck to some of the contacts. A good cleaning is obviously necessary. I'll try to get hold of an ultrasonic cleaner, then. Are there any joints which I should have a closer look at (i.e. known weaknesses of this machine)?

Martin

*Edited: 26 Sept 2007, 6:26 a.m.*

**Re: HP 41CV freezes on pressing ALPHA**

*Message #4 Posted by [Karl Schneider](#) on 26 Sept 2007, 11:55 a.m.,  
in response to message #3 by Martin Sonntag*

Martin --

Quote:

---

Are there any joints which I should have a closer look at (i.e. known weaknesses of this machine)?

---

Couldn't tell ya. I had the services performed by [www.fixthatcalc.com](http://www.fixthatcalc.com)

In addition to my own two units (also purchased on eBay and mailed to me by commercial air, presumably in the cold, rarefied cargo hold), a colleague's fullnut also exhibited symptoms of malfunctioning. I suspect that the age and circuitry of fullnuts make them susceptible to this.

-- KS

---

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## HP Forum Archive 17

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### 71B - Your chances of winning the lottery

Message #1 Posted by [RonHudson\(USA\)](#) on 24 Sept 2007, 3:03 p.m.

When the California lottery started one of the local news guys said "Your chance of winning is about the same as flipping a coin the same way 25 times in a row" Hmmm How many flips might that be?

```
10 DELAY.1
```

```
20 DESTROY ALL
```

```
30 H=0 @ T=0 @ R=0 @ M=0 @ N = RND > RND
```

```
40 'NEQ':R=0 @ X = FLAG(0,NOT FLAG(0))
```

```
50 'THROW':L=N @ N = RND > RND
```

```
60 IF N THEN H=H+1 ELSE T=T+1
```

```
70 IF N<>L THEN GOTO 'NEQ'
```

```
80 R=R+1 @ DISP M;H+T;INT(100*R/M)
```

```
90 IF R>M THEN M=R @ DISP M;H+T
```

```
100 IF M<25 THEN GOTO 'THROW'
```

```
110 DISP H/T;H+T;H;T @ STOP
```

You will probably need fresh batteries for this one :^) I have not been able to let it run to completion yet.. I keep needing my 71 for other things.

I am accepting ideas for stuff to write...

*Edited: 24 Sept 2007, 3:04 p.m.*

### Re: 71B - Your chances of winning the lottery

Message #2 Posted by [Egan Ford](#) on 24 Sept 2007, 3:23 p.m.,  
in response to message #1 by [RonHudson\(USA\)](#)

Here is a faster version:

```
10 DISP .5^25
```

### Re: 71B - Your chances of winning the lottery

Message #3 Posted by [Chuck Sommer](#) on 24 Sept 2007, 5:41 p.m.,  
in response to message #2 by [Egan Ford](#)



If you flip a coin 25 times in a row, then you flip it 25 times.

On the other hand if you want to calculate the odds of flipping a coin and it comes up Heads 25 times in a row, then it is simply

1 in  $2^{25}$  = about 1 in 33.55 million. If you want to calculate the odds of flipping a coin and it coming up the same 25 times in a row, then it would be 1 in  $2^{24}$  or about 1 in 16.78 million.

Any Help?

**Re: 71B - Your chances of winning the lottery**

*Message #4 Posted by **Ren** on 25 Sept 2007, 10:46 a.m.,  
in response to message #1 by RonHudson(USA)*

I'm sure you've all heard this one before...

Your odds of winning the lottery are the same, whether or not you buy a ticket.

Ren

dona nobis pacem

**Re: 71B - Your chances of winning the lottery**

*Message #5 Posted by **Namir** on 25 Sept 2007, 11:53 a.m.,  
in response to message #4 by Ren*

Ren,

I look at it this way. The chance of me keeping my lottery money is 99.999999999999999999999999999999%. If I do this many many times over many many years, the total savings come out to winning a small lottery ... at a near 100%!!!

Namir

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## HP Forum Archive 17

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### Hp 50g: How do I clear a Matrix inside Matrix Writer

Message #1 Posted by [Miguel Reznicek](#) on 24 Sept 2007, 8:26 a.m.

Friends:

I'm using an Hp 50g.

Lets say I enter a list of numbers in the cells of the Matrix Writer. I run some statistics on the numbers and I wish to enter a new list. How do I clear the old one without going an clearing the contents one by one? I suspect it has to do with the PURGE command, but since the object has no name (that I can tell) I don't know how to reference it.

Thanks amigos,

Migs

### Re: Hp 50g: How do I clear a Matrix inside Matrix Writer

Message #2 Posted by [Hal Bitton in Boise](#) on 24 Sept 2007, 10:16 a.m.,  
in response to message #1 by Miguel Reznicek

Hi Miguel,

When you exit the matrix writer (such as when you run stats on your dataset), it clears. It will then re-open to a blank pallet.

For this reason, any matrix you want to keep must be put onto the stack (by pressing enter a second time in the matrix writer), and then saved into a variable (or you could just save it on the stack I suppose)

Best regards, Hal

### Re: Hp 50g: How do I clear a Matrix inside Matrix Writer

Message #3 Posted by [Miguel Reznicek](#) on 24 Sept 2007, 4:30 p.m.,  
in response to message #2 by Hal Bitton in Boise

Hi Hal:

You're right. I'm trying to recreate the situation and I can't. Looks good for now. Its just being used to a 41CX makes this 50g a whole new ballgame!

Thanks for your help, -Migs

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## HP Forum Archive 17

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### Transferring data from a HP50 to a PC

Message #1 Posted by [Stuart Sprott](#) on 24 Sept 2007, 7:39 a.m.

When I had a working HP 48 I could transfer data from the HP to a PC in ASCII format. It appears that you can do the same with the HP 50. The same commands are there but it seems like that only binary transfer is acceptable.

I have now started using the SD cards for transferring. They seem to be much more reliable. But again the same problem.

Is there any way of transforming binary into ASCII ?

### Re: Transferring data from a HP50 to a PC [Long]

Message #2 Posted by [James M. Prange \(Michigan\)](#) on 25 Sept 2007, 10:46 a.m.,  
in response to message #1 by [Stuart Sprott](#)

Quote:

When I had a working HP 48 I could transfer data from the HP to a PC in ASCII format. It appears that you can do the same with the HP 50. The same commands are there but it seems like that only binary transfer is acceptable.

I have now started using the SD cards for transferring. They seem to be much more reliable. But again the same problem.

Is there any way of transforming binary into ASCII ?

Yes.

The 48G and newer have both Kermit and Xmodem protocols available. For whatever reasons, the Xmodem protocol is still binary-only, although the SysRPL commands needed for "ASCII" transfers are built-in and an ASCII transfer option could easily be added to Xmodem transfers. After all, with the 49 series, they added the Xmodem server capability, so why not also an Xmodem ASCII transfer capability? For that matter, MMC/SD card transfers are also binary-only even though an ASCII transfer option could easily be added for them too.

If you transfer using IrDA, you can use the Kermit protocol and choose "ASCII" mode.

The 50g has a "serial" (but not RS-232 compatible) port. You can now buy a cable with a built-in level-shifter at a reasonable price, from <http://commerce.hpcalc.org/>. Note that you'll also need a female-to-female "null modem" to connect Eric's cable to a PC's COM port. I've noticed that since Eric has made his cable available, a different source (which, as far as I can tell, typically charges the highest price that the market will bear) has slashed its price for its cable, but it's still about double Eric's price, and there have been reports of problems with that other cable. Or of course you can build your own cable as a do-it-yourself project. Anyway, using the serial port plus a level-shifting cable, you can use the Kermit protocol.

Note that HyperTerminal PE can do either Kermit or Xmodem transfers, and [HPComm](#) (the "Connectivity Kit")

designed for the 49G) uses the Kermit protocol. For either of these, you'll need a COM port. A USB/RS-232 converter should work. In the case of IrDA, with MS Windows 98SE, a "virtual COM port" should be available when IrDA is installed on the PC, but for XP (and, I suppose, Vista), you may well have to install [IrCOMM2k](#) or something similar to get the virtual COM port.

But I expect that most users connect to their PCs using the supplied USB cable, and as far as I know, the only MS Windows compatible software for USB connections is Conn4x (the supplied "Connectivity Kit" for the 49g+ and 50g). Conn4x does have a "text" transfer mode. After connecting, in the "File" menu, choose "Binary transfer mode, press for text mode". Or easier, there's a button that by default is labelled "010101" (meaning binary mode); click it to change it to "ABCD" (meaning text mode). Conn4x uses the calculator to decompile objects, but does the character translations itself (on the PC). Note that the translation mode in IOPAR (set by TRANSIO) is ignored; to set the translation options, use "Options..." in the Conn4x "View" menu. The Conn4x "text" translations are almost the same as the Kermit "ASCII" translations; see the help file for any differences. Also note that variable names are, if needed, translated to MS Windows-compatible file names; again, see the help file.

By the way, the version of Conn4x that came on the CD with the calculator may well be buggy. [Version 2.2 Build 2353](#) works for me, but [Version 2.3 Build 2439](#) might be better; I rarely actually use Conn4x.

Note that the 49 series decompiles a NUL (ASCII control code 0) to \00, a literal " (double-quote character within a character string) to \", and \ to \\. With a Kermit ASCII transfer using translation mode 2 or 3, these are translated to \\00, \\", and \\. Conn4x "simplifies" these three translations, but only when they occur within a quote-delimited character string, and in rare cases (as far as I know, some cases of a \ character outside of a quote-delimited character string) this can cause a mistranslation. It may be necessary to edit (in the PC file) \ to \092, but this is needed only where the \ and the 2 or 3 characters immediately following would make a valid translation sequence, and only outside of a quote-delimited character string. Finding any other mistranslations is an exercise for the student.

For that matter, Kermit ASCII translations can go wrong too, if you happen to have a <CR><LF> (CarriageReturn-LineFeed) pair in a character string using translation mode 1, 2, or 3. In this case, in transfers from the calculator, the <CR><LF> pair is left as-is, instead of being translated to <CR><CR><LF>. But on transfers back to the calculator, the <CR><LF> pair is translated to just <LF>, even if it was originally a <CR><LF> pair. Conn4x does avoid this bug.

In the 48 series, a character string that contain a literal " is always decompiled to the "counted string" form. I don't know of any way to get a 49 series to decompile to a counted string form, but it compiles them just fine.

I really prefer to use an MMC or SD card for transfers. I wrote a pair of programs to convert between binary objects and characters strings suitable for Kermit ASCII compatible transfers using a card. These are UserRPL programs (well, they do use a couple of SYSEVAL sequences), so they may take a few seconds to run. On the other hand, commented source code files and a README.TXT file are included, so they should be fairly easy for a user to customize; for example, how to translate <LF> characters, and whether to leave the original commented source code string on the stack when converting to a binary object. As stored on the card, the first line of the file will be an "HHP49-X" binary transfer header, followed by 5 bytes for the character string prologue address and length; it's best to edit this line out with a text editor on the PC. See <http://www.hpcalc.org/search.php?query=ASCII+on+SD>.

For that matter, it should be fairly easy to port my programs to SysRPL in case anyone feels inclined to do so, and using some code invoking the underlying ARM processor, it might be possible to store a file on the card without the binary transfer header.

Regards,  
James

## Re: Transferring data from a HP50 to a PC [Long]

Message #3 Posted by [Bruce Bergman](#) on 25 Sept 2007, 12:28 p.m.,  
in response to message #2 by James M. Prange (Michigan)

James, I just want to once again compliment you on your posts. Every time I see some 48-family message or question come up, I know it's going to be followed by one of the best, most helpful and thorough replies that anyone could expect.

Messages like yours make this website and forum "THE" place to go for help from HP experts.

Great job!

thanks, bruce

*Edited: 25 Sept 2007, 12:29 p.m.*

## Ditto! [NT]

Message #4 Posted by [Giancarlo \(Italy\)](#) on 25 Sept 2007, 12:37 p.m.,  
in response to message #3 by Bruce Bergman

## Thanks!

Message #5 Posted by [James M. Prange \(Michigan\)](#) on 25 Sept 2007, 10:42 p.m.,  
in response to message #4 by Giancarlo (Italy)

Thanks, guys; it's nice to know that some readers appreciate my posts about RPL models.

Regards,  
James

## Re: Thanks!

Message #6 Posted by [Giancarlo \(Italy\)](#) on 26 Sept 2007, 2:29 a.m.,  
in response to message #5 by James M. Prange (Michigan)

Hi James.

Quote:

\_\_\_\_\_  
Thanks, guys  
\_\_\_\_\_

Well, you're welcome, definitely :-)

Quote:

\_\_\_\_\_  
...some readers appreciate my posts...  
\_\_\_\_\_

I'm not sure "appreciate" gets it across ;-)

Just consider I created a "JMP Posts" sub-directory into my "Knowledge Base" dir, where I store all your posts for future reference.

And I do that with other "selected" valuable contributors on this and other forums / newsgroups :-)  
Thanks once again to all of you that share your knowledge in a comprehensible way.  
Warmest regards.  
Giancarlo

**Re: Transferring data from a HP50 to a PC**

*Message #7 Posted by **James M. Prange (Michigan)** on 25 Sept 2007, 10:46 p.m.,  
in response to message #2 by James M. Prange (Michigan)*

PS:

You might also want to have a look at this [other post](#).

Regards,  
James

**Re: Transferring data from a HP50 to a PC [Long]**

*Message #8 Posted by **John Dagis** on 29 Sept 2007, 8:30 p.m.,  
in response to message #2 by James M. Prange (Michigan)*

I've recently bought a HP 50G, and am having problems connecting to an IBM Thinkpad. There is a fault with the install CD in that it refuses to install the usb driver.

I tried the two downloads that you suggested, but it still won't connect. In the connex screen on the laptop, it doesn't show that there is a usb connection like in the user diagram example. A screen comes up saying there is no usb connection. On the HP 50G, it shows Xmodem etc, so it's OK, so I figure I haven't got the usb driver for the laptop.

I've also got a Mac and have no trouble connecting to it. Any suggestions would be greatly appreciated.

John D

**Re: Transferring data from a HP50 to a PC [Long]**

*Message #9 Posted by **Jeff Kearns** on 30 Sept 2007, 4:57 p.m.,  
in response to message #8 by John Dagis*

Hi. I have had the same problem intermittently with my ThinkPad and with my XP Desktop. Sometimes it works, sometimes not. I finally stopped messing with the cable and bought an SD Card Reader. It just makes more sense in the end and there is less fussing about.

**Re: Transferring data from a HP50 to a PC [Long]**

*Message #10 Posted by **Miguel Saiz** on 30 Sept 2007, 5:08 p.m.,  
in response to message #9 by Jeff Kearns*

any way to capture a screen to SD card? I am using a Mac and need to transfer a screen (solver) to show a solution

Miguel

**Screen capture to MMC/SD card**

*Message #11 Posted by **James M. Prange (Michigan)** on 30 Sept 2007, 11:21 p.m.,  
in response to message #10 by Miguel Saiz*

Quote:

---

any way to capture a screen to SD card? I am using a Mac and need to transfer a screen (solver) to show a solution

---

Well yes, on capturing a screen image to the card, but how to display it on your Mac, I don't know.

The screen capture functions in Conn4x and HPCComm rely on the user invoking a PRLCD (PRLCD) command, then capturing the output, and displaying it as an image in another window. HPCConnect seems to lack this feature.

I don't know of any way to redirect the PRLCD command's output to the SD card, and even if there were, your Mac (or an MS Windows PC, for that matter) wouldn't know how to display it as an image, without an application designed to do so.

But you could use the LCD\-> command to capture a screen image to the stack as a grob (graphics object). You probably wouldn't want to key it in from the command line, because then the image would include the command line. Unfortunately, there doesn't seem to be any built-in "keyboard shortcut" for the LCD\-> command, as there is for the PRLCD command. The LCD\-> command is on page 2 of the PRG GROB menu, or of course you could assign it to a user key or a custom or temporary menu.

Anyway, you can store the resulting grob as a binary transferred file on the SD card. But how to display it on your Mac? Good question; hpcalc.org lists various MS Windows applications for converting a grob file to quite a few different image file formats which could be viewed on a PC, but, offhand, I don't see any grob converters for the Mac. Maybe try some searches at hpcalc.org, or ask at the comp.sys.hp48 newsgroup.

Regards,  
James

## **USB connection problems**

*Message #12 Posted by **James M. Prange (Michigan)** on 30 Sept 2007, 9:19 p.m.,  
in response to message #8 by John Dagens*

Quote:

---

I've recently bought a HP 50G, and am having problems connecting to an IBM Thinkpad. There is a fault with the install CD in that it refuses to install the usb driver.

I tried the two downloadqs that you suggested, but it still won't connect. In the connex screen on the laptop, it doesn't show that there is a usb connection like in the user diagram example. A screen comes up saying there is no usb connection. On the HP 50G, it shows Xmodem etc, so it's OK, so I figure I haven't got the usb driver for the laptop.

---

Which operating system? MS Win 98? 98SE? ME? 2000? XP? Vista?

Are other USB devices working correctly when connected to the same port?

Maybe try a different USB cable?

At least with older versions of Conn4x, I sometimes had to fool around with things like unplugging the USB cable and plugging it back in for the calculator to show up. I no longer use Conn4x enough to know whether that's still the case, but it may be worth a try.

How about in Windows' Device Manager? With the calculator turned on and connected via the USB cable, even without being in Xmodem Server mode, Device Manager should show a device named "HPx9G+ DEVICE"; can you find that? The current version is 1.2.

The Conn4x downloads include the USB driver files. In the current version, these are HPx9G.inf, HPx9G2k.sys (for 2000, XP, and Vista), and HPx9G98.sys (for 98, 98SE, and ME). Installing Conn4x normally copies the files to the subdirectory "\Program Files\Hewlett-Packard\Conn4x\USBDriver\". When Windows tries to install the driver, you may have to tell it to look in either this subdirectory or wherever you unzipped the downloaded file to.

There's a chance that you might have to first uninstall any older drivers, for any USB ports where they've been installed. The easiest way that I know of to find them all is to boot to "Safe Mode", where even devices that aren't currently connected are shown, but you could do it by plugging the calculator in to each USB port on the system.

Maybe also try searching for any files in \Windows\ and its subdirectories that contain "HPx9G" in the filename and delete them. Maybe also try cleaning the Windows registry of anything that refers to these files.

Of course, after uninstalling old drivers, deleting old files, and cleaning the registry, try re-installing the current drivers.

Quote:

\_\_\_\_\_  
I've also got a Mac and have no trouble connecting to it. Any suggestions would be greatly appreciated.  
\_\_\_\_\_

Use the Mac.

Other than that, ask on the usenet group comp.sys.hp48.

Regards,  
James

*Edited: 30 Sept 2007, 11:30 p.m.*

## **Re: USB connection problems**

*Message #13 Posted by **John Dagis** on 1 Oct 2007, 6:18 a.m.,  
in response to message #12 by James M. Prange (Michigan)*

Hello James, Thanks for your detailed post regarding device manager etc, the HP 50G is now up and running. The driver was there, but not installed with the other software. This is the only time I've had this happen, so if it happens again. I'll know where to look.

This is an incredibly informative site, and I'm truly thankful for the generosity of the 'posters' here.

John D



**Re: Transferring data from a HP50 to a PC [Long]**

*Message #14 Posted by [Stuart Sprott](#) on 1 Oct 2007, 7:45 a.m.,  
in response to message #2 by James M. Prange (Michigan)*

James thanks for your help. I am now using your programs to convert binary to ascii and the reverse, using a SD card. They work just great and are exactly what I was looking for.

Regards Stuart

---

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## HP Forum Archive 17

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### 35s Polar to rectangular programming

Message #1 Posted by [Craig Ormandy](#) on 23 Sept 2007, 11:29 p.m.

Hi All

I recently misplaced my 48g+ and have just got hold of a 35s so am very new to the programming scene. Apologies if the questions I am asking are rather mundane but being new to this I am still trying to get my head around it.

I am trying to programme the 35s with a surveying missing line programme that I have which utilises the polar to rectangular function. I have managed to find the steps on this but am unsure on a few of the symbols used to input it. The part I am looking at is the following extract:

Quote:

Re: Program format from 33s to 35s Message #11 Posted by Paul Dale on 16 Sept 2007, 5:02 p.m.,  
Report post, in response to message #1 by romeo\_charlie

For a long article on rectangular to polar conversions look at this discussion. By the end, the programs for doing the conversion were pretty good. I've submitted the "best" to the museum for inclusion in the software library. I've also included them here:

```
P001 LBL P
P002 FS? 10
P003 GTO P011
P004* Rv
P005 Rv
P006 eqn REGZ+i*REGT
P007 ARG
P008 LASTx
P009 ABS
P010 RTN
P011* CF 10
P012 XEQ P004
P013 SF 10
P014 RTN
R001 LBL R
R002 FS? 10
R003 GTO R012
R004* Rv
R005 Rv
R006 eqn [REGZ*SIN(REGT),REGZ*COS(REGT)]
R007 [1,0]
R008 x<>y
R009 *
R010 EQN LASTx*[0,1]
R011 RTN
R012* CF 10
R013 XEQ R004
R014 SF 10
R015 RTN
```

Both routines preserve the Z and T registers and return their results in the X and Y registers. They are also independent of the settings on the calculator and honour the current trig mode.

- Pauli

and in particular the asterix symbol (\*) in a number of the lines. Could someone maybe explain to me how this is

inputed and what it means?

Is it a multiply symbol or something else and what does it mean after the likes of R012? Also how is it inputed in the equation part of R006 for example?

From reading through and my very basic knowledge it is steps missed out by the programme if other parts are carrying out by the prior lines? However I could be totally wrong...

Also is there a difference between EQN and eqn (lines R006 and R010)? And does the text after the eqn word need to be typed in as I am sure I read somewhere that it is not needed but am also sure it would be or how is the line executed?

After reading my message my questions do sound rather silly and probably very basic to the majority of you but if someone could help me out I would be most grateful.

Cheers

Craig

## Re: 35s Polar to rectangular programming

Message #2 Posted by **Paul Dale** on 23 Sept 2007, 11:48 p.m.,  
in response to message #1 by Craig Ormandy

Quote:

\_\_\_\_\_

and in particular the asterix symbol (\*) in a number of the lines. Could someone maybe explain to me how this is inputed and what it means?

\_\_\_\_\_

This means that that line is the target of a branch. You don't input it.

Quote:

\_\_\_\_\_

Also how is it inputed in the equation part of R006 for example?

\_\_\_\_\_

In equations it is a multiplication sign. After the line number it is ignored.

Quote:

\_\_\_\_\_

Also is there a difference between EQN and eqn (lines R006 and R010)?

\_\_\_\_\_

Nope, both are algebraic equations.

Quote:

\_\_\_\_\_

And does the text after the eqn word need to be typed in as I am sure I read somewhere that it is not needed but am also sure it would be or how is the line executed?

\_\_\_\_\_

Yes it needs to be typed in. All apart from the "eqn " or "EQN ". These expressions evalulate and the result is pushed onto the RPN stack.

- Pauli

## Re: 35s Polar to rectangular programming

Message #3 Posted by **Jeff O.** on 24 Sept 2007, 7:52 a.m.,  
in response to message #2 by Paul Dale

Quote:

---

Yes it needs to be typed in. All apart from the "eqn " or "EQN ".

---

Just to clarify (in case it is not obvious), it does not have to be typed in letter by letter. If you need LASTx in an equation, just press blue-shift ENTER, if you need the SIN function, just press SIN, etc. The REGT, REGZ etc. functions are entered by pressing the Roll-down key, selecting the stack register you want with the left-right cursor keys, then pressing ENTER.

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## HP Forum Archive 17

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**HHC2007 Transportation**

Message #1 Posted by [Tim Wessman](#) on 23 Sept 2007, 4:50 p.m.

I'm interested if anyone is interested in carpooling between the airport and the hotel for HHC2007 conference. We might be able to save some money by splitting the cost of a taxi or car rental. My wife is coming, so the most you'll have to pay if you split with us is a third of the cost.

We get into the airport at 5:25pm on Friday and our flight leaves at 6:05pm on Sunday. If you can work with those times, let me know.

**Re: HHC2007 Transportation**

Message #2 Posted by [Namir](#) on 23 Sept 2007, 5:42 p.m.,  
in response to message #1 by Tim Wessman

Tim,

The HHC2007 mentions Cloud 9 transportation (collective minivan). I made reservations through their web site.

Namir

**Re: HHC2007 Transportation**

Message #3 Posted by [Tim Wessman](#) on 23 Sept 2007, 5:52 p.m.,  
in response to message #2 by Namir

Yes, I know. However, 3-4 people splitting a car or taxi fare is cheaper than the cargo hauler vans and probably quicker.

A cheap car from hertz is about 100\$ for two days. It would be cheaper for katie and I to do that than to pay the van transport. . . however since I am under 25 (for another 28 days or so) they want to charge another 25+\$ per day since I will obviously destroy it with my unsafe driving.

TW

**Re: HHC2007 Transportation**

Message #4 Posted by [sjthomas](#) on 23 Sept 2007, 8:36 p.m.,  
in response to message #3 by Tim Wessman

Quote:

\_\_\_\_\_

A cheap car from hertz is about 100\$ for two days.

\_\_\_\_\_

\$14/day for an econodeathtrap, and \$17/day for a standard with hertz via priceline.com.

plus taxes, etc

<no affiliation>

**Re: HHC2007 Transportation**

*Message #5 Posted by **Howard Owen** on 24 Sept 2007, 1:20 p.m.,  
in response to message #3 by Tim Wessman*

Quote:

.. I will obviously destroy it with my unsafe driving.

Hmm. I don't recall how you did on the Segway last year. 8)

Regards,  
Howard

**Re: HHC2007 Transportation**

*Message #6 Posted by **Eric Smith** on 23 Sept 2007, 6:20 p.m.,  
in response to message #1 by Tim Wessman*

I get into the airport at 5:00 PM on Friday, and would be delighted to share transportation with someone.

I'm not departing San Diego until Monday afternoon, so I won't be able to share transportation with Tim, but perhaps I can share with someone else.

Eric

**Re: HHC2007 Transportation**

*Message #7 Posted by **Tim Wessman** on 23 Sept 2007, 7:05 p.m.,  
in response to message #6 by Eric Smith*

Well if you would be willing to zip down to the airport and drop us off sunday afternoon. . .

TW

**Re: HHC2007 Transportation**

*Message #8 Posted by **Eric Smith** on 23 Sept 2007, 8:01 p.m.,  
in response to message #7 by Tim Wessman*

Maybe. I was thinking more in terms of sharing a taxi or the like.

Eric

**Re: HHC2007 Transportation**

*Message #9 Posted by **Tim Wessman** on 23 Sept 2007, 8:09 p.m.,  
in response to message #8 by Eric Smith*

That would work too. ~70-80 split 3 ways is better than a van fare.

TW

## **Re: HHC2007 Transportation**

*Message #10 Posted by **Howard Owen** on 24 Sept 2007, 1:17 p.m.,  
in response to message #1 by Tim Wessman*

I'm already renting a car from Friday morning through (very) early Monday morning. I'm willing to pack in anyone who is arriving/departing at about that time. The car is one step up from a compact, unless I get upgraded. I'm also willing to consider a scheduled airport run late Friday and mid-day Sunday. (11:45 AM arrival on Friday and 6:35 AM departure on Monday - which means 5:30 AM arrival at airport.) I'm staying at the Hilton Garden Inn near the conference site.

Mail me through the forum if interested.

Regards,  
Howard

P.S. My driving skills are not well represented by my Segway performance of yesteryear. 8)

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## HP Forum Archive 17

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### **Wanted: HP-97 printer gear**

Message #1 Posted by [Mike Ingle](#) on 22 Sept 2007, 4:10 p.m.

I have a HP-97 with a faulty printer gear. The idler gear between the motor and the printhead carriage is stripped.

There was a blog post in 2000 describing how to cut up an aluminum gear and make a replacement. I contacted the author of that post, who indicated that someone had some custom made gears produced, and may have them available. If anyone has these gears, please let me know. I'd like to buy one.

Thanks, Mike

---

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## HP Forum Archive 17

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### HP80 repair

Message #1 Posted by [Mark W Paris](#) on 22 Sept 2007, 9:28 a.m.

I'm seeking some technical advice on repairing the HP80.

The model I'm working on appears to function correctly in computations. The display, however, is faulty. The LED's in places 5,7,9,10 and the exponent are partially functioning - not all the segments light, some are too bright and/or "spotty."

I've managed to disassemble the unit (without too much damage to the back plate). I've checked for any obvious loose soldered joints or damage. There don't appear to be any.

Any advice on how to proceed? I'm thinking that it's not all that likely that the LED's have been fried. Is this right? Any suggestions on how to further check the connections?

The unit is in nearly perfect condition and I'd like to get the display working again.

Much thanks.

Mark

### Re: HP80 repair

Message #2 Posted by [Jeff O.](#) on 25 Sept 2007, 3:09 p.m.,  
in response to message #1 by [Mark W Paris](#)

I was hoping that one of the real experts might respond to your query, but since that hasn't happened, I'll offer up the tiny bit that I know.

First, did you look over this description of the [HP-35 internals](#)? I'm pretty sure that the display circuitry is identical to the HP-80. The display system consists of three chips that each have 5 8-segment LED digits, the anode driver, the cathode driver and eight inductors. Perhaps a study of this information will allow you to isolate the problem. If I recall correctly, if the same segment is out in every digit across the display, that would indicate a bad anode driver chip. Problems with individual digits might be in the LED chips themselves or the cathode driver chip. (Maybe. I used to know more about this, but forgot most of it and now can't find any information. Sorry.) In any case, if you identify the problem, the only way to fix it will likely be to replace the bad part with one "harvested" from another classic (35, 45, etc.) calculator. I believe that the actual repair work is possible for most people to do, if they are handy with a soldering iron and know the precautions to take when working on electronic components. Finding the parts might be the tricky part. You could watch eBay for cheap and/or non-working units, or post a wanted ad at the MoHPC classified section.

If repairs are beyond your abilities, you might try contacting Randy at [Fix That Calc](#) to get his prognosis. I have never used his services, but many others have and speak highly of his abilities.

Hope this helps, sorry I couldn't offer more. Good Luck!

**Re: HP80 repair**

Message #3 Posted by [Mark W Paris](#) on 26 Sept 2007, 6:59 a.m.,  
in response to message #2 by Jeff O.

Dear Jeff,

Thanks for your reply - esp. the reference to the 35 internal layout. That's good reading on its own right.

My next move, I suppose, is to pop out the 3 individual 5-digit LED banks and test the good one against the others -- I was thinking to check the resistances across various connections with a multimeter to see if I can definitively say that they behave differently. This assumes that the 5-digit segments are the same part, which by their look, they are.

I think if this fails to isolate the problem, I'm going to have a more difficult time figuring out if the problem is with the drivers or inductors since I don't really have much of an idea what those are!

Thanks for the FixThatCalc reference. The last time I posted questions to this Forum asking for help with a (now fully functioning) 41c, Randy pretty much single-handedly helped me through the process. I was hoping that I might hear from him again but maybe he's had enough of holding my hand.

If anyone knows of a resource out there that diagrams the 80's PCB's and names the components, that would be a big help.

Thanks again.

Mark

**Re: HP80 repair**

Message #4 Posted by [Tony Duell](#) on 26 Sept 2007, 1:45 p.m.,  
in response to message #3 by Mark W Paris

Quote:

My next move, I suppose, is to pop out the 3 individual 5-digit LED banks and test the good one against the others -- I was thinking to check the resistances across various connections with a multimeter to see if I can definitively say that they behave differently. This assumes that the 5-digit segments are the same part, which by their look, they are.

Yes, the 3 LED modules are all identical

If your multimeter has a 'diode test' function (most digital meters do), use that. At least on my Fluke, the meter displays the voltage drop across the diode-under-test, which is much more meaningful than a 'resistance'.

IIRC, the individual segments of the displays on an HP classic-series machine are made of several LEDs (but I can't remember if they're in series or parallel). You mention 'spotty' segments, this could mean some of the LEDs in that segment have failed.

In general, a completely blank digit is a problem with the cathode driver chip (or maybe something on the logic board). The same segment missing on all the digits is a problem with anode driver chip or the inductor. Random defective segments are nearly always defective display devices themselves

Note that just about all the parts are custom. The only way you'll get spares is from another HP calculator. I think parts can be taken from any classic-series machine (note the for this purpose, the

HP67 is a Woodstock, not a classic, the circuitry is very different)

Quote:

---

I think if this fails to isolate the problem, I'm going to have a more difficult time figuring out if the problem is with the drivers or inductors since I don't really have much of an idea what those are!

---

The drivers are the 2 chips on the keyboard/display PCB. With the PCB in the normal operating position, the anode driver is the one on the left.

The inductors are 8 coils (look like fat resistors) standing vertically on the bottom (solder) side of that PCB, 4 each side of the battery connector space. Note that the inductor for the decimal point segment is a lower value than the other 7.

Quote:

---

Thanks for the FixThatCalc reference. The last time I posted questions to this Forum asking for help with a (now fully functioning) 41c, Randy pretty much single-handedly helped me through the process. I was hoping that I might hear from him again but maybe he's had enough of holding my hand.

If anyone knows of a resource out there that diagrams the 80's PCB's and names the components, that would be a big help.

---

The HPCC schematics CD-ROM has a schematic for the HP80 (both versions of the processor board). But no PCB layouts, it's assumed you can find the components from the schematic. There are not that many of them, so it's not hard.

If you contact the HPCC secretary (address on the HPCC web site), he might be able to help you.

### **Re: HP80 repair**

*Message #5 Posted by **Tony Duell** on 26 Sept 2007, 1:47 p.m.,  
in response to message #4 by Tony Duell*

One thing I forgot to mention. In some classic-series machines, the inductors are little modules on the solder side of the PCB, not individual components. Each module contains 4 inductors, and has 5 connections. \The 2 modules in a given machine are different, one contains 4 identical inductors, the other contains 3 of the same value and a lower-valued one (for the decimal point).

### **Re: HP80 repair**

*Message #6 Posted by **Mark W Paris** on 27 Sept 2007, 8:41 a.m.,  
in response to message #5 by Tony Duell*

Dear Tony,

Thanks for this - it's going to be very useful when I get a chance to sit down and work on it - hopefully this weekend.

Mark

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## HP Forum Archive 17

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### Contacting PPC Danmak (USER magazine)

Message #1 Posted by [Paul Courbis](#) on 22 Sept 2007, 5:37 a.m.

Hi

I'd like to get a copy of an article I wrote that was translated in PPC Danmark's magazine (USER)...

I'd greatly appreciate if anyone could give me a contact with someone from this club (or if anyone have a copy of the danish version of my article about ML programming for the hp28)

Thx in advance

Best regards

Paul

### Re: Contacting PPC Danmak (USER magazine)

Message #2 Posted by [Johnny Bjoern Rasmussen](#) on 24 Sept 2007, 4:35 a.m.,  
in response to message #1 by [Paul Courbis](#)

Hi Paul. The club has sadly shut down many years ago. But I happen to have a bunch of their USER magazines so if we are lucky I can find it. To make it a little easier for me I would like to know if you remember what year the article was printed.

Best regards

Johnny

### Re: Contacting PPC Danmak (USER magazine)

Message #3 Posted by [Paul Courbis](#) on 24 Sept 2007, 10:31 a.m.,  
in response to message #2 by [Johnny Bjoern Rasmussen](#)

Quote:

Hi Paul. The club has sadly shut down many years ago. But I happen to have a bunch of their USER magazines so if we are lucky I can find it. To make it a little easier for me I would like to know if you remember what year the article was printed.

Best regards

Johnny

First thank you very much !

As far as I remember, the original article was written (in French) in February 1988. It was about ML programming for the 28. The original title was "le tour du HP28 en 80 pages ou presque".

Thx again

Paul

**Re: Contacting PPC Danmak (USER magazine)**

*Message #4 Posted by **Paul Courbis** on 4 Oct 2007, 1:19 p.m.,  
in response to message #3 by Paul Courbis*

Any news ?

Thx

Paul

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## HP Forum Archive 17

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**HHC2007 Draws near**

Message #1 Posted by [Namir](#) on 21 Sept 2007, 3:43 p.m.

Well folks, the much awaited and very special HHC2007 is drawing near. The HHC2007 web site has an update and it looks like 71 attendees have registered. If you can make it and have not registered, then **now** is the time to register.

This conference is going to be rocking!!! Unfortunately, I have to leave Saturday night to catch a red eye flight home so I can attend the wedding of a step-son on Sunday. Still, I am very excited to see old friends and meet new ones (like Joerg Woerner the TI museum webmaster). Joerg will make a presentation from the TI perspective.

See you there!!!

Namir

**Re: HHC2007 Draws near**

Message #2 Posted by [Eric Smith](#) on 21 Sept 2007, 6:44 p.m.,  
in response to message #1 by Namir

Quote:

Unfortunately, I have to leave Saturday night to catch a red eye flight home so I can attend the wedding of a step-son

Are you sure you've got your priorities straight? You can go to a wedding any time, but HHC 2007 only happens once! :-)

**Re: HHC2007 Draws near**

Message #3 Posted by [Namir](#) on 21 Sept 2007, 11:21 p.m.,  
in response to message #2 by Eric Smith

Eric,

It's my step-son, so I must attend :-)

BTW, should I bring the coupon I won from you at HHC2006 (last year)? Will I be able to exchange it with an early production unit?

Namir

**Re: HHC2007 Draws near**

Message #4 Posted by [Eric Smith](#) on 22 Sept 2007, 1:58 a.m.,  
in response to message #3 by Namir

We aren't yet to what I would call "early production", but you certainly can decide whether you want what I show at the conference.

**Re: HHC2007 Draws near**

*Message #5 Posted by [Namir](#) on 22 Sept 2007, 6:34 p.m.,  
in response to message #4 by Eric Smith*

I think I will wait then. I am eager to see what you are showing. In case I change my mind we can discuss things.

Namir

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## HP Forum Archive 17

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### **Any experience connecting HP50G with MacOSX using HPConnect?**

Message #1 Posted by [Miguel Saiz](#) on 21 Sept 2007, 2:33 p.m.

I had downloaded HPConnect (0.91). I had tried to connect to my HP50G but HPConnect does not respond. Do I need to set some flags or run a key combination? (I had set wired transfer flag, and anything happen, no connect still),

Thanks for any help,

Miguel

### **Re: Any experience connecting HP50G with MacOSX using HPConnect?**

Message #2 Posted by [Miguel Toro](#) on 21 Sept 2007, 2:55 p.m.,  
in response to message #1 by Miguel Saiz

Hi Tocayo\*,

The only thing I can tell you is that I followed the instructions as they say and all worked fine. Be sure that flag 33 is not set, then right-shift, release and then right arrow cursor key.

I tested in OS X in and old G3 laptop...sorry, iBook.

\* For others reading this: Tocayo = same fist name as mine. Do not think that his name is "tocayo" :-)

*Edited: 21 Sept 2007, 2:58 p.m.*

### **Re: Any experience connecting HP50G with MacOSX using HPConnect?**

Message #3 Posted by [Miguel Saiz](#) on 22 Sept 2007, 3:09 p.m.,  
in response to message #2 by Miguel Toro

Tocayo,

It worked fine. Thanks a lot!!!

Miguel

### **Re: Any experience connecting HP50G with MacOSX using HPConnect?**

Message #4 Posted by [Miguel Toro](#) on 21 Sept 2007, 3:10 p.m.,  
in response to message #1 by Miguel Saiz

Of course you have to run the application before calling the Xserver in the calculator. When the Xserver is running, press Connect in HPConnect. There is not any autorun here...

Regards,

Miguel

*Edited: 21 Sept 2007, 3:11 p.m.*

**Re: Any experience connecting HP50G with MacOSX using HPConnect?**

*Message #5 Posted by [Miguel Saiz](#) on 21 Sept 2007, 9:04 p.m.,  
in response to message #4 by Miguel Toro*

Thanks (Gracias) 'Tocayo'. I will try tomorrow to see if I have luck now.

Miguel

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## HP Forum Archive 17

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### Solver tutorial for HP50G

Message #1 Posted by [Miguel Saiz](#) on 21 Sept 2007, 9:27 a.m.

I had just received my HP50G. I am impressed with the keyboard (to me, feels better than the HP35S), battery compartment closing, is another story :( I am interested in developing a solution using the solver (determine the safety stock level based on fill rate given), are there a good tutorial of how to use the solver? (the small document, titled user book, it is really that, a small book)

Thanks

Miguel

### Re: Solver tutorial for HP50G

Message #2 Posted by [Hal Bitton in Boise](#) on 21 Sept 2007, 11:33 a.m.,  
in response to message #1 by Miguel Saiz

Hi Miguel Chapter 6 in the user's guide (the CD that came with your 50G) covers the topic. One of the "quick and easy" solve functions I like to use is to put the equation in stack level 1, then key the variable to be solved for into the command line (no need to enter it, but it won't hurt if you do), then, from the S.SLV menu (white shifted 7 key), hit the solve label on the far right. This will yield a numeric or symbolic result, depending on the equation. Note that the variables in your equation don't have to exist as variables in the calculator...in which case the solution will be symbolic. If you do have the variables in your equation as variables in the calculator with values in them, you will get a symbolic solution initially, but hitting the "EVAL" key will evaluate to a numeric answer. One caveat to this...just be sure the variable you're solving for (the one you key into the command line) doesn't exist in the current directory. One more thing...be sure you have the stack display set to textbook (mode key, DISP softkey, Stack: textbook checked), and you can build your equation right on the stack, using RPN keystrokes. Much better, IMHO, than using dreaded algebraic keystrokes in the equation writer. Best regards, Hal

### Re: Solver tutorial for HP50G

Message #3 Posted by [Jeff Kearns](#) on 21 Sept 2007, 11:36 a.m.,  
in response to message #1 by Miguel Saiz

<http://h20331.www2.hp.com/hpsub/cache/383692-0-0-225-121.html>

The above is a link to a series of tutorials for the HP-50G. Start with these. They include some good examples for using the Solver. You should also refer to the Advanced User's Manual and other more helpful documents than the small book you received. You can download some good reference documents from the HP website for the 49G+ and 50G. Also, buy the DVD from this site with all older manuals included.

Good luck!

Jeff Kearns

## **Re: Solver tutorial for HP50G**

*Message #4 Posted by [Miguel Saiz](#) on 21 Sept 2007, 2:29 p.m.,  
in response to message #1 by Miguel Saiz*

Thanks for the info, I will look for those manuals,

Miguel

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## HP Forum Archive 17

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**stack preservation**

Message #1 Posted by [Arne Halvorsen \(Norway\)](#) on 21 Sept 2007, 7:12 a.m.

I am a bit stubborn on having (some) of my programs behave as a built in function related to stack and lastx register.

What I have done so fare is to write a subroutine that saves the stack in the indirect registers (will not use the valuable A-H,K-Z for such stuff).

Then I found this [thread](#) that offers an elegant second option by Valentin Albillo when you can do it all in an equation.

In the great danger of saying something well known; the x<> operation do come to the rescue if one need to resort to storing the stack in indirect registers.

**Stack saving program (challenge?)**

Message #2 Posted by [Arne Halvorsen \(Norway\)](#) on 22 Sept 2007, 8:50 a.m.,  
in response to message #1 by [Arne Halvorsen \(Norway\)](#)

Program that saves stack in indirect regs [here](#).

Decided did not want to use vector packing and given want tailing part of program to be used as standalone stack recall routine have a feeling must use number of steps...

But I could be wrong? :-)

*Edited: 22 Sept 2007, 8:53 a.m.*

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## HP Forum Archive 17

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### 35s/42S mini challenge

Message #1 Posted by [Egan Ford](#) on 20 Sept 2007, 1:22 p.m.

Write in 9 steps or less of *logic* (LBL/RTN not counted) a program that can identify if a positive integer can be represented as  $2^j - 2^k$  where  $j \geq k \geq 0$ . If so return a 0, if not return  $> 0$ . There is no need to identify  $j$  and  $k$ .

NOTE: No EQN to keep it 42S friendly.

### Re: 35s/42S mini challenge

Message #2 Posted by [Paul Dale](#) on 20 Sept 2007, 5:29 p.m.,  
in response to message #1 by Egan Ford

I've got an almost solution in 9 steps, 6 if I'm allowed to keep a constant in a register (enter the code at step 4 in this case):

```
1: 1
2: STO 00
3: X<>Y
4: RCL- 00
5: LASTx
6: OR
7: RCL+ 00
8: LASTx
9: AND
```

This is for the 42s. For the 35s, replace register 00 with A.

[edit: ignore this next paragraph, I erred]

The reason I said almost is that this routine returns zero for inputs of  $(2^n) - 1$  where it should return non-zero. In essence, this code is identifying the presence of a single block of binary 1's in the number rather than a single block of binary 1's with at least one lower order 0 digit.

- Pauli

[edit: clarified the  $2^n - 1$  in the exception]

Edited: 20 Sept 2007, 6:39 p.m. after one or more responses were posted

### Re: 35s/42S mini challenge

Message #3 Posted by [Egan Ford](#) on 20 Sept 2007, 6:27 p.m.,  
in response to message #2 by Paul Dale

Similar to my solution, but mine is exactly the same 9 steps for the 35s, 42S, and the 16C and it returns 0 for  $2^j - 1$  (i.e.  $k=0$ ).

Edited: 20 Sept 2007, 6:30 p.m.

**Re: 35s/42S mini challenge**

Message #4 Posted by **Paul Dale** on 20 Sept 2007, 6:37 p.m.,  
in response to message #3 by Egan Ford

My mistake, the routine should return 0 for the  $(2^n)-1$  case and my code does this. Don't know what I was thinking thinking it should return non-zero here :-)

- Pauli

**Re: 35s/42S mini challenge**

Message #5 Posted by **Paul Dale** on 20 Sept 2007, 6:40 p.m.,  
in response to message #3 by Egan Ford

But I get down to six if I can keep the constant 1 in a register ahead of time.

I'd be surprised if the 16c couldn't do this in less steps or at least in a more interesting way...

- Pauli

**Re: 35s/42S mini challenge**

Message #6 Posted by **Paul Dale** on 20 Sept 2007, 6:47 p.m.,  
in response to message #5 by Paul Dale

Got one for the 16c:

```
1: LJ
2: X<>Y
3: LBL 0
4: SL
5: F? 4
6: GT0 0
```

Shorter and mostly slower :-) Well shorter if I don't get my pre-filled register. Only more instructions executed for cases with more than 2 sequential bits set.

- Pauli

*Edited: 20 Sept 2007, 6:49 p.m.*

**Re: 35s/42S mini challenge**

Message #7 Posted by **Paul Brogger** on 20 Sept 2007, 7:07 p.m.,  
in response to message #1 by Egan Ford

I tried the "divide by two, finite state machine" approach:

```
A001 LBL A
A002 STO A
A003 0
A004 RCL A
A005 IP
A006 2
A007 <divide>
A008 STO A
A009 FP
A010 x=y?
A011 GTO A004
A012 X>0?
A013 GTO A004
```

```
A014 RCL A
A015 RTN
```

(Obviously, I miss the target # of steps.)

It initializes its state (in the Y register) to zero and then starts shifting bits to the right. As long as the bit shifted into the fractional portion is a zero, it continues. When the first non-zero bit is encountered, line A013 leaves it for the new state and continues shifting right. The first zero bit encountered after encountering any non-zero bits causes the test at A012 to fail, and the last value stored is the result.

(It falls into an endless loop with a zero input, but the problem specifically states "a positive integer".)

I suspect there may be a way to trim it down by skipping the storage register (A) and using LASTx carefully, but I don't have the time right now.

*Edited: 20 Sept 2007, 7:27 p.m.*

## Re: 35s/42S mini challenge

Message #8 Posted by [Paul Brogger](#) on 21 Sept 2007, 1:59 p.m.,  
in response to message #7 by Paul Brogger

Here's a stack-only version:

```
S001 LBL S
S002 XEQ S013
S003 XEQ S009
S004 x<>y?
S005 x>0?
S006 GTO S003
S007 LASTx
S008 RTN
S009 LASTx
S010 IP
S011 2
S012 <divide>
S013 FP
S014 RTN
```

Same logic as before. The comparison test trick on lines S004 & 5 could be used to reduce the previous version by 1 instruction.

If I may assume 0 in y, then the following requires only 10 steps of logic:

```
S001 LBL S
S002 GTO S007
S003 LASTx
S004 IP
S005 2
S006 <divide>
S007 FP
S008 x<>y?
S009 x>0?
S010 GTO S003
S011 LASTx
S012 RTN
```

If I further require the user to enter "XEQ S006" to initiate the program, I can get rid of S002 and get down to the target of 9. (I suspect that won't work for the 42s, though.)

*Edited: 21 Sept 2007, 2:04 p.m.*

## Re: 35s/42S mini challenge

Message #9 Posted by [Egan Ford](#) on 21 Sept 2007, 4:08 p.m.,



*in response to message #8 by Paul Brogger*

Quote:

...get down to the target of 9.

That would be impressive; a non-bitwise operator solution in 9 steps.

Thanks.

### **Re: 35s/42S mini challenge**

*Message #10 Posted by **Paul Brogger** on 21 Sept 2007, 5:09 p.m.,  
in response to message #9 by Egan Ford*

Thanks to *you* for the challenge!

And, just to spell it out:

```
S001  LBL S
S002  LASTx
S003  IP
S004  2
S005  <divide>
S006  FP
S007  x<>y?
S008  x>0?
S009  GTO S002
S010  LASTx
S011  RTN
```

Enter 0 in y, the integer in question in x, and then XEQ S006.

*Edited: 21 Sept 2007, 5:10 p.m.*

### **Re: 35s/42S mini challenge**

*Message #11 Posted by **Namir** on 21 Sept 2007, 10:37 a.m.,  
in response to message #1 by Egan Ford*

My contribution wins the longest listing award!!

The theory behind my program is based on finding j and k for  $X = 2^j - 2^k$ :

$$X = 2^j - 2^k$$

$$X + 2^k = 2^j$$

$$\log(X + 2^k) = j \log(2)$$

$$\log(X + 2^k) / \log(2) = j$$

When the calculated value of j has a zero fractional part we find an answer. The program loops for the values of k, starting with 0 ( $2^0 = 1$  as the initial value of  $2^k$ ). If at the end of the loop we find that  $2^k > 2^j$  then we stop the iteration, because it means that  $k > j$  which violates one of the requirements for the solution.

The listing is:

```

A001 LBL A
A002 STO X
A003 1
A004 STO K
A005 RCL X
A006 RCL K
A007 +
A008 LOG
A009 2
A010 STO* K
A011 LOG
A012 /
A013 RND
A014 FP
A015 x=0?
A016 STOP
A017 LASTx
A018 2
A019 y^x
A020 RCL K
A021 x<=y?
A022 GTO A005
A023 RTN

```

I inserted the RND because dividing log values sometimes lead to .9999999999 fractions. Also note that register K stores the value of  $2^k$ .

The above approach (and program) can easily be adapted for integers other than 2.

*Edited: 21 Sept 2007, 12:22 p.m.*

### Re: 35s/42S mini challenge

Message #12 Posted by [Egan Ford](#) on 21 Sept 2007, 4:00 p.m.,  
in response to message #11 by Namir

Quote:

My contribution wins the longest listing award!!

Long, but portable. Thanks for providing a non-bitwise solution. I had hoped for one or two like this.

### Re: 35s/42S mini challenge, my solution and part 2

Message #13 Posted by [Egan Ford](#) on 21 Sept 2007, 3:47 p.m.,  
in response to message #1 by Egan Ford

Thank you all for participating in this mini challenge. I selected this challenge because there was more than one way to do it. The most economical way was to use the bitwise operators in the LOGIC menu of the 35s/42S. (I left a hint to consider using *logic*.)

Paul Dale did come up with a *logical* 9 step solution. Congratulations Paul!

## Part 1 Problem

Write in 9 steps or less of *logic* (LBL/RTN not counted) a program that can identify if a positive integer can be represented as  $2^j - 2^k$  where  $j \geq k \geq 0$ . If so return a 0, if not return  $> 0$ . There is no need to identify  $j$  and  $k$ .

## Part 1 Solution

My solution is similar to Paul's and will work unmodified on the 35s, 42S, 16C, and possibility other models with bitwise operators. I have been unable to get it down to less than 9 steps.

```
ENTER
ENTER
ENTER
1
-
OR
1
+
AND
```

Below is a play-by-play to explain how this works.

Consider the expression  $2^{25}-2^{17} = 33423360$ .

```
225 = 00000010000000000000000000000000 = 33554432
217 = 00000000000000100000000000000000 = 131072
225 - 217 = 00000001111111100000000000000000 = 33423360
```

As Paul pointed out it this problem is about identifying an single contiguous block of 1s.  $2^j - 2^k$  will always be a single block of bits with the range  $2^k$  to  $2^{j-1}$ .

Let  $x = 2^{25}-2^{17}$ ,

First subtract 1 from x then OR it with x. This replaces all right trailing zeros with 1s:

```
      x = 00000001111111100000000000000000 = 33423360
      x - 1 = 00000001111111011111111111111111 = 33423359
(x - 1) | x = 00000001111111111111111111111111 = 33554431
```

Next add 1 to create a  $2^n$  number  $> x$ :

```
((x - 1) | x) + 1 = 00000010000000000000000000000000 = 33554432
```

Lastly AND that number with x to get 0:

```
((x - 1) | x) + 1 = 00000010000000000000000000000000 = 33554432
      x = 00000001111111100000000000000000 = 33423360
(((x - 1) | x) + 1) & x = 00000000000000000000000000000000 = 0
```

Any other number without a single contiguous block of 1s will fail, e.g.:

```
      x = 00000000101111000110000101001110 = 12345678
      x - 1 = 00000000101111000110000101001101 = 12345677
(x - 1) | x = 00000000101111000110000101001111 = 12345679
```

The last operation did replace all the right trailing zeros with 1s (all one of them), but when adding 1 a  $2^n$  number  $> x$  is not obtained:

```
((x - 1) | x) + 1 = 00000000101111000110000101010000 = 12345680
```

ANDing it with x does not yield 0:

```
((x - 1) | x) + 1 = 00000000101111000110000101010000 = 12345680
      x = 00000000101111000110000101001110 = 12345678
(((x - 1) | x) + 1) & x = 00000000101111000110000101000000 = 12345664
```

## Part 2 Problem

In as few steps as possible identify  $2^j$  or  $2^k$ . Obviously if you can identify one you can find the other and then use  $\log_2$  to get j and k. I have a 3 step solution for  $2^k$  that is identical on the 35s/42S/16C.

**Re: 35s/42S mini challenge, my solution and part 2**

Message #14 Posted by [Patrice](#) on 21 Sept 2007, 8:46 p.m.,  
in response to message #13 by Egan Ford

Part One: my Short Solution

Here is my solution for HP16C, don't know for other models.

Thinking this one will be hard to beat :-))

```
LJ           / left justify
X<>Y        / need the result rather than the number of shifts
LAST X      / recall original value (ENTER is OK too)
B#          / ask how many bits set
MASKL       / create a mask on left
XOR         / Xoring gives 0's if bits match and 1's if not
```

**Re: 35s/42S mini challenge, my solution and part 2**

Message #15 Posted by [Egan Ford](#) on 21 Sept 2007, 9:29 p.m.,  
in response to message #14 by Patrice

Paul Dale also create a 6 stepper for the 16C (above). But yours is loopless. Nice.

The 16C is an incredible machine with no clear replacement. It is the most unique calculator I own.

I knew it'd be easy on the 16C, that is why I set the challenge for the 35s/42S.

Can you do part 2?

Thanks.

**Re: 35s/42S mini challenge, my solution and part 2**

Message #16 Posted by [Namir](#) on 23 Sept 2007, 11:05 a.m.,  
in response to message #15 by Egan Ford

Can such short programs be written to manipulate bits if the problem was using powers of 3 or powers of 5?

Namir

**Re: 35s/42S mini challenge, my solution and part 2**

Message #17 Posted by [Egan Ford](#) on 2 Oct 2007, 9:16 p.m.,  
in response to message #16 by Namir

I do not think so.

**Re: 35s/42S mini challenge, my solution and part 2**

Message #18 Posted by [Patrice](#) on 23 Sept 2007, 4:57 p.m.,  
in response to message #15 by Egan Ford

My solution for part2 so far. The 16C does not have the log function

```
#B           =k-j
```

```

LST X
LJ      number of zeros to top
X<>Y
NOT
#B      number of zeros
X<>Y
-       =k
R/S
+       =j

```

## Re: 35s/42S mini challenge, part 2 solution

Message #19 Posted by [Egan Ford](#) on 2 Oct 2007, 9:15 p.m.,  
in response to message #13 by Egan Ford

### Part 2 Problem

In as few steps as possible identify  $2^j$  or  $2^k$ . Obviously if you can identify one you can find the other and then use  $\log_2$  to get  $j$  and  $k$ . I have a 3 step solution for  $2^k$  that is identical on the 35s/42S/16C.

### Part 2 Solution

Here is my 3 step solution for  $2^k$ .

```

ENTER
+/-
AND

```

To find  $2^k$  we just need to isolate the last bit, e.g.:

```

      x = 00000001111111100000000000000000 = 33423360
     -x = 11111110000000010000000000000000 = -33423360
(-x) & x = 00000000000000010000000000000000 = 131072

```

Thanks for playing.

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## HP Forum Archive 17

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### HP-35s tip: Stack review in RPN

Message #1 Posted by [Miguel Toro](#) on 20 Sept 2007, 9:04 a.m.

Hi,

This may be known, but here it is: in RPN, you can review the content of the stack without scrolling the values through the registers in a way similar as in ALG:

- 1 Press left-shift MEM.
- 2 Press Roll down (you will see the menu with the stack registers).
- 3 Reviews the values with the left/right arrow keys or with the the roll-down/roll-up key.

I find that useful when you want to view the values and be sure not to mess with them pressing by mistake any other key or leaving the values in the wrong register.

Regards,

Miguel

*Edited: 20 Sept 2007, 11:45 a.m. after one or more responses were posted*

### Re: HP-35s tip: Stack review in RPN

Message #2 Posted by [Arne Halvorsen \(Norway\)](#) on 20 Sept 2007, 10:23 a.m.,  
in response to message #1 by Miguel Toro

Thx, I did not know, but then I dont have read the manual that detailed yet (guess this was not in it). Helpfull, I have been thinking about how to get programs to behave as built in operation regarding stack and lastx register after operation. This helps checking if program behaves as should regarding the stack (done a lot rdn :-)

### Re: HP-35s tip: Stack review in RPN

Message #3 Posted by [Namir](#) on 20 Sept 2007, 11:53 a.m.,  
in response to message #1 by Miguel Toro

Cool tip!!! Thanks!!!

Namir

### Re: HP-35s tip: Stack review in RPN

Message #4 Posted by [Walter B](#) on 20 Sept 2007, 12:10 p.m.,  
in response to message #1 by Miguel Toro

Thank you! I did not know this so far either.

### Re: HP-35s tip: Stack review in RPN

Message #5 Posted by [Meenzer](#) on 20 Sept 2007, 12:11 p.m.,  
in response to message #1 by Miguel Toro

Veery cool! And it also works in a program, so you don't have to use the EQN environment to get REGX, REGY, REGZ and REGT!!!

### Re: HP-35s tip: Stack review in RPN

Message #6 Posted by [Miguel Toro](#) on 20 Sept 2007, 12:21 p.m.,  
in response to message #5 by Meenzer

I looked throughout the manual and it is not really there. So it seems that it is a true undocumented little feature :-)

Edited: 20 Sept 2007, 12:27 p.m.

### Re: HP-35s tip: Stack review in RPN

Message #7 Posted by [Gene Wright](#) on 20 Sept 2007, 12:23 p.m.,  
in response to message #5 by Meenzer

Actually, it will work if you go to ANY menu and then press RDN.

Useful to insert a single REGX, Y, Z or T instruction for a RCL stack register step.

### Re: HP-35s tip: Stack review in RPN

Message #8 Posted by [Stefan Vorkoetter](#) on 20 Sept 2007, 1:38 p.m.,  
in response to message #7 by Gene Wright

I don't have my 35s here at the moment, but I wonder if a REGZ instruction (for example) inserted this way has the same checksum as one inserted using EQN?

Actually, I wonder if this is the cause of some of the checksum differences we've been seeing, namely that some instructions can be entered either using EQN or directly (for example, numbers).

Stefan

### Re: HP-35s tip: Stack review in RPN

Message #9 Posted by [Miguel Toro](#) on 20 Sept 2007, 2:17 p.m.,  
in response to message #8 by Stefan Vorkoetter

Example:

-With menu:

```
H001 LBL H
H002 REGY
H003 RTN
```

```
CHK= D045
LN= 9
```

-With EQN:

```
H001 LBL H
H002 eqn REGY
H003 RTN
```

```
CHK= 8133
LN= 13
```

So, at least using the menu method, the program is shorter.

*Edited: 20 Sept 2007, 2:19 p.m.*

### **Re: HP-35s tip: Stack review in RPN**

*Message #10 Posted by [Gene Wright](#) on 20 Sept 2007, 2:30 p.m.,  
in response to message #9 by Miguel Toro*

I believe the 4 byte difference is that equations use 3 bytes plus 1 for each character (REGY).

So the REGY in program 1 takes 3 bytes and the REGY in program 2 takes 3 + 4 or 7 bytes.

### **Re: HP-35s tip: Stack review in RPN**

*Message #11 Posted by [Bruce Bergman](#) on 21 Sept 2007, 12:24 a.m.,  
in response to message #1 by Miguel Toro*

Wow, good find Miguel!

I notice a couple other interesting behaviors. Caveat: these could already be documented, but I just haven't read the whole manual yet.

While in MEM mode, with VAR highlighted, press ENTER. You can now scroll through the basic statistics register values.

While in MEM mode, with PRGM highlighted, press ENTER. You can now scroll through all program labels to see their LN= values.

Also, I notice that using your RDN trick, I don't need to use the arrow keys at all to cycle through the stack; I just keep pressing RDN and it goes through them in sequence. I think that's what you meant in your last comment, though...

Coolness! ;-)

thanks, bruce

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## HP Forum Archive 17

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### Graphing Calculator Error (interesting)

Message #1 Posted by **Chuck** on 19 Sept 2007, 4:47 p.m.

Today I had my students find an algebraic expression for

$$\cos[2 \operatorname{asin}(x/2)]$$

It turns out to be

$$1 - (x^2)/2$$

an upside-down parabola with domain  $[-2,2]$  because of the  $\operatorname{asin}(x/2)$  and range  $[-1,1]$  from the cosine.

Graphing the original expression on the TI-83, TI-84, and the HP50g, produced what was expected. However, the TI-89 produced the **entire** parabola!!! Whoops. My guess is the 89 did a little internal simplification, or the CORDIC method employed is different than the other calculators. It would be interesting to see what other calculators give....

Interesting-- Mathematica 6.0 gives the entire parabola as well. Guess I'll need to investigate a little more.

[--addendum--]

I think I know why:  $\operatorname{asin}[x]$  where  $|x| > 1$  gives a complex result. Therefore, allowing a complex domain (TI89 and Mathematica) for  $\cos[x]$  gives a range beyond  $[-1,1]$ . I'm sure I new that at one time, but my complex analysis class was over 20 years ago. Interesting.

CHUCK

*Edited: 19 Sept 2007, 5:02 p.m.*

### Re: Graphing Calculator Error (interesting)

Message #2 Posted by **Chuck** on 19 Sept 2007, 5:23 p.m.,  
in response to message #1 by Chuck

I was correct. I pulled out my complex analysis book (1987 Marsden) and rediscovered the complex definition for sine and cosine (they look similar to the defs for cosh and sinh).

On a similar note: solve the equation

$$\sqrt{1-x} = \sqrt{3-2x}$$

The REAL solution is  $x=2$ . However, the graphs do not REALly intereseect (though in the complex world they do, at  $0+i$ ). A conundrum.

### Re: Graphing Calculator Error (interesting)

Message #3 Posted by **Jandro Kirkish** on 19 Sept 2007, 7:45 p.m.,

*in response to message #2 by Chuck*

Maple 11 also gives the entire parabola.

### **Re: Graphing Calculator Error (interesting)**

*Message #4 Posted by [Meenzer](#) on 20 Sept 2007, 1:23 a.m.,  
in response to message #1 by Chuck*

The Casio fx-7400G+ and the HP 48G draw from -2 to 2. GeoGebra and Graph as well.

*Edited: 20 Sept 2007, 1:32 a.m.*

### **Re: Graphing Calculator Error (interesting)**

*Message #5 Posted by [sjthomas](#) on 20 Sept 2007, 2:34 a.m.,  
in response to message #1 by Chuck*

Both the TI-*nspire* CAS and the Casio fx-9860G *Slim* graph the parabola segment from  $x = -2$  to  $x = 2$ .

### **Re: Graphing Calculator Error (interesting)**

*Message #6 Posted by [Chuck](#) on 20 Sept 2007, 1:14 p.m.,  
in response to message #5 by [sjthomas](#)*

Hmm, I would have expected the *nspire* to give the entire parabola. Interesting what these different devices and programs give.

For those interested, I graphed the entire arcsine function using an  $x$ - $y$ - $i$  coordinate system with the standard  $x$ - $y$  axes and the imaginary pointing straight out. The result was the standard arcsine on the vertical  $x$ - $y$  plane of  $x: [-1, 1]$  and then the complex part on a plane  $\pi/2$  high traveling in the imaginary directions. Here's a link to what I got Mathematica to do.

[complex arcsine](#)

Now I need to write a program for the HP-35s to give these complex results instead of the "Invalid Data" error.

CHUCK

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## HP Forum Archive 17

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### Got the 35s

Message #1 Posted by [Arne Halvorsen \(Norway\)](#) on 19 Sept 2007, 2:27 p.m.

Okey, 2 weeks from Spain to Norway, that what was expected, but one week from Oslo to Bergen! Had to be handled by custom, but still...

Anyway, was sure not to write a first impression thread since all been said, but here goes...

1. Build to me look quality except the display: Key response feels just as good as on my old hp-41cv but when I was to dust away some small particle a lot of black shadows happened on screen: The tiny plastic plate easily bounc down on lcd area to create this effect. No finger pointing to the answer on this babe!

2. LOVE the holster!!! Reason: I am addicted to the small moleskin notebooks. I typical hold them steady with one hand and write the other. Having the 35s in its home I can work it the same way; its an open book! It was first after working with it for ten mins I realized I was using it just like my noteboks... It will stay there I think.

Beside the screen thing it seems I have a new friend, still getting my 41 fixed though :- ) (Randy, if u read, sending 41 gets a bit delayed... :-)

Hey, I bet this is the first 35s in Norway! Serial: 72800529

### Re: Got the 35s

Message #2 Posted by [Jim Creybohm](#) on 19 Sept 2007, 3:30 p.m.,  
in response to message #1 by [Arne Halvorsen \(Norway\)](#)

Glad you are happy Arne, after your long wait! I find myself enjoying it more and more, with the exception of the labelling of any programs I have written, and the somewhat asinine manner of entering text into the calc.

Otherwise welcome back, HP! So, what are ya gonna do for an encore?

### Re: Got the 35s

Message #3 Posted by [Chuck](#) on 19 Sept 2007, 4:31 p.m.,  
in response to message #1 by [Arne Halvorsen \(Norway\)](#)

Arne. Both of my calculators had nasty black LCD box smudges when I touched the screen, BUT ONLY ONCE. I purposely smudged my second one back and forth to fill it black. After it faded, all is perfect. I can touch, point, and push on the screen now and nothing happens. I'm not sure why it happens once, but it does.

### Re: Got the 35s

Message #4 Posted by [Arne Halvorsen \(Norway\)](#) on 19 Sept 2007, 5:59 p.m.,  
in response to message #3 by [Chuck](#)

Darn interseting!

And thank you! I did go all over display, and now its gone!

*Edited: 19 Sept 2007, 6:15 p.m.*

### **Re: Got the 35s**

*Message #5 Posted by [Jim Creybohm](#) on 19 Sept 2007, 6:12 p.m.,  
in response to message #3 by Chuck*

Its funny you mention that Chuck. I thought that this had happened when I got mine. It hasn't happened since, so I though maybe it was my imagination.

### **My HP calc blog.**

*Message #6 Posted by [Arne Halvorsen \(Norway\)](#) on 21 Sept 2007, 4:30 a.m.,  
in response to message #1 by Arne Halvorsen (Norway)*

Since I now actual have the possibility to do some good old rpn programming I have started a hp calc [blog](#). Forum is great for communication but a blog is a nice device for organizing resources.

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## HP Forum Archive 17

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**50g Serials?**

Message #1 Posted by [Mark W](#) on 18 Sept 2007, 11:25 p.m.

Is there a decoder for 50g serials?

I tried searching, but must have a bad parameter.

**Re: 50g Serials?**

Message #2 Posted by [Jeff O.](#) on 19 Sept 2007, 7:40 a.m.,  
in response to message #1 by Mark W

By decoder, do you mean determining country and date of manufacture? If so, for example:

CNA62101234

CNA - manufactured in China, presumably in factory A

6 - 2006

21 - week no. 21

01234 - unit sequence number

**Re: 50g Serials?**

Message #3 Posted by [Mark W](#) on 19 Sept 2007, 5:46 p.m.,  
in response to message #2 by Jeff O.

Yes, thanks!

What are indicators of early/late models? Have any lots been identified by number?

**Re: 50g Serials?**

Message #4 Posted by [Jeff O.](#) on 20 Sept 2007, 7:44 a.m.,  
in response to message #3 by Mark W

Quote:

What are indicators of early/late models?

I'm not sure what the earliest serial number is. If I recall correctly, I got mine pretty early (I think before the 50g was even officially acknowledged to exist by HP), and my serial number is CNA618, so manufactured in 2006, week 18. So early modes would be CNA618 or slightly earlier. Late models would be CNA7-something. There is speculation that the first digit of the last five (i.e. the sequence number after the week number) is always zero, which means that there are at most 9999 units with any

given year+week code.

Quote:

Have any lots been identified by number?

I am not sure what type of information you are after with this question. I know of no lots that have been identified as having any particular flaws or other unique characteristics. However, I am not an expert on the 50g. The [comp.sys.hp48](#) newsgroup is the place to go for information on the 48/49/50 calculators. All posters there seem to be pretty much experts.

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## HP Forum Archive 17

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**HP 35s Standard Deviation**

Message #1 Posted by [John B. Smitherman](#) on 18 Sept 2007, 10:49 p.m.

I wonder if someone would mind checking the standard deviation calculation on a 35s to see if HP has fixed the algorithm. Enter 1,000,000 , 1,000,001 and 1,000,002 and find the sample standard deviation. The correct answer should be 1 but as has been discussed before the 33s provided an error message.

Thanks,

John

**Re: HP 35s Standard Deviation**

Message #2 Posted by [bt\\_schmidt](#) on 18 Sept 2007, 10:58 p.m.,  
in response to message #1 by John B. Smitherman

If I'm doing it right, I get: STAT ERROR

...bt

**Re: HP 35s Standard Deviation**

Message #3 Posted by [John B. Smitherman](#) on 18 Sept 2007, 11:43 p.m.,  
in response to message #2 by [bt\\_schmidt](#)

Thanks bt. From my testing it looks like this is done correctly in the 49G+/50G and 17bii+. As discussed previously this problem only shows up when trying to calculate small differences between large numbers.

Regards,

John

**Re: HP 35s Standard Deviation**

Message #4 Posted by [designnut](#) on 19 Sept 2007, 12:30 a.m.,  
in response to message #3 by John B. Smitherman

I read in some Hp instructions to subtract the large value before doing statistics. It involves the square of the input and clearly the calculator does not have that accuracy. Sam

**Re: HP 35s Standard Deviation**

Message #5 Posted by [Walter B](#) on 19 Sept 2007, 1:37 a.m.,  
in response to message #3 by John B. Smitherman

Please see [this previous thread](#). Besides this, there may be more in earlier discussions.

HTH

**Re: HP 35s Standard Deviation**

Message #6 Posted by [Hal Bitton in Boise](#) on 19 Sept 2007, 1:43 p.m.,  
in response to message #1 by John B. Smitherman

48GX gets it right (returns 1) as well. Regards, Hal

**Re: HP 35s Standard Deviation**

Message #7 Posted by [Thomas Radtke](#) on 19 Sept 2007, 1:54 p.m.,  
in response to message #6 by Hal Bitton in Boise

The 19B does it right, too. Maybe because these models do the statistics based on a list?

**Re: HP 35s Standard Deviation**

Message #8 Posted by [bill platt](#) on 19 Sept 2007, 3:03 p.m.,  
in response to message #1 by John B. Smitherman

This is beyond the range of the machine. It doesn't work on a 32sii nor on a 15c either. It is not a flaw.

**Re: HP 35s Standard Deviation**

Message #9 Posted by [Karl Schneider](#) on 21 Sept 2007, 2:40 a.m.,  
in response to message #8 by bill platt

John Smitherman posted,

Quote:

Enter 1,000,000 , 1,000,001 and 1,000,002 and find the sample standard deviation. The correct answer should be 1 but as has been discussed before the 33s provided an error message.

Bill Platt replied,

Quote:

This is beyond the range of the machine. It doesn't work on a 32sii nor on a 15c either. It is not a flaw.

Bill is right; the "STAT ERROR" or "Error 2" message is attributable to roundoff errors in the statistical summation. What's ironic is that the failure to produce a result was made possible by *extended-precision calculation*, albeit using standard-precision inputs.

Here are the tabulations:

| Xi        | (Xi)^2 (exact)    | (Xi)^2 (result retaining 10 or 12 significant digits) |
|-----------|-------------------|---|
| 1,000,000 | 1,000,000,000,000 | 1,000,000,000,000                                     |
| 1,000,001 | 1,000,002,000,001 | 1,000,002,000,000                                     |
| 1,000,002 | 1,000,004,000,004 | 1,000,004,000,000                                     |

Summations:



S(X)            S(X^2) (exact)        S(X^2) (using 10 or 12-digit results)  
 3,000,003    3,000,006,000,005    3,000,006,000,000

([S(X)]^2) (exact result obtained using 13- or 15-digit extended precision)  
 9,000,018,000,009

([S(X)]^2)/3 (exact result obtained using 13- or 15-digit extended precision)  
 3,000,006,000,003

The exact calculation

$\sqrt{([S(X^2)] - ([S(X)]^2)/n) / [n-1]}$  of sample standard deviation is

$\sqrt{[(3,000,006,000,005 - 3,000,006,000,003) / (3-1)]} = 1$

The "erroneous" calculation is based on 13- or 15-digit internal computation that utilizes the S(X^2) summations that were rounded off after each datum entry:

$\sqrt{[(3,000,006,000,000 - 3,000,006,000,003) / (3-1)]} = \text{ERROR}$

(The HP-15C's extended-precision calculations for statistical summations are utilized within an example in the HP-15C Advanced Functions Handbook listed on pages 208-211.)

If extended precision had not been employed for the problem discussed here, both terms would have been rounded to 3,000,006,000,000 -- yielding the incorrect result of zero, instead of an error.

-- KS

*Edited: 26 Sept 2007, 2:09 a.m. after one or more responses were posted*

## Re: HP 35s Standard Deviation

Message #10 Posted by **Palmer O. Hanson, Jr.** on 22 Sept 2007, 8:38 p.m.,  
 in response to message #9 by Karl Schneider

You wrote:

"Use of extended-precision calculations for standard deviation is described in the HP-15C Advanced Functions Handbook on page 208."

Page 208 of my August 1982 copy only says "Program B exploits a tricky property of the Sum- and Sum+ keys whereby certain calculations can be carried out to 13 significant digits before being rounded back to 10."

Is there a later revision which gives specific details for the calculation of standard deviation?

## "Tricky" properties for HP-15C Standard Deviation

Message #11 Posted by **Karl Schneider** on 23 Sept 2007, 12:47 a.m.,  
 in response to message #10 by Palmer O. Hanson, Jr.

Hi, Palmer --

No, my version of the HP-15C AFH gives no further details. I realized after posting that "described" was not a very good term, but didn't edit before you responded. I have edited the post now.

I was also well aware that these methods were the basis of your "Cadillac Quadratic Solver for the hp 33s" article from last year:

<http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/articles.cgi?read=593>

-- KS

### Re: "Tricky" properties for HP-15C Standard Deviation

Message #12 Posted by [Palmer O. Hanson, Jr.](#) on 23 Sept 2007, 9:31 p.m.,  
in response to message #11 by [Karl Schneider](#)

Quote:

\_\_\_\_\_  
No, my version of the HP-15C AFH gives no further details.  
\_\_\_\_\_

I am sorry about that. I was hoping for something more definitive on the "tricky properties" than what I had been able to figure out by trial and error.

Many years ago TI was very close-mouthed about the implementation of the statistics routines in the TI-59 until the user community figured out how to download the instruction set. Then they published a discussion of the routines. The routines did include an HIR 20 command which was some sort of branching command which could not be made to work in user memory -- or at least, no one ever figured out how to do it. The TI discussion included mention of the HIR 20 command, but their explanation was about as informative as a Milton Friedman dissertation on the state of the economy.

### Re: "Tricky" properties for HP-15C Standard Deviation

Message #13 Posted by [Karl Schneider](#) on 26 Sept 2007, 2:43 a.m.,  
in response to message #12 by [Palmer O. Hanson, Jr.](#)

Quote:

\_\_\_\_\_  
I was hoping for something more definitive on the "tricky properties" than what I had been able to figure out by trial and error.  
\_\_\_\_\_

Without *scrutinizing* the program on the HP-15C AFH, pp. 208-211, I do notice a few things:

Only Sigma- is used; each time it is, the contents of register R7 (which contain the XY summation) are recalled.

The quadratic equation is defined on page 205 as  $c - 2bz + az^2$ , making the discriminant  $d = b^2 - ac$

The basic purpose appears to be the calculation of "b<sup>2</sup>-ac" and similar terms to 13-digit extended precision before being rounded back down to 10 digits. This procedure increases accuracy when the terms in the subtraction are nearly equal.

It's kind of related to the [residual matrix calculation \(B - AC\)](#).

-- KS

*Edited: 4 Oct 2007, 2:33 p.m.*

### **Re: HP 35s Standard Deviation**

*Message #14 Posted by **John B. Smitherman** on 23 Sept 2007, 3:51 p.m.,  
in response to message #9 by Karl Schneider*

Thanks Karl. As usual your post was very thorough and insightful. Perfect benchmarks are not easy to find. I believe that users want HP and other calculators manufacturers to provide accurate and robust algorithms that make the best use of the hardware selected. It's interesting how tests keep showing up from various users that highlight where some machines fall short of our expectations, especially near or around the limits of the machine.

Regards,

John

### **Re: HP 35s Standard Deviation**

*Message #15 Posted by **Bill (Smithville, NJ)** on 19 Sept 2007, 3:21 p.m.,  
in response to message #1 by John B. Smitherman*

Hi John,

I don't have a 35S, so can't directly comment on it, but the following is a quote from page 237 of the HP-42S manual that addresses this:

#### **Limitations on Data Values**

The calculator might be unable to perform some statistical calculations if your data values differ by a relatively small amount. To avoid this, you should normalize your data by entering values as the difference from one value (such as the mean). This difference must then be added back to any calculations of the mean. For example, if your x-values were 776999, 777000, and 777001, you should enter the data as -1, 0, and 1; then add 777000 back to the relevant results.

Does the HP-35S manual include any paragraph such as this?

Bill

*Edited: 19 Sept 2007, 3:22 p.m.*

### **Re: HP 35s Standard Deviation**

*Message #16 Posted by **Gene Wright** on 19 Sept 2007, 3:37 p.m.,  
in response to message #15 by Bill (Smithville, NJ)*

Yes, on page 12-10.

Gene

### **Re: HP 35s Standard Deviation**

*Message #17 Posted by **Antonio Maschio (Italy)** on 19 Sept 2007, 4:04 p.m.,  
in response to message #15 by Bill (Smithville, NJ)*

The same on the HP-15C manual.

-- Antonio

### Re: HP 35s Standard Deviation

Message #18 Posted by [Namir](#) on 19 Sept 2007, 3:47 p.m.,  
in response to message #1 by John B. Smitherman

Most calculators will fail this kind of calculations, unless you shift the values into a more appropriate range.

Namir

### Re: HP 35s Standard Deviation

Message #19 Posted by [John B. Smitherman](#) on 20 Sept 2007, 7:53 a.m.,  
in response to message #18 by Namir

Most will fail but not all. My HP 30s with s/n CN0351 yields the correct answer.

Regards,

John

### Re: HP 35s Standard Deviation

Message #20 Posted by [Palmer O. Hanson, Jr.](#) on 22 Sept 2007, 8:44 p.m.,  
in response to message #19 by John B. Smitherman

Quote:

Most will fail but not all. My HP 30s with s/n CN0351 yields the correct answer.

Actually, it is many HP calculators which will fail because they carry only ten digits. Calculators from other companies such as the Casio fx-7000G, the TI-59, TI-66, TI-68, TI-95 and Durabrand 828 which carry 13 digits will not fail this particular test. They will, of course, fail tests which require more than threen digits.

I wonder, was this test proposed by a TI Guy?

### Re: HP 35s Standard Deviation

Message #21 Posted by [John B. Smitherman](#) on 23 Sept 2007, 3:35 p.m.,  
in response to message #20 by Palmer O. Hanson, Jr.

Thanks Palmer. Through brute force I found that most fail testing 10,000,000 , 10,000,001 and 10,000,002 while the HP 50G and 17Bii+ fail at 1,000,000,000,000 , 1,000,000,000,001 and 1,000,000,000,002.

Regards,

John

### 17Bii+ SDEV test

Message #22 Posted by **Karl Schneider** on 24 Sept 2007, 2:48 p.m.,  
in response to message #21 by John B. Smitherman

Quote:

... while the HP 50G and 17Bii+ fail (to calculate sample standard deviation of the data) 1,000,000,000,000 , 1,000,000,000,001 and 1,000,000,000,002.

Hi again, John --

The last two of these data require 13 digits, which cannot be represented as non-integer values on these calculators. The calculation will fail even if summation methods are not used. Does this mean that the HP-17Bii+ *accepts* excess digits, as the RPL-based models have done, and now the HP-35s does?

If so, more ammunition for my case...

-- KS

### Re: 17Bii+ SDEV test

Message #23 Posted by **John B. Smitherman** on 24 Sept 2007, 3:41 p.m.,  
in response to message #22 by Karl Schneider

Hi Karl. In your note you asked:

Quote:

Does this mean that the HP-17Bii+ *accepts* excess digits, as the RPL-based models have done, and now the HP-35s does?

If so, more ammunition for my case...

To further support your case when I enter 1,000,000,000,002 the 49G+ and 17bii+ display 1E12. I then subtract 2 and they both display 999,999,999,998. So, the excess digits are being dropped.

Regards,

John

### Re: HP 35s Standard Deviation

Message #24 Posted by **Palmer O. Hanson, Jr.** on 25 Sept 2007, 12:09 a.m.,  
in response to message #21 by John B. Smitherman

Quote:

the HP 50G and 17Bii+ fail at 1,000,000,000,000 , 1,000,000,000,001 and 1,000,000,000,002.

My TI-83+ yields the correct results for that but fails at 1E13, 1E13 + 1 and 1E-13 + 2 . I am

fairly sure that it does not calculate SDEV using the summations but rather uses the sum of the squares of the differences from the mean.

My TI-86 yields the correct results for  $1E13$ ,  $1E13 + 1$  and  $1E13 + 2$  but fails at  $1E14$ ,  $1E14 + 1$  and  $1E14 + 2$ .

*Edited: 25 Sept 2007, 12:50 a.m.*

### **Re: HP 35s Standard Deviation**

*Message #25 Posted by [Bruce Bergman](#) on 19 Sept 2007, 4:04 p.m.,  
in response to message #1 by John B. Smitherman*

Free42 correctly calculates it. ;-)

Also, the 17bii and HP-50g calculate it correctly.

thanks, bruce

*Edited: 19 Sept 2007, 4:09 p.m.*

### **Re: HP 35s Standard Deviation**

*Message #26 Posted by [Norris](#) on 19 Sept 2007, 6:43 p.m.,  
in response to message #25 by Bruce Bergman*

Like many HP calculator issues, the different methods used to determine standard deviation have been discussed here before. This long [thread](#) started out as a discussion of the 33S polar conversion bug, but digressed into a discussion of standard deviation.

### **Re: HP 35s Standard Deviation**

*Message #27 Posted by [Palmer O. Hanson, Jr.](#) on 20 Sept 2007, 2:51 a.m.,  
in response to message #26 by Norris*

The HP-41 yields the message "OUT OF RANGE" for the given problem.

Page 101 of the HP-41C Owner's Handbook and Programming Guide includes the statement

"Note: If your data  $\{x_i\}$  or  $\{y_i\}$  contains many redundant leading digits, you should refrain from copying them into the calculator. For example, if your x-data is  $\{999999999, 1000000001, 1000000002\}$ , you should enter the x-data as  $\{-1, 1, 2\}$  and add the redundant digits to any x-related answer produced."

### **Re: HP 35s Standard Deviation**

*Message #28 Posted by [Martin Pinckney](#) on 21 Sept 2007, 10:50 a.m.,  
in response to message #1 by John B. Smitherman*

This exercise gave me new respect for my 38G, which gave the correct result.

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## HP Forum Archive 17

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### Hp-35s pricing \$59.99 -> \$79.19

Message #1 Posted by [Jerry Hancock](#) on 18 Sept 2007, 8:32 p.m.

It looks like HP raised the price on the 35s. I ordered one yesterday and the price was \$59.99. Today the price is listed as \$79.19. I think the calc is a good deal at \$59.99 but I would have passed at the new price. I hope they don't consider it a pricing error and try to get the \$20 from me. I arrives tomorrow, I hope I don't have to send it back!

Jerry

### Re: Hp-35s pricing \$59.99 -> \$79.19

Message #2 Posted by [Peter Niessen](#) on 18 Sept 2007, 8:55 p.m.,  
in response to message #1 by Jerry Hancock

Hm.

[HP Store](#)

says 59.99.

### Re: Hp-35s pricing \$59.99 -> \$79.19

Message #3 Posted by [Jerry Hancock](#) on 18 Sept 2007, 9:03 p.m.,  
in response to message #2 by Peter Niessen

well, if you go here:

<http://h10010.www1.hp.com/wwpc/us/en/sm/WF05a/215348-215348-64232-20037-215351-3442983.html>

and press the BUY ONLINE button, it adds it to the cart at 79.19. I could have sworn the price was listed on the same page yesterday at 59.99. All I did was a refresh and the new price showed up.

I guess HPshopping is different than the BUY ONLINE option??? Why would they do that? (and spy on the board)

Jerry

### Re: Hp-35s pricing \$59.99 -> \$79.19

Message #4 Posted by [Peter Niessen](#) on 18 Sept 2007, 10:21 p.m.,  
in response to message #3 by Jerry Hancock

Ah,

you're paying the small&medium business surcharge! If you go to [www.hp.com](http://www.hp.com), then go to home & home office, you'll find it still for 59.99. I tried also the large enterprise and hoped to find it for 367.87 (including the 3 year warranty on-site service plan), but they don't offer it there.

But hey, when you buy the 79\$ version from small & medium business, look what you get (click on shop online):

Product Details HP LP3065 Flat Panel Monitor with 30 inch screen, TFT, 300 nits brightness, 1000:1 contrast ratio, 0.25 mm pixel pitch, 2600 x 1600 resolution at 60 Hz refresh rate, Carbonite

Ain't that cool?

This reminds me of this joke from the early days of Russia after the Soviet union: Two biznismeni meet. "Wow, nice car, how much did you pay?" - "500 000 Rubles at Dmitri's." - "You Idiot! At Fjodor's you could have gotten it for 800 000!"

Cheers, Peter.

*Edited: 18 Sept 2007, 10:22 p.m.*

**Re: Hp-35s pricing \$59.99 -> \$79.19**

*Message #5 Posted by [Namir](#) on 18 Sept 2007, 9:50 p.m.,  
in response to message #2 by Peter Niessen*

Price looks like it went up!!!!

**Re: Hp-35s pricing \$59.99 -> \$79.19**

*Message #6 Posted by [Arne Halvorsen \(Norway\)](#) on 19 Sept 2007, 4:25 a.m.,  
in response to message #5 by Namir*

Well, still 60 at samsons and propably others, perhaps hurry to order if anyone that dont have and still want the bug packed thing ;-)

**Re: Hp-35s pricing \$59.99 -> \$79.19**

*Message #7 Posted by [Peter Niessen](#) on 25 Sept 2007, 9:24 p.m.,  
in response to message #6 by Arne Halvorsen (Norway)*

Apparently they fixed the pricing in the small&medium business section. It's down to 59.99 USD, but you lose the flat panel which was bundled with it :-)

Cheers, Peter.

**Re: Hp-35s pricing \$59.99 -> \$79.19**

*Message #8 Posted by [Charles Oxford](#) on 22 Sept 2007, 10:46 a.m.,  
in response to message #2 by Peter Niessen*

I went here after reading the postings and decided to order a 35S and 12C Aniv which was discounted \$12. Shipping was free and the calcs were on my porch yesterday (Friday) afternoon. They shipped to Phoenix from Memphis.

I think the case with the 12C is a bad joke. I thought the DVD would include more than one video and maybe even some text materials.

I have been looking for the posts about serial numbers and bug lists but no luck.

sn cna72103289



---

**Re: Hp-35s pricing \$59.99 -> \$79.19**

Message #9 Posted by [Jeff O.](#) on 22 Sept 2007, 1:48 p.m.,  
in response to message #8 by Charles Oxford

Quote:

\_\_\_\_\_

I have been looking for the posts about serial numbers and bug lists but no luck.

\_\_\_\_\_

The "bug list" for the 35s is being maintained as an article [here](#). It is a list of bugs as well as desired functional changes. Regarding serial numbers, [this thread](#) presents a lot of them. As far as I know, all serial numbers have all of the bugs, if that is what you are looking for. Your serial number fits right in with the early units. In fact, it is lower than mine, and I ordered from HP on the first day you could.

---

**Re: Hp-35s pricing \$59.99 -> \$79.19**

Message #10 Posted by [sylvandb](#) on 22 Sept 2007, 11:42 p.m.,  
in response to message #8 by Charles Oxford

Quote:

\_\_\_\_\_

I went here after reading the postings and decided to order a 35S and 12C Aniv which was discounted \$12.

\_\_\_\_\_

Funny, I ordered the same combo a couple of weeks ago. :) I was holding out to get one of the wide-enter 17bII+'s as well, but when the discount started on the 12C AE I decided now was the time.

Quote:

\_\_\_\_\_

I think the case with the 12C is a bad joke.

\_\_\_\_\_

No kidding! The thing is hideous! I'd like a soft leather case with a flap on the 3inch end so it could still fit into a shirt pocket. Without that, the open-ended leather slip case would be better than the "special" case.

sdb

---

**Re: Hp-35s pricing \$59.99 -> \$79.19**

Message #11 Posted by [Reth](#) on 18 Sept 2007, 10:05 p.m.,  
in response to message #1 by Jerry Hancock

Have they:

1. Put back R->P and P->R and
  2. Replaced the display with mate one?
- If so, I'll gladly order one right now :)
- Reth

## HP Forum Archive 17

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### Programs Shrinkers for ours beloved HPs

Message #1 Posted by [Patrice](#) on 18 Sept 2007, 8:11 p.m.

Hi all,

Does anybody know about or have programs or binaries used to shrink other programs.

What is that beast? A program that remove unneeded things from programs to speed up and shortening them. Usefull when a program don't fit in a ROM module!

HP41: I recall about (but can't find again) a program that removed unneeded labels from programs after GTOs and GSBs have been computed. From what I recall, it was published in a french magazine and the author was the former president (or something like that) of the french PPC Paris, and it was synthetic of course.

HP71B, HP75C/D, HP 83/85/86/87: it would remove remarks, shortening var names and remove lines tags and labels after jumps are computed.

HP 86/87: I remember a program (binary) called SHRINK86 which was doing at least the remarks and var names. I may even have it on floppy but it is protected with a special record on floppy to prevent copiing.

Thanks for reading. Patrice

### Re: Programs Shrinkers for ours beloved HPs

Message #2 Posted by [Allen](#) on 18 Sept 2007, 8:29 p.m.,  
in response to message #1 by Patrice

The best one I have ever seen was for the HP48 called [BZ](#) Cheers,al

### Re: Programs Shrinkers for ours beloved HPs

Message #3 Posted by [Tim Wessman](#) on 19 Sept 2007, 12:59 a.m.,  
in response to message #2 by Allen

The decompressor is built into all 49/50s as well. The compression is pretty good. I use it on a lot of the routines in my surevying software and cut about 40% of the size of the program down. Debug4x has BZ built into it so making compressed libraries is a breeze.

TW

### Re: Programs Shrinkers for ours beloved HPs

Message #4 Posted by [Reth](#) on 19 Sept 2007, 2:16 a.m.,  
in response to message #3 by Tim Wessman

I guess the original poster is after something else (like program optimizer), not compressing program.  
Cheers,

Reth

**Re: Programs Shrinkers for ours beloved HPs**

*Message #5 Posted by [Patrice](#) on 19 Sept 2007, 5:28 a.m.,  
in response to message #4 by Reth*

You right.

**Re: Programs Shrinkers for ours beloved HPs**

*Message #6 Posted by [Doug](#) on 20 Sept 2007, 9:28 p.m.,  
in response to message #4 by Reth*

HP41: ESMLDL-OS (7B), not a program, is a function: CMPDL

Best

**Re: Programs Shrinkers for ours beloved HPs**

*Message #7 Posted by [Patrice](#) on 22 Sept 2007, 11:01 a.m.,  
in response to message #6 by Doug*

Thanks Doug,

I did not know this one.

On first try, I see it did a lot of things. Will do a deep test later.

---

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## HP Forum Archive 17

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### RPL Programming question

Message #1 Posted by [Namir](#) on 18 Sept 2007, 2:07 p.m.

I have a question for guru RPL programmers. How do I pass an algebraic expression to an RPL program object so I can evaluate that expression in the object. I understand that I also need to pass the name of the variable that appear in the expression along with a value (at least one).

My goal is to be able to write different RPL program objects that perform various kinds of numerical analysis calculations for algorithms that require an expression/equation (such as root calculations, numerical integration, solving ODEs, and so on).

I appreciate any help.

Namir

### Re: RPL Programming question

Message #2 Posted by [Eric Smith](#) on 18 Sept 2007, 2:37 p.m.,  
in response to message #1 by Namir

If your RPL program is named FOO, and needs an algebraic expression to be passed in on the stack, you would invoke it like:

```
' 4*X^3-2*X^2+3*X-5 ' FOO
```

FOO could keep the algebraic object on the stack, or it might store it into a local variable:

```
<< -> f << blah blah 3.7 'X' STO blah f EVAL blah blah >> >>
```

Note that this works for using an RPL program as an argument, too:

```
<< X COS DUP * >> FOO
```

*Edited: 18 Sept 2007, 2:40 p.m.*

### Re: RPL Programming question

Message #3 Posted by [Namir](#) on 18 Sept 2007, 4:02 p.m.,  
in response to message #2 by Eric Smith

Thanks Eric!! I appreciate taking teh time to explain it for me.

Based on your example I created the following program object (and stored it as FOO):

```
<< -> F V << V STO F EVAL >> >>
```

Where F and V are variables that store the expression and the name of the variable used in that expression.

So the following sample input gives the correct result of 18:

```
4 'Z1*Z1+2' 'Z1' FOO
```

Namir

*Edited: 18 Sept 2007, 4:18 p.m.*

## RPL program for Newton's Method

Message #4 Posted by [Namir](#) on 18 Sept 2007, 8:04 p.m.,  
in response to message #2 by [Eric Smith](#)

Eric,

Building on your tip, here a program object that applies Newton's root algorithm:

```
<< DUP2 _derivative_ -> F V D
<< V STO
DO
  F EVAL D EVAL / NEG DUP V STO+
UNTIL
  ABS 0.0000001 <
END
V RCL
>>
>>
```

Note: `_derivative_` stands for the derivative operator character.

The variables are:

1. Variable F stores the expression whose root is sought.
2. Variable V stores the name of the variable.
3. Variable D store the derivative of the expression.

To use the above program, enter the input in the following sequence:

1. An initial guess for the root, such as 4.
2. The expression whose root is sought, such as 'EXP(X)-3\*SQ(X)'.
3. The name of the variable in the above expression, 'X' in this case.

Invoke the name of the program object to obtain a refined guess for the root.

The beauty of the above RPL object is that it obtains the derivative symbolically and uses it to evaluate the derivative in each iteration. For once, I don't have to worry about calculating an approximation to the derivative. Woohooooo!

Namir

*Edited: 18 Sept 2007, 8:06 p.m.*

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### Thanks Dave, (and others!)

Message #1 Posted by [Ren](#) on 18 Sept 2007, 11:29 a.m.

I just want to take this time to thank Dave for the website and forum, and for the choice(development?) of the software that runs the forum.

I suppose, that like me, many of you are subscribed to other forums on the Internet.

I feel the software that runs this one is superior to the others,

I enjoy the features of "Daily View", Tab Threading, User accounts (and privacy). Lack of SPAM (Serious Pollution Affronting Mail) ease of access (no need to sign-in or register just to see "what's new"). The automatic formatting of text to fit my browser window, (by this I mean, I don't need a horizontal scroll bar to read a posting that was made without CR/LF's inserted).

I might someday even learn how to do the HTML stuff (inserting links and photos).

So even if I am a math doofus (and social one as well) I enjoy my "daily" visit to the forum.

Thanks again, and a final question...

Is the forum software available (I'd like to suggest a few other forums to use it)?

Ren

dona nobis pacem

### Re: Thanks Dave, (and others!)

Message #2 Posted by [Arne Halvorsen \(Norway\)](#) on 18 Sept 2007, 12:22 p.m.,  
in response to message #1 by Ren

I second that... There is something refreshing simple about this site while at same time contains so much info and forum works so well.

### Re: Thanks Dave, (and others!)

Message #3 Posted by [Ivan Nejgebauer](#) on 18 Sept 2007, 2:21 p.m.,  
in response to message #1 by Ren

I join the praise - the forum is actually usable on a mobile browser (Opera Mini), which is so refreshing in these Javascript-heavy times...

### My name in the list... (N.T.)

Message #4 Posted by [Vieira, Luiz C. \(Brazil\)](#) on 19 Sept 2007, 6:13 a.m.,  
in response to message #1 by Ren



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## HP Forum Archive 17

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### Hp-35s retailers in Los Angeles?

Message #1 Posted by [Mark W](#) on 18 Sept 2007, 7:35 a.m.

I'm in LA, and was hoping to snap up a 35S. Struck out at Fry's--has anyone seen any actually in stores? Costco isn't an option, I'm not a member.

Thanks!

### Re: Hp-35s retailers in Los Angeles?

Message #2 Posted by [Norris](#) on 18 Sept 2007, 12:25 p.m.,  
in response to message #1 by Mark W

The only places in California where I've seen HP scientific or graphing calcs on display for retail purchase in recent years are (1) Fry's, and (2) university bookstores. If Fry's doesn't have it, then my only other suggestion would be to try the bookstore at UCLA, USC, Caltech, Cal Poly Pomona, or some other big CSU (Long Beach, Northridge, Fullerton, etc). But I'm not in LA, and don't know for sure whether the 35S is actually in stock anywhere.

I'm surprised that Fry's doesn't have it. But the 35S wasn't on their website either (although the 33S and 50G were).

*Edited: 18 Sept 2007, 12:28 p.m.*

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## HP Forum Archive 17

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### **Program "Ephemeris" for HP CV 41**

Message #1 Posted by [Catello](#) on 18 Sept 2007, 3:47 a.m.

Please HELP! I am trying to input into my Hp Cv 41 the program typed that I found in the "Museum of HP Calculators". I find this line: X<>Z. But my computer answers: "Non Existent". Why? does it lack of something? Without this instruction I can't proceed. Thanks in advance!

### **Re: Program "Ephemeris" for HP CV 41**

Message #2 Posted by [Karl-Ludwig Butte](#) on 18 Sept 2007, 4:50 a.m.,  
in response to message #1 by [Catello](#)

Hello Catello,

to enter X<>Z do the following:

press: XEQ Alpha X shift I shift J Alpha . Z

shift is the yellow key. After the second press on "Alpha" the display should read: X<>\_ \_ . After pressing the dot the display should read X<> ST\_ . Now only "Z" needs to be pressed.

Hope this helps.

Regards

Karl

### **Re: Program "Ephemeris" for HP CV 41**

Message #3 Posted by [Catello](#) on 18 Sept 2007, 6:39 a.m.,  
in response to message #2 by [Karl-Ludwig Butte](#)

Thank you sooooo much!!!! It works!!! Thank you again

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## HP Forum Archive 17

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### ZEPROM module ?

Message #1 Posted by [Paul Dale](#) on 17 Sept 2007, 5:32 p.m.

I've got a HP41 module which I've got an inkling as to what it is but not how I could use it/what it is good for.

The module has a clear window with what looks like an EPROM showing through. There are no identifying marks or text on the module, although "828/89" has been lightly scratched next to the EPROM window.

When I plug the module into my 41cv and turn the unit on, a message "ZEPROM TEST" appears on the display and the numeric flag annunciators turn on in turn (1, 2, 3 & 4) with each displayed for 8 or so seconds. Finally a "TESTS PASSED" message is displayed and a keystroke allows normal operation of the calculator.

I don't notice any changes in any of the catalog listings (although I've not inspected the CATALOG 0 listing in any detail).

A google for ZEPROM isn't overly helpful.

Can anyone tell me what I've got and how to use it? I don't have a programmer so I doubt I'll be able to do much with it.

- Pauli

### Re: ZEPROM module ?

Message #2 Posted by [Matthias Wehrli](#) on 18 Sept 2007, 12:20 a.m.,  
in response to message #1 by Paul Dale

What you have is a ZEPROM module, yes. Yours seems to be a new and not used one as we can buy it from of seller at ebay. If you want to programm it you need a programmer. The module itself accepts 16k of "information". To erase the contend of the module you need a UV eraser as this module works like a "normal" EPROM, but only in module shell. There are at least three sorts of programmers. Please have a look at my website for that: <http://www.hp-collection.org/41accessories.html>

There are a couple of people in that forum who have a programmer and could programm it for you. As there are more powerfull options in the meantime I would keep it untouched and use a MLDL2000, Clonix, NoVRAM or anything else. That's what I do with about a dozen of new ZEPROM modules.

Matthias [www.hp-collection.org](http://www.hp-collection.org)

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### Museum DVD Set

Message #1 Posted by [John Cadick](#) on 17 Sept 2007, 4:10 p.m.

Mine came in the mail today. Great job Dave.

John

### Re: Museum DVD Set

Message #2 Posted by [gteague](#) on 17 Sept 2007, 7:26 p.m.,  
in response to message #1 by John Cadick

<del>

sent you an email re my shipment dave.

/guy

Edited: 17 Sept 2007, 7:33 p.m.

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### 50G Edat register loading

Message #1 Posted by [Hal Bitton in Boise](#) on 17 Sept 2007, 3:54 p.m.

Hi folks. I am just starting to use the statistical functions on my 50G, and need some help with loading the Edat register. Please be aware that I am not submitting this posting "off the cuff", as I have tried to derive the solution from both the user's guide and the users manual.

Here's my quandry: The users guide speaks of a functionality whereby I can load a newly written matrix directly from the matrix writer environment into the Edat (summation data) register by clicking on the EDAT softkey which, according to the manual, is supposed to be labeled in the matrix writer environment. There is no EDAT softkey label visible when I'm in the matrix writer. The only way I can get a newly written matrix into the EDAT register is to put it onto the stack first, then overwrite it into EDAT in the usual way (left shift, they hit the EDAT variable label). Granted it is not difficult to do it this way, but it seems that if the manual alludes to a more direct method, I should be able to use it. Any help on this would be appreciated.

Best regards, Hal

### Re: 50G Edat register loading

Message #2 Posted by [Norris](#) on 17 Sept 2007, 5:44 p.m.,  
in response to message #1 by [Hal Bitton in Boise](#)

I don't think you can actually do anything with a matrix that is loaded into the MatrixWriter, except edit it. I think you have to exit the MatrixWriter environment before you can save the matrix to EDAT (or anywhere else). The HP-50G apparently feels that a matrix is still a work in progress as long as MatrixWriter is open, so it won't let you store the matrix until MatrixWriter is closed.

Once you've left the MatrixWriter and the completed matrix is on the stack, you can store it in EDAT with [left-shift] EDAT, or by invoking STO from CAT (it's the last STO command), or by typing STO ENTER (use CHARS ECHO1 for the Sigma). But none of these approaches seem to work while you're in the MatrixWriter.

Technically, it is possible to bring up an EDAT softkey within the MatrixWriter, by typing 96 MENU, then hitting ENTER and DATA. Or you could create a custom menu with EDAT or STO softkeys, and then bring up your custom menu within the MatrixWriter. But if you try this, you will soon learn that the softkeys will only address the contents of the stack, even though the stack is not visible. The softkeys will not pay any attention to the contents of the MatrixWriter, even when they have been opened in the MatrixWriter environment.

I know of one other approach. You can enter the MatrixWriter Environment through [right-shift] STAT ENTER (to select the "single var" option) EDIT. After entering one or two columns of data, you can press ENTER ENTER to exit. If you go in and out of the MatrixWriter this way, your new matrix will automatically be saved into EDAT.

*Edited: 18 Sept 2007, 12:33 p.m.*

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## HP Forum Archive 17

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### Web site update

Message #1 Posted by [Valentin Albillo](#) on 17 Sept 2007, 8:06 a.m.

Hi, all:

I've just updated [my HP-calc web site](#) to include the following materials:

#### Additional challenges and mini-challenges online:

- Short & Sweet Math Challenge #16: Thinking Square !
- HP-15C Mini-Challenge: Sin
- HP-15C Mini-Challenge: Impossibly Short !?
- HP-15C Mini-Challenge: Bits o' Pi
- HP-15C Mini-Challenge: Speeding it Up !

All of them are freely downloadable in PDF format for maximum convenience. You might find them useful for ease of reference or if you missed them the first time around.

Best regards from V.

*Edited to correct a bad link*

*Edited: 17 Sept 2007, 11:26 a.m. after one or more responses were posted*

### Re: Web site update

Message #2 Posted by [Vieira, Luiz C. \(Brazil\)](#) on 17 Sept 2007, 8:18 a.m.,  
in response to message #1 by [Valentin Albillo](#)

Hi, Valentin;

first of all, congratulations and thanks for sharing your articles with us. They are always welcome!

And forgive me if I ask a silly question: how can I download the files? I found no specific link to the PDF files, but I surely did not look for them correctly. Does it need subscription or registration of some kind? I also noticed that you mention three TTF files for the HP35S. Are these available as well?

Thanks again and forgive me if the answers to my questions are, say, obvious d8^(

Best regards from Brazil.

Luiz

## Re: Web site update

Message #3 Posted by [Meenzer](#) on 17 Sept 2007, 8:36 a.m.,  
in response to message #2 by Vieira, Luiz C. (Brazil)

On Valentin's site it says:

Quote:

\_\_\_\_\_

This site is under construction, be patient!

If something goes wrong, don't get alarmed, it will be fixed soon.

\_\_\_\_\_

When everything is done, there will be a menu to the left...

## Re: Web site update

Message #4 Posted by [Vieira, Luiz C. \(Brazil\)](#) on 17 Sept 2007, 10:04 a.m.,  
in response to message #3 by Meenzer

Hi, Meenzer;

thanks for your reply. I actually based my observations after reading Valentin's post, where one reads:

Quote:

\_\_\_\_\_

All of them **are** freely downloadable in PDF format for maximum convenience.

\_\_\_\_\_

I considered that Valentin would add some reference for future availability, if this was the case. I also considered the chance of having some missed parts in the HTML script, so I decided to ask for directions.

Thanks again.

Luiz (Brazil)

## Thanks, see my reply to Luiz. Best regards [NT]

Message #5 Posted by [Valentin Albillo](#) on 17 Sept 2007, 11:33 a.m.,  
in response to message #3 by Meenzer

Best regards from V.

## My bad, sorry. Link Ok now.

Message #6 Posted by [Valentin Albillo](#) on 17 Sept 2007, 11:32 a.m.,  
in response to message #2 by Vieira, Luiz C. (Brazil)

Hi, Luiz:

Luiz posted:

*"[ ...] how can I download the files? I found no specific link to the PDF files, but I surely did not look for them correctly. Does it need subscription or registration of some kind? I also noticed that*

*you mention three TTF files for the HP35S. Are these available as well?"*

Thanks for your interest. And yes, these files are available for free, no subscription or registration required, it's just that I pasted the wrong link, [this is the correct link](#) and I've also edited my original post to reflect the change.

Thanks for bringing it to my attention, I hope you'll enjoy all materials available there.

Best regards from V.

### **Re: Web site update**

*Message #7 Posted by [Giancarlo \(Italy\)](#) on 17 Sept 2007, 8:34 a.m.,  
in response to message #1 by Valentin Albillo*

Hi Valentin.

I rushed to download the files as well, but seems like the links on the left column of the website disappeared... Don't want to urge - just a reminder.

Best regards.

Giancarlo

### **Thanks, see my reply to Luiz. Best regards [NT]**

*Message #8 Posted by [Valentin Albillo](#) on 17 Sept 2007, 11:34 a.m.,  
in response to message #7 by Giancarlo (Italy)*

Best regards from V.

### **Web site update: congrats!**

*Message #9 Posted by [Vieira, Luiz C. \(Brazil\)](#) on 18 Sept 2007, 6:53 a.m.,  
in response to message #1 by Valentin Albillo*

Hi, Valentin;

now I see the menu at the left side of the main page; thanks.

I'd like to add that this is the kind of look I like to see in a website: concise, with the necessary information and good looking. Of course, by good looking I mean the looks I like to see. And I like it blue.

I'm not sure if this was on purpose (and maybe it has a meaning...), but I noticed that the custom picture of the HP15C in the upper, left corner is inverted.

Thanks again for sharing these goodies with us.

Best regards from Brazil.

Luiz

### **Re: Web site update: congrats!**

*Message #10 Posted by [Valentin Albillo](#) on 18 Sept 2007, 8:30 a.m.,  
in response to message #9 by Vieira, Luiz C. (Brazil)*

Hi, Luiz:



Luiz posted:

*"now I see the menu at the left side of the main page; thanks."*

You're welcome. I'm sorry for the inconvenience, I simply copy-pasted the wrong link, entirely my fault.

*"I'd like to add that this is the kind of look I like to see in a website: concise, with the necessary information and good looking. Of course, by good looking I mean the looks I like to see. And I like it blue."*

Thanks a lot for your appreciation, my daughter Laura is sure to be delighted to read your kind comment on her efforts. She is a budding mangaka and designer and blue is also her favorite color, as you can see in these two recent original drawings created by her:

- [Mermaid finds love](#)
- [Don't be blue](#)

*"I'm not sure if this was on purpose (and maybe it has a meaning...), but I noticed that the custom picture of the HP15C in the upper, left corner is inverted."*

\*That's\* not my fault ! :-) I hadn't noticed ! (must be getting old fast). I'll let her know at once to see it corrected. There's no meaning at all, as far as I know, I think it's just a misstep on her part. Since I paid her for it and it's still under warranty, she'll have to comply.

*"Thanks again for sharing these goodies with us."*

My pleasure. I'm now far too busy, but I'll try to make available new materials on a regular basis, possibly weekly. Materials to upload include more S&SMC's and Mini-challenges from the past, articles, scanned brochures, calc pics, and perhaps even a little remembrance in the form of scanned letters and assorted documents of the golden PPC and PPC TN times.

Thanks a lot for your interest and extremely kind comments, and

Best regards from V.

### **Re: Web site update: congrats!**

*Message #11 Posted by [Bruce Bergman](#) on 18 Sept 2007, 12:28 p.m.,  
in response to message #10 by Valentin Albillo*

Quote:

Thanks a lot for your appreciation, my daughter Laura is sure to be delighted to read your kind comment on her efforts. She is a budding mangaka and designer and blue is also her favorite color, as you can see in these two recent original drawings created by her [...]

Wow! As someone who is very into manga/anime/etc., I must say she is very talented indeed! I haven't a whit of artistic ability in my bones, and I'm always amazed at some of the drawings that people are able to make. That first one, with the mermaid, was awesome!!

thanks, bruce

**Re: Web site update: congrats! [OT]**

Message #12 Posted by **Valentin Albillo** on 19 Sept 2007, 5:58 a.m.,  
in response to message #11 by Bruce Bergman

Hi, Bruce:

Bruce posted:

*"Wow! As someone who is very into manga/anime/etc., I must say she is very talented indeed! I haven't a whit of artistic ability in my bones, and I'm always amazed at some of the drawings that people are able to make. That first one, with the mermaid, was awesome!!"*

Thank you very much indeed for your kind, appreciative remarks. You've made Laura's day and so mine as well ! :-)

She was delighted to read your comments and told me that the difference between both drawings consisted mainly in the technology used to create them. The mermaid one was directly drawn in the PC's screen using a graphics tablet with pressure-sensitive electronic pen, while the other one was drawn in plain paper with a normal pen, then scanned into the computer. This accounts for the different quality of the lines: digitally vs analogically produced.

Best regards from V.

**Amazing graphics, indeed! (O.T.)**

Message #13 Posted by **Vieira, Luiz C. (Brazil)** on 19 Sept 2007, 9:18 a.m.,  
in response to message #10 by Valentin Albillo

Hi, Valentin;

please, allow me to congratulate Laura for her magnificent work. (they are not only drawings, they are far beyond that...8^)

I have seen some manga before, and I have no specific knowledge to judge, but her work looks so close to the original style that I can't tell the difference from hers and original Japanese art.

You should be proud (I am sure you are, just a reinforcement...).

Best regards from Brazil.

Luiz

*Edited: 19 Sept 2007, 9:20 a.m.*

**Re: Amazing graphics, indeed! (O.T.)**

Message #14 Posted by **Valentin Albillo** on 19 Sept 2007, 3:17 p.m.,  
in response to message #13 by Vieira, Luiz C. (Brazil)

Hi, Luiz:

Thank you very much for your kind comments on my daughter's drawings, but she *\*insisted\** in replying to you personally so I'll let her speak for herself (best regards from V ...):

Hi! Thanks a lot for your extra-kind comments!! I'm glad you liked my drawings,

really! =D I'm so proud of them, they took me so many days to have them perfectly finished ... but it was worth the trouble! I have some more in a website (google for "deviantart mirechan" if interested), and I'll be doing more soon (school permitting, hehe)

Well, thank you very very much for liking them, I'll try my best to keep the good work! =). As my father would say:

Best regards from L (haha)

**Re: Amazing graphics, indeed! (O.T.)**

*Message #15 Posted by **Bruce Bergman** on 19 Sept 2007, 4:14 p.m.,  
in response to message #14 by Valentin Albillo*

I know this is a *\*complete\** lark, but I'd love to see a character punching in a number on an HP calc. ;-) Maybe we could even make it a mascot for the site or something...

Or, maybe that's too geeky for artists... ;-)

Good stuff, Laura!

thanks, bruce

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## HP Forum Archive 17

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**HP35S ASSEMBLY METHODS**

Message #1 Posted by [designnut](#) on 16 Sept 2007, 2:47 p.m.

It appears from the disassembled 35S photos That HP is using chip face down assembly. When I look at the circuit traces I see some dissappear without a plated through hole. Can someone enlighten me as to there chip assembly method. Ultrasonic? Are there also bond wires? It seems to have too many PC leads to connect them all in one bonding. What happens when the traces seem to disappear? Thanks, Sam Levy  
<http://www.finetune.jp/~lyuka/interests/calc/hp35s/hp35s-disassembled.html>

**Re: HP35S ASSEMBLY METHODS**

Message #2 Posted by [DaveJ](#) on 16 Sept 2007, 5:11 p.m.,  
in response to message #1 by [designnut](#)

There is nothing unusual at all here. The chip is most likely mounted using COB (Chip On Board) bonding technology covered with the black potting compound, a very common technique to lower cost in higher volume products.

The "vanishing" tracks are just an illusion caused by light reflection off the gloss black solder mask.

Interesting that they have chosen to use a hand soldered watch crystal rather than a machine assembled surface mount package, they probably saved a cent or two here, but it requires two extra human operations (solder+red blob)

Dave.

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## HP Forum Archive 17

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**48SX battery run**

Message #1 Posted by [John Mosand](#) on 16 Sept 2007, 11:58 a.m.

Today, I replaced the batteries for the second time. I bought my 48SX when it was introduced. Has anybody experienced a better battery life for the 48SX ? On the other hand, I also have a 10C which my friend who gave it to me claimed that he had never replaced the batteries. It is still running - in my shirt pocket :- ) I should add that my 48SX has been in daily use, with two expansion cards (EQ Library and Math Pack).

**Re: 48SX battery run**

Message #2 Posted by [megarat](#) on 16 Sept 2007, 8:24 p.m.,  
in response to message #1 by John Mosand

I concur, I always felt that the HP 48sx had tremendous battery life. Specifically, I bought mine used in late 2002 and used it a few times a week and never had to change the batteries until I sold it just a few months ago, when I put in new batteries as a courtesy. As far as I know, those batteries still had another several years on them. (That's with a 128k RAM card and the library card installed.)

Compare that to the HP 48gx I had for less than a year; I had to change the batteries after maybe six months, and it didn't even get much use during that time. I think it ate those batteries while it slept.

-cam

**Re: 48SX battery run**

Message #3 Posted by [JoeFrisco](#) on 17 Sept 2007, 7:18 p.m.,  
in response to message #1 by John Mosand

I bought mine in 1993. I think I am on, maybe, the third set of batteries. I changed out the first set when I took the PE exam in 1995. My HP48SX does not get a lot of use lately. The current set of batteries, has been in the calculator since 1991-1992. I check them occasionally for corrosion. It does have two cards in it. But I do not think they draw any power. They are the equation library and the PE EE Exam card by Chotkeh.

**Re: 48SX battery run**

Message #4 Posted by [John Mosand](#) on 18 Sept 2007, 2:13 p.m.,  
in response to message #3 by JoeFrisco

JoeFrisco, you probably mean that the batteries have been in there "since 2001-2002"?? And, DaveJ, thank you for those details, measuring projected battery life span, etc. while installed. (I have a good meter, but I don't know how to do that...)

**Re: 48SX battery run**

Message #5 Posted by [DaveJ](#) on 18 Sept 2007, 5:36 p.m.,  
in response to message #4 by John Mosand

Quote:

JoeFrisco, you probably mean that the batteries have been in there "since 2001-2002"??  
And, DaveJ, thank you for those details, measuring projected battery life span, etc. while installed. (I have a good meter, but I don't know how to do that...)

You've gotta have 3 hands to hold one battery half out, hold the probes in contact, and push the buttons at the same time. Also, the angle you hold your tongue at is crucial!

Dave.

**Re: 48SX battery run**

Message #6 Posted by [JoeFrisco](#) on 20 Sept 2007, 9:55 a.m.,  
in response to message #5 by DaveJ

You are correct 2001-2002

**Re: 48SX battery run**

Message #7 Posted by [designnut](#) on 20 Sept 2007, 2:14 p.m.,  
in response to message #5 by DaveJ

A handy tool to access battery currents is a thin strip of PC material with copper on both sides and solder such leads as you may need to either side copper. Then it may be inserted in any battery path to obtain a current reading. Sam Levy

**Re: 48SX battery run**

Message #8 Posted by [DaveJ](#) on 18 Sept 2007, 7:01 a.m.,  
in response to message #1 by John Mosand

I just measured the current drain on my 48SX at 12uA when off with fresh batteries and no cards. That would equate to an absolute best case life of around 100,000 hours (11 years) for Alkalines in the off state. That is of course more than the shelf life of the batteries.

I got 3.2mA when ON, doing nothing but displaying the stack. That would be roughly 375 hours best case continuous operation.

Dave.

**Re: 48SX battery run**

Message #9 Posted by [Paul Dale](#) on 18 Sept 2007, 4:34 p.m.,  
in response to message #8 by DaveJ

And in coma mode? (On space from memory)

- Pauli

**Re: 48SX battery run**

Message #10 Posted by [DaveJ](#) on 18 Sept 2007, 5:33 p.m.,  
in response to message #9 by Paul Dale

Quote:

---

And in coma mode? (On space from memory)

---

I think it was 2uA, but I can't recheck because it looks like I've just killed something! Just some innocent current probing and now the screen has all of the right half pixels on and the hourglass, no response from keys. Oops.... Anyone know how to fix?, I've tried shorting the battery contacts etc but there is simply no response at all, can't even turn the calc off.

Interesting, when a key is pressed and held down the current jumped to a steady 6mA.

Dave.

---

**Re: 48SX battery run**

*Message #11 Posted by [DaveJ](#) on 18 Sept 2007, 6:08 p.m.,  
in response to message #10 by [DaveJ](#)*

It's ok now, seems to have fixed itself after a while!

Yes, 2uA after pressing ON-SPC.

Considering that normal off mode gives you a measly 12uA, what's the point?

If you want to save power on your 48SX I'd recommend pressing the keys quicker!

Dave.

---

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## HP Forum Archive 17

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### **New HP17BII+ (new keyboard with wide input/enter)**

Message #1 Posted by [Miguel Saiz](#) on 16 Sept 2007, 11:17 a.m.

Have any knows if this new model is shipping (in the US)? Have any bought one? better keyboard? it is the same platform that the HP35s?

You can see it at <http://www.calculatorshop.co.uk/classiccalculators/>  
[http://www.calculatorshop.co.uk/classiccalculators/New\\_Image\\_2.JPG](http://www.calculatorshop.co.uk/classiccalculators/New_Image_2.JPG)

Edited: 16 Sept 2007, 11:24 a.m.

### **Re: New HP17BII+ (new keyboard with wide input/enter)**

Message #2 Posted by [Raymond Del Tondo](#) on 16 Sept 2007, 11:57 a.m.,  
in response to message #1 by Miguel Saiz

Yes, I've seen pics of this unit a while ago,  
but not a detailed one like this so far - Thanks for that:-)

Now this is a very good hardware basis for a new 42S, isn't it?

Raymond

### **Re: New HP17BII+ (new keyboard with wide input/enter)**

Message #3 Posted by [Miguel Saiz](#) on 16 Sept 2007, 1:37 p.m.,  
in response to message #2 by Raymond Del Tondo

Yes, I agree with you that is its an excellent platform for the HP42SII( hope that some guy from HP could be reading this). A good idea for HP will be to celebrate the 35 anniversary with a limited edition of HP42, HP15c (based on Platinum 25th edition). The ROMs are ready (please, do not add anything, just put as they were, it could be easier, cheaper...better for us, long time users)

Edited: 16 Sept 2007, 4:12 p.m. after one or more responses were posted

### **42s rom**

Message #4 Posted by [Gene Wright](#) on 16 Sept 2007, 3:32 p.m.,  
in response to message #3 by Miguel Saiz

Where is the rom for the 42s? I didn't think HP had ever released that rom.

?

### **Re: 42s rom**

Message #5 Posted by [Eric Smith](#) on 16 Sept 2007, 3:54 p.m.,



*in response to message #4 by Gene Wright*

Nor have they released the 15C ROM, for that matter.

But you can use the built-in debugger of the 42S to send the ROM contents out the infrared port.

### **Re: 42s rom**

*Message #6 Posted by [Miguel Saiz](#) on 16 Sept 2007, 4:07 p.m.,  
in response to message #4 by Gene Wright*

I was refering that HP has the ROM, and the only thing is to get port to a new processor (that is the same thing that was done in the HP17BII+ {in some place some time ago, I had read that all the HP42S instructions were in the same HP17BII ROM, but I am not completely sure that that was true} My point is, that is not rocket science to port HP42S ROM to a new platform or HP15C ROM, that there are today calculators based on those platforms, and that the process was in some way done to the HP17BII+ and to HP12CP (and 25edition). Given that, could be easy and profitable to re-born those classics (it not make sense to me, trying to reinvent the wheel (and failling doing that), if there are good products and experience to use.

Sorry, if I did not explained well,

*Edited: 16 Sept 2007, 4:09 p.m.*

### **Re: 42s rom**

*Message #7 Posted by [Raymond Del Tondo](#) on 16 Sept 2007, 5:22 p.m.,  
in response to message #6 by Miguel Saiz*

I think the approach for a rebirth of the 42S would be similar as with the 33s/35s: A simulation written in C/C++.

But the OS of the 42S is much more powerful and complicated than that of the 33s/35s. As I wrote in another thread, the original 42S OS consists of an RPL kernel with a simulated RPN usr interface.

Yes, it's not rocket science, and there is a 42S simulator already, Free42 in particular, which is available for various platforms, even my N770 runs a flavour of it.

Regarding the original HP-17BII:

The HP-42S and the original saturn-based HP-17B/II share a similar kernel, and have a similar RPN-like user interface, but the 17BII does not have all the functions that the 42S provides, and vice versa.

However it's perfectly possible that the developer(s) of the 35s designed the code so that ist may be reusable for s.t. like a new 42S...

...and if it provides a binary compatible FOCAL execution engine, it will be even better;-)

Somewhat OT...

For those who do not know what I mean with FOCAL execution engine (FXE): The original HP-41 implements a mechanism to execute binary streams,

and a FOCAL program written on the HP-41 is a series of bytes which will be fed to that engine.

The two reincarnations of the HP-41 from HP, the HP-42S and the HP 82210A HP41CV Emulator card for the HP-48SX, both feature a binary compatible FXE, which means you can feed the same binary stream to either of the engines.

The emulators, like Emu41 from JF Garnier, V41 from Warren Furlow, Emu42 from Christoph Giesselink, and the saturn-based emus from Hrast also implement that compatible FXE, of course, because each of these emulators uses the original ROMs;-)

Free42 is a bit different, as it doesn't use the original ROM code, but I think the FXE is similar, at least if it's functionally compatible. However I haven't checked this particular case.

The HP-71 HP-41 Translator module is a completely different beast. As the name implies, it translates HP-41 FOCAL streams into functionally equivalent FORTH words.

### **Re: 42s rom**

*Message #8 Posted by [Howard Owen](#) on 16 Sept 2007, 10:37 p.m.,  
in response to message #7 by Raymond Del Tondo*

Quote:

I think the approach for a rebirth of the 42S would be similar as with the 33s/35s: A simulation written in C/C++.

I wonder if Thomas would be willing to license the Free42 source to HP under terms other than the GPL? While it would be unbelievably cool if HP were to come out with a 42s++ based on Thomas' code, and at the same time publish their changes as the GPL requires, I think that stretches credulity farther than hoping for the calculator itself does. But Thomas, as the author of Free42, could relicense it to HP under any terms he wished. He might even make a couple of bucks. (Euros, sorry. Much better to be paid in euros nowadays.)

Regards,  
Howard

### **Re: 42s rom**

*Message #9 Posted by [Miguel Saiz](#) on 17 Sept 2007, 1:10 a.m.,  
in response to message #8 by Howard Owen*

oh, oh...It looks like if the ROMs are missing (as Eric told us), one possibility could be to license codes from the emulators, as Howard suggest (wow think about the possibilities, kind of 'virtualization' at the calculator level). If an agreement could be reach, could be a great advantage for HP, the fan base community and for the emulator's authors. I would really prefer this kind of input (well tested code, that was based on the fundamentals of those calculators), and a path for additional functionality, that can grow to a solid plataform (if enough care is given to the hardware and design)

So, the idea is in the air. It makes sense (short development cycle, proven code, new powerful hardware...virtualization at calculator level). Any one at HP interested? This could be the return to a new era, based on innovation in product and cooperation between the user community.

Any HP associate that could pass the idea?

*Edited: 17 Sept 2007, 1:20 a.m.*

### **Re: 42s rom**

*Message #10 Posted by [Hugh Evans](#) on 17 Sept 2007, 11:21 p.m.,  
in response to message #9 by Miguel Saiz*

Your idea makes sense, but I'm sure HP would rather pass the specifications for a classic calculator to some outsourced programmers somewhere in the Philippines. Emulation requires a good bit of overhead, and I doubt the accounting department at HP has any interest in using original code when it requires a CPU with a PPU above \$1.

### **Re: 42s rom**

*Message #11 Posted by [Thomas Okken](#) on 18 Sept 2007, 5:45 p.m.,  
in response to message #8 by Howard Owen*

Quote:

\_\_\_\_\_

I wonder if Thomas would be willing to license the Free42 source to HP under terms other than the GPL?

\_\_\_\_\_

Sure -- anything goes as long as it is understood that I will always retain the copyright to the original Free42 code (i.e. the version I maintain and which has always been licensed under GPLv2). I'll probably have to go over the code to make sure that I obtained all the third-party code in Free42 under licenses that allow such relicensing, but as far as I can remember offhand, there are no major issues there.

So far, nobody has approached me with any concrete offers, though. Guess I'll have to keep my day job for the time being. ;-)

- Thomas

### **Re: 42s rom**

*Message #12 Posted by [Eric Smith](#) on 16 Sept 2007, 10:45 p.m.,  
in response to message #6 by Miguel Saiz*

Quote:

\_\_\_\_\_

I was refering that HP has the ROM

\_\_\_\_\_

Actually, HP does NOT have the ROM code for many older models. Lots of stuff was lost in the moves from Corvallis to Singapore to Australia to San Diego, including most of the pre-48 source code and binaries.

It's very likely that the 15C code is long gone. Possibly the 42S code as well.

Quote:

I had read that all the HP42S instructions were in the same HP17BII ROM, but I am not completely sure that that was true

It's not. There's some shared code, but nowhere near all.

Quote:

port HP42S ROM to a new platform [...] the process was in some way done to the HP17BII+ and to HP12CP (and 25edition).

Those weren't "ports", but rather rewrites. The original 17BII and 12C code are not used in any form in the 17BII+ and 12C Platinum.

### **Re: New HP17BII+ (new keyboard with wide input/enter)**

*Message #13 Posted by [Pal G.](#) on 16 Sept 2007, 4:07 p.m.,  
in response to message #3 by Miguel Saiz*

If HP released the hp35s this year, the 35th Anniversary of the hp 35, don't you think we're going to have to wait either 6 years for the 42nd Anniversary of HP calculators, or worse, 23 years until the anniversary of the hp 42s?!?

:) Pal

### **Re: New HP17BII+ (new keyboard with wide input/enter)**

*Message #14 Posted by [Miguel Saiz](#) on 16 Sept 2007, 4:30 p.m.,  
in response to message #13 by Pal G.*

Sadly, you had a point, but I think that it could be late to do that. I think mostly of us, HP fans, are baby boomers (in some way nostalgic for the old times, but may be not a large enough market), that could buy those products because using it, we remember college days (I need to admit that buying HP calculators is for that purpose, I am not doing a generalization to all). I had placed an order for a HP50G (my only problem is in what problems to use, mostly I am Mac user, with Mathematica on my MAC, Numbers (part of Keynote suit), Excel, etc. I am not in need to get tests (currently I am administering the tests), but frankly, to me HP calculators are kind of gadget that I like, and that evoke on me, things to remember, and love to have.

For sure that there is plenty on events to use for launch products, the 35anniversary is a point in time that could be use for more that a product, not doing that, will close an opportunity window to re-create products that were recognized for their top quality an innovation. To me, is a huge waste not to preserve one of the best representation on the quality and innovation delivered by a company (management vision and engineering expertise), that created a market for a product base on building of new ideas and needs.

By the way, I was showing the new HP17BII+ to know when it will available, to order mine

*Edited: 16 Sept 2007, 4:44 p.m.*

### **Re: New HP17BII+ (new keyboard with wide input/enter)**

*Message #15 Posted by [BruceH](#) on 16 Sept 2007, 5:50 p.m.,*

*in response to message #1 by Miguel Saiz*

Quote:

Have any knows if this new model is shipping (in the US)?

No idea.

Quote:

Have any bought one?

Yes.

Quote:

better keyboard? it is the same platform that the HP35s?

It is not the same platform as the 35S. It pretty much the same size as the old 17bII+. I haven't checked yet to see if it fixes the let and get bugs - must do that soon :-)

## **Re: New HP17BII+ (new keyboard with wide input/enter)**

*Message #16 Posted by **Jeff O.** on 17 Sept 2007, 1:13 p.m.,  
in response to message #15 by BruceH*

Miguel said:

Quote:

it is the same platform that the HP35s?

You replied:

Quote:

It is not the same platform as the 35S. It pretty much the same size as the old 17bII+.

To me, the new 17bII+ certainly appears to utilize the same basic physical construction characteristics as the 35s, which I would define as using the 35s "platform". It looks to me like they took the 35s, removed the cursor keys, removed the top row of keys, and converted the second row to a full row of six standard keys, and shortened the whole calculator accordingly. It has the same "stepped" faceplate as the 35s, the same straight top and bottom but gently curved sides, the same rectangular shape keys, the same straight rows of keys. In contrast, the previous 17bII+ has fairly radically curved top, bottom and sides, all keys are curved top and bottom (some more than others) and the bottom rows of keys are not straight across. So, while it may be the same size as the previous 17bII+, it certainly appears to me to be based on the new 35s design. The pictures below illustrate the above described similarities and differences. Forgive me if I misunderstood the original intent of the word platform or your interpretation. No disrespect intended, just trying to clarify.

[http://hpshopping.speedera.net/www.shopping.hp.com/shopping/images/products/f2234a\\_400.jpg](http://hpshopping.speedera.net/www.shopping.hp.com/shopping/images/products/f2234a_400.jpg)



[http://hpshopping.speedera.net/www.shopping.hp.com/shopping/images/products/f2215aa\\_400.jpg](http://hpshopping.speedera.net/www.shopping.hp.com/shopping/images/products/f2215aa_400.jpg)



**Re: New HP17BII+ (new keyboard with wide input/enter)**

*Message #17 Posted by [Jake Schwartz](#) on 24 Sept 2007, 1:26 p.m.,  
in response to message #16 by Jeff O.*

With respect to that new 17bII+ case, sadly, this is probably the case and keyboard layout they should have used for the 35s, so the top row of keys could return to the soft-key menus like the 32s2 (or actually like the 17bII+ and 42s). Oh well.

Jake Schwartz

**Re: New HP17BII+ (new keyboard with wide input/enter)**

*Message #18 Posted by [Walter B](#) on 24 Sept 2007, 1:58 p.m.,  
in response to message #17 by Jake Schwartz*

Well, but compared to the 35s you lose 6 keys by going back to this layout. Thus you will need deep menus, especially if you feature one shift key only. IMHO there are better solutions possible.

**Re: New HP17BII+ (new keyboard with wide input/enter)**

*Message #19 Posted by [gteague](#) on 18 Sept 2007, 9:45 p.m.,  
in response to message #1 by Miguel Saiz*

wow! i have absolutely no need for anything financial past a % key or, absolute tops, a tvn solver.

but i want one of these just on looks alone.

please someone talk hp into putting some useful guts into that shell.

/guy

*Edited: 18 Sept 2007, 9:45 p.m.*

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## HP Forum Archive 17

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### **For those saying that 35s screen is an improvement over 33s**

*Message #1 Posted by [romeo\\_charlie](#) on 16 Sept 2007, 8:11 a.m.*

Hi there,

I have taken a few good res pictures under two lighting conditions:

These are under outdoor light directly coming from a window:

<http://img469.imageshack.us/img469/7620/35vs33goodlightzenithif9.jpg>

<http://img459.imageshack.us/img459/659/35vs33goodlightangleot7.jpg>

With good light, both LCD displays look similar. You can see that the 25s display has a bit more glare, and the 33s is easier to see. Also, notice the theta character on the top line of the 35s. Too similar to an 8.

Now, let's go to indoor working with these machines. The following pictures are taken indoors with enough light to work, write, or jot down numbers (like any regular office or lab):

<http://img340.imageshack.us/img340/9928/35vs33indoorzenithys1.jpg>

<http://img411.imageshack.us/img411/8875/35vs33indooranglezv6.jpg>

<http://img519.imageshack.us/img519/5222/35vs33indoorzenith2np0.jpg>

In these pictures, the HP-35s can be seen sucking out loud with its bad LCD.

These photos are just my \$0.02 for those considering the 35s.

Judge for yourself.

I work in an environment with constantly changing light conditions, going from bright sunlight to diffuse haze the next minute. I haven't tested it yet (I bought it two days ago), but I have serious doubt that it'll improve "in the field".

Oh, and the decimal point from the 33s that so many people disliked is rendered identically on the 35s.

Improved display? I don't think so.

Greetings,

Rafael

### **Re: For those saying that 35s screen is an improvement over 33s**

*Message #2 Posted by [gteague](#) on 16 Sept 2007, 8:27 a.m.,  
in response to message #1 by [romeo\\_charlie](#)*



now that just looks wrong!

whatever possessed someone at some time and place that a comma would be a good replacement for a decimal point? isn't that the whole definition of a decimal point? that it is indeed a point and not an amorphous mass? [g]

i looked at a 33s today at fry's and those keyboard labels all ugly colors and squashed together just turned my stomach. uglier than my 49g+ even and even harder to read. i ended up buying a ti-30sx and didn't notice until i got it home that it has green lettering on a green keyboard plate. sometimes you just have to scratch your head and conclude that designers work in a broom closet with no friends to shake them briskly when they go so wrong.

anyway, one of my favorite calculators of all the many i've owned is the 27s which i would argue has the worst display of any hp i've seen or owned. add the insult of (expensive) battery life measured in days instead of weeks or months and you know i'd have to really like it to keep it in play all these (20+?) years.

bottom line: i think they got the look and the keyboard feel of the 35s nearly perfect. hp need to build on that baseline with some good followups.

/guy

*Edited: 16 Sept 2007, 8:29 a.m.*

### **Re: For those saying that 35s screen is an improvement over 33s**

*Message #3 Posted by [Miguel Toro](#) on 16 Sept 2007, 9:19 a.m.,  
in response to message #2 by gteague*

In several countries the decimal separator is indeed the comma. Even in Canada, Québec, where I live, this is the standart decimal separator. You refer to it as a decimal point because that is what you use. In countries where the comma is used it is refered as the decimal comma. I prefer the more generic term of decimal separator. I just bought a HP 32E from someone in Spain and I was happy to see that it came with comma as decimal separator. I just cannot get used to the point.

Regards,

Miguel

*Edited: 16 Sept 2007, 9:20 a.m.*

### **Re: For those saying that 35s screen is an improvement over 33s**

*Message #4 Posted by [romeo\\_charlie](#) on 16 Sept 2007, 9:47 a.m.,  
in response to message #2 by gteague*

Quote:

now that just looks wrong!

whatever possessed someone at some time and place that a comma would be a good replacement for a decimal point? isn't that the whole definition of a decimal point? that it is indeed a point and not an amorphous mass? [g]

i looked at a 33s today at fry's and those keyboard labels all ugly colors and squashed together just turned my stomach. uglier than my 49g+ even and even harder to read. i ended up buying a ti-30sx and didn't notice until i got it home that it has green lettering on a green keyboard

plate. sometimes you just have to scratch your head and conclude that designers work in a broom closet with no friends to shake them briskly when they go so wrong.

anyway, one of my favorite calculators of all the many i've owned is the 27s which i would argue has the worst display of any hp i've seen or owned. add the insult of (expensive) battery life measured in days instead of weeks or months and you know i'd have to really like it to keep it in play all these (20+?) years.

bottom line: i think they got the look and the keyboard feel of the 35s nearly perfect. hp need to build on that baseline with some good followups.

/guy

---

Hello all,

Please, dont get me wrong. I also like to point out good qualities, and I like this cal (that's why I bought it). But the 35s has a very bad one for a 21st century calculator. I took some pictures and I believe they speak for themselves.

Oh and, as Miguel said, the "dot" is not used as the decimal point everywhere. However, that's not the reason why I use the comma. I like the dot best, and the reason for me to use the comma is the bad LCD, where the dot can barely be seen.

Cheers,

Rafael.

**Re: For those saying that 35s screen is an improvement over 33s**

*Message #5 Posted by **Don Shepherd** on 16 Sept 2007, 11:01 a.m.,  
in response to message #4 by romeo\_charlie*

I put both my 33S and 35S side by side and looked at the displays. There is some difference, but it is minor. The decimal point in the 35S is perfectly acceptable.

**Re: For those saying that 35s screen is an improvement over 33s**

*Message #6 Posted by **Raymond Del Tondo** on 16 Sept 2007, 10:20 a.m.,  
in response to message #1 by romeo\_charlie*

Hello,

and thanks for the comparison.

The problem here is that the comparison is not neutral IMHO. To get a real comparison you'd also have to take photos with the left and right calcs on display swapped, while retaining the same point of view. That way, you will have the same conditions for both calcs, regarding the sunlight reflection.

The way you made the photographs, you'll always have a small difference in the viewing angle towards the respective display, and this actually voids the comparison;-)

Regards

Raymond

### **Re: For those saying that 35s screen is an improvement over 33s**

*Message #7 Posted by [romeo\\_charlie](#) on 16 Sept 2007, 10:57 a.m.,  
in response to message #6 by Raymond Del Tondo*

Quote:

\_\_\_\_\_

Hello,

and thanks for the comparison.

The problem here is that the comparison is not neutral IMHO. To get a real comparison you'd also have to take photos with the left and right calcs on display swapped, while retaining the same point of view. That way, you will have the same conditions for both calcs, regarding the sunlight reflection.

The way you made the photographs, you'll always have a small difference in the viewing angle towards the respective display, and this actually voids the comparison;-)

Regards

Raymond

\_\_\_\_\_

Ha ha ha

I did actually, Raymond, but I only posted these ones.

I swapped the calculators from side to side, I moved them to different locations to get an objective perspective, and finally I posted only these pictures to save space in the forum (they're too big already).

I posted the zenithal photos because they were the most informative. Both screens were very parallel, and you can see the reflection of my face only in the 35. I guess that they used a more antireflective surface (or less reflective) in the 33. I prefer the 35 anyway. It's just a pity that they made this mistake.

Rafael.

### **Re: For those saying that 35s screen is an improvement over 33s**

*Message #8 Posted by [Diehl-Peshkur](#) on 16 Sept 2007, 1:47 p.m.,  
in response to message #7 by romeo\_charlie*

Hello Rafael, And did you calibrate the screen contrast? It looks to me like the 35s has its contrast turned down; mine certainly doesn't look the same as yours- even next to my 33s :0)

### **The 35s screen compared to the 33s screen**

*Message #9 Posted by [Gene Wright](#) on 17 Sept 2007, 10:51 a.m.,*

*in response to message #7 by romeo\_charlie*

The 35s screen is the identical part to the 33s screen (the one with the updated decimal point).

The only difference is the matte vs. glossy cover.

Gene

**Re: The 35s screen compared to the 33s screen**

*Message #10 Posted by **Walter B** on 17 Sept 2007, 11:05 a.m.,  
in response to message #9 by Gene Wright*

Quote:

\_\_\_\_\_

The only difference is the matte vs. glossy cover.

\_\_\_\_\_

So why was this changed? Must have been cost reasons, but how many Milli\$ were saved? Probably easy to calculate. However, how many \$ - in comparison - are lost by the consequences of inferior quality in this respect? Far more difficult to compute! And so the easy way was chosen ... :(

I really hope I'm wrong!

**Re: The 35s screen compared to the 33s screen**

*Message #11 Posted by **Walter B** on 17 Sept 2007, 11:12 a.m.,  
in response to message #9 by Gene Wright*

Quote:

\_\_\_\_\_

The only difference is the matte vs. glossy cover.

\_\_\_\_\_

So why was this changed? Must have been cost reasons, but how many Milli\$ were saved? Probably easy to calculate. However, how many \$ - in comparison - are lost by the consequences of inferior quality in this respect? Far more difficult to compute! And so the easy way was chosen ... :(

I really hope I'm wrong!

**Re: The 35s screen compared to the 33s screen**

*Message #12 Posted by **bill platt** on 17 Sept 2007, 1:08 p.m.,  
in response to message #11 by Walter B*

Perhaps the matte vs gloss wasn't specified precisely enough and has nothing to do with money.

**Re: The 35s screen compared to the 33s screen**

*Message #13 Posted by **Gene Wright** on 17 Sept 2007, 2:08 p.m.,  
in response to message #12 by bill platt*

I have no idea about the matte vs. glossy change.

**Re: For those saying that 35s screen is an improvement over 33s**

*Message #14 Posted by **joan cardenas** on 16 Sept 2007, 1:55 p.m.,*

*in response to message #1 by romeo\_charlie*

Hello, Nice pictures. I also notice that the display of the 35s scratches like hell compared with the one and a half year old 33s which has no scratches at all. You can scratch it even cleaning it with a cloth. I wonder if there's a protection you can remove. With a shame.

### **Re: For those saying that 35s screen is an improvement over 33s**

*Message #15 Posted by [Brian Healy](#) on 16 Sept 2007, 4:57 p.m.,  
in response to message #1 by romeo\_charlie*

The complaints about the HP 33s display were mostly concerned with its initial release. The decimal point was very small and almost impossible to see in a number like 2.2. This was corrected in time by HP.

The display does not "suck out loud". I do not dispute that it could be better. Having used both the 35s and the 33s with the improved display, it is my opinion that there is almost no discernible difference. The display of the 35s could be greatly improved with a matte display, such as the one used for the 32sii.

I am very pleased with the HP 35s, and would recommend it to anyone. Sometimes it seems like there is an anti-HP35s bandwagon on this site. Is it perfect? No. Is it bug free? No. Is it good enough for daily use? Absolutely. It is my daily use calculator as a structural engineer, and it works just fine.

### **Re: For those saying that 35s screen is an improvement over 33s**

*Message #16 Posted by [romeo\\_charlie](#) on 16 Sept 2007, 6:35 p.m.,  
in response to message #15 by Brian Healy*

Quote:

The complaints about the HP 33s display were mostly concerned with its initial release. The decimal point was very small and almost impossible to see in a number like 2.2. This was corrected in time by HP.

The display does not "suck out loud". I do not dispute that it could be better. Having used both the 35s and the 33s with the improved display, it is my opinion that there is almost no discernible difference. The display of the 35s could be greatly improved with a matte display, such as the one used for the 32sii.

I am very pleased with the HP 35s, and would recommend it to anyone. Sometimes it seems like there is an anti-HP35s bandwagon on this site. Is it perfect? No. Is it bug free? No. Is it good enough for daily use? Absolutely. It is my daily use calculator as a structural engineer, and it works just fine.

I apologize to anyone that could be offended by my "sucking out loud" comment. It was not my intention to offend anyone. Brian, I am sorry if my words made you think I'm against the 35s. I am not experienced enough to put down a machine that so many people cherish. I actually like it very much. I just thought I'd take those pictures and remark the bad point of the machine I see at first when I open the box. But hey, I like it, that's why I own one. If I were a member of some bandwagon, I wouldn't want to learn to use it better ;-)

Again, thanks to everyone posting in reply to my comments and everyone helping me in my other posts.

Cheers,

Rafael.

**Re: For those saying that 35s screen is an improvement over 33s**

*Message #17 Posted by [Brian Healy](#) on 16 Sept 2007, 8:55 p.m.,  
in response to message #16 by romeo\_charlie*

I apparently interpreted your "sucking out loud" more harshly than you meant it. No offense was taken.

I do agree with you that the display could be better though. In my opinion a matte finish for the display window would make it a lot better.

I like the 35s but I don't think that its design is as good as the 32sii, although the 35s is more powerful.

Thanks for a cool level headed response.

**Re: For those saying that 35s screen is an improvement over 33s**

*Message #18 Posted by [Arne Halvorsen \(Norway\)](#) on 17 Sept 2007, 6:39 a.m.,  
in response to message #17 by Brian Healy*

From one who has invested in a 35s but yet not got it I liked to read a positive mail about it :-)  
However I have liked reading the post about all the problems, for one thing, I am prepared to not be disappointed!

Ofcourse one must also take into account this population, probably some of the most knowledgeable hp calculator people and also it is the problems that for natural reasons get discussed.

Also I think the anger sometime one feels present in post is not so much about how terrible terrible 35s is but how good it could have been...

In a close parallel universe there are people jumping up and down in joy for the 35s, it does not have any bugs in our bug list article, it has the old normal  $R \leftrightarrow P$ , vectors has dim operator and cross product and can be used for input to the linear equation solver, it has basic usb I/O.

We would smile also then, he?

**Re: For those saying that 35s screen is an improvement over 33s**

*Message #19 Posted by [Walter B](#) on 17 Sept 2007, 3:21 p.m.,  
in response to message #18 by Arne Halvorsen (Norway)*

Ja, where is the wormhole? Tak so mykkelig! (Thx!)

**Re: For those saying that 35s screen is an improvement over 33s**

*Message #20 Posted by [Arne Halvorsen \(Norway\)](#) on 17 Sept 2007, 6:50 p.m.,  
in response to message #19 by Walter B*

I need a rpn calculator to calculate the 11 dimensional coordinates for wormhole to happy hp user universe,... blame lazy norwegian custom guys... :-)

**Revealing the HHPUU**

*Message #21 Posted by [Walter B](#) on 18 Sept 2007, 2:45 a.m.,  
in response to message #20 by Arne Halvorsen (Norway)*

Oh, your first message made me believe there exists a universe with some happy hp users therein. Now you are telling us it is even a "happy hp user universe". Where did you get this information from? Please, calculate the coordinates asap. To ease your work, remember 7 of these 11 dimensions are just coiled and may be dropped for practical use (but are kept to keep theoretical physicists busy and out of the way ;)

*Edited: 18 Sept 2007, 2:50 a.m.*

### **Re: Revealing the HHPUU**

*Message #22 Posted by [Arne Halvorsen \(Norway\)](#) on 18 Sept 2007, 3:19 a.m.,  
in response to message #21 by Walter B*

Thx for the tip, but ofcourse there is an infinity of possibilities, so I think I will not try this after all. I would not be the one to blame for that the buggy hp35s makes a small error and get us all to the one where rpn users are looked up on as devil worshipers!

"7 of these 11 dimensions are just coiled and may be dropped for practical use (but are kept to keep theoretical physicists busy and out of the way ;)"

Realy, my friend 'the theoretical physicists' will be interested in that!

*Edited: 18 Sept 2007, 3:24 a.m.*

### **Display comparisons: HP-32SII, -33s, -35s**

*Message #23 Posted by [Karl Schneider](#) on 17 Sept 2007, 11:40 p.m.,  
in response to message #1 by romeo\_charlie*

I can't directly compare the HP-35s display to the improved HP-33s display, which is probably nearly the same.

The original HP-33s display has 14 full-grid positions plus a leading negative-sign position. The one-line HP-32SII display has 12 larger full-grid positions plus a leading negative-sign position.

It is noteworthy that HP-32SII display window is slightly wider, and with no annunciators on the sides, the space allotted for numbers in the HP-32SII display is significantly wider. The HP-35s would benefit from a 15th display position, as that would make possible the display of any complex number, if the mantissa is rounded to a single significant figure, e.g.:

$-9.E-234i-5.E-167$

which really ought to be displayed in mathematically-correct HP-42S style as

$-9.E-234-i5.E-167$

SHOW could then display the mantissas of each part of the complex number without exponents.

Presently, the HP-35s truncates display of real or complex numbers (if necessary) after the 14th character, relying on the scrolling function to display the entire number. The magnitude is not always apparent, and SHOW doesn't work at all on a complex number.

-- KS

*Edited: 18 Sept 2007, 4:01 p.m.*

---

**Re: For those saying that 35s screen is an improvement over 33s**

Message #24 Posted by [Peter Niessen](#) on 27 Sept 2007, 9:43 p.m.,  
in response to message #1 by romeo\_charlie

Indeed.

I taped my HP35S display with Scott Magic tape (the one which smells a bit like a new HP calculator). It adds the necessary matte. OK, not a perfect solution, but gets rid of the glare. Apply carefully to avoid air bubbles between display surface and tape.

Cheers, Peter.

---

**Re: For those saying that 35s screen is an improvement over 33s**

Message #25 Posted by [Raymond Del Tondo](#) on 28 Sept 2007, 12:33 a.m.,  
in response to message #24 by Peter Niessen

Hello,

> Scott Magic tape

>

good idea.

> (the one which smells a bit like a new HP calculator)

>

Cool thing! Didn't know that they are available sorted by flavour;-)

Raymond

---

**Re: For those saying that 35s screen is an improvement over 33s**

Message #26 Posted by [Chris Haltiner](#) on 28 Sept 2007, 9:33 a.m.,  
in response to message #24 by Peter Niessen

Quote:

\_\_\_\_\_  
I taped my HP35S display with Scott Magic tape (the one which smells a bit like a new HP calculator).  
\_\_\_\_\_

You may also want to consider using a screen protector for a PDA. The protectors are nearly transparent, easily trimmed to fit before removing the backing, and have almost no tackiness (easy to remove with no residue).

---

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## HP Forum Archive 17

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### HP-48-SX/User Assigned key comands

Message #1 Posted by [Hai Quan](#) on 15 Sept 2007, 5:57 p.m.

When I attempt to execute a user assigned command, all I get is the comand, not the executed command (e.g. if I have assigned "CLX" to a key the "CLX" is returned but not executed when I press the key.

What is the problem?

PS: The HP-48 passes all the internal tests.

### Re: HP-48-SX/User Assigned key comands

Message #2 Posted by [Raymond Del Tondo](#) on 15 Sept 2007, 8:04 p.m.,  
in response to message #1 by Hai Quan

There are various reasons why your attempt doesn't work.

1. CLX is not an HP-48 command
2. You used double quotes, so you wanted to return a STRING

Solution:

1. Use a valid HP-48 command, like DROP in this case

You can create an unevaluated command on the stack this way:

{ command\_name } OBJ-> DROP, where command\_name is your actual command.

Then you specify they key to be assigned, e.g. 11.1, then ASN.

Alternatively you can embed your command into a program like this:

```
<< command_name >>
```

HTH

Raymond

### Re: HP-48-SX/User Assigned key comands

Message #3 Posted by [Hai Quan](#) on 19 Sept 2007, 1:04 a.m.,  
in response to message #2 by Raymond Del Tondo

Thanks. I will give it a shot again.

I have not used the double quotes. Just the entries as detailed on page 27 of the manual.

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## HP Forum Archive 17

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### **HP-35s delimiters: Another RPL-esque characteristic**

Message #1 Posted by [Karl Schneider](#) on 15 Sept 2007, 3:50 p.m.

All --

In the blizzard of commentary about the HP-35s, this might have been noted already, but I can't specifically recall.

When a number is being input on the HP-35s while the delimiters ("," or ".") that separate groups of 1000 are active (i.e., DISPLAY 7 set), the delimiters do not appear until the number is finalized by ENTER, setting change, or other operation. The legacy models (including the HP-33s), by contrast, insert the delimiters *as the number is input*.

I would assume that the HP-35s behavior stems from the "input buffer" logic adopted from the RPL-based HP-50g, in which input is treated as free-form until it is processed upon some concluding action. The awkward base-arithmetic (hexadecimal/octal/binary) format is another RPL idea that was transferred.

Perhaps these changes were made in order to standardize code between the HP-35s and HP-50g. However, I like the old "RPN way" better...

-- KS

*Edited: 15 Sept 2007, 3:56 p.m.*

### **Re: HP-35s delimiters: Another RPL-esque characteristic**

Message #2 Posted by [Pal G.](#) on 16 Sept 2007, 1:46 a.m.,  
in response to message #1 by [Karl Schneider](#)

Yes, this has been discussed.

As an HP calculator greenhorn, I was not sure why the fuss. However, yesterday, I used a co-workers hp 41cx. I typed a large number just to see this particular effect. (I've never seen it before; I have an hp 50g and hp 35s). Predictably, the calculator inserted commas as I kept pressing zeros..

All I can say is, nice feature!

Cheers, Pal

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## HP Forum Archive 17

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### Program format from 33s to 35s

Message #1 Posted by [romeo\\_charlie](#) on 15 Sept 2007, 2:14 p.m.

Hello all.

I am new to this forum. I've been reading the posts for a while, and decided to go ahead and post my question. I am hoping to get some help from some of the experts whose messages I have been reading recently.

I used the program from Dave Coffin for the HP-33s for distance and bearing calculation. Now, I have just bought a 35s, and have found that the polar to rectangular conversion just doesn't work the same way. Unfortunately, I am just an airline pilot, and am no computer or math expert.

I was hoping that someone could help me modify this program to make it work in the HP-35s, since replacing the critical lines (D08, D13, D16, D20, D25) by the routines I read about yesterday in this site don't make it work.

Here's the Dave Coffin program:

```
D01 LBL D
D02 DEG
D03 INPUT N
D04 STO X
D05 INPUT E
D06 INPUT N
D07 1
D08 (polar to rectangular)
D09 INPUT E
D10 R up
D11 -
D12 x<>y
D13 (polar to rectangular)
D14 R up
D15 x<>y
D16 (rectangular to polar)
D17 x<>y
D18 RCL- X
D19 x<>y
D20 (polar to rectangular)
D21 180
D22 Rdown
D23 Rdown
D24 +/-
D25 (rectangular to polar)
D26 Rdown
D27 -
D28 x<>y
D29 ACOS
D30 60
D31 x
D32 RTN
```

You enter initial Latitude and Longitude and Final Latitude and Longitude, and it returns the distance in nautical miles and true departure course to fly the great circle trajectory.

I hope I am not bothering the audience with my ignorance about HP calculators.

Thanks in advance for any help.

Rafael.

Edited for grammar.

*Edited: 15 Sept 2007, 2:39 p.m.*

## **Re: Program format from 33s to 35s**

*Message #2 Posted by **Karl Schneider** on 15 Sept 2007, 6:31 p.m.,  
in response to message #1 by romeo\_charlie*

Welcome, Rafael!

Quote:

Unfortunately, I am just an airline pilot, and am no computer or math expert.

Certainly no need to be humble about that...

Quote:

Now, I have just bought a 35s, and have found that the polar to rectangular conversion just doesn't work the same way (*as it did in the HP-33s*).

Yes, this has been source of considerable consternation in this group. I believe that it was a horrible idea.

I've also had to deal with that same issue while porting my HP-32S/32SII/33s program to the HP-35s. The basic problem is that while "Th,r->y,x" and "y,x->Th,r" utilize only two stack registers, the conversion procedures that would be employed on the HP-35s almost always require more. This might cause the program to fail, by causing stack overload.

If the program were optimized for the HP-35s, many of the conversions could be eliminated, with calculations done using complex numbers in polar mode. But that would take some effort.

### Polar to rectangular:

I replaced "Th,r->y,x" with code that used all four stack registers.

```
(magnitude)
ENTER
ENTER
(angle value)
ENTER
SIN
x<>y
COS
Roll_up
*           (result is x-coordinate)
Roll_down
*           (result is y-coordinate)
```

For two-level calculations, an alternative is to store results and inputs to lettered registers, then recall them as necessary:

```
(magnitude)
STO M
(angle value)
STO A
SIN
*           (result is y-coordinate)
x<> M
```

```
RCL A
COS
*           (result is x-coordinate)
RCL M      (result is y-coordinate)
```

### Rectangular to polar:

The difficulty is that ARG (or conversion to polar representation of a complex number) is the only way to access the "atan2" function, which gives the proper quadrant of the angle -- very important in navigation.

Using complex-valued functions, with one extra stack register:

```
(x-coordinate)
(y-coordinate)
i
*
+
ENTER
ABS           (result is magnitude)
x<>y
ARG          (result is angle value)
```

To use only two stack registers will require a storage register and a bit more thought...

Quote:

\_\_\_\_\_

I hope I am not bothering the audience with my ignorance about HP calculators.

Thanks in advance for any help.

\_\_\_\_\_

Not at all; our pleasure.

-- KS

*Edited: 15 Sept 2007, 6:50 p.m.*

## **Re: Program format from 33s to 35s**

*Message #3 Posted by **Jeff O.** on 15 Sept 2007, 8:55 p.m.,  
in response to message #2 by Karl Schneider*

Rafael,

Like Karl says, welcome! Following up on some of Karl's points, the following routines preserve the stack and Last X and require no registers:

### Rectangular to Polar

```
ABS
Roll Down
Roll Down
Eqn LASTx+i*REGT
ENTER
Roll Down
Roll Down
Eqn ARG(REGT)
Eqn ABS(REGT)
RTN
```

### Polar to Rectangular

```
ABS
x<>y
Roll Down
Roll Down
Eqn LASTx*SIN(REGZ)
Eqn LASTx*COS(REGT)
```

RTN

The original program you presented would appear as follows with these routines added as subroutines:

```

D001  LBL D
D002  DEG
D003  INPUT N
D004  STO X
D005  INPUT E
D006  INPUT N
D007  1
D008  XEQ D043    (polar to rectangular)
D009  INPUT E
D010  R up
D011  -
D012  x<>y
D013  XEQ D043    (polar to rectangular)
D014  R up
D015  x<>y
D016  XEQ D033    (rectangular to polar)
D017  x<>y
D018  RCL- X
D019  x<>y
D020  XEQ D043    (polar to rectangular)
D021  180
D022  Rdown
D023  Rdown
D024  +/-
D025  XEQ D033    (rectangular to polar)
D026  Rdown
D027  -
D028  x<>y
D029  ACOS
D030  60
D031  x
D032  RTN
D033  ABS
D034  Roll Down
D035  Roll Down
D036  Eqn LASTx+i*REGT
D037  ENTER
D038  Roll Down
D039  Roll Down
D040  Eqn ARG(REGT)
D041  Eqn ABS(REGT)
D042  RTN
D043  ABS
D044  x<>y
D045  Roll Down
D046  Roll Down
D047  Eqn LASTx*SIN(REGZ)
D048  Eqn LASTx*COS(REGT)
D049  RTN

```

Of course it would be far better if the next version of the 35s looks like this:



Edited to replace the original routines with Miguel's improved versions.

*Edited: 17 Sept 2007, 10:11 a.m. after one or more responses were posted*

**Re: Program format from 33s to 35s - for Jeff **\*\*CORRECTED\*\*****

*Message #4 Posted by **Miguel Toro** on 15 Sept 2007, 10:01 p.m.,  
in response to message #3 by Jeff O.*

Hello Jeff and welcome Rafael,

Please see at this two versions for P->R and R->P, they are shorter and get the same result (they preserve the stack and LAST x), I think:

Polar to Rectangular

```
-----  
ABS  
x<->y  
RDN  
RDN  
eqn LASTx*SIN(REGZ)  
eqn LASTx*COS(REGT)  
RTN
```

Rectangular to Polar

```
-----  
ABS  
RDN  
RDN  
eqn LASTx+i*REGT  
ENTER  
RDN  
RDN  
eqn ARG(REGT)  
eqn ABS(REGT)  
RTN
```

Please tell me what you think.

Regards,

Miguel

*Edited: 16 Sept 2007, 9:53 a.m. after one or more responses were posted*

**Re: Program format from 33s to 35s - for Jeff**

*Message #5 Posted by **Reth** on 16 Sept 2007, 6:02 a.m.,  
in response to message #4 by Miguel Toro*

Usage of ABS as first line makes both routines give wrong answer where DIST or Y-coord is negative. Also using equations implies taking into consideration status of flag 10.

Regards, Reth

*Edited: 16 Sept 2007, 6:17 a.m.*

**Re: Program format from 33s to 35s - for Jeff**

*Message #6 Posted by **romeo\_charlie** on 16 Sept 2007, 7:20 a.m.,  
in response to message #5 by Reth*

Thanks a lot for all for your quick replies to my message.

I'll input your routines in the 25s and will perform some sample calculations. I will compare the

calc returns to the correct answer and will let you know, since some have pointed out possible errors.

Stay well.

Rafael.

### **Re: Program format from 33s to 35s - for Jeff**

*Message #7 Posted by **Maximilian Hohmann** on 16 Sept 2007, 8:19 a.m.,  
in response to message #6 by romeo\_charlie*

Hello colleague!

Quote:

\_\_\_\_\_

I will compare the calc returns to the correct answer and will let you know,  
since some have pointed out possible errors.

\_\_\_\_\_

I can tell you right now that you will not get any correct answer by trying to solve a spherical problem (= great circle navigation) by using a flat approach (i.e. using those built-in or homemade P/R conversions). It will work sufficiently well for very short distances only.

You need to program the correct formulae instead (look here for example:  
[http://en.wikipedia.org/wiki/Great-circle\\_distance](http://en.wikipedia.org/wiki/Great-circle_distance) ) if you want correct results.

Anyway: Please don't tell me that you intend to navigate along great circle routes by typing co-ordinates into your pocket calculator (or that your employer allows you to do that!). Otherwise I will prefer to stay on the ground while you are up there ;-)

Happy landings, Max

### **Re: Program format from 33s to 35s - for Jeff**

*Message #8 Posted by **romeo\_charlie** on 16 Sept 2007, 11:08 a.m.,  
in response to message #7 by Maximilian Hohmann*

Quote:

\_\_\_\_\_

Hello colleague!

I can tell you right now that you will not get any correct answer by trying to solve a spherical problem (= great circle navigation) by using a flat approach (i.e. using those built-in or homemade P/R conversions). It will work sufficiently well for very short distances only.

You need to program the correct formulae instead (look here for example:  
[http://en.wikipedia.org/wiki/Great-circle\\_distance](http://en.wikipedia.org/wiki/Great-circle_distance) ) if you want correct results.

Anyway: Please don't tell me that you intend to navigate along great circle routes by typing co-ordinates into your pocket calculator (or that your employer allows you to do that!). Otherwise I will prefer to stay on the ground while you are up there ;-)



Happy landings, Max

---

Max!

Nah, dont worry! I trust our two good old million-dollar Honeywell FMS's, along with our three laser gyro IRS's on board for actual navigation over the atlantic in the Airbus.

If those fail, there is a completely detailed procedure for that.

This is just a little hobby I got going, and since I already succeeded solving spherical trigonometry ecuations in the older and bigger HP-48sx for the calculation of the great circle distances and angles, I wanted to approach this problem in the smaller HP-35s.

It's spherical triangle ecuations you got me working on "as we speak", but as I said, I'm no computer expert and it's hard.

Happy landings to all,

Rafael.

**Re: Program format from 33s to 35s - for Jeff**

*Message #9 Posted by [Miguel Toro](#) on 16 Sept 2007, 9:46 a.m.,  
in response to message #5 by Reth*

Hi Reth,

In the P->R procedure that is prevented thanks to the use of LASTx: the original value before the ABS is there.

I corrected the R->P procedure to have the same behavior: the use of LASTx to recover the original value.

You are right about the flag 10 and that will depend on the use of these routines in Rafael's program.

Thanks,

Miguel

*Edited: 16 Sept 2007, 9:57 a.m.*

**Re: Program format from 33s to 35s - for Jeff **\*\*CORRECTED\*\*****

*Message #10 Posted by [Jeff O.](#) on 16 Sept 2007, 7:45 p.m.,  
in response to message #4 by Miguel Toro*

Quote:

---

Please tell me what you think.

---

I think I like them better than my versions. Nice work!

**Re: Program format from 33s to 35s**

Message #11 Posted by **Paul Dale** on 16 Sept 2007, 5:02 p.m.,  
in response to message #1 by romeo\_charlie

For a long article on rectangular to polar conversions look at this [discussion](#). By the end, the programs for doing the conversion were pretty good. I've submitted the "best" to the museum for inclusion in the software library. I've also included them here:

```
P001  LBL P
P002  FS? 10
P003  GTO P011
P004*  Rv
P005  Rv
P006  eqn REGZ+i*REGT
P007  ARG
P008  LASTx
P009  ABS
P010  RTN
P011*  CF 10
P012  XEQ P004
P013  SF 10
P014  RTN
```

```
R001  LBL R
R002  FS? 10
R003  GTO R012
R004*  Rv
R005  Rv
R006  eqn [REGZ*SIN(REGT),REGZ*COS(REGT)]
R007  [1,0]
R008  x<>y
R009  *
R010  EQN LASTx*[0,1]
R011  RTN
R012*  CF 10
R013  XEQ R004
R014  SF 10
R015  RTN
```

Both routines preserve the Z and T registers and return their results in the X and Y registers. They are also independent of the settings on the calculator and honour the current trig mode.

- Pauli

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## HP Forum Archive 17

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**Use Case: Logic Operators**

Message #1 Posted by [Will Rutherford](#) on 15 Sept 2007, 10:25 a.m.

Where I work, there are lots of uses for hex. There are FPGA developers defining interfaces through registers that device drivers have to connect to, for example. There are interfaces between control systems and the devices. There are debug listings often giving values in hex. In some cases, the hex values contain a number of bit fields that have to be separated out for comparison with other values. There are also data streams to look at such as MPEG encodings.

What is needed in this environment, if you're going to use a hand calculator at all, is repeated use of hex conversions and logic operators. It's also nice to have general scientific computing available in the same package in case other stuff comes up.

I have six HP calculators sitting beside me right now. The 48sx is broken. The remaining ones are in perfect working order. 15C, 16C, 33s, 50g, 35s. What will I use for the job?

The 15C is for me the nicest general scientific calculator of the lot, if you're not looking to do much programming. But it has no hex or logic. The 16C has the best hex and logic capabilities ever built into an HP but only one transcendental function: sqrt. The 33s has general scientific combined with hex, but no logic operators and no reasonable way to implement them. The 50g is very powerful but requires a little programming to improve the logic operators and is a bigger calculator than I want to carry around in the lab with me and possibly lose. That leaves the 35s, which is flawed.

Minimal keystrokes for oft-repeated operations is a very important principle in calculator design. If you only enter one hex number every month or so, it doesn't matter how many keystrokes it takes to do it. But if you want to enter dozens in one day, an extra keystroke or so per number makes the job unmanageable and extremely annoying.

The 35s as it now stands forces me to enter 3 extra keystrokes minimum per hex number entered. Those keystrokes are redundant, because I am already in hex mode and am required by someone's inconsiderate calculator design to enter an 'h' character at the end of the number. Those characters are <right-shift> BASE 6. The '6' part is annoying because I have to remember an arbitrary numeric constant, which is bad user interface design. If I don't like the '6', I have an alternative of using the arrow keys. Doing so increases the number of characters to bring up the redundant 'h' to 5.

Then there are the logic operators. They are not right on the keyboard, but in a menu. I accept that for a general-purpose calculator. So to use the NOT operator I enter <left-shift> LOGIC 4. If I don't like the 4, I need two arrow moves, bringing the total to 4 keystrokes.

All right, disregarding the hex problem for a moment, how can we improve on the operators? Ahh, I can write a subroutine for NOT. Okay, I've defined AND, OR, NOT, XOR, RMDR, INTG DIV as A, B, C, D, E, F. Great. Now to negate a hex number, which is a very frequent operation, I need XEQ C ENTER. Three keystrokes for a frequent operation. Not good.

As far as I've determined so far, there is **no** facility available in the calculator to reduce the keystrokes for the NOT operator below 3. I'm stuck with it.

So from a usability point of view, the 35s would need two improvements. (A) eliminate the 'h' requirement when in

hex mode. Nobody argued with me over that one. (B) Provide a rapid-entry subroutine call facility.

Regarding (B), if people are unwilling to part with the extended XEQ, then I would suggest a User mode as in the 15C. The next best alternative would be keyboard mapping, which requires too much extra infrastructure to support.

The great thing about a User mode is that I would only activate it when I need it. It's only a simple notational extension to existing subroutine facilities. When I'm done with my hex calculations, I can switch back into regular mode and have the usual scientific functions available. And when I'm in user mode, I could invoke my frequent functions using just *one* keystroke.

The other major issue in the Logic use case is shift operators. As I mentioned in another post, there's already a LOGIC menu and they could simply be added there. They're probably not hard to implement internally, as they are low-level operators close to the machine.

One flaw I've noticed in the 50g is that the shift operators exist in multiple forms, but they're all unary operators. What people really want most of the time is a binary shift operator, as in the C language << and >>. In order to extract different parts from an arbitrary hex number, for instance, you want to shift an arbitrary number of bits and do an AND with a mask value. Thus the preferred notation would be a ENTER b LSH.

Summary: People need to recognise the importance of minimum keystrokes for frequent operations. In the 35s one way to provide this would be a User mode. Finally, it would be useful to add binary left- and right- shift operators to the LOGIC menu of the 35s.

-Will

## Re: Use Case: Logic Operators

Message #2 Posted by [Peter Niessen](#) on 15 Sept 2007, 12:02 p.m.,  
in response to message #1 by Will Rutherford

Hi Will,

I guess it's supply and demand. 99.999999999% of users will need the transcendental functions and not the binary operations. Therefore, it probably doesn't make much sense (economically) to produce a calculator which has RL, RR, RLR, RLB, RRB, etc printed on the keys and sin, cos and tan hidden in some menu. I guess this is also a bit what is flawed with the HP28: It has both the hex and the trig stuff hidden in menus. At least, once the menu is active, you can keep them open and use them with a one keystroke operation. Plus, when in hex, the whole word fits into the display.

Too bad your 48sx is broken, it would be the thing to use for you.

Cheers, Peter.

## Re: Use Case: Logic Operators

Message #3 Posted by [Thomas Radtke](#) on 15 Sept 2007, 1:43 p.m.,  
in response to message #1 by Will Rutherford

Quote:

\_\_\_\_\_

The 35s as it now stands forces me to enter 3 extra keystrokes minimum per hex number entered. Those keystrokes are redundant, because I am already in hex mode and am required by someone's inconsiderate calculator design to enter an 'h' character at the end of the number.

\_\_\_\_\_

That's not quite right. In opposite to e.g. the 32SII, you're always in decimal entry mode. Enter 10 and will get Ah in hex display mode. Only the suffix allows for a different entry mode.

I agree however to everyone thinking that this is not a good design decision.

## Re: Use Case: Logic Operators

Message #4 Posted by [Karl Schneider](#) on 15 Sept 2007, 2:19 p.m.,  
in response to message #1 by Will Rutherfordale

Will --

Another thoughtful and well-written short essay. That's what a "Forum" is all about.

Quote:

I have six HP calculators sitting beside me right now. The 48sx is broken. The remaining ones are in perfect working order. 15C, 16C, 33s, 50g, 35s. What will I use for the job?

The 15C is for me the nicest general scientific calculator of the lot, if you're not looking to do much programming. But it has no hex or logic. The 16C has the best hex and logic capabilities ever built into an HP but only one transcendental function: sqrt. The 33s has general scientific combined with hex, but no logic operators and no reasonable way to implement them. The 50g is very powerful but requires a little programming to improve the logic operators and is a bigger calculator than I want to carry around in the lab with me and possibly lose. That leaves the 35s, which is flawed.

You should consider purchasing an HP-42S from eBay. This quality compact model was discontinued in 1995, but has all the base-arithmetic, logic, and transcendental math functionality (including modulo division) that you mention. The hexadecimal/octal/binary words are 36-bit 2's-complement signed integers.

I agree with you that the HP-16C had the best binary-mathematics capabilities and that those of the RPL-based models were poorly conceived. Here's an archived post on the topic:

[Hex base-integer conversion -- HP-16C versus others](#)

-- KS

## Re: Use Case: Logic Operators

Message #5 Posted by [Will Rutherfordale](#) on 16 Sept 2007, 1:40 p.m.,  
in response to message #4 by Karl Schneider

Thanks for the encouragement, Karl. I also found your link informative.

Keeping to the KISS principle (keep it simple, stupid), I followed the path of least resistance and programmed the two functions I want on the 50g, calling them SHL and SHR. I then created a custom menu containing the main commands I want and my new shift functions.

In the process I was reminded of how annoying RPL is because the loops are test-at-bottom rather than test-at-top. So in order to make the command #7 0 SHL work correctly, i.e. produce #7, I had to put an extra IF into the code before the START loop.

I'm sure looping constructs in RPL have been debated here ad nauseum, so I won't belabour the point.

Suffice it to say that the 50g is not a pretty machine, but it can be made to do what you want sometimes.

The next obstacle is the two extra keystrokes needed per number entered, i.e. <left-shift> #. In the 16C this isn't needed. And of course I might want to see if I can make my SHL and SHR routines accept either a binary or a regular number for the second operand.

-Will

### **Re: Use Case: Logic Operators**

*Message #6 Posted by **Paul Dale** on 16 Sept 2007, 4:45 p.m.,  
in response to message #5 by Will Rutherfordale*

Mostly for interest's sake, I did a full implementation of the 16c's logic operations in \*fix (the OpenRPN implementation language). Most of the work is done in \*fix which is essentially RPL so porting to a 48/49/50 wouldn't be difficult.

The code is available on sourceforge I think.

As for avoiding the '#' prefix some sysRPL magic ought to be possible if you are really keen.

- Pauli

### **Re: Use Case: Logic Operators**

*Message #7 Posted by **Will Rutherfordale** on 17 Sept 2007, 7:34 a.m.,  
in response to message #6 by Paul Dale*

I've spent more time investigating both the 16C and the 50g. As before, my main criterion is simple usability for repeated hex calculations.

With my new custom menu, the 50g has all the functionality I want. However, it has usability problems in entering numbers. Not only does the '#' prefix require two keystrokes, but the digits ABCDEF require hitting the ALPHA key.

Furthermore, the custom menu keys coincide with the ABCDEF location. So if I forget to hit ALPHA I can accidentally change to decimal mode or invoke an AND operation. If I don't forget, I still have the problem that if I am in ALPHA mode I have to terminate it (or hit ENTER) to invoke one of the operators. Thus the operation is not very smooth and is prone to frustration from simple user errors.

The 16C definitely avoids all these problems. It has dedicated keys for all the hex digits, which are always active as such when you're in hex mode. It has the basic logic operators available with two keystrokes each (through the <f> prefix).

One thing the 16C doesn't have is binary (meaning two operand) shift-left and shift-right operators. However, it does have building blocks from which you can construct them. You could use a combination of MASKL or MASKR with AND and RLn or RRn. RLn and RRn are the available two operand rotate operators.

One could implement these new operators as subroutines and invoke them with two keystrokes per use using GSB, I believe. This gives a pretty viable solution with good usability.

So amongst the working HP calculators at my disposal right now, only the 16C seems to give me the hex calculating capability I want.

I haven't used sysRPL. Perhaps that's the only way to do the keyboard mappings necessary to get the 50g to reduce the keystrokes on '#' and the hex digits. The regular keyboard mapping through ASN doesn't look like it quite does it.

-Will

Quote:

Mostly for interest's sake, I did a full implementation of the 16c's logic operations in \*fix (the OpenRPN implementation language). Most of the work is done in \*fix which is essentially RPL so porting to a 48/49/50 wouldn't be difficult.

The code is available on sourceforge I think.

As for avoiding the '#' prefix some sysRPL magic ought to be possible if you are really keen.

- Pauli

## Re: Use Case: Logic Operators

Message #8 Posted by [Will Rutherford](#) on 18 Sept 2007, 7:47 p.m.,  
in response to message #1 by Will Rutherford

I thought this comparison might help put it in perspective.

The following chart shows keystrokes required for various operations.

| Operation<br>Gcalctool  | HP33s | HP35s | HP35sB? | HP16C | HP50g | Win Acc |
|-------------------------|-------|-------|---------|-------|-------|---------|
| -----<br>-----          | ----- | ----- | -----   | ----- | ----- | -----   |
| +, -, *, /<br>1         | 1     | 1     | 1       | 1     | 1     | 1       |
| AND, OR, NOT, XOR<br>1  | NA    | 3     | 2       | 2     | 1     | 1       |
| SHL<br>1                | NA    | NA    | 2       | 2     | 1     | 1       |
| SHR<br>1                | NA    | NA    | 2       | 2     | 1     | NA      |
| Change base<br>1        | 3     | 3     | 2?      | 1     | 1     | 1       |
| View other base<br>NA   | NA    | NA    | NA      | 2     | NA    | NA      |
| Num entry overhead<br>0 | 0     | 3     | 0       | 0     | >=2   | 0       |
| RMDR, INT/<br>PS        | 2     | 3     | 2       | 2     | 1     | PS      |

Notes:

[0] "NA" means "Not Available". "PS" means "Partially Supported".

[1] HP35sB is a hypothetical calculator that might be built if HP folks decided to act on my recommendations. In particular: (a) XEQ reduced to 2-keystroke operation, or equivalent capability; (b) restore HP33s hex notation so the 'h' suffix does not have to be entered; (c) provide SHL and SHR operations in the LOGIC menu.

[2] "Win Acc" is the Windows calculator accessory. Gcalctool is a similar tool in Gnome, i.e. in Linux.

[3] It is assumed that all calculators have been programmed with simple wrapper functions where appropriate. This would mean:

- (a) HP35s: no improvements are possible that will reduce keystrokes
- (b) HP35sB: wrappers on all LOGIC menus and change of base
- (c) HP16C: my custom SHL and SHR are implemented, like the C operators
- (d) HP50g: a CUSTOM menu is created, and SHL and SHR are available there as well as the main logic and base change operators

[4] The "Num entry overhead" represents extra keystrokes required to simply type in a number, beyond the actual digit values. In the HP35s this is fixed at 3 for anything other than decimal, regardless of current mode. For instance in hex you need the h suffix. In the HP50g, it takes two keystrokes to enter the # prefix. For hex numbers, you also have to hit the ALPHA key an indeterminate number of times for the hex digits A..F.

[5] Some of the operations on the HP50g might take an extra keystroke or two for shifting through the custom menu, but the effect is random and small.

[6] RMDR and INT/ are related discrete math operations. They were in shifted key positions in the HP33s but got shunted off into menus in the HP35s.

-Will

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## HP Forum Archive 17

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### hrasts emulators (specifically the 71)

Message #1 Posted by [Bruce Bergman](#) on 15 Sept 2007, 12:03 a.m.

I just recently found hrast's emulators. I know, shame on me for not knowing about them before... Anyhow, I've played with the free 41e emulator for the 50g and I'm quite impressed!

I'm wondering what y'all think of the other emulators? I would be interested in buying a couple, but EUR\$60 (or EUR\$100 for two) is still quite a penny in the USA (about \$138, I believe). Are they worth the price? I'm looking for some honest opinions and reviews. In particular, what you think of the full-blown 41 emulation (with PPC ROM and packs) and the 71 emulation.

Thanks! bruce

### Re: hrasts emulators (specifically the 71)

Message #2 Posted by [Vieira, Luiz C. \(Brazil\)](#) on 15 Sept 2007, 4:34 p.m.,  
in response to message #1 by Bruce Bergman

Hi;

I have the Voyager Series emulators (HP11C, 15C and 16C) and the HP41CV. They run in the HP49G (blue, first model). I'd borrow your 'impressive' to describe them, cannot think of a better word. They definitely worth the bux.

In time: I bought a second HP49G just for this purpose: running Hrast's emulators. I'd tell it's been worth having an HP49G just for the task.

I consider Hrasts emulators a gem, so maybe I'm suspicious. I once needed to review some old calculations performed with math routines originally written for the HP41 and I did not have the MATH ROM for the HP41. I ran them in the HP49G with the emulators. Spot on!

Cheers.

Luiz (Brazil)

### Re: hrasts emulators (specifically the 71)

Message #3 Posted by [Howard Owen](#) on 15 Sept 2007, 8:56 p.m.,  
in response to message #1 by Bruce Bergman

Tell him how you helped debug the MLDL2K and HEPAX deal using HP41X, Luiz. Now that's accurate emulation!

I love Hrast's emulators too. I have HP41X, HP71X and HP42X. They all rock. HP71X is the only 71B emulator that will do graphics, so it's the only one that will run my YATZ71 program. I think the keyboard mapping is a bit of a stretch for that emulator in particular, though. The calculator emulators are better in this regard, since there's no expectation that there will be a QWERTY keyboard.

They are a bit pricey, particularly with the dollar crashing like it is. But if you are a HP calculator enthusiast, I'd say they are pretty much a must-have.

Regards,  
Howard

### **Are you talking about this?**

*Message #4 Posted by [Vieira, Luiz C. \(Brazil\)](#) on 17 Sept 2007, 7:05 a.m.,  
in response to message #3 by Howard Owen*

Hi, Howard;

[This thread](#) is actually something to remember... oh, boy! So many brains working together! Good days, indeed.

Thanks to remind us about it. And Hrast's emulator made the difference.

Best regards.

Luiz (Brazil)

### **Re: Are you talking about this?**

*Message #5 Posted by [Bruce Bergman](#) on 17 Sept 2007, 10:55 a.m.,  
in response to message #4 by Vieira, Luiz C. (Brazil)*

Thanks for the recommendations, guys. Still enough of a price to make me pause, but I'll put it on my Christmas wish list. ;-)

thanks! bruce

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## HP Forum Archive 17

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### HP-48SX missing its battery cover

Message #1 Posted by [Jean-Michel](#) on 14 Sept 2007, 4:45 p.m.

Hi all,

I recently took from the trash bin of the office where I work a non functioning HP-48SX. (Yes, that does happen!) After some investigations, I found the problem: the "ON" key doesn't operate until I press on the face plate above the "B" key at the same time. Probably the unit has fall on the floor once in its life, and the PCB isn't correctly fitted any more. This minor problem doesn't bother me much, all the more so since I already have a 48GX. On the contrary, the battery cover is missing, and this is a bigger problem, because at least one of the batteries often falls. So, if I may ask for this in this forum, would anyone here have a spare 48's battery cover, so that we could both make an arrangement?

(If this isn't definitely the right place for such a request, please let me know, Dave: I apologize in advance...)

Kind regards.

Jean-Michel.

### Re: HP-48SX missing its battery cover

Message #2 Posted by [Randy](#) on 14 Sept 2007, 4:48 p.m.,  
in response to message #1 by [Jean-Michel](#)

Email me your address, I'll post one to you.

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## HP Forum Archive 17

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### hp 35s disassembled photos

Message #1 Posted by [Lyuka](#) on 14 Sept 2007, 4:07 p.m.

While I cannot sleep well for it's too warm and humid tonight here in Yokohama JAPAN, I disassembled an HP 35s just for fun and took some photographs.

<http://www.finetune.jp/~lyuka/interests/calc/hp35s/hp35s-disassembled.html>

Good night.

*Edited: 14 Sept 2007, 4:16 p.m.*

### Re: hp 35s disassembled photos

Message #2 Posted by [Howard Owen](#) on 14 Sept 2007, 4:16 p.m.,  
in response to message #1 by Lyuka

Fun stuff!

As Eric told us earlier, there is no prospect of switching out the CPU on that guy!

Regards,  
Howard

### Re: hp 35s disassembled photos

Message #3 Posted by [hugh steers](#) on 14 Sept 2007, 5:18 p.m.,  
in response to message #2 by Howard Owen

what about switching out the crystal? maybe it has a lot of inherent performance headroom, at the expense of battery.

### Re: hp 35s disassembled photos

Message #4 Posted by [DaveJ](#) on 14 Sept 2007, 8:21 p.m.,  
in response to message #2 by Howard Owen

Quote:

Fun stuff!

As Eric told us earlier, there is no prospect of switching out the CPU on that guy!

Regards,  
Howard

It wouldn't be too hard to design a complete new board for it... if you were that keen. Hardest part would be re-attaching the LCD flex cable.

I can only see a (presumably) 32.768KHz watch crystal. Maybe a PLL is used to generate a higher frequency clock?

BTW, what's with the \*24\* screws holding that board in?? Seems a tad excessive.

Dave.

**Re: hp 35s disassembled photos**

*Message #5 Posted by [Eric Smith](#) on 14 Sept 2007, 9:59 p.m.,  
in response to message #4 by DaveJ*

I'm no industrial design expert, but the reason for using so many screws is probably to stiffen the case.

**Re: hp 35s disassembled photos**

*Message #6 Posted by [Dan Greil](#) on 14 Sept 2007, 10:18 p.m.,  
in response to message #5 by Eric Smith*

I'm not a design expert either, but I was impressed that screws were used at all considering heat staking is the less expensive approach you'd expect for calculators fabricated in China.

**Re: hp 35s disassembled photos**

*Message #7 Posted by [Eric Smith](#) on 15 Sept 2007, 12:22 p.m.,  
in response to message #6 by Dan Greil*

Yes, I was surprised by that as well. With automated manufacture, perhaps there is less difference in cost between screws and heat stakes than we thought, but it's hard to believe that screws could be less expensive than heat stakes.

Note that many inexpensive calculators from Casio, Sharp, etc. also use screws.

**Re: hp 35s disassembled photos**

*Message #8 Posted by [Kelly Huckman](#) on 14 Sept 2007, 10:09 p.m.,  
in response to message #4 by DaveJ*

If you like the tactile response of the 35s' keys then you like those screws. Imagine if you only had screws on the perimeter of the board; every time you tapped a key in the center the board would flex.

*Edited: 14 Sept 2007, 10:10 p.m.*

**Re: hp 35s disassembled photos**

*Message #9 Posted by [DaveJ](#) on 15 Sept 2007, 5:58 a.m.,  
in response to message #8 by Kelly Huckman*

Quote:

\_\_\_\_\_  
If you like the tactile response of the 35s' keys then you like those screws. Imagine if you only had screws on the perimeter of the board; every time you tapped a key in the center the board would flex.

---

Not if you have a sufficiently thick PCB. It's all a trade off between where you want your cost to be, room in the case, construction options etc. Can anyone confirm what thickness PCB is used in the 35S? (just curious)

In the 35S it looks like the PCB designer laid out a full complement of screws on a fixed grid and simply removed those where space was required for the parts and tracking. So, PCB first, and then the case moulding was designed to match the remaining screws holes. Interesting.

Dave.

---

**Re: hp 35s disassembled photos**

*Message #10 Posted by [reth](#) on 15 Sept 2007, 7:07 a.m.,  
in response to message #9 by DaveJ*

I think they should have put even more screws, that would make the calculator heavier :)  
reth

---

**Re: hp 35s disassembled photos**

*Message #11 Posted by [DaveJ](#) on 15 Sept 2007, 9:39 a.m.,  
in response to message #10 by reth*

Quote:

---

I think they should have put even more screws, that would make the calculator heavier :)  
reth

---

A thin lead plate glued on the inside back cover is much more effective for that.

Doesn't quite make the device ROHS compliant though :->

Dave.

---

**Re: hp 35s disassembled photos**

*Message #12 Posted by [Eric Smith](#) on 15 Sept 2007, 12:20 p.m.,  
in response to message #8 by Kelly Huckman*

I used to think that the screws in calculators fastening the PCB to the case top were to improve the rigidity of the PCB. However, my own experiments seem to indicate that the PCB tends to be more rigid than the case top, and that the screws serve more to increase the rigidity of the case top. Either way, though, it's fairly important.

---

**Re: hp 35s disassembled photos**

*Message #13 Posted by [Richard Ottosen](#) on 15 Sept 2007, 8:58 p.m.,  
in response to message #12 by Eric Smith*

Quote:

---

... the screws serve more to increase the rigidity of the case top.

---

I suspect that a stiff case prevents it from acting as a sounding board when keys are pressed. The sound of the key press is a large part of the HP keyboard "feel".

-- Richard

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## HP Forum Archive 17

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### Could I use AA alkaline batteries in a HP 35?

Message #1 Posted by [Miguel Toro](#) on 14 Sept 2007, 3:57 p.m.

I think of using NiMHs but I just wanted to know if it is safe for the calculator.

Thanks,

Miguel

### Re: Could I use AA alkaline batteries in a HP 35?

Message #2 Posted by [Stefan Vorkoetter](#) on 14 Sept 2007, 4:54 p.m.,  
in response to message #1 by Miguel Toro

Where would you put them?

### Re: Could I use AA alkaline batteries in a HP 35?

Message #3 Posted by [Miguel Toro](#) on 14 Sept 2007, 6:10 p.m.,  
in response to message #2 by Stefan Vorkoetter

The original Battery Pack was dead so I opened it (cutting by the seam, as the curator says) and arranged it so now I am able to put in and take out NiMh batteries easily. So now I want to try some alkalines if that is safe. Maybe I can show a picture of what I did (it is ugly but it works).

### Re: Could I use AA alkaline batteries in a HP 35?

Message #4 Posted by [Stefan Vorkoetter](#) on 14 Sept 2007, 10:43 p.m.,  
in response to message #3 by Miguel Toro

Oh, sorry. I thought you meant HP 35s. I wouldn't use alkalines in an HP-35 because their voltage is higher. Good NiMH batteries (like Sanyo Eneloops) will far outlast the original NiCds.

### Re: Could I use AA alkaline batteries in a HP 35?

Message #5 Posted by [Miguel Toro](#) on 15 Sept 2007, 7:47 a.m.,  
in response to message #4 by Stefan Vorkoetter

Ok. Thank you. So 4.5v can indeed damage the calculator.

Regards,

Miguel

### Re: Could I use AA alkaline batteries in a HP 35?

Message #6 Posted by [Jeff O.](#) on 15 Sept 2007, 7:54 p.m.,



*in response to message #5 by Miguel Toro*

If I recall correctly\*, a fully charged nicad puts out about 1.5 Volts. If you check [the schematic](#) of the classic charger, it indicates that the logic supply voltage is 4.2 Volts. Based on this information, it is hard to believe that 4.5 Volts would present any danger. However, better safe than sorry, so unless you have a strong need to use alkalines, why take the risk. It would also be bad if you happened to plug the charger into your calculator with alkalines installed.

\*-which I apparently do not, see below

*Edited: 15 Sept 2007, 9:04 p.m. after one or more responses were posted*

### **Re: Could I use AA alkaline batteries in a HP 35?**

*Message #7 Posted by [Stefan Vorkoetter](#) on 15 Sept 2007, 8:05 p.m.,  
in response to message #6 by Jeff O.*

A fully charged NiCd puts out about 1.3V which quickly drops to 1.2V and then stays there for a long time. At 1.1V, it's almost dead.

Stefan

### **Re: Could I use AA alkaline batteries in a HP 35?**

*Message #8 Posted by [JoeFrisco](#) on 17 Sept 2007, 7:45 p.m.,  
in response to message #6 by Jeff O.*

NiCads are 1.2 V. . . But I will accept the 1.3 V potential as offered by Stefan NiH are 1.2 V . . So you should be able to drop NiH cells for NiCad cells

Alkaline Cells are 1.5 V.

*Edited: 17 Sept 2007, 7:47 p.m.*

### **Re: Could I use AA alkaline batteries in a HP 35?**

*Message #9 Posted by [Mad Dog ebaycalcnut](#) on 15 Sept 2007, 8:19 p.m.,  
in response to message #1 by Miguel Toro*

No.

### **Re: Could I use AA alkaline batteries in a HP 35?**

*Message #10 Posted by [Miguel Toro](#) on 15 Sept 2007, 10:21 p.m.,  
in response to message #9 by Mad Dog ebaycalcnut*

Clear as water (as we say in Spanish)!. Thank you all for yours answers.

Miguel

### **Re: Could I use AA alkaline batteries in a HP 35?**

*Message #11 Posted by [Chuck Sommer](#) on 16 Sept 2007, 2:48 p.m.,  
in response to message #1 by Miguel Toro*

I agree that using alkaline batteries is not a good idea. The first problem is that a really new alkaline battery

can put out 1.6 volts or higher, but I suspect the calculator would be OK with that (4.8 volts). The more important problems are (as stated earlier) what if you put your charger to the calculator with the alkaline batteries, and if the alkaline batteries are left in the calculator long enough they will LEAK. For the last reason I would not try alkaline batteries as I can imagine putting them in and forgetting about it for a few years... and then being very unhappy.

Chuck

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## HP Forum Archive 17

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**Microchallenge 41/42: nr of digits**

Message #1 Posted by [Werner](#) on 14 Sept 2007, 5:57 a.m.

Challenge: write a program that can run unchanged on either a HP41 or a HP42, and will return 10 on a HP41 and 12 on a HP42. It must not depend on any modes or flag settings. Goal: shortest program excluding LBL and END

to give you an idea, this is my first thought:

```
.6 ENTER 1/X 1/X - LOG CHS
```

or, 8 bytes (41) and 10 bytes (42) Can you do better?

**Re: Microchallenge 41/42: nr of digits**

Message #2 Posted by [Allen](#) on 14 Sept 2007, 7:36 a.m.,  
in response to message #1 by Werner

not nice to do mini-challenges in the morning.. it makes us late for work. SMILE!

**Re: Microchallenge 41/42: nr of digits**

Message #3 Posted by [Werner](#) on 14 Sept 2007, 7:52 a.m.,  
in response to message #2 by Allen

At the time of posting, it was luchtime where I am.

**Re: Microchallenge 41/42: nr of digits**

Message #4 Posted by [Howard Owen](#) on 14 Sept 2007, 4:35 p.m.,  
in response to message #3 by Werner

Yes, I realized that the world had really changed when I started having to take account of time deltas greater than three hours in both my work *and* my recreational lives. Back when the calculators we love so much were created, correspondence between continents was *not* routine like it is today. Of course, this is still mainly limited to the developed world, although that is projected to rapidly change, and soon. I wish I could say I'm hopeful that the conversations engendered by this coming surge of new netizens would all be as rational, calm and friendly as discussions here tend to be. Even when we are annoyed with one another, we tend to be civil about it. But recent years have shown that enhanced communication doesn't necessarily contribute to better understanding between peoples. It should have been obvious to me that people can spew hatred over the Internet just as easily as fellowship, but it wasn't. I still think that when the sum of all the conversations are added up, the balance is helpful, constructive, rational, loving and above all, useful to human beings everywhere. Wikipedia shows this at work. There is a lot of entropy tugging at that project, but the content still seems to tend toward all those qualities I just mentioned, through the strenuous efforts of lots of dedicated folks.

I just had my day interrupted by a blown clutch, and had a spun down moment, and that's what came up. We now return you to your HP calculator enthusiast's discussion forum, already in progress.

Regards,  
Howard

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## HP Forum Archive 17

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### 50g - cracking the case open?

Message #1 Posted by [Dallas Osborne](#) on 13 Sept 2007, 4:04 p.m.

Does anyone have experience opening the 50g case?

To answer the question of, "Why would you ever want to do that? Are you really trying to pull the plant up by the roots to see what makes it grow?":

I am very annoyed at my current 50g; every key press results in an audible rattle. I know this may seem petty, but the vibration with every keystroke is minor frustration that builds with time to a strong desire to hurl this fine calculator against the nearest wall. I have ensured all rubber feet contact evenly, tried the paper trick to keep the battery cover tight and ruled out the front panel and screen as the source; this is something internal.

HP hasn't responded to any of my emails. \*Gasp\* REALLY?

I am going to buy another regardless; I don't mind the additional cost to get one that doesn't rattle like it has loose paperclips in it.

But, before I do that, I thought I ought open this unit up and see if I can readily epoxy the culprit still. Thus: have any of you pried this calculator apart yet? An initial plan of attack would be welcomed advice.

My thanks regardless, Dallas

### Re: 50g - cracking the case open?

Message #2 Posted by [Egan Ford](#) on 13 Sept 2007, 4:40 p.m.,  
in response to message #1 by Dallas Osborne

<http://www.youtube.com/watch?v=z6GB2gmq1yE>

### Re: 50g - cracking the case open?

Message #3 Posted by [Dallas Osborne](#) on 14 Sept 2007, 8:15 a.m.,  
in response to message #2 by Egan Ford

Egan, Thank you very much for the link. After moving to the source website, I found another portion of it that depicts clearing of the heat stakes for complete removal of the main board. Imagine my surprise when I didn't have to drill the heat stakes at all; it appears as though they were never melted out. The board in my unit simply lifted off the posts as soon as I pulled the case in two. I clamped a small piece of rolled steel in an old set of vice grips and, with the help of a small torch, carefully and quickly mushroomed these posts into their proper form. My 50g is now, short of the somewhat muffled key clicks, silent.

Thank you for your assistance. Regards, Dallas

### Re: 50g - cracking the case open?

Message #4 Posted by [Egan Ford](#) on 14 Sept 2007, 11:48 a.m.,

*in response to message #3 by Dallas Osborne*

Congrats. Did you photo-chronicle your repair?

**Re: 50g - cracking the case open?**

*Message #5 Posted by **Dallas Osborne** on 14 Sept 2007, 2:28 p.m.,  
in response to message #4 by Egan Ford*

In hindsight, I wonder why the heck I didn't; it would have been rather helpful for anyone else interested in a similar task.

I have to admit it was far simpler than I imagined. Once you get the screen off and the two screws under it, the entire top half pops off without more than a stubborn thumbnail. The nice part to document would have been using that hot steel poker to melt the stakes down. My apologies; I will definitely run some good pictures next time around.

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## HP Forum Archive 17

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### How to clean a HP 35?

Message #1 Posted by [Miguel Toro](#) on 13 Sept 2007, 3:02 p.m.

I bought a HP 35 S/N 1302A 81058. The calculator is in good shape but the faceplate needs some cleaning. What is the safest way to clean it? What should I use to do that?

Thanks,

Miguel

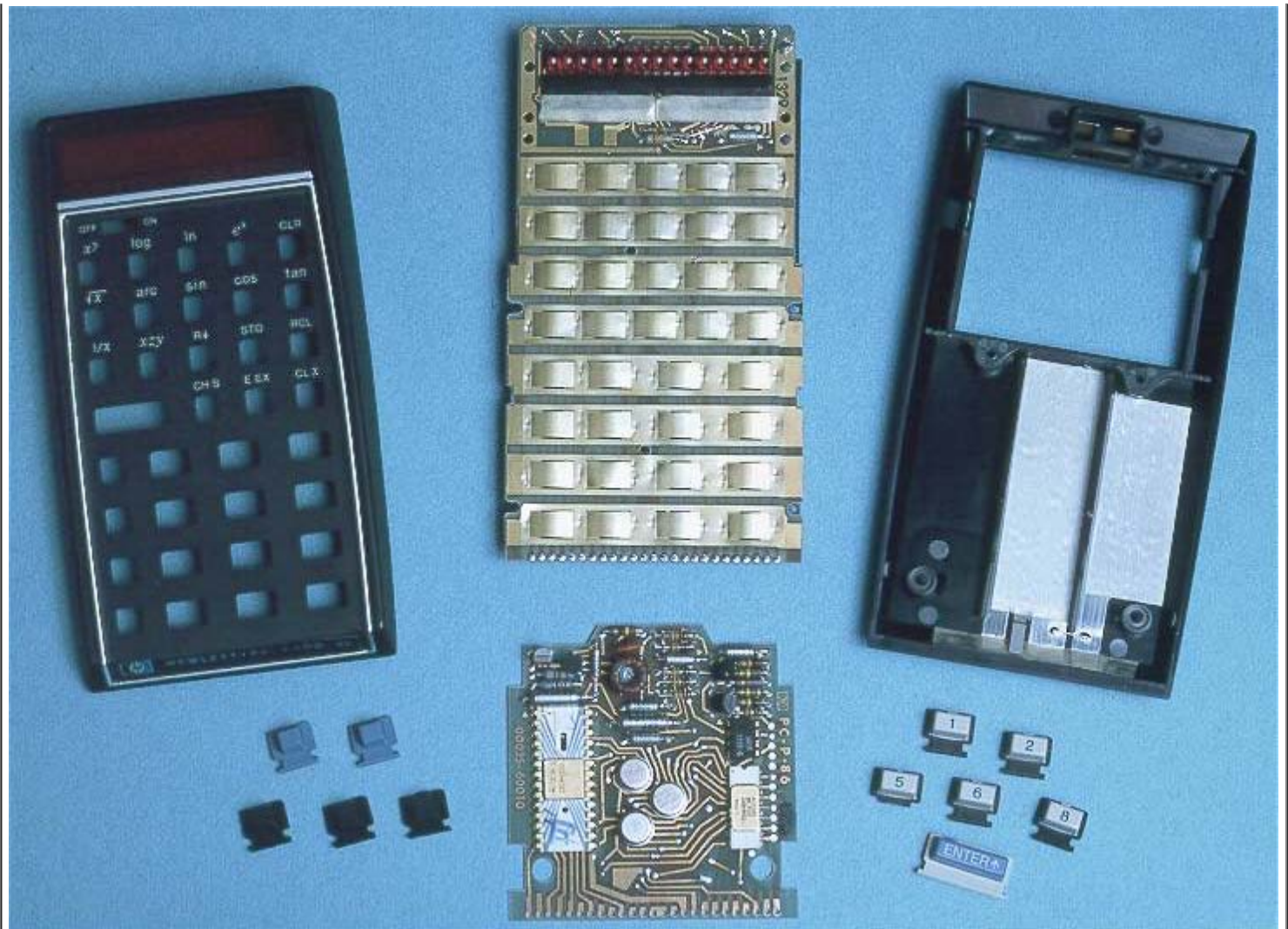
*Edited: 13 Sept 2007, 6:35 p.m.*

### Re: How to clean a HP 35?

Message #2 Posted by [Jeff O.](#) on 13 Sept 2007, 10:56 p.m.,  
in response to message #1 by Miguel Toro

My favorite cleaning solution for the keyboard, and the keys too, is any of the blue or green spray-type cleaners, e.g. Fantastik, Formula 409, Windex, etc. Wipe on and off with a soft cloth. In my humble opinion, it is way, way, way easier to do a proper job if you *completely disassemble the calculator*. If you try to clean the keyboard with the keys in place, it's tough to not end up with a "cross-hatched" pattern from having to go up-and-down and side-to-side between the keys. Also, if you take the keys out, you can soak them in a dish of cleaner to get rid of all of the grunge. (A surprising amount usually comes off!) So, has anyone peeled back your label or poked holes to get at the screws underneath? If so, I say take it apart. If the label is undisturbed, only you can decide if you'd rather have an intact label or a *properly* cleaned calculator. If you open it up, you can also clean and lubricate the on-off slider switch, which is bound to start acting up sometime.

Here's what everything will look like when you get it apart:



If you need any [instructions](#) or further advice on taking it apart, just ask.

Oh of course, perform at your own risk, your mileage may vary, etc.

*Edited: 14 Sept 2007, 7:37 a.m.*

### **Re: How to clean a HP 35?**

*Message #3 Posted by [Miguel Toro](#) on 14 Sept 2007, 11:52 a.m.,  
in response to message #2 by Jeff O.*

Thank you Jeff. this is excellent and more complete than I hoped.

Regards,

Miguel

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## HP Forum Archive 17

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### Thinking to buy HP50G

Message #1 Posted by [Miguel Saiz](#) on 13 Sept 2007, 1:45 p.m.

I am a long time user of HP calc (hp41cv, hp28c, hp15c, hp12c, hp16c, hp42, hp48sx, hp20s, hp10b, hp17bii, hp200lx, hp49g, HP33S, hp12P25ed). I just bought the HP35s (with some mixing feelings) It looks good (retro is Ok), but the overall feeling was that it looks like the traditional HP quality is gone (today HP is not an option to me for PC neither, I prefer Apple). How is your impression about 50G comparing with the 48G series?

Thanks in advance

Miguel

*Edited: 13 Sept 2007, 1:46 p.m.*

### Re: Thinking to buy HP50G

Message #2 Posted by [Bruce Bergman](#) on 13 Sept 2007, 2:14 p.m.,  
in response to message #1 by Miguel Saiz

I swear, we need to make this topic a FAQ or something -- it comes up about every two weeks. ;-)

Personally, I think the 50g is superior to the 48 family. Yes, there are some valid reasons to use the 48s, but the 50g has all the power, all the compatibility, and it's newer. They made huge improvements over the 49 family too.

Go for it!

thanks, bruce

### Re: Thinking to buy HP50G

Message #3 Posted by [Egan Ford](#) on 13 Sept 2007, 2:18 p.m.,  
in response to message #1 by Miguel Saiz

I have had a 48GX since 1993. My still mint 48GX was a gift and I did not want to lose it, so I retired it for a 50g about a year ago.

Pros:

1. Speed.
2. Larger (more pixels) and more clear display.
3. 4 I/O Options (USB, Serial, IR, SD).
4. Replaceable.
5. Flash upgradeable.
6. UserRPL compatible with 48.
7. No Alpha on positional keys.

Cons:

1. Keyboard layout. Missing large Enter, but you get used to it. I think positional keys are a waste of space (inverted T preferred).
2. Menu/Software layout. Kinda of a hodgepodge, often I have to use CAT or spell out the command. I do not recall having this problem with my 48GX. It's only a minor nuisance. Could be fixed with flash.
3. Some may find the keyboard a bit stiffer. I do not have an issue with it.

IMHO the build quality of the 50g is as good as my 48GX.

For RPN on my 50g I have been using: <http://www.hrastprogrammer.com/hp41e/index.htm>

### **Re: Thinking to buy HP50G**

*Message #4 Posted by [Norris](#) on 13 Sept 2007, 3:05 p.m.,  
in response to message #1 by Miguel Saiz*

If you want to do symbolic math (calculus, differential equations, linear algebra, etc), then get the 50G.

You can get much of the same CAS functionality on the 48GX, but you will need to buy 48GX memory expansion cards (which will probably cost as much as the calculator itself), plus a 48 serial cable, and install lots of third-party software. And even then, the CAS will not be as up-to-date or as well integrated as it is on the 50G; it will run much more slowly, and the display will be smaller and have less contrast.

I bought a 48GX in the late 1990s, which I upgraded with two expansion cards, ALG48, ERABLE, etc. It works, but it's slow and clumsy compared to the 50G. For number crunching, the 48GX is still great. But for symbolic math, the 48GX reminds me of Windows 3.1 on a 286, while the 50G is Windows XP on a Pentium 4.

The only things I really miss about the 48GX are the big central ENTER key and the quality of the documentation. The 50G doesn't feel quite as solid as the 48GX, but the quality is still more than adequate.

*Edited: 13 Sept 2007, 3:11 p.m.*

### **Re: Thinking to buy HP50G**

*Message #5 Posted by [Miguel Saiz](#) on 13 Sept 2007, 3:12 p.m.,  
in response to message #4 by Norris*

Thanks for the information. I had just placed my order,

Miguel

### **Re: Thinking to buy HP50G**

*Message #6 Posted by [Chan Tran](#) on 13 Sept 2007, 4:40 p.m.,  
in response to message #5 by Miguel Saiz*

I got one for about a month. It's no 48GX or 48SX but it's a user calculator. Now I don't have to worry about damaging it. It's faster so it's good to run program (I still have to find a good substitute for the PDL). It does symbolic better than the 48. Keyboard layout is something I have to get used to.

### **Re: Thinking to buy HP50G**

*Message #7 Posted by [Brad Davis](#) on 13 Sept 2007, 6:04 p.m.,  
in response to message #1 by Miguel Saiz*

I bought a 50g to replace my 48G and really love every aspect of it except the keyboard feel. Even after 2 months, I was making multiples the mistakes that I usually make. The stiffness and/or travel to be really difficult compared to the 48G. I bought a 35s and am very happy with it. I have a benchmark equation that I used to judge my speed with all my calculators and I was slowest with my 50g. I was faster with my 35s the first try than I ever got to with my 50g. This is 99% of a calculator for me, so the 50g was borderline worthless for me.

*Edited: 13 Sept 2007, 6:05 p.m.*

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## HP Forum Archive 17

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### **49g+/50g overlays?**

Message #1 Posted by [Egan Ford](#) on 12 Sept 2007, 11:47 p.m.

Do they exist?

What every happened to the overlays in this thread:

<http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv015.cgi?read=73152>

### **Re: 49g+/50g overlays?**

Message #2 Posted by [Ron G.](#) on 13 Sept 2007, 8:18 a.m.,  
in response to message #1 by Egan Ford

Site search of pssllc.com, for 48GX turned up nil. Email them.

### **Re: 49g+/50g overlays?**

Message #3 Posted by [Tim Wessman](#) on 13 Sept 2007, 10:01 a.m.,  
in response to message #1 by Egan Ford

The issue simply came down to that I didn't have enough time to be working on that with all the other stuff needing to get done. Sorry.

TW

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## HP Forum Archive 17

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**Constant selection**

Message #1 Posted by [designnut](#) on 12 Sept 2007, 7:39 p.m.

I found on the 33S that when the row of constants are displayed you may select a constant and by keying the numbers 1 through 6 left to right which enters the constant into X. I am told this is also true on the 35S. Are there other choices on the 35S where this works? Best Wishes, Sam Levy

**Re: Constant selection**

Message #2 Posted by [Miguel Toro](#) on 12 Sept 2007, 8:17 p.m.,  
in response to message #1 by [designnut](#)

For example in program mode when you want to enter a register from the stack with EQN+RDN, you can choose from the list with 1 to 4 rather than using cursor keys. And this is true for every key that brings an option menu.

Regards,

Miguel

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## HP Forum Archive 17

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**Thinkaholism**

Message #1 Posted by [db \(martinez, ca.\)](#) on 12 Sept 2007, 7:22 p.m.

It started out innocently enough. I began to think at parties now and then -- just to loosen up. Inevitably, though, one thought led to another, and soon I was more than just a social thinker. I began to think alone -- "to relax," I told myself -- but I knew it wasn't true. Thinking became more and more important to me, and finally I was thinking all the time. That was when things began to sour at home. One evening I turned off the TV and asked my wife about the meaning of life. She spent that night at her mother's. I began to think on the job. I knew that thinking and employment don't mix, but I couldn't help myself. I began to avoid friends at lunchtime so I could read Thoreau, Muir, Confucius and Kafka. I would return to the office dizzied and confused, asking, "What is it exactly we are doing here?" One day the boss called me in. He said, "Listen, I like you, and it hurts me to say this, but your thinking has become a real problem. If you don't stop thinking on the job, you'll have to find another job." This gave me a lot to think about. I came home early after my conversation with the boss. "Honey," I confessed, "I've been thinking..." "I know you've been thinking," she said, "and I want a divorce!" "But Honey, surely it's not that serious." "It is serious," she said, lower lip aquiver. "You think as much as college professors and college professors don't make any money, so if you keep on thinking, we won't have any money!" "That's a faulty syllogism," I said impatiently. She exploded in tears of rage and frustration, but I was in no mood to deal with the emotional drama. "I'm going to the library," I snarled as I stomped out the door. I headed for the library, in the mood for some Nietzsche. I roared into the parking lot with NPR on the radio and ran up to the big glass doors. They didn't open. The library was closed. To this day, I believe that a Higher Power was looking out for me that night. Leaning on the unfeeling glass, whimpering for Zarathustra, a poster caught my eye, "Friend, is heavy thinking ruining your life?" it asked. You probably recognize that line. It comes from the standard Thinkers Anonymous poster. This is why I am what I am today: a recovering thinker. I never miss a TA meeting. At each meeting we watch a non-educational video; last week it was "Porky's." Then we share experiences about how we avoided thinking since the last meeting. I still have my job, and things are a lot better at home. Life just seemed easier, somehow, as soon as I stopped thinking. I think the road to recovery is nearly complete for me. Today I took the final step. I bought a Texas Instruments calculator.

**Re: Thinkaholism**

Message #2 Posted by [Don Shepherd](#) on 12 Sept 2007, 9:02 p.m.,  
in response to message #1 by [db \(martinez, ca.\)](#)

I tell my middle school kids the whole point of education is to think. Exercise the brain. As I recall, Thomas Watson at IBM had a sign with the word "think" on it. And now I'm thinking and wondering why most of us use asterisks instead of double quotes in the forum. Now you've started something...

**Re: Thinkaholism**

Message #3 Posted by [Les Bell](#) on 13 Sept 2007, 6:23 a.m.,

*in response to message #1 by db (martinez, ca.)*

Oh, that is *nice*. And re-targetable, too!

Best,

--- Les

[<http://www.lesbell.com.au>]

## **Re: Thinkaholism**

*Message #4 Posted by **Thomas Okken** on 13 Sept 2007, 8:24 a.m.,  
in response to message #1 by db (martinez, ca.)*

Quote:

"That's a faulty syllogism," I said impatiently.

Thanks, db, you just made my day! :-)

- Thomas

## **Re: Thinkaholism**

*Message #5 Posted by **Chan Tran** on 13 Sept 2007, 4:42 p.m.,  
in response to message #4 by Thomas Okken*

I may have to buy that TI calc. Which model did you get? It would be a great calc if I can get the right answer without thinking but I seriously doubt it. I think it would take much more thinking to get the right answer than an HP calc.

## **Re: Thinkaholism**

*Message #6 Posted by **Eric Smith** on 14 Sept 2007, 7:53 p.m.,  
in response to message #5 by Chan Tran*

The great part about not thinking is that then it doesn't matter whether you get the correct answer. If not, you can just blame in on the calculator.

## **Re: Thinkaholism**

*Message #7 Posted by **Ren** on 18 Sept 2007, 11:14 a.m.,  
in response to message #1 by db (martinez, ca.)*

Thanks db!

It really got me thinking.

B^)

Ren dona nobis pacem





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### MLDL2000 Problems

Message #1 Posted by [Jeff Davis](#) on 12 Sept 2007, 5:24 p.m.

I have been using my MLDL2000 for Machine Code programming. I have the Zenrom and I am using the MCED program. Recently when trying to add a ROM image to the MLDL2000, I must have placed ill code in the unit now I cannot even take it back to the shipping configuration, I get an invalid Rom name error. I was wondering if someone can assist me with getting the unit back up and running. I hate to keep bothering Meindert with this. Secondly, I would like to hear about some experiences with thier MLDL2000 units that they have received. Please Help, Jeff

### Re: MLDL2000 Problems

Message #2 Posted by [Vieira, Luiz C. \(Brazil\)](#) on 12 Sept 2007, 10:25 p.m.,  
in response to message #1 by [Jeff Davis](#)

Hi, Jeff;

I once forgot mine for a while with no use and the RAM contents became garbage. I use rechargeables in my HP41 with MLDL2058, and they went too low. I just connected it to the computer and cleared all RAM contents. If you want to access its contents and clear it through the on-board ROM features (like CLRAM or any other) you'd need to remap the internals anyway, so using the computer is mandatory.

By selecting ROM-based configuration with the dip switches (second switch left-to-right, I guess...), you'd at least have your HP41 running smoothly. Problem is that even the ROM-based configuration might point to a RAM address with not-friendly contents, and the calculator would crash again.

So, I'd go for the USB approach: run MLDL2K and clear the RAM contents. If you have troubles doing so, let us know.

Hope this helps.

Success!

Luiz (Brazil)

### Re: MLDL2000 Problems

Message #3 Posted by [Meindert Kuipers](#) on 13 Sept 2007, 2:23 a.m.,  
in response to message #2 by [Vieira, Luiz C. \(Brazil\)](#)

The best way to handle this is to always have at least one stable configuration (with nothing pointing to SRAM) in FLASH and reserve a dip-switch setting for this. Alternatively the MLDL2000 can be disabled (leftmost switch in lower position) and reprogrammed over USB. From my own experience you have to be prepared for the fact that mcode experimentation is a guarantee for crashes ..

For power management: the standard configuration only charges the SRAM backup capacitor when the HP41 is running or (with the later modification) only when the MLDL2000 is connected to USB. When the

MLDL2000 is connected to an HP41 the SRAM is OK as long as the calc has power.

Jeff, I did get your email and will contact you later!

Meindert

### Re: MLDL2000 Problems

*Message #4 Posted by [Jeff Davis](#) on 13 Sept 2007, 8:42 p.m.,  
in response to message #1 by Jeff Davis*

Thanks for your help Meindert and Luiz. Everything is back up and running. I still seem to have problems with what I am assuming is power problems. When the unit is plugged in to the USB everything runs fine and CAT 2 runs as it should. When the unit is unplugged from the USB the unit seems to act like it does not recognize the ROMS. When a CAT 2 is completed it shows jibberish and sometimes locks up. Has anyone else had similar problems? Is this a battery issue? The capacitor backup runs fine and the contents of SRAM are maintained well. Please advise your thoughts.

### Re: MLDL2000 Problems

*Message #5 Posted by [Howard Owen](#) on 14 Sept 2007, 12:56 a.m.,  
in response to message #4 by Jeff Davis*

How old are the N cells in your 41? It certainly sounds like a power issue to me.

I had a similar experience as Luiz had, only my problem came as the result of an old set of N cells. I put the 41/MLDL2K down for a week, and in that time the old cells gave up the ghost and I had to reset the MLDL2K with the USB cable attached and a new set of batteries from Radio Shack in the 41.

Regards,  
Howard

Edit: I cain spail reel guud.

*Edited: 14 Sept 2007, 12:57 a.m.*

### Maybe...(was: MLDL2000 Problems)

*Message #6 Posted by [Vieira, Luiz C. \(Brazil\)](#) on 14 Sept 2007, 6:34 a.m.,  
in response to message #4 by Jeff Davis*

Hi, Jeff;

Just to make sure I understand: based on your post, should we consider you are connecting the MLDL2000 to the computer through USB when it is not connected to the calculator? If I am not wrong, the unit must be connected to the HP41 when connected to the computer (must check if it is valid for your unit). I've always connected mine to the computer when it is plugged in the HP41, cannot tell what happens otherwise.

Another point: as Meindert mentioned, chances are that the SRAM backup .1F capacitor is not properly connected (broken solder?); this way it would not be possible to hold SRAM contents when it is unplugged.

As a final suggestion, do you have another HP41 for a single test? If port #4 has problems in one calculator, chances are that you have success with another. You see, I myself see no practical solution if testing with another HP41, but after reading about some unknown problems when broken posts are the

issue, I believe in anything...

Success!

Luiz (Brazil)

### Re: Maybe...(was: MLDL2000 Problems)

Message #7 Posted by **Raymond Del Tondo** on 14 Sept 2007, 1:33 p.m.,  
in response to message #6 by Vieira, Luiz C. (Brazil)

Hi,

> If port #4 has problems in one calculator, chances are that you have success with another.  
>

The contact surfaces in port 4 usually suffer from dirt and dust, sometimes from abrasion, and sometimes from corrosion. In the first two cases, you could use s.t. like a Q-tip or tissue to clean the area.

Note that the actual contact surface is not the part you can see when looking into a port hole. You can only see the isolated part. The actual contact area is on the sides, as you may imagine by looking at the modules or card readers contact springs.

HTH

Raymond

BTW: The descr. where to find the contact surface was intended for the unexperienced user only.

*Edited: 14 Sept 2007, 7:02 p.m.*

### Re: Maybe...(was: MLDL2000 Problems)

Message #8 Posted by **Jeff Davis** on 16 Sept 2007, 11:09 a.m.,  
in response to message #6 by Vieira, Luiz C. (Brazil)

"Just to make sure I understand: based on your post, should we consider you are connecting the MLDL2000 to the computer through USB when it is not connected to the calculator?" I always have the calculator connected to the MLDL2K when the unit is connected to the USB. "SRAM backup .1F capacitor is not properly connected (broken solder?);" I do not have any problems with the SRAM maintaining its contents. I have tested for over a week and have had no problems. "do you have another HP41 for a single test?" I have tested with a 41CX halfnut and Fullnut as well as an Early tall key 41C. I have the same problems. I recently cleared the Settings Registers and only put the M2K ROM and the David Assembler in the unit. Everything runs fine. If I load the ZenRom in then the unit goes haywire. There must be something with the ZenRom that conflicts with the MLDL2K. I will be learning the David Assembler instead of the MCED program. Does anyone have a high resolution photo of the David Assembler Keyboard overlay? Thanks for all the help.

### Re: Maybe...(was: MLDL2000 Problems)

Message #9 Posted by **Meindert Kuipers** on 17 Sept 2007, 5:54 a.m.,  
in response to message #8 by Jeff Davis

Jeff,

I did some tests myself, while I knew my batteries were almost empty, and I observed the same behavior: SRAM reading can sometimes be troublesome with low batteries (BAT annunciator was on for about one week) and USB disconnected. I cannot explain this yet. So use fresh batteries!

Meindert

**Re: Maybe...(was: MLDL2000 Problems)**

*Message #10 Posted by [Meindert Kuipers](#) on 18 Sept 2007, 11:58 a.m.,  
in response to message #9 by Meindert Kuipers*

Jeff (and other MLDL users),

I have done some further testing, and currently I suspect a problem with M2kM. I am seeing problems like Jeff has seen with different behavior with USB connected or disconnected. The issue is that it could be a combination of M2kM with firmware (I am playing with a new firmware version as well), USB should normally have nothing to do with firmware, except when the M2kM software controls a pin and leaves it in a state that I did not expect it to.

Will do some more testing and let you all know the outcome ...

Meindert

**Re: Maybe...(was: MLDL2000 Problems)**

*Message #11 Posted by [Jeff Davis](#) on 18 Sept 2007, 7:38 p.m.,  
in response to message #10 by Meindert Kuipers*

Meindert, Thanks for posting this information. I look forward to hearing your thoughts and conclusions. Thanks for all your Help.

**Re: Maybe...(was: MLDL2000 Problems)**

*Message #12 Posted by [Vieira, Luiz C. \(Brazil\)](#) on 17 Sept 2007, 6:26 a.m.,  
in response to message #8 by Jeff Davis*

Hi, Jeff;

Quote:

\_\_\_\_\_

I recently cleared the Settings Registers and only put the M2K ROM and the David Assembler in the unit. Everything runs fine. If I load the ZenRom in then the unit goes haywire.

\_\_\_\_\_

Again, sorry to ask questions that may lead to no conclusion. Some ROM modules show unexpected behavior when connected with others, surely the ones that deal with inner O.S. operations and specific reaction to keys (key capture). So far I found no ROM image that works fine with the FORTH ROM, and the calculators I tested work fine with the FORTH ROM alone.

This is just to ask if you tested the ZenRom alone or with the M2K ROM. You see, the [ON][ENTER] feature in the M2K ROM implies ROM intervention in the O.S. regular ON sequence (it doesn't even work with the halfnut units). I'd guess this is probably one of the reasons of the calculator behavior.

Best regards.

Luiz (Brazil)

**Re: Maybe...(was: MLDL2000 Problems)**

*Message #13 Posted by [Jeff Davis](#) on 18 Sept 2007, 7:36 p.m.,  
in response to message #12 by Vieira, Luiz C. (Brazil)*

I have now tried to use just the ZenRom and also load the M2K0000Rom to use as my 4K page for writing machine code. I still have problems with the ZenRom. Once a MCODE routine is run the system will never work correctly again. I load the David Assembler with Main Frame Labels and the same M2K0000 Rom and with the same MCODE routine everything works fine. The only issue that I have had is the Calc will pop out of ASSM mode when SST or BST pushed and only intermittent. This problem is documented in the David Assembler Manual. So, I think that the ZenRom at least on my MLDL2078 will not function consistently. The David Assembler seems to be much more stable. Does anyone have a High Resolution Pic of the Keyboard Overlay? I tried to use the one (on the other site) but when I finally get it to the correct size, it is very difficult to read.

**Re: Maybe...(was: MLDL2000 Problems)**

*Message #14 Posted by [Meindert Kuipers](#) on 19 Sept 2007, 3:25 a.m.,  
in response to message #13 by Jeff Davis*

Jeff,

I will do a scan of my keyboard overlay for the David Assembler. I have never used ZenRom myself, but I will give it a try in the MLDL2000. Maybe you should try ZenRom just by itself, without M2K ROM loaded. The entry points may not be programmed very well, at least put the ZenRom in a port lower than M2K ROM.

I have no results yet for the firmware upgrade and USB issue. Maybe this evening I have time for that.

Meindert

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## HP Forum Archive 17

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**Almost got the 35s...**

Message #1 Posted by [Arne Halvorsen \(Norway\)](#) on 12 Sept 2007, 5:09 p.m.

Well, got a mail from custom: Has to bail it out... Had hoped would not have to pay that since Samsons ensured me had been taken care of. Well, had a feeling that was to good to be true... Gonna cost me another 35 bucks. Have a feeling I will end up paying not very much more than will be in shops next year so more pissed by having to deal with custom to get my hands on a working big enter key than the extra cost...

But if any non eu but eøs fellows are reading this: Belive Samsons think this done deal, but do not think they can keep their promises... Sure it may be custom messing things up, but hey, they are the law...

**Re: Almost got the 35s...**

Message #2 Posted by [bt\\_schmidt](#) on 13 Sept 2007, 12:36 a.m.,  
in response to message #1 by [Arne Halvorsen \(Norway\)](#)

Umm, what does bail out mean? Hasn't Samson already been paid for the calculator and for the shipping cost by you? If you decline to pay the Customs Fees will Samsons refund your purchase price? Surely they won't refund the shipping costs to Norway since they have already incurred that cost? And won't they now also incur an additional cost to ship the item back from Norway?

And how could Samsons ensure that custom fees would be 'taken care of' other than to collect the custom fees up front from the customer?

And finally, if firms find that a percentage of sales shipped to out-of-US addresses are being returned due to customs non-payment, won't they feel pressure to consider no longer offering their products to customers outside of the US, and thereby avoid the hassle of processing refunds and possibly eating return shipping costs?

..bt

*Edited: 13 Sept 2007, 12:38 a.m.*

**Re: Almost got the 35s...**

Message #3 Posted by [Arne Halvorsen \(Norway\)](#) on 13 Sept 2007, 12:50 a.m.,  
in response to message #2 by [bt\\_schmidt](#)

It was shipped from Spain.

This was a reply I got from Samson when asked them:

We have an affiliate in Europe that does our shipping for us. It is faster and safer. Norway is one of the countries that for shipping and customs purposes is considered part of the EU, so were you to buy from us we'd be shipping through our EU office. I'm attaching below our shipping options and costs that would apply to you.

Bail out I mean paying taxes, what I understood that was part of shipping cost.

*Edited: 13 Sept 2007, 12:53 a.m.*

**Re: Almost got the 35s...**

*Message #4 Posted by **bink** on 13 Sept 2007, 2:07 a.m.,  
in response to message #3 by Arne Halvorsen (Norway)*

I think the problem is that Norway is NOT part of the EU. I am not defending Samson's error, but I don't know whether I would trust someone in the US to know which countries are in the EU.

Since Norway is not part of the EU, you have to pay duties.

Maybe you can contact Samson's, and if you have something in writing telling you that Norway is part of the EU, then you can cancel the transaction and get a full refund?

Are you Norwegian? If so, why didn't this sound suspicious to you?

Here is a list of EU countries: [http://europa.eu/abc/european\\_countries/index\\_en.htm](http://europa.eu/abc/european_countries/index_en.htm)

**Re: Almost got the 35s...**

*Message #5 Posted by **Walter B** on 13 Sept 2007, 2:58 a.m.,  
in response to message #3 by Arne Halvorsen (Norway)*

Me, too, was having some discussions with Samson Cables about their definition of "shipping costs". Eventually they got what they had offered me when I placed my order (IMO a reasonable total of 72.99 US\$ incl. shipping to Germany) and I paid 10 Euros tax when receiving the parcel.

I'm no merchant, however, I think 20 US\$ for S/H may hardly cover postage \*and\* duties. But it exceeds the postage by far, even from the USA. And an offer is an offer is an offer... Nevertheless, I did not find it worthwhile to sue SC, and after all I'm happy with getting my 35s early. You may find traces of these discussions in earlier threads FYI.

**Re: Almost got the 35s...**

*Message #6 Posted by **Meenzer** on 13 Sept 2007, 3:06 a.m.,  
in response to message #5 by Walter B*

As Arne puts it, they didn't say that Norway was in the EU, but "Norway is one of the countries that for shipping and customs purposes is **considered** part of the EU"

@Walter B, who said "But it exceeds the postage by far, even from the USA."

Go to usps.com and calculate their fees to ship to Germany. 20\$ is still in the lower range...

**Re: Almost got the 35s...**

*Message #7 Posted by **Walter B** on 13 Sept 2007, 3:18 a.m.,  
in response to message #6 by Meenzer*

Hi Meenzer,

are you from Mainz? Just kidding ;)

I did quite some business on TAS with vendors from the USA, so I know what the real postage

is for Air Mail-ing a calculator properly packed from there to here. And so I stick to my statement.

The point was, however, that SC charge you an amount  $x$  for S/H. Unless explicitly stated otherwise, IMHO this shall include *\*all\** the costs for bringing this item from them to you. But as mentioned, I'm no merchant etc.

**Re: Almost got the 35s...**

*Message #8 Posted by **Meenzer** on 13 Sept 2007, 3:38 a.m.,  
in response to message #7 by Walter B*

@Walter B

- 1) Yes, I am. Good guess.
  - 2) Have a look here [usps.com](http://usps.com) Shipping (without handling and customs fees) cost from the US to Germany: Priority \$20, Express \$30.50
- And all customs fees are usually paid by the customer (hence the name ;-), because they depend on where he lives.

*Edited: 13 Sept 2007, 3:39 a.m.*

**Re: Almost got the 35s...**

*Message #9 Posted by **Walter B** on 13 Sept 2007, 5:41 a.m.,  
in response to message #8 by Meenzer*

@Meenzer

Danke, diese Seite kenne ich gut. In der *\*Praxis\** zeigt sich aber, was alles unter den Sondertarif xy von USPS fällt. Da gibt es tolle Sachen! Die 20\$ hab' ich außer bei SC noch nie bezahlen müssen.

(Explaining the difference between theory and practice at USPS)

**Re: Almost got the 35s...**

*Message #10 Posted by **Meenzer** on 13 Sept 2007, 8:42 a.m.,  
in response to message #9 by Walter B*

Quote:

[...]Die 20\$ hab' ich außer bei SC noch nie bezahlen müssen.

(Explaining the difference between theory and practice at USPS)

Walter, would you share your secret knowledge with the rest of us European residents who sometimes need/want to buy from US sellers and are appalled by those high postage fees? Your effort would be very much appreciated ;-)

*Edited: 13 Sept 2007, 8:42 a.m.*

**Re: Almost got the 35s...**

*Message #11 Posted by **Peter K** on 13 Sept 2007, 8:52 a.m.,*



*in response to message #10 by Meenzer*

I don't think there is a secret to it. Large companies may be able to negotiate better rates with various carriers, but the average small retailer is stuck with USPS published rates.

By the way, USPS just recently changed all of its rates, and the previously reasonably-priced "Air Parcel Post" service has now been discontinued. They now offer a Flat Rate Box International service for \$37 regardless of weight as long as it's small enough to fit in the box (certainly any calculator).

Here is the problem, though: It's \$37 to anywhere in the world, which means that Europeans essentially subsidize packages sent to third world countries with inexistent mail infrastructure.

**Re: Almost got the 35s...**

*Message #12 Posted by [Eric Reclin](#) on 13 Sept 2007, 6:53 p.m.,  
in response to message #11 by Peter K*

Air Parcel Post was not discontinued. They just renamed it Priority Mail. It is the surface mail option that seems to have been discontinued, but for that, I say good riddance, because surface mail cost about the same as airmail but took far longer.

**Re: Almost got the 35s...**

*Message #13 Posted by [Eric Reclin](#) on 13 Sept 2007, 6:56 p.m.,  
in response to message #8 by Meenzer*

You're giving the one pound rate there.

The 35s has to go by the three pound weight, because the package weighs just over two pounds. And you will then see that the Priority Mail price is closer to \$30, and the Express Mail price is closer to \$40.

For calculating shipping prices on my site, I think you will see that I am making no profit on shipping.

**Re: Almost got the 35s...**

*Message #14 Posted by [Thomas Radtke](#) on 13 Sept 2007, 3:31 a.m.,  
in response to message #5 by Walter B*

I've paid the additionally requested \$15, thus ending up paying \$35 shipping & taxes. I think that's ok, since it saved me from driving to the customs.

*Edited: 13 Sept 2007, 3:32 a.m.*

**Re: Almost got the 35s...**

*Message #15 Posted by [Arne Halvorsen \(Norway\)](#) on 13 Sept 2007, 7:30 a.m.,  
in response to message #5 by Walter B*

There may be a difference between taxes and paying other stuff to get custom to handle it. There is no error in that SC did say that taxes was included in my price. I dont have those emails on

computers using now when travels, but can show later. First time dealing with custom this way, I am not 100% sure what I will end up paying, letter from custom not to clear for a newbie as me. But one thing about the offer from SC was it was rather low in respect to what I think I should pay in tax for such item, so not that suprised if must pay taxes after all.

**Re: Almost got the 35s...**

*Message #16 Posted by [Les Bell](#) on 13 Sept 2007, 8:03 a.m.,  
in response to message #15 by Arne Halvorsen (Norway)*

Quote:

---

There is no error in that SC did say that taxes was included in my price.

---

I suspect that means sales tax (like State sales tax in the US), or VAT (Value Added Tax), which is usually remitted to the seller's Government by the seller. For goods shipped outside their jurisdiction, such taxes are not usually payable.

Any import duty paid by you, to your Government, is your liability.

Best,

--- Les

[<http://www.lesbell.com.au>]

**Re: Almost got the 35s...**

*Message #17 Posted by [Arne Halvorsen \(Norway\)](#) on 14 Sept 2007, 4:45 a.m.,  
in response to message #16 by Les Bell*

Exactly, what SC says is that shipping inside EU is inside a jurisdiction (they sell from Spain). Norway is not an EU member, but we are a part of the economic zone by special agreement and therefor in this respect makes us an EU country, SC says. I don't think our custom agency agree... But I should shut up until I got it and can look at all the expenses for sure with propper invoice from tax office, perhaps I am paying for some other fees and not tax/vat as such.

---

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## HP Forum Archive 17

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**HP-45 Question**

Message #1 Posted by [Dave Colver](#) on 12 Sept 2007, 4:48 p.m.

OK, maybe I'm imagining this but I'm sure I once read an article that said the timer function on the hp-45 was put in by a bored student/intern

I've tried finding the article.

Does anyone else remember this?

Thanks

Dave

**Re: HP-45 Question**

Message #2 Posted by [Les Bell](#) on 12 Sept 2007, 8:24 p.m.,  
in response to message #1 by Dave Colver

**Discovered** by a bored student/intern, maybe.

I don't see how you could add code into a masked ROM.

Best,

--- Les

[<http://www.lesbell.com.au>]

**Re: HP-45 Question**

Message #3 Posted by [Eric Smith](#) on 12 Sept 2007, 8:31 p.m.,  
in response to message #2 by Les Bell

Dave presumably meant that he'd read that the timer function had been added by a student intern working at HP.

I hadn't heard that. I know one of the guys that worked on the HP-45, so I'll inquire.

**Re: HP-45 Question**

Message #4 Posted by [Dave Colver](#) on 13 Sept 2007, 4:12 a.m.,  
in response to message #3 by Eric Smith

Thanks Eric

I'm sure I didn't imagine this story: that there was quite a lot of spare room in the ROM for the 45 so he added a timer function.

I've done the normal google searches of course :)

**Re: HP-45 Question**

Message #5 Posted by [RonHudson\(USA\)](#) on 12 Sept 2007, 8:53 p.m.,

*in response to message #1 by Dave Colver*

The code for the timer is already in the rom, they decided not to add the timer at nearly the last minute. The timer would not be so accurate because they did not include the crystal to control the clock speed (system clock)

I think there is a set of three buttons you can press at one time to get it in and out of timer mode though. I just don't remember what they were.

### Re: HP-45 Question

*Message #6 Posted by **Thomas Radtke** on 13 Sept 2007, 3:36 a.m.,  
in response to message #5 by RonHudson(USA)*

Quote:

\_\_\_\_\_

The timer would not be so accurate because they did not include the crystal to control the clock speed (system clock)

\_\_\_\_\_

IIRC, mine is off by approx. 20%, so \*not so accurate\* seems to be an euphemism ;-). I don't remember the keys either, but this information is easily found on the net.

### Re: HP-45 Question

*Message #7 Posted by **Valentin Albillo** on 13 Sept 2007, 4:16 a.m.,  
in response to message #6 by Thomas Radtke*

Hi,

Indeed. In this very site, to be exact:

<http://www.hpmuseum.org/hp45.htm>

Best regards from V.

### Re: HP-45 Question

*Message #8 Posted by **Klaus** on 13 Sept 2007, 4:59 a.m.,  
in response to message #1 by Dave Colver*

A similar story was for an "easter egg" for a ROM for the HP-85. I think someone put in a game. Perhaps this was a student and someone mixed up both features?

### Re: HP-45 Question

*Message #9 Posted by **Vincze** on 13 Sept 2007, 10:05 a.m.,  
in response to message #1 by Dave Colver*

My friend, here is quote from this site as how timer work.

Quote:

\_\_\_\_\_

The HP-45 had code to implement a timer. This was never exposed as a user feature because the lack of a quartz crystal in the HP-45 made the timer fairly inaccurate. The timer could be invoked by pressing RCL and then pressing CHS 7 8 all at the same time. Once in timer mode, CHS

toggled it between running and stopped. Pressing 1-9 stored the current time in that register when the timer was running or recalled the stored time when the timer was stopped. Pressing the decimal point key, brought the calculator back to normal mode with the time still in the display. (Pressing Enter also resumed normal mode but cleared the display.) It's possible to add a crystal to the HP-45.

---

### **Re: HP-45 Question**

*Message #10 Posted by [Frank Boehm \(Germany\)](#) on 14 Sept 2007, 2:48 a.m.,  
in response to message #1 by Dave Colver*

My 45 prototype comes with a crystal installed - so the timer certainly wasn't a secret feature. It was probably killed by marketing or due to being pointless (what good for is a clock that only runs for a couple of hours until the batteries are down; since the 45 is non-programmable, you cannot do some funky calculations either...)

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## HP Forum Archive 17

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**HP-01**

Message #1 Posted by [gileno](#) on 12 Sept 2007, 4:27 p.m.

Do I keep mine hp-01 for a long period with the batteries or without?

**Re: HP-01**

Message #2 Posted by [Ron G.](#) on 12 Sept 2007, 4:33 p.m.,  
in response to message #1 by [gileno](#)

Wear it daily, and keep fresh batteries in it so you know what time it is.

**Re: HP-01**

Message #3 Posted by [Bruce Bergman](#) on 12 Sept 2007, 4:42 p.m.,  
in response to message #1 by [gileno](#)

Borg-ify it. Place it in a sealed, airless glass case, and store it without batteries. In another ten years, it could be worth millions!

: -)

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## HP Forum Archive 17

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### **Maybe not a new information.**

*Message #1 Posted by [Doctor Bubu](#) on 12 Sept 2007, 4:07 p.m.*

I just figured out a difference in the 30 series.

Maybe some wrote it in the forum but i did not find it by search.

I have two 32e both in bad condition, so i thought i could mix the best parts. One has soldered circuits one not.

The one with the soldered circuits has an plastik plated keyboard, so it looks very ugly over the time. The other plate ist made ot of metal and also more resistable against cleaning.

Both are made 1980 in Singapore, the unsoldered in 9. week the soldered in the 28. week.

Greetings Juergen

*Edited: 12 Sept 2007, 4:09 p.m.*

### **Re: Maybe not a new information.**

*Message #2 Posted by [Ken Shaw](#) on 13 Sept 2007, 1:30 p.m.,  
in response to message #1 by Doctor Bubu*

Do you mean 1990?

### **Re: Maybe not a new information.**

*Message #3 Posted by [Doctor Bubu](#) on 13 Sept 2007, 2:02 p.m.,  
in response to message #2 by Ken Shaw*

No. 1980 Serialnumber starts with 20.

Greetings Juergen

### **Re: Maybe not a new information.**

*Message #4 Posted by [Ken Shaw](#) on 14 Sept 2007, 12:33 p.m.,  
in response to message #3 by Doctor Bubu*

Oops, my mistake. I was thinking 32S not 32E. I didn't know HP was manufacturing in Singapore as far back as 1980.

### **Re: Maybe not a new information.**

*Message #5 Posted by [Jeff O.](#) on 14 Sept 2007, 1:16 p.m.,  
in response to message #4 by Ken Shaw*

Quote:

---

I didn't know HP was manufacturing in Singapore as far back as 1980.

---

I have a version 3 HP-35 with the serial number 1302Sxxxxx, which puts manufacturing in Singapore at least as far back as 1973.

**[HP-34C] Maybe not a new information.**

*Message #6 Posted by [Karl Schneider](#) on 14 Sept 2007, 2:35 a.m.,  
in response to message #1 by Doctor Bubu*

Hello, "Doctor B" --

Here's the most recent reference to the HP-34C Spice-series design:

<http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv017.cgi?read=124023#124023>

I'm surprised that you'd have a 1980 model with the improved soldered design. It might be the back cover from an older model on a 1982 calc. I've got non-functioning solderless HP-34C's from 1980 and 1981, and a working soldered version from 1982.

-- KS

**Re: [HP-34C] Maybe not a new information.**

*Message #7 Posted by [Stefan Vorkoetter](#) on 14 Sept 2007, 11:28 a.m.,  
in response to message #6 by Karl Schneider*

Quote:

---

I've got non-functioning solderless HP-34C's from 1980 and 1981, and a working soldered version from 1982.

---

Just in case anyone is wondering if these can be fixed:

My one and only HP-34C came into my life as a non-functioning solderless one. It is now a functioning soldered one. I completely disassembled it, soldered the chips to the flexible circuit board, ground away parts of the frame that's supposed to press the chips against the board (to leave room for the solder), put it back together, and it now works.

Stefan

**Re: [HP-34C] Maybe not a new information.**

*Message #8 Posted by [Walter B](#) on 14 Sept 2007, 3:44 p.m.,  
in response to message #7 by Stefan Vorkoetter*

Herzlichen Glückwunsch! Möge er lange leben!

(Congratulations)



Maybe not a new information.

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## HP Forum Archive 17

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### **New HP calc on HP site? Is it RPN?**

Message #1 Posted by [Nick L](#) on 12 Sept 2007, 9:06 a.m.

Was searching the HP home site and came across a photo of possibly a new HP calculator. It's light grey and has a small solar panel. The photo is on an angle so it's difficult to see the key layout. Hopefully this a cheap RPN pocket calc. If the HP-12c appear first, just click on the number 2, and the photo should show up.

<http://www.shopping.hp.com/webapp/shopping/can.do?storeName=storefronts&landing=handhelds&category=calculators&orderflow=1&a1=Price+after+rebate&v1=Under+%2450&catLevel=2#bcAnchor>

### **Re: New HP calc on HP site? Is it RPN?**

Message #2 Posted by [Namir](#) on 12 Sept 2007, 9:11 a.m.,  
in response to message #1 by [Nick L](#)

Looks like a cheap Kinpo algebraic calculator.

### **Re: New HP calc on HP site? Is it RPN?**

Message #3 Posted by [Nick L](#) on 12 Sept 2007, 9:14 a.m.,  
in response to message #2 by [Namir](#)

It does look cheap. I had my hopes up, for RPN, for about a millisecond though...

### **Re: New HP calc on HP site? Is it RPN?**

Message #4 Posted by [Ron G.](#) on 12 Sept 2007, 9:14 a.m.,  
in response to message #1 by [Nick L](#)

I had to click the "1" instead. It looks like another high low-end machine to me. But yeah, one I haven't seen before.

### **Re: New HP calc on HP site? Is it RPN?**

Message #5 Posted by [Bruce Bergman](#) on 12 Sept 2007, 10:08 a.m.,  
in response to message #1 by [Nick L](#)

That's the new HP-10s Solar. It's one of the prizes being given away (by HP) at HHC2007 this month. We've talked about it in the forums, but very little. I believe this is a repackaged Casio (similar to what they did with the HP-8s). Still, it's refreshing to see new faces.

And, to my knowledge, the 10s is NOT an RPN calc.

thanks, bruce

### **Re: New HP calc on HP site? Is it RPN?**

Message #6 Posted by [Antonio Maschio \(Italy\)](#) on 12 Sept 2007, 10:19 a.m.,  
in response to message #5 by [Bruce Bergman](#)

I got one: it's NOT RPN!

And yes: it looks like a Casio, with the MODE key to select among COMP, SD and LR (I go by heart). Cheap and plastic, not programmable and no formula storing. Cute in aspect, but keys are not in the HP-style (i.e. ugly).

-- Antonio

### **Re: New HP calc on HP site? Is it RPN?**

Message #7 Posted by [Ed Look](#) on 15 Sept 2007, 6:02 p.m.,  
in response to message #6 by [Antonio Maschio \(Italy\)](#)

It is interesting that it does not appear as an item in the U.S. hp.com site, but is offered for sale here by Newegg.

**Re: New HP calc on HP site? Is it RPN?**

*Message #8 Posted by [Eric Smith](#) on 12 Sept 2007, 2:40 p.m.,  
in response to message #1 by Nick L*

And if it's not RPN, [will it blend?](#)

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## HP Forum Archive 17

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### **Hello? Any other danes out there? (Hvor er I?)**

Message #1 Posted by [Johnny Bjoern Rasmussen](#) on 12 Sept 2007, 2:19 a.m.

Hi

I have often thought of making some kind of HP-calculator meeting in Denmark. I myself live far away from every major city in the country, so we would have to find some good place for the meeting. So I wondered if there are any other danish collectors out there who can suggest a place to meet? Of cause the meeting could also include people from other places...

Thank you

### **Re: Hello? Any other danes out there? (Hvor er I?)**

Message #2 Posted by [Johnny Bjoern Rasmussen](#) on 13 Sept 2007, 2:20 a.m.,  
in response to message #1 by [Johnny Bjoern Rasmussen](#)

Ok - not a lot of danes here I suppose. How about collectors from Sweden, Norway and Finland? (Am I the only scandinavian here?) Perhaps German collectors want to pay interest too. Are some of you interested in meeting somewhere in Denmark?

### **Re: Hello? Any other danes out there? (Hvor er I?)**

Message #3 Posted by [Walter B](#) on 13 Sept 2007, 3:04 a.m.,  
in response to message #2 by [Johnny Bjoern Rasmussen](#)

Well, Björn, I love Denmark and almost every part of Scandinavia, but I happen to live at the opposite side of Germany ;) Nevertheless, AFAIK there are some people from Norway and Finland to be found here in this forum.

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## HP Forum Archive 17

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### Bugs

Message #1 Posted by **Palmer O. Hanson, Jr.** on 12 Sept 2007, 2:03 a.m.

The beginning of the thread "Bugs - Bugs and Bugs" (23 August 2007) asked "Do any of you have lists of the bugs in the other brands ...?"

I have been out of commission for about two months with health problems. I am currently in a watch and wait mode so I will try to belatedly respond to the question with some history of bugs in the TI product line and one bug in the Casio product line. The listing is representative but by no means comprehensive.

I recognize three kinds of "bugs". The first kind includes mechanical and electrical deficiencies. The second kind includes software and mathematical errors.

The third kind includes characteristics of a machine which Richard Vanderburgh called "unannounced features" and Maurice Swinen called "quirks". These "bugs" were of interest to users but their use was not always supported by the manufacturer and sometimes even discouraged by the manufacturer. The TI user community became somewhat obsessed with these unannounced features. Sometimes the results were trivial as when one individual reported that on the SR-52 pressing read followed by simultaneously pressing B, INV, sin, STO, EE, 4 and 0 would turn on the card reader drive motor.

#### Casio fx-7000G

The random number generator in the first graphic calculator was supposed to yield uniformly distributed random numbers. It yielded random numbers which were not uniformly distributed. The distribution changed when the calling routine changed. The bug was fixed in the fx-7000GA. (V11N1P8 of TI PPC Notes)

#### SR-52:

There were anomalies in the trigonometric functions and the logarithmic functions. These were similar to those seen in the original HP-35. For example, in the SR-52 the sine of 89.9999999954 is returned as 1.00000000004. (V2N2P1 of 52 Notes)

#### TI-55II:

The keyboard had a severe bounce problem. It was so bad that when the TI-55III became available with an improved keyboard one only had to send in a TI-55II to receive a TI-55III in return with no questions asked. Unfortunately, the defective keyboard was also used in the BA-55, the TI-57LCD and the TI-88.

There was a problem in the statistics routine such that if the user entered 4, 5, 6, 7, and 8 the mean would be displayed as 6 but the value in the machine was actually  $6 - 1E-10$  ! This was caused by use of a different algorithm for statistics accumulation where, for example, the sum of the input values was not stored, but rather the current mean and the number of entries was stored. (V8N1P26-27 of TI PPC Notes).

The memory registers used for the statistics routines cannot be accessed using the published procedures. There was an unpublished procedure for viewing the accumulations which started by pressing and holding the R/S, square root and OFF keys simultaneously. (V8N2P21 of TI PPC Notes).

TI-58/58C/59

Some devices had memory problems such that a stored number would not be correctly recalled. The Service Manual presented a program for testing for this problem. The user community found that some faulty memories would pass the TI test and devised a more thorough test.

Capacitor C-7 which is part of the card reading circuitry was occasionally improperly positioned so that it could be touched by the negative battery pack terminal when the battery pack was in place.

The diagnostic routine in the Master Library module and the Agriculture module would fail if the calculator was in the Eng mode. On other modules with the diagnostic routine an INV Eng sequence at the beginning of the routine eliminated the problem. (TI PPC Notes V8N2)

If INV Sum+ is executed with the y value in scientific notation an error would occur vbecause at ehtry to the statistics routine the sign of the exponent would be changed rather than the sign of the y value (Page 7 of the V5N2 issue of PPX Exchange)

CC-40:

The advance publicity for the CC-40 said that it had a 3/4 size QWERTY keyboard which could be used for touch typing. A 3/4 size keyboard is a little small -- adult fingers don't fit kiddy keys -- but the real problem was that the ENTER key was where the right shift key should have been.

The Mathematics module had two programming errors. Thre was an erroneous prompt in the Edit routine and the determinqant of a matrix was occasionally of the wrong sign.

TI-74:

Touch typing was no longer possible. The keyboard was too small and the rows did not have a half key displacement between rows.

The AC 9201 Power Supply could only be connected if the printer was connected.

The two prograqmming errors in the CC-40 Mathematics Module were corrected in the TI-74 Mathematics module.

TI-95:

The AC 9201 Power Supply could only be connected if the printer was connected.

An ASM routine would successfully convert a program with labels to a program with direct addressing. The INV ASM routine which was supposed to convert a program with direct addressing back to a program with labels did not always work properly.(V13N1P8 of TI PPC Notes) . ,

## Re: Bugs

*Message #2 Posted by [Kiyoshi Akima](#) on 12 Sept 2007, 12:17 p.m.,  
in response to message #1 by Palmer O. Hanson, Jr.*

Sentry CA756

This is their high-end graphing calc: the package says "Compare with TI-83." I picked one up cheap to play with, not having played with anything comparable to a TI for decades.

sin(PI) gives zero. What's even worse is that int(PI) does not produce an integer. Apparently the built-in value for PI includes some extra guard digits and they don't get stripped out properly, leaving 3 + a small value.

$\text{int}(\text{acos}(-1))$  has a similar problem, as does  $\text{int}(x*\text{PI})$  for many (but not all) values of  $x$ .

The random number generator isn't. Multiple invocations within a single program run return the same result, unless the program halts for display. Run the program a second time and you get a different number, which then repeats.

### Re: Bugs

Message #3 Posted by [Meenzer](#) on 12 Sept 2007, 12:46 p.m.,  
in response to message #2 by Kiyoshi Akima

Quote:

\_\_\_\_\_

$\sin(\text{PI})$  gives zero. What's even worse...

\_\_\_\_\_

Shouldn't it?

### Re: Bugs

Message #4 Posted by [Kiyoshi Akima](#) on 12 Sept 2007, 12:59 p.m.,  
in response to message #3 by Meenzer

Does your calculator give zero for  $\sin(\text{PI})$ ?

If you have an infinitely precise value for  $\pi$ , then the sine of that value is indeed 0. But since the calculator is attempting to produce the value of a ten-digit (say) approximation of  $\pi$ , the \*correct\* result should be the sine of that approximation.

### Re: Bugs

Message #5 Posted by [Meenzer](#) on 12 Sept 2007, 1:12 p.m.,  
in response to message #4 by Kiyoshi Akima

Well, indeed, my TI and Casio calculators, the HP 48G as well as some PC programs produce  $\sin(\pi)=0$ . My HP 15c and HP 35s produce somevalueEE-13...

*Edited: 13 Sept 2007, 9:10 a.m. after one or more responses were posted*

### Re: Bugs

Message #6 Posted by [Kiyoshi Akima](#) on 12 Sept 2007, 1:14 p.m.,  
in response to message #5 by Meenzer

But how many of them produce a non-integral result for  $\text{int}(\text{PI})$ ?

### Re: Bugs

Message #7 Posted by [Meenzer](#) on 12 Sept 2007, 1:22 p.m.,  
in response to message #6 by Kiyoshi Akima

The ones that have an integer function yield an integer ;-)

### Re: Bugs

*Message #8 Posted by **Karl Schneider** on 12 Sept 2007, 11:47 p.m.,  
in response to message #1 by Palmer O. Hanson, Jr.*

Welcome back, Palmer!

Quote:

---

TI-55II:

...

There was a problem in the statistics routine such that if the user entered 4, 5, 6, 7, and 8 the mean would be displayed as 6 but the value in the machine was actually  $6 - 1E-10$  ! This was caused by use of a different algorithm for statistics accumulation where, for example, the sum of the input values was not stored, but rather the current mean and the number of entries was stored. (V8N1P26-27 of TI PPC Notes).

---

I suspect that the running calculation of mean averages might have been intended to prevent possible errors in calculation of standard deviation of large values, due to roundoff errors of summation. For example, the HP models -- even the 12-digit Pioneer-series -- that calculate standard deviation from summation registers will return 0 as the sample standard deviation of [999,999 1,000,000 1,000,001]. The correct answer (1) will be returned by the models (e.g., HP-17B/BII, HP-27S) that retain all the entered data, then calculate standard deviation from the mean.

The TI-55II undoubtedly lacked the RAM to store all statistical input data.

-- KS

## **Re: Bugs**

*Message #9 Posted by **Walter B** on 13 Sept 2007, 2:33 a.m.,  
in response to message #8 by Karl Schneider*

Hi, Palmer, thanks for the overview!

Karl,

there are at least 3 ways to do this statistics job:

1. The calc stores all the input data.
2. The calc stores the necessary sums in the summation register.
3. The calc has to save memory and uses the approach Palmer sketched for the TI-55II.

Way 3 is the worst due to round off errors. Fully agree with you on this. I do not remember any calc using this way for decades. Extremely expensive memory was in the very starting years of scientific calcs only.

Way 2 is just fine if used with a tiny amount of thought. The fact that you run into problems with small deviations on top of big numbers is well known, and I have the feeling it was even mentioned in an early HP calc manual. Anyway, for sheer laziness, emmh economy, no reasonable person will key in 7 digits repeatedly where 2 are sufficient to do the job.

Way 1 replaces the missing brains of the user by additional memory in the calc. It became affordable when memory costs dropped.



**Re: Bugs**

Message #10 Posted by **Palmer O. Hanson, Jr.** on 13 Sept 2007, 9:01 a.m.,  
in response to message #9 by Walter B

The real advantage of Way 1 is that it allows the user to calculate residuals instead of only calculating correlation coefficients. That allows the user to identify individual bad data points and erroneously entered data points. Before there were hand calculators I used a program like that on a Honeywell time share network. My supervisor had a brand new shiny HP-45 and suggested that I could use it at my desk instead going to the terminal of the time share network. He showed me how to enter data and I tried to run a problem. When the results didn't look right I asked him how I could review the input data. He told me that I couldn't. That was the last time I used an HP-45 for statistics.

An example of the problems with Way 2 appeared in the article "Hard Wired Functions" in the March/April 1981 issue of PPX Exchange which was based on my submission. I had been exposed to the idea much earlier in a 1949 class in curve fitting by Professor Eggers at the University of Minnesota.

When I stumbled on the problem with the statistics routine in the TI-55II I had no idea as to what might be going on. I shared the observation with George Thomson who was one of the frequent contributors to TI PPC Notes. He immediately recognized the source of the problem and told me that the methodology was common back in the pre-war era.

**Re: Bugs**

Message #11 Posted by **Walter B** on 13 Sept 2007, 2:48 p.m.,  
in response to message #10 by Palmer O. Hanson, Jr.

Palmer, you are of course perfectly right.

I'd just not run a full fledge ANOVA on a pocket calc. Any stat data I use such a calc for are small amounts (let's say up to 30 points maximum), and I tend to look at the data before keying them in. For bigger data sets, nowadays PCs offer far better tools, starting with scatter diagrams ;)

**Re: Bugs**

Message #12 Posted by **Paul Dale** on 13 Sept 2007, 4:37 p.m.,  
in response to message #9 by Walter B

I had always been under the impression that keeping a running mean and variance (or std dev) instead of the sums or was done for numerical stability. More arithmetic operations are required to use this approach (thus it is slower) but it isn't as prone to overflow and it doesn't require any additional storage.

A simple two point example where numbers are stored with two significant figures:

| step | datum | -----<br>2 sig | sigmaX<br>digits | -----<br>true | -----<br>2 sig | mean<br>digits | -----<br>true |
|------|-------|----------------|------------------|---------------|----------------|----------------|---------------|
| 1    | 10    | 10             | 10               | 10            | 10             | 10             | 10            |
| 2    | 0.8   | 11             | 10.8             | 5.5           | 5.4            | 5.4            | 5.4           |

I hope that is clear enough, I'm averaging two values 10 and 0.8 and showing the true values to infinite digits and the rounded versions.

By maintaining the mean instead of the sum we get:

| step | datum | running mean |
|------|-------|--------------|
|------|-------|--------------|

$$\begin{array}{l} 1 \\ 2 \end{array} \quad \begin{array}{l} 10 \\ 0.8 \end{array} \quad \begin{array}{l} 10 \\ 10 \end{array} * (1 / 2) + 0.8 / 2 = 5.4$$

The update formula is:

$$m_n = m_{n-1} * ((n-1) / n) + x_n / n$$

The overflow/loss of precision is avoided. A similar (more complicated) formula can be derived for the variance too.

I've been thinking about how to implement the usual statistics functions and am torn between the above approach and storing double or longer length internal summations...

- Pauli

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## HP Forum Archive 17

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### HP 35s Review

Message #1 Posted by [Will Rutherford](#) on 12 Sept 2007, 12:56 a.m.

I've been using HP calculators for decades and own several. Last summer I tried updating to newer models, and have acquired a 33s, a 50g, and now a 35s.

I want a calculator with a good mix of discrete and scientific capabilities, with a convenient user interface.

After a couple of days of trying the 35s out, I have some comments. These are just my personal usability concerns. I realise the calculator has already been released and probably won't be changed.

This is my first posting here. I hope they formatting comes out okay.

Good ~~~~

- adds logic operators (compared with 33s) - good notation ( $i / \theta$ ) for entering complex numbers - nicer keyboard layout than 33s - good that funny mode keys are gone - arrow keys are better - big ENTER key is nice to see again - better look and feel - addition of extra units and physical constants is very useful

Problems (in order of decreasing priority) ~~~~~

- forced to fish out the 'h' suffix when entering a hex number, even when in hex mode - this is very inconvenient if you want to enter a lot of hex numbers - it takes too many keystrokes to get that 'h' suffix, which should be implicit in hex mode - user is now forced to enter a mantissa part for a number in scientific notation - standard interpretation in HP calculators for decades has been to default to 1 - for instance 'e2' is taken as '1e2' in older models - this is a great keystroke saver and has been in place for decades in all HP calculators, up to and including the 50g and the 33s - sanity check: entering the number 1000 in scientific notation should reduce the number of keystrokes - sometimes the calculator misses a typed key - overzealous debouncing? - sqrt key gives 'invalid data' for complex numbers or negative numbers entered as a complex number - inconsistent with general ability to use transcendental functions on complex - sqrt is easy to implement in complex -  $y^x$  key does it anyway when you give an exponent of .5 - there is no way to extract real and imaginary parts of a complex number - location and labelling of hex digits a to f - I realise that layout decisions are not easy, but placing them two rows below the register labels A to D is a bit odd - assuming they hold to the layout, it would be better to at least add some special labels in a different colour for the hex a to f - additional logic operators would be useful: shift, rotate, etc. - compare with 16C or 50g - new vector data type is very thinly supported - no real power to it, just addition of vectors and multiplication by a scalar - it complains on input of a vector of length 0 but not a vector of length 1 - 2\*2 lin. solve and 3\*3 lin. solve are badly done - user has to fuss with a list of storage registers - better idea: let user enter a set of vector objects into the stack and let calculator operate on those - for instance, 4 length-3 vectors would suffice for input to a 3\*3 lin. solver - E key (for Enter Exponent) would be better labelled EE or EEX - this would avoid confusion with the other E keys - would stand out better - when complex numbers are displayed in polar form, it would be useful if the 'theta' character could be rendered differently so as not to resemble zero and eight so much - there should be a way to view complex numbers to greater precision - see for instance how this is done in the 15C - also compare with the scrolling view of large binary numbers in the 35s

Overall Conclusions ~~~~~

The 35s has look-and-feel improvements over the 33s and some functionality improvements. However, some

interaction issues that affect everyday usage appear to have slipped through.

The 35s ought to be a convenient everyday use alternative to the bigger and more sophisticated 50g, but the 35s has limitations that leave the 50g more suitable for everyday use.

-Will

### Re: HP 35s Review

Message #2 Posted by [Will Rutherford](#) on 12 Sept 2007, 1:04 a.m.,  
in response to message #1 by Will Rutherford

That didn't come out at all. I'll have to experiment with the formatting and re-post when I get a chance. My apologies.

-Will

### Re: HP 35s Review

Message #3 Posted by [Jeff O.](#) on 12 Sept 2007, 8:39 a.m.,  
in response to message #2 by Will Rutherford

Will,

Edit your post to put [pre] before "Good" and [/pre] after the bunch of "~~~~" under "Overall Conclusion". See [this](#) complete explanation of formatting techniques.

### Re: HP 35s Review

Message #4 Posted by [Will Rutherford](#) on 12 Sept 2007, 8:12 p.m.,  
in response to message #3 by Jeff O.

Thanks for the info. Here's what it was supposed to look like:

Good  
~~~~~

- adds logic operators
- good notation (i / theta) for entering complex numbers
- nicer keyboard layout 33s
  - good that funny mode keys are gone
  - arrow keys are better
  - big ENTER key is nice to see again
- better look and feel
- addition of extra units and physical constants is very useful

Problems  
~~~~~

- forced to fish out the 'h' suffix when entering a hex number, even when in hex mode
  - this is very inconvenient if you want to enter a lot of hex numbers
  - it takes too many keystrokes to get that 'h' suffix, which should be implicit in hex mode
- user is now forced to enter a mantissa part for a number in scientific notation
  - standard interpretation in HP calculators for decades has been to default to 1
  - for instance 'e2' is taken as '1e2'
  - this is a great keystroke saver and has been in place for decades in all HP calculators, up to and including the 50g and the 33s
  - sanity check: entering the number 1000 in scientific notation should reduce the number of keystrokes

- sometimes the calculator misses a typed key
  - overzealous debouncing?
- sqrt key gives 'invalid data' for complex numbers or negative numbers entered as a complex number
  - inconsistent with general ability to use transcendental functions on complex
  - sqrt is easy to implement in complex
  - $y^x$  key does it anyway when you give an exponent of .5
- there is no way to extract real and imaginary parts of a complex number
- location and labelling of hex digits a to f
  - I realise that layout is not easy, but placing them two rows below the register labels A to D is a bit odd
  - assuming you hold to the layout, it would be better to at least add some special labels in a different colour for the hex a to f
- additional logic operators would be useful: shift, rotate, etc.
  - compare with 16C or 50g
- new vector data type is very thinly supported
  - no real power to it, just addition of vectors and multiplication by a scalar
  - it complains on a vector of length 0 but not a vector of length 1
- 2\*2 lin. solve and 3\*3 lin. solve are badly done
  - user has to fuss with a list of storage registers
  - better idea: let user enter a set of vector objects into the stack and let calculator operate on those
  - for instance, 4 length-3 vectors would suffice for input to a 3\*3 lin. solver
- E key (for Enter Exponent) would be better labelled EE or EEX
  - this would avoid confusion with the other E keys
  - would stand out better
- when complex numbers are displayed in polar form, it would be useful if the 'theta' character could be rendered differently so as not to resemble zero and eight so much
- there should be a way to view complex numbers to greater precision
  - see for instance how this is done in the 15C
  - also compare with your scrolling view of large binary numbers in the 35s

## Re: HP 35s Review

Message #5 Posted by *Karl Schneider* on 13 Sept 2007, 12:30 a.m.,  
in response to message #4 by Will Rutherford

Will --

Good, thoughtful assessment. Some of the items you mentioned had been discussed previously.

I soon expect to prepare a short paper on suggested improvements for the HP-35s, not for general release until October. Most of this will address the complex-number issues you mentioned.

Some comments:

- A full set of bit-manipulation functions might be expecting too much. PC-based software handles that work today; there never was a replacement for the HP-16C.
- "Enter Exponent" has been labeled E instead of EEX since the Pioneer-series models, which displayed exponents with preceding "E" instead of a right-justified value.
- I haven't tried the linear solution yet (and I expected that it would utilize vectors), but the best way to do it is within matrix functions, which are not offered. One must also be able to store the input data and result, so it's either 15 variables or 5 vectors for a 3x3 system.

-- KS

*Edited: 13 Sept 2007, 1:24 a.m.*

**Re: HP 35s Review**

*Message #6 Posted by [Will Rutherford](#) on 14 Sept 2007, 8:53 a.m.,  
in response to message #5 by Karl Schneider*

My list of problems was meant to be in order of decreasing importance, i.e. most important items first. The matrix operations no matter how you look at them have been badly done through half-measures. I would be perfectly happy to see them just drop the linear algebra support altogether.

I have found a new high importance item: XEQ.

It now requires you to hit ENTER after the label, unlike the 33s or any reasonable calculator I've worked with. This is bad at a number of levels. It's bad programming practice to jump into the middle of a subroutine. It's also a well-known principle in programming language design that users should only pay for what they use. And it defeats one of the purposes of writing the routines on the calculator, which is to save keystrokes on long operations.

Concerning shift operators, there's a LOGIC submenu anyway, which has room for extra stuff. And the 50g has a good set of shift operators. However you can get what you want most of the time with scaling by powers of two.

-Will

**Re: HP 35s Review**

*Message #7 Posted by [Jeff O.](#) on 14 Sept 2007, 1:08 p.m.,  
in response to message #6 by Will Rutherford*

Quote:

\_\_\_\_\_

I have found a new high importance item: XEQ.

It now requires you to hit ENTER after the label

\_\_\_\_\_

As I see things, the labelling paradigm implemented on the 35s essentially makes every line number a label. If you key in the whole label identifier, which is a letter followed by three digits, you do not need to press ENTER. If you want to start a program that begins at line no. 1 (where the actual label letter is), you may press XEQ, letter, ENTER as a shortcut instead of pressing XEQ - letter - 000 or 001. So it adds one keystroke to kicking off programs that start at line no. 1, but the ENTER shortcut save 2 keystrokes from what it would have been without it. This was the trade-off needed to get around the severe limitation of the 26 program labels of the 32s/32sII/33s models. I guess a possible alternative would have been to allow branching directly to line numbers only during program execution. From the keyboard, you could only start 26 programs, but they would start immediately after pressing XEQ - letter. I guess I feel that the added ENTER required by the method chosen by HP is worth the increased flexibility of programming that it offers.

Best Regards,  
Jeff

**Re: HP 35s Review**

*Message #8 Posted by [Gene Wright](#) on 14 Sept 2007, 2:23 p.m.,  
in response to message #7 by Jeff O.*

Hey, the original way it was going to work was to ALWAYS require XEQ label 3-digit line number.

Even for the normal "Start a program at line 001" situation.

I imagine that would have been greeted with a great deal of irritation.

So, the XEQ label ENTER shortcut was devised.

I personally find it very easy to remember and press when I want to run a label.

Remember that the 35s was a modified HP 32SII / HP 33S programming paradigm.

I view this as an excellent compromise. If someone doesn't like it, they can always use the 384 byte HP 32SII.

: -)

### **Re: HP 35s Review**

*Message #9 Posted by [Ed Look](#) on 14 Sept 2007, 3:41 p.m.,  
in response to message #8 by Gene Wright*

Boy, imagine that- a 32SII with 30 kb!!

But the 35s appears to be AT LEAST as nice to use as the 32SII. In fact, after having been using the 33s, 35s, and the 48G+, 49G+, the single stack level display of the 32SII seems confining!

Yeah, yeah, I know... REAL HP users keep track of their stacks in their heads...

### **Re: HP 35s Review**

*Message #10 Posted by [Will Rutherford](#) on 15 Sept 2007, 12:38 a.m.,  
in response to message #8 by Gene Wright*

The history is unimportant, it's the end result that counts. There is such a thing as a good compromise and such a thing as a bad compromise. The XEQ as implemented is the latter.

As Jeff stated, another alternative might have been to never prompt for the line offset at all at the user level. Better still IMHO would be to not have line number references at all. You shouldn't need them if you can write good code.

The pride of HP in the old days was its RPN, which saved a single keystroke once in a while over the algebraic entry alternative. Now we're hearing that it's okay to hit an extra key on frequently used functions. This is not acceptable.

The 15C has a User mode to make it possible to execute user defined functions with a *single* keystroke. The 50g has the VAR with directory trees, the CUSTOM facility, *and* keyboard remapping, all with the aim of solving this very problem in multiple ways. It is very important to ease of use to make custom functions as efficient to invoke as possible.

If the prevailing view on the 35s remains sticking with bad ideas like adding extra

keystrokes to XEQ, then it will never be a good product and people will have to stay with the 50g for everyday calculating use.

If HP had simply taken the 33s and added nicer keys and a LOGIC menu, then I would have been happy with it. Instead it's been ruined by misguided design ideas.

-Will

Quote:

---

Hey, the original way it was going to work was to ALWAYS require XEQ label 3-digit line number.

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:-)

---

### Re: HP 35s Review

*Message #11 Posted by [Meenzer](#) on 15 Sept 2007, 2:08 a.m.,  
in response to message #10 by Will Rutherford*

Will, the idea behind having XEQ-LABEL-ENTER and XEQ-LABEL-Line Number implemented is to have more than 26 (A-Z) entry points for different(!) programs (remember the 32kB). This way you could have, say, 15 independent programs under the A label and start them independently with relative ease. It's not meant to start one(!) program from different entry points (though you can certainly (ab-)use it that way).

The user mode on the 15C is very nice but you only need five entry labels due to the very limited memory. ;-)

### Re: HP 35s Review

*Message #12 Posted by [Will Rutherford](#) on 15 Sept 2007, 9:29 a.m.,  
in response to message #11 by Meenzer*

Okay, perhaps the new XEQ notation has a better purpose than I at first surmised.

However, there's still a very good reason why minimum keystroke function invocation is needed. Single keystroke is the most desirable. Rather than



talking in generalities, I'm going to break open a new thread analysing an example.

-Will

Quote:

---

Will, the idea behind having XEQ-LABEL-ENTER and XEQ-LABEL-Line Number implemented is to have more than 26 (A-Z) entry points for different(!) programs (remember the 32kB). This way you could have, say, 15 independent programs under the A label and start them independently with relative ease. It's not meant to start one(!) program from different entry points (though you can certainly (ab-)use it that way). The user mode on the 15C is very nice but you only need five entry labels due to the very limited memory. ;-)

---

### Re: HP 35s Review

Message #13 Posted by [Don Shepherd](#) on 15 Sept 2007, 7:58 a.m.,  
in response to message #10 by Will Rutherfordale

Let's see; 1 extra keystroke to execute a program, or 800 registers? I think I'll take 800 registers.

### Re: HP 35s Review

Message #14 Posted by [Arne Halvorsen \(Norway\)](#) on 15 Sept 2007, 8:22 a.m.,  
in response to message #13 by Don Shepherd

If this is the trade I would gladly had two extra keystroke for 800 registers AND some I/O :-)

### Re: HP 35s Review

Message #15 Posted by [Patrick Rendulic](#) on 12 Sept 2007, 4:28 a.m.,  
in response to message #1 by Will Rutherfordale

Hello. I also noticed a problem with the keyboard concerning missed keystrokes. Inconsistency between former calculators bothers me also. I bought my 35s almost a month ago. It has been laying in a drawer for 2 weeks now. I prefer working with my other HPs.

### Re: HP 35s Review

Message #16 Posted by [Meenzer](#) on 12 Sept 2007, 11:45 a.m.,  
in response to message #1 by Will Rutherfordale

Quote:

---

- there is no way to extract real and imaginary parts of a complex number

---

Try this: write a program that does left shift-ARG and right shift-ABS on the complex number ( $x i y$ ) in order to obtain the angle  $a$  and the hypotenuse  $h$  of the corresponding polar coordinates. Then  $\cos(a)*h$  is the  $x$  and  $\sin(a)*h$  is the  $y$  of the complex number.

You could put the complex number in the X register, xeq the program and have it leave the real and imaginary part in the  $x$  and  $y$  registers respectively.

## Re: HP 35s Review

Message #17 Posted by [Will Rutherford](#) on 12 Sept 2007, 8:18 p.m.,  
in response to message #16 by Meenzer

You are correct, it can be computed that way. What I meant was, there's no predefined interface to do it. Any complex number implementation is going to give you that as part of the interface since it's so fundamental to working with complex numbers. Look at the standard C++ complex type, or the HP 15C, or the 50g as examples.

Quote:

Try this: write a program that does left shift-ARG and right shift-ABS on the complex number ( $x i y$ ) in order to obtain the angle  $a$  and the hypotenuse  $h$  of the corresponding polar coordinates. Then  $\cos(a)*h$  is the  $x$  and  $\sin(a)*h$  is the  $y$  of the complex number.

You could put the complex number in the X register, xeq the program and have it leave the real and imaginary part in the  $x$  and  $y$  registers respectively.

## HP-15C programs for complex operations

Message #18 Posted by [Karl Schneider](#) on 13 Sept 2007, 12:56 a.m.,  
in response to message #17 by Will Rutherford

Quote:

Any complex number implementation is going to give you (*extraction of real or imaginary parts of a complex number*) as part of the interface since it's so fundamental to working with complex numbers. Look at the standard C++ complex type, or the HP 15C, or the 50g as examples.

"Fetching" either part of a complex number is easy on the HP-15C as you suggest, using STO and Re<->Im. Here are keystroke sequences to emulate the RPL "C->R" (inverse of RPL "R->C" or HP-15C "f I"), and the other RPL-model and HP-42S functions on the HP-15C:

| "C->R"  | "Re"    | "Im"    | "Conj"  | "Sign" | "Neg"   |
|---------|---------|---------|---------|--------|---------|
| ENTER   | Re<->Im | CLx     | Re<->Im | ENTER  | CHS     |
| Re<->Im | CLx     | Re<->Im | CHS     | ABS    | Re<->Im |
| CLx     | Re<->Im |         | Re<->Im | /      | CHS     |
| Re<->Im |         |         |         |        | Re<->Im |
| x<>y    |         |         |         |        |         |
| CLx     |         |         |         |        |         |
| Re<->Im |         |         |         |        |         |

Only the "Sign" function (normalization to unit magnitude) uses an "extra" stack level for computation.

Even though it was rather impractical to include these necessary complex-argument operations as built-in functions (due to limited available keyboard and ROM space), the basic functions were designed to make them possible. That's why CLx and CHS operate on only the real part of a complex number.

This, and the complete complex-domain functionality for transcendental functions (in all likelihood, a first for a handheld calculator) is part the HP-15C's excellence.

-- KS

*Edited: 14 Sept 2007, 12:26 a.m.*

### **Re: HP-15C programs for complex operations**

*Message #19 Posted by [Eric Smith](#) on 14 Sept 2007, 7:55 p.m.,  
in response to message #18 by Karl Schneider*

Quote:

\_\_\_\_\_  
This, and the complete complex-domain functionality for transcendental functions (in all likelihood, a first for a handheld calculator) is part the HP-15C's excellence.  
\_\_\_\_\_

Gotta agree with you on this one, Karl! :-)

### **Re: HP 35s Review**

*Message #20 Posted by [J Lustig \(CA USA\)](#) on 12 Sept 2007, 6:04 p.m.,  
in response to message #1 by Will Rutherford*

Hello- I was just reading this when I saw this post, so I thought I'd use it as a reply.

I've been lurking here off and on for a long time. I've been a big fan of HP calculators since the beginning, collected a few (67, 41cv, 32, 32sII, 48, 33s, and 35s) but, though I've always used them for work and play, I'm not a power user. It's always interesting to here from people who feel the way I do about these little gems. Now I finally have something to say and ask.

The new 35s is wonderful for it's look and feel. I've missed this button style since the 41 (& 48) slipped away. The 35s buttons are beyond reproach. One of the most important parts of the HP calculating experience is the positive feed back and solid feel, not to mention durability. And we have the proper ENTER key back. But I think they miss calculated (if you'll excuse me) in one regard and I'd like some feedback, maybe I'm just ignorant. It seems to me that the keyboard is a skewed in favor by programming key layout and that routine calculating suffers for it. The roll down and X<>Y keys should be immediately next to the ENTER key, the X<> should be close by and maybe on the face of a key. Also, as has been discussed, a quick polar/rectangular conversion would help, as it always has. Perhaps most importantly the STO key should be on the face of a key. This could be done easily by moving the sqr. root, Y^X, and 1/X keys up and SIN, COS, & TAN keys to the right to make room for STO, RCL, and roll down just above the ENTER.

It seems to me that computers are used far more easily for almost everything that programmable calculators started to be used for, and besides, without real label names and real names for output (ie. 41, 42) the usefulness of programming a calculator is further crippled by arcane and arbitrary single letter labels that are hard to remember. I have fun with the programming and I'm sure many people use it to good effect. But I think a calculator should be a calculator first and programmable second- if and where there's a trade off (in keyboard space) to be made. Programming would still be quite easy and calculating would be even easier...

Any thoughts from anyone?

### Re: HP 35s Review

Message #21 Posted by [RonHudson\(USA\)](#) on 12 Sept 2007, 7:57 p.m.,  
in response to message #20 by J Lustig (CA USA)

- 1) Is there any way to share programs/backup the machine? USB perhaps?
- 2) Programmables have an advantage over the laptop, even the real small laptops like the palm folio (rip) they fit in pockets (perhaps big pockets...)

But I do agree: all of the calculating functions should be on the face keys and programming (except run) should be relegated to f- and g- shifted keys.

(Or even better yet - You plug in your trusty HP-2007XL into your USB and it appears on your desktop like a thumb drive. The registers are kept in a file with NAME=VALUE pairs that you can edit with notepad, the programs each in their own file are also notepad editable (RPL? Lisp? Forth? Python? All the above?) and while the calculator is connected it can still calculate. Your laptop also has an emulator that can run off the same memory. It's all file so you can copy stuff on and off at will)

Sorry - I know it's not the "Dream Designs" thread... :^)

### Re: HP 35s Review

Message #22 Posted by [Will Rutherfordale](#) on 12 Sept 2007, 8:32 p.m.,  
in response to message #20 by J Lustig (CA USA)

Yes, the 15C for example has the basic editing keys like x<>y all clustered together, with STO and RCL at top level.

I agree, if I have to program I pull out Perl or C++ rather than struggling with a calculator language.

The use case of Hex numbers is a good one. Once in a while I need to go over part of a debug listing by hand. There must be 50 PCs running Windows or Linux in the immediate vicinity in the office. Each has a Calculator accessory that does hex conversions and binary operations.

The only way I can justify my use of the calculator in that situation is convenience. But if the calculator makes me use a minimum of 3 keystrokes each number to add the 'h' suffix, even though I'm in Hex mode, it just isn't worth it.

The calculator should have been reviewed by an experienced HP calculator user before being shipped. Perhaps they just rushed it to meet their 35th anniversary deadline. The result is no showpiece.

The 35s *could* be turned into a decent product, if they looked at some of the suggestions and fixed it up. Whether to change the model name would be up to them.

-Will

### Re: HP 35s Review

Message #23 Posted by [DaveJ](#) on 12 Sept 2007, 10:55 p.m.,  
in response to message #20 by J Lustig (CA USA)

Quote:

---

But I think they miss calculated (if you'll excuse me) in one regard and I'd like some feedback, maybe I'm just ignorant. It seems to me that the keyboard is skewed in favor by programming key layout and that routine calculating suffers for it.

---

Correct, it is a machine optimised for programming, not for ordinary day to day calculator usage. This has been discussed on here before.

Quote:

---

The roll down and X<>Y keys should be immediately next to the ENTER key, the X<> should be close by and maybe on the face of a key. Also, as has been discussed, a quick polar/rectangular conversion would help, as it always has. Perhaps most importantly the STO key should be on the face of a key. This could be done easily by moving the sqr. root, Y^X, and 1/X keys up and SIN, COS, & TAN keys to the right to make room for STO, RCL, and roll down just above the ENTER.

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Any thoughts from anyone?

---

I agree. Small calculators (read-small one or two line screen, non-graphing) should be a scientific first and foremost. The big graphic calculators like the 48/49/50 TI-89 et.al cater for the programmable market much better, and are much more versatile with their bigger screens.

HP screwed up big time by making the 35S primarily a programmable calc, esp when you compare it with the 33S which has the nice key layout of a good scientific, not a programmable.

Dave.

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## HP Forum Archive 17

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**HP97 fault**

Message #1 Posted by [Michael Tortorella](#) on 11 Sept 2007, 4:22 p.m.

Greetings, all: recently acquired 97, has fault as follows. Display seems normal, all numbers can be entered from keypad in usual way and they display correctly. But pressing "Enter" or any other key besides a number causes display to read "Error" and a tone to sound which cannot be removed except by powering down. I beg you to tell me this is not fatal, and would appreciate any hints on how to solve this problem. BTW, power supply is OK, machine does this even when operated on external power. Thanks in advance for any help. Mike T.

**Re: HP97 fault**

Message #2 Posted by [Etienne Victoria](#) on 11 Sept 2007, 4:48 p.m.,  
in response to message #1 by Michael Tortorella

Put the printer mode selector on "MAN" and try again.

Let us know the outcome.

Etienne

**Re: HP97 fault**

Message #3 Posted by [Michael Tortorella](#) on 11 Sept 2007, 6:11 p.m.,  
in response to message #2 by Etienne Victoria

Hello Etienne, I can't find the printer mode switch (if it's the unmarked button to the right of the printer paper roll, when I press it the tone comes on and the unit needs to be cycled off to make the tone go away). I do seem to be able to enter programming instructions OK (!?) Does this give you any clues? Thanks  
Mike

**Re: HP97 fault**

Message #4 Posted by [Walter B](#) on 11 Sept 2007, 6:22 p.m.,  
in response to message #3 by Michael Tortorella

Hi Mike, do you find the OFF-On switch? Then carefully look to the right: there are two more switches just 3cm away -- one for PRGM-RUN and another one above for MAN-TRACE-NORM. The latter is the printer mode switch.

HTH, Walter

**Re: HP97 fault**

Message #5 Posted by [Michael Tortorella](#) on 11 Sept 2007, 6:45 p.m.,  
in response to message #4 by Walter B

Hi Walter, Ah! In that case, the problem is present no matter what position the printer mode switch

is in. Mike

### Re: HP97 fault

Message #6 Posted by [Eric Smith](#) on 12 Sept 2007, 11:25 a.m.,  
in response to message #5 by Michael Tortorella

If an HP-97 is making noise, it's either a printer or card reader problem, since those are the only moving parts. If you've already tried disabling the printer (setting the switch to MAN - do this *\*before\** it starts making noise, as in before you power it on), then most likely either the printer mode switch is broken, or the noise is coming from the card reader (which would be due to a card reader switch being broken).

### Re: HP97 fault

Message #7 Posted by [Etienne Victoria](#) on 12 Sept 2007, 3:12 p.m.,  
in response to message #5 by Michael Tortorella

Hi!

If the noise comes from the printer, it could be a malfunction of the reed switch and/or magnet telling the printhead it has reached the end of the line.

Then the printhead gets stuck at the eol and the printer motor keeps trying pushing it.

Is the printhead on the right side or on the left ?

Before trying something else, are we sure the noise doesn't come from the card reader ?

Etienne

*Edited: 12 Sept 2007, 3:13 p.m.*

### Re: HP97 fault

Message #8 Posted by [Michael Tortorella](#) on 12 Sept 2007, 8:09 p.m.,  
in response to message #7 by Etienne Victoria

I'll check the print head. However, it's not a "noise", it's a tone (about 700 Hz, I'd guess). It seems that it was intended to come on when "Error" shows on the display. Thanks Mike

### Re: HP97 fault

Message #9 Posted by [Eric Smith](#) on 12 Sept 2007, 11:03 p.m.,  
in response to message #8 by Michael Tortorella

There is nothing in the HP-97 that is intended to produce a tone. If it's making a tone, something is wrong that is causing unintended operation of the card reader or printer mechanisms. The "Error" display is a result of the firmware recognizing that one of those mechanisms is misbehaving.

### Re: HP97 fault

Message #10 Posted by [michael tortorella](#) on 14 Sept 2007, 11:15 p.m.,  
in response to message #9 by Eric Smith

Hi Eric, thanks, that makes some sense. I'll dig into it and see if there's anything hanging up the printer or reader. - Mike

**Re: HP97 fault**

*Message #11 Posted by [Eric Smith](#) on 12 Sept 2007, 11:28 a.m.,  
in response to message #1 by Michael Tortorella*

Quote:

BTW, power supply is OK, machine does this even when operated on external power.

Applying external power via the charger is NOT necessarily sufficient. The printer requires more power than the charger can provide, and depends on having a good, charged battery.

While a charged battery pack should measure around 5V, a battery pack that measures around 5V with no load is not necessarily good.

**Re: HP97 fault**

*Message #12 Posted by [Michael Tortorella](#) on 12 Sept 2007, 8:08 p.m.,  
in response to message #11 by Eric Smith*

Hi Eric, the external power is coming from a 5V, 30A supply. Should be enough current. Thanks, Mike

**Re: HP97 fault**

*Message #13 Posted by [Chan Tran](#) on 13 Sept 2007, 4:46 p.m.,  
in response to message #12 by Michael Tortorella*

It seems that it tried to print but the printer is defective. However, why does it want to print if the printer switch is in MAN position.

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## HP Forum Archive 17

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### CEILING function substitute for 35s

Message #1 Posted by [Martin Pinckney](#) on 11 Sept 2007, 2:44 p.m.

Does anyone know a set of functions that combined, will return the same result as the CEILING function (38G)?

Will be used on the 35s.

Thanks for any ideas.

### Re: CEILING function substitute for 35s

Message #2 Posted by [Meenzer](#) on 11 Sept 2007, 3:35 p.m.,  
in response to message #1 by Martin Pinckney

For the FLOOR function: left shift-INTG-4

For the CEIL function: do the above and add 1

Edited: 11 Sept 2007, 3:36 p.m.

### Re: CEILING function substitute for 35s

Message #3 Posted by [Paul Dale](#) on 11 Sept 2007, 4:34 p.m.,  
in response to message #2 by Meenzer

Quote:

For the CEIL function: do the above and add 1

Which would be wrong when the argument is an exact integer.

- Pauli

### Re: CEILING function substitute for 35s

Message #4 Posted by [Eduardo Duenez](#) on 11 Sept 2007, 4:21 p.m.,  
in response to message #2 by Meenzer

Not really so! CEIL(x) is \*equal\* to FLOOR(x) if x is an integer!

I don't have a 35s yet but CEIL(x) = -FLOOR(-x), so a solution is to write a short program executing

NEG FLOOR NEG

Eduardo

### Re: CEILING function substitute for 35s

*Message #5 Posted by [Meenzer](#) on 12 Sept 2007, 12:44 a.m.,  
in response to message #4 by Eduardo Duenez*

Of course, the more enlightened posters above me are right!

But with that neat NEG FLOOR NEG trick everything is provided for...;-)

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## HP Forum Archive 17

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### HP-35s -- Reversible Case with its Repositionable Logo

Message #1 Posted by [Paul Brogger](#) on 11 Sept 2007, 11:39 a.m.

O.k., so a few days ago I noticed the logo on my 35s' case was slightly askew. Today I tried rotating the calculator and inserting it under the second elastic band, so that the case opens on the left, and my Post-It pad is on the right, ready for some right-handed writing without obscuring the calculator.

I like that better, but when I close the case, the logo is upside-down. (*And crooked!*)

I recall someone's suggestion that the logo might have been placed on the cover with its long dimension parallel to that of the case, to avoid this upside-down-ness when the case is used in its alternate mode.

Then, like a good experimenter, I took my Swiss Army knife, inserted the blade beneath the right edge of the logo on the case, and lifted gently . . .

The brushed-aluminum logo piece popped off cleanly, complete with its sticky back. I simply rotated it 180 degrees and stuck it back in the little depression (aligned much more nicely than as delivered, thank you very much) and voila! A correctly-oriented logo near the bottom of the case front, when the case opens from the left.

Better yet, I popped it off again, flipped the case over (so it opens from the right, but now with the calculator banded to the inside "front" cover), and stuck the logo back on what used to be the back, in a position analogous to the original.

The logo is no longer in the little rectangular depression (and that depression is now on the lower back side), but I've got a case opening on the right, with the logo correctly positioned and aligned on the front, and the calculator attached to the left side when open.

The logo is not *quite* so securely "set" (being out of the depression intended for it) and feels vulnerable to being accidentally scraped off. I think my next stage will be to try to reproduce the rectangular depression (maybe with a small hammer and a piece of hardwood) and then glue the logo back on with something a bit more tenacious than whatever H-P has chosen to use.

In any case, I hope I've made my case that the 35s' case is highly configurable.

(Just in case you wish to do something similar . . . )

*Edited: 11 Sept 2007, 12:17 p.m.*

### Re: HP-35s -- Reversible Case with its Repositionable Logo

Message #2 Posted by [Frank Knight](#) on 11 Sept 2007, 6:58 p.m.,  
in response to message #1 by [Paul Brogger](#)

Wonder if the depression is heat set.

### Re: HP-35s -- Reversible Case with its Repositionable Logo

*Message #3 Posted by **Brad Davis** on 11 Sept 2007, 9:12 p.m.,  
in response to message #1 by Paul Brogger*

Quote:

\_\_\_\_\_  
...(Just in case you wish to do something similar . . . )  
\_\_\_\_\_

I think I will. I spun mine around in the case to make the net toward the right also, but of course now the label is upside-down, which is mildly irritating. I'm left-handed, but use the calculator right-handed. I like to jam the calculator up against the right side of the paper.

Thanks for the tip.

### **Re: HP-35s -- Reversible Case with its Repositionable Logo**

*Message #4 Posted by **Pal G.** on 12 Sept 2007, 12:17 a.m.,  
in response to message #1 by Paul Brogger*

I like the case on my hp 50g. Was there a mention here a few months ago regarding a case \_not\_ like the new hp 35s case, more like the hp 50g case or another hp calculator, that fit the hp 35s nicely?

Regards, Pal

### **Re: HP-35s -- Reversible Case with its Repositionable Logo**

*Message #5 Posted by **Walter B** on 12 Sept 2007, 1:41 a.m.,  
in response to message #4 by Pal G.*

You may well use the case of the 33s, as was mentioned some weeks ago already. It falls 1-2mm too short, but protects the 35s sufficiently and gives a more compact package. I use it this way. For rucksack students, however, I'd recommend the original.

HTH, Walter

### **Re: HP-35s -- Reversible Case with its Repositionable Logo**

*Message #6 Posted by **RonHudson(USA)** on 13 Sept 2007, 10:39 a.m.,  
in response to message #1 by Paul Brogger*

I seem to remember that HP worked with a group (Or perhaps they were actually part of HP) that re-branded HP's equipment and re-sold it. The group was named something that came out to "dy". All they did was take the HP sigil on the items and turn it upside down.

### **The HP-35s carrying case**

*Message #7 Posted by **Karl Schneider** on 15 Sept 2007, 3:08 p.m.,  
in response to message #1 by Paul Brogger*

Hi, Paul --

Those were industrious efforts to modify the HP-35s carrying case!

Here's a more philosophical issue: Have others seen what the design of the HP-35s case represents, versus cases of past models?

The concept for the HP-35s case seems to have been borrowed from the case for the \$300 Bose noise-cancelling headphones: The user must unzip the logo-bearing case more than 180 degrees to reveal the product resting in a form-fitting well. The case sends a message: "There's something *real special* inside."

The carrying case for the shirt-pocketable models from the Voyager-series onward, however, were purely-functional slipcovers with subtle logos. Their purpose was simply to protect the calculator from scuffs, scratches and spills. Removal of the device was easy: grasp its exposed edges and pull. Voyager- and Pioneer-series calculators fit in the standard pocket of a men's shirt, *inside or outside* the slipcover.

-- KS

*Edited: 15 Sept 2007, 3:13 p.m.*

### **Re: The HP-35s carrying case**

*Message #8 Posted by [Wolfgang Jacques \(Germany\)](#) on 27 Sept 2007, 6:18 p.m.,  
in response to message #7 by Karl Schneider*

Hallo Karl, at least the 35S fits in the case of the 33S - should be handier for daily use. W.

### **Re: The HP-35s carrying case**

*Message #9 Posted by [Antonio Maschio \(Italy\)](#) on 28 Sept 2007, 8:21 a.m.,  
in response to message #8 by Wolfgang Jacques (Germany)*

When I have the 35S, I'll exchange the cover of the 33S and the 35S; the 33S (which will probably never be used anymore) will rest with no merit in the precious cover of the 35S, and the 35S will travel in the more usable pocket-enabled cover of the 33S; this is my intention. When I have the 35S.

In any case, all the posts in this Forum, referring to the 35S bugs or inconvenient features, made me slightly change my mind about it. I thought it was a wonderful machine, I realize it's a good perfectible calculator. Nothing more. My 15C seems to give me more joy (if I can so call the feeling in using it).

-- Antonio

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## HP Forum Archive 17

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### HP 50G - memory issues

Message #1 Posted by [Steve Budd](#) on 11 Sept 2007, 10:59 a.m.

Hi, I have been a satisfied user of the HP41C for best part of 20 years until mine died on me last december. A friend of mine was travelling to NYC at the time, so I asked him to get me a 50G to replace my defunct 41C. Apart from the inferior key action and double-bounce, I'm happy with it, but I have a couple of memory-related questions for seasoned users of the HP50G: Firstly, what happened to the LastX function, and secondly, how do you store a variable (i.e. the contents of the X register) part-way through a calculation? The functions STO (store) and RCL (recall) do not appear in the User Guide index. I use RPN mode exclusively. Can anybody please offer any useful assistance? Regards, Steve.

### Re: HP 50G - memory issues

Message #2 Posted by [Tim Wessman](#) on 11 Sept 2007, 11:19 a.m.,  
in response to message #1 by Steve Budd

You might want to take a look at the Advanced Users Guide (the programming chapter).

There are two ways to store and reuse variables. If you are using Local Vars it is like this:

```
<< -> A B << A B * 'A' STO A B >>] >> ( After the >>] your local; variables are wiped - don't use the ] it is just for marking)
```

Same in a regular program. Anytime you'd like to store an object, use the tics to surround it as this prevents execution.

```
<< 'A' STO >>
```

Will store an object into A. To later use A, just leave it unquoted.

```
<< A >>
```

TW

### Re: HP 50G - memory issues

Message #3 Posted by [Jeff O.](#) on 11 Sept 2007, 2:13 p.m.,  
in response to message #1 by Steve Budd

Quote:

\_\_\_\_\_  
Firstly, what happened to the LastX function,  
\_\_\_\_\_

[This thread](#) provides a discussion of that particular issue. (All discussion related to the 49g+ applies to the 50g.)

Quote:

---

secondly, how do you store a variable (i.e. the contents of the X register) part-way through a calculation?

---

Not that I am any sort of expert on the 50g (far from it, actually), but to expound a little on the information that Tim provided, to store a value you need to specify a variable or register name in which the value is to be stored. So if you have the value 123.4 on the stack and you wish to save it somewhere, let's say a register named "A", press the key with the "tick" mark (fourth row, third key), then ALPHA, then the F1 key to enter the letter A. Then press the STO key. This will create the variable named "A", store the 123.4 in it, and remove the value 123.4 from the stack. If you want it back, press the VAR key, which will give you a list of the variables in the directory in which you happen to be. Since you just created the "A" variable, it should be the first one on the left. Pressing F1 will copy the value to the stack. The value will still be stored in "A". "A" will remain in your list of variables until you purge it, which you do by pressing the tick mark key, then the F1 key, then ENTER, then TOOL, then PURGE (soft key above F5). I find it handy to create a list of registers for routine use, called R1 through R6. If the register is already created, pressing the left-shift key followed by the function key under the soft label for the appropriate register will store the value presently on the stack in that register. You can control the order in which the variable names appear when you press the VAR key using the ORDER command.

Quote:

---

I use RPN mode exclusively.

---

I assume you mean that you do not use the algebraic mode of the 50g, but it bears stating that the 50g and its progenitors actually utilize RPL vs. the classic RPN of your late 41C. The differences between RPN and RPL are, well, suffice it to say there are more than a few. They have been discussed here at the MoHPC Forum on numerous occasions. For a start on how the 50g works, search the Archives for posts by James M. Prange. The [comp.sys.hp48](http://comp.sys.hp48) newsgroup is basically dedicated to discussion of the HP-48 and its descendants (including the 50g) and so would be a good place to go for answers.

*Edited: 11 Sept 2007, 2:21 p.m.*

## Re: HP 50G - memory issues

Message #4 Posted by **Les Bell** on 12 Sept 2007, 12:26 a.m.,  
in response to message #3 by Jeff O.

Quote:

---

I find it handy to create a list of registers for routine use, called R1 through R6. If the register is already created, pressing the left-shift key followed by the function key under the soft label for the appropriate register will store the value presently on the stack in that register.

---

That's a useful tip, Jeff. When first getting to grips with use of existing variables on the 48, I found it useful to visualise the variables as being "off to the left" of the calculator screen. Then:

- left-shift var-soft-key will store from the stack into the variable (visualise the value moving from the screen across to the variable on the left)
- right-shift var-soft-key will recall the variable to the stack (moving from left to right, onto the stack)
- var-soft-key alone will evaluate the variable (not the same thing as recalling)
- 'var-soft-key inserts the name of the variable onto the edit line

Hopefully, this might help novices get it clear, at least until it becomes second nature.

Best,

--- Les

[<http://www.lesbell.com.au>]

## Re: HP 50G - memory issues

Message #5 Posted by *Egan Ford* on 11 Sept 2007, 8:12 p.m.,  
in response to message #1 by Steve Budd

With the 50g there is almost always more than one way to do it.

For the double-bounce (the -> is right-shift 0)

```
256 ->KEYTIME
```

To make it permanent, make sure you are in home directory, then type:

```
<<256 ->KEYTIME>>  
'STARTUP' STO
```

Variables:

To create:

```
'A' STO
```

To recall (soft menu key or type in variable name

```
A
```

To update REG X -> A:

```
Left Shift Soft Menu A
```

Or

```
'A' STO
```

LASTX:

Left Shift HIST, AKA CMD, will pop up the last 4 LASTX

Other tips:

Get 50g emulator:

<http://www.debug4x.com/>

If you have a lot of 41C code you can run it on the 50G:

```
http://www.hrastprogrammer.com  
http://www.hrastprogrammer.com/hp41e  
http://www.hrastprogrammer.com/hp41x
```

## Re: KEYTIME?

Message #6 Posted by *Dan Greil* on 11 Sept 2007, 8:41 p.m.,  
in response to message #5 by Egan Ford

Egan,



I was under the impression the KEYTIME instruction did what you said in early ROM version but has since become a NO-OP instruction.

Here's the text from the 49g+ AUR version 1.1 published 2006/3/20 regarding the KEYTIME instruction:

"This command is provided for compatibility with earlier calculators, but does nothing on the hp49g+/hp48gII."

Given that the 49g+ and 50g share the same ROM, does KEYTIME really do anything on the 50g? Was the instruction resurrected in ROM v.92 which was released after this AUR was published?

Regards,

Dan

### **Re: KEYTIME?**

*Message #7 Posted by [Egan Ford](#) on 11 Sept 2007, 9:51 p.m.,  
in response to message #6 by Dan Greil*

There are many references on comp.sys.hp48 about KEYTIME solving 50g keyboard problems. It solved my missing keystrokes.

### **Re: KEYTIME?**

*Message #8 Posted by [Mike Morrow](#) on 11 Sept 2007, 10:11 p.m.,  
in response to message #6 by Dan Greil*

Quote:

I was under the impression the KEYTIME instruction did what you said in early ROM version but has since become a NO-OP instruction.

Here's the text from the 49g+ AUR version 1.1 published 2006/3/20 regarding the KEYTIME instruction:

"This command is provided for compatibility with earlier calculators, but does nothing on the hp49g+/hp48gII."

The KEYTIME instructions were restored for the hp49g+ (and the later HP50G) in late 2005 with ROM version 2.05 and later. Unfortunately, even though the hp49g+ AUR 1.1 has been updated as late as March 20, 2006, the KEYTIME-> and ->KEYTIME descriptions on page 3-89 have not been corrected. Instead, the correct information is buried way back on page H-8, as a sort of addendum.

Regards, Mike

### **Re: KEYTIME?**

*Message #9 Posted by [James M. Prange \(Michigan\)](#) on 11 Sept 2007, 10:18 p.m.,  
in response to message #6 by Dan Greil*

The 49g+ AUR is correct for early 49g+ ROM revisions, but incorrect for recent ROM revisions

The KEYTIME\-> and \->KEYTIME commands were indeed "resurrected" in the 49g+, although I

don't recall with which ROM revision. I suppose that the ROM revision could be found with a search of the comp.sys.hp48 usenet group.

The ROMs intended for the 49G have working keytime commands, but that model has little, if any, problem with doubled keystrokes due to key bounce, and having the keytime value set too high can cause missed keystrokes. The default value (1365) seems too high for most users.

When the 49g+ was first released, its ROM didn't have working keytime commands; after all, they seemed to be more trouble than they were worth in the 49G. But it soon became all too obvious that the keyboard on the 49g+ has various problems, sometimes including missed or doubled keystrokes, so at some ROM revision, the keytime commands were made active again.

The 50g has active keytime commands, unless it's been flashed it with an early 49g+ ROM.

The keytime value is the number of ticks (1 second = 8192 ticks) that a repeated press of the same key will be ignored for, with a range of 0 through 4096.

KEYTIME\-> returns the current keytime value as a "real number".

\->KEYTIME takes a real or zint (exact integer) for an argument, and sets a new keytime value. \->KEYTIME rounds fractional arguments to integer values, treats negative arguments as 0, and arguments over 4096 as 4096.

With ROM version G revision 2.10-7 (and, I believe, other ROMs intended for the 49g+ or 50g that have active keytime commands), the default keytime value is 1138 (ticks), or somewhat over 1/8 second, which seems rather high. I recommend setting the keytime much lower, perhaps 256 (1/32 second), and actually, my 50g seems to work just fine with it set to 0.

Regards,  
James

### Re: KEYTIME?

*Message #10 Posted by [Peter A. Gebhardt](#) on 12 Sept 2007, 7:12 a.m.,  
in response to message #9 by James M. Prange (Michigan)*

James,

Thx. a lot! Using 0 ->KEYTIME instead of 300 solved the long lasting problem of scrolling through e.g. CAS CMDS.

It now works w/o "hickups"!

CAS 4.20, ROM 2.09, HP49G+ CNA51505618

Best regards,

Peter A. Gebhardt

*Edited: 14 Sept 2007, 5:51 p.m.*

### Re: KEYTIME?

*Message #11 Posted by [Dan Greil](#) on 12 Sept 2007, 9:37 p.m.,  
in response to message #9 by James M. Prange (Michigan)*

Thank you James & Mike for the detailed KEYTIME info.

I experimented with times from 128 to 4096 and it is obvious to me now that it is active - especially at 4096 where the half second wait is very noticeable.

-Dan

**Re: KEYTIME?**

*Message #12 Posted by [Steve Budd](#) on 14 Sept 2007, 4:28 p.m.,  
in response to message #11 by Dan Greil*

Thanks one and all. You have provided me with a number of useful hints and tips. When I return to the office I will test these at length.

Thanks again.

Steve

---

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## HP Forum Archive 17

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### Exponential Notation

Message #1 Posted by **Bob W (Darden 87)** on 11 Sept 2007, 8:52 a.m.

How do I turn off the Exponential Notation on my HP12C? About every nine months this happens and I forget how to fix it in about six months.

### Re: Exponential Notation

Message #2 Posted by **Valentin Albillo** on 11 Sept 2007, 9:02 a.m.,  
in response to message #1 by Bob W (Darden 87)

Hi,

Try [f][4], say, for 4 decimal places in fix notation.

[f][.] is what got you into exponential notation.

Best regards from V.

### Re: Exponential Notation

Message #3 Posted by **Bob W (Darden 87)** on 11 Sept 2007, 9:03 a.m.,  
in response to message #2 by Valentin Albillo

THANK YOU!!!!

---

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## HP Forum Archive 17

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### Computing many digits of Pi

Message #1 Posted by [Juan Pablo Martinez \(Spain\)](#) on 11 Sept 2007, 6:36 a.m.

This subject was dealt with the year 2004 by Gene Wright (HP Forum Archives 14). As a newcomer, I only now have noticed the archive. It is said there that there are two programs to compute many digits of pi with the TI-95 calculator, one by Hewlet Ladd (1987) and another by Palmer Hanson (2004). Some members asked then for the Hanson listing, but he answered that was not ready to type the 750 steps by hand, and that he would send an attached copy of the printed listing if the interested people supply him his e-mail address. Well, I would like also to have this listing and that by Hewlet Ladd. Can anyone supply these listings?. In the same archive is a post by Gordon Dyer showing a program to compute pi on a HP-42. However, the program gives only 11 digits. Does anyone know a similar program for the same calculator but computing as many digits as possible? Does anyone know a similar arbitrary precision program to compute many digits of pi on any calculator (HP or other brands) using only the Machin arctangent formula ( $\pi = 16/\arctg(5) - 4/\arctg(239)$ )? Many thanks in advance

### Re: Computing many digits of Pi

Message #2 Posted by [Jeff O.](#) on 11 Sept 2007, 8:52 a.m.,  
in response to message #1 by [Juan Pablo Martinez \(Spain\)](#)

Katie Wasserman used the formula:

$$\pi = 20 * \arctan(1/7) + 8 * \arctan(3/79)$$

to calculate 96 (correct) digits of pi on a 32SII as described [in this article](#). I would think it would be relatively straight-forward to convert her program to run on the 42S. I've been meaning to convert it to run on the 35s. (That is, thinking "gee, I wonder if Katie's program could be converted to the 35s, and if so, how many digits could it calculate.") Katie's program saves 9 digits of pi in each 12-digit register, so with 800 registers, each capable of holding three 12-digit numbers, it should be possible to get 21,600 digits. (Assuming the program would fit with that many data registers allocated. Seems like it ought to, since the original fit in the very limited memory of the 32SII, but I have not really checked to see.)

### Re: Computing many digits of Pi

Message #3 Posted by [Katie Wasserman](#) on 11 Sept 2007, 9:54 p.m.,  
in response to message #2 by [Jeff O.](#)

The program for the 32Sii needs some modification in order to extend it for many more registers. The 9 digits/register was necessary to avoid overflows when just 99 digits are computed. You'll probably need to cut back to 6 digits/register if you're going put this on the 35s and try for 10000+ digits. More to the point, the run time goes up roughly as the square of the number of digits and the 35s isn't much faster than the 32sii so it's going to take.... let's see.....

11 (minutes for around 100 digits) \* 9/6 (number of digits per register correction \* 100^2 (100 times more digits that go as the square) = .....

pretty close to forever!

The 35s just isn't fast enough to do much useful calculation with all those registers. Even a good (NlogN) sorting routine would likely take longer than anyone would want to wait.

-Katie

### **Re: Computing many digits of Pi**

*Message #4 Posted by [Juan Pablo Martinez \(Spain\)](#) on 12 Sept 2007, 8:38 a.m.,  
in response to message #3 by Katie Wasserman*

Many thanks Katie

Of course, you are right. Your program is a little wonder, but I know that to compute over a few thousands of digits on any calculator a long job if using classical algorithms linked to trigonometric formulas. I am not sure if the translation to other calculators deserves trying.

Thanks anyway

### **Re: Computing many digits of Pi**

*Message #5 Posted by [Jeff O.](#) on 12 Sept 2007, 9:32 p.m.,  
in response to message #3 by Katie Wasserman*

Quote:

More to the point, the run time goes up roughly as the square of the number of digits and the 35s isn't much faster than the 32sii so it's going to take.... let's see.....pretty close to forever!

I did not realize this about the technique you implemented on the 32sII. I guess I should have studied it a bit before flippantly postulating about computing 20,000+ digits on the 35s.

(I probably should have realized. After all, if calculating pi was easy, it would not have worked as an effective method to drive a malevolent entity from the computer of the Enterprise. I sure hope that Spock was the only one authorized to instruct the computer to use all resources, to the exclusion of all other processes if I recall correctly, for a particular task.)

### **Re: Computing many digits of Pi**

*Message #6 Posted by [Katie Wasserman](#) on 14 Sept 2007, 9:47 a.m.,  
in response to message #5 by Jeff O.*

There are methods for computing pi that converge quadratically, of course they also grow linearly with the number of digits required. So, their ultimate convergence is  $N \cdot \log(N)$ . I'm not sure if Spock was aware of these methods when he issued his command, but he still would have gotten his intended result -- to be expected from "the best first officer in the fleet" to quote Dr. McCoy.

### **Re: Computing many digits of Pi**

*Message #7 Posted by [Juan Pablo Martinez \(Spain\)](#) on 12 Sept 2007, 8:24 a.m.,  
in response to message #2 by Jeff O.*

Many thanks. Katie's program is wonderful given the small amount of memory of the HP-32. I will try to translate it to TI-95. However, it does not use the Machin's formula, but one of the many related ones.

## Re: Computing many digits of Pi

Message #8 Posted by [Vieira, Luiz C. \(Brazil\)](#) on 11 Sept 2007, 9:00 a.m.,  
in response to message #1 by [Juan Pablo Martinez \(Spain\)](#)

Ola, Juan; ¿que tal?

I'd suggest trying these threads (in addition to Jeff's):

[Yet another not quite pi puzzle](#)

[560 Digits of PI in the HP41](#)

[Computing PI -- a simple programming problem](#) (Katie's post, mentioned by Jeff)

[CALCULATING MANY DIGITS OF PI](#) (This one you have already read, sorry...)

I guess you may find what you need.

Cheers.

Luiz (Brazil)

*Edited: 11 Sept 2007, 9:06 a.m.*

## Re: Computing many digits of Pi

Message #9 Posted by [Juan Pablo Martinez \(Spain\)](#) on 12 Sept 2007, 8:29 a.m.,  
in response to message #8 by [Vieira, Luiz C. \(Brazil\)](#)

Muito obrigado, Luiz I have followed your links. Either i knew them already or these are not useful for my purpose. Thanks again

Juan Pablo

## Re: Computing many digits of Pi

Message #10 Posted by [Bill \(Smithville, NJ\)](#) on 11 Sept 2007, 10:00 a.m.,  
in response to message #1 by [Juan Pablo Martinez \(Spain\)](#)

Here's some more interesting forum message links for calculating PI on both the HP-41 and the HP-42:

[announcing "deep pi"](#)

[Deep PI - On a 42S](#)

[Deep Pi on the HP-41cx](#)

[Deep Pi - 42S - Some Results](#)

[Another Slice of PI](#)

[One more slice of PI](#)

Have Fun,

Bill

**Re: Computing many digits of Pi**

Message #11 Posted by [Juan Pablo Martinez \(Spain\)](#) on 12 Sept 2007, 8:40 a.m.,  
in response to message #10 by Bill (Smithville, NJ)

Many thanks, Bill

The links are very useful. I am astonished of the cleverness of the deep.pi program. It would be nice to know used

**Re: Computing many digits of Pi**

Message #12 Posted by [Etienne Victoria](#) on 11 Sept 2007, 5:19 p.m.,  
in response to message #1 by Juan Pablo Martinez (Spain)

Hi Juan Pablo!

The following vintage program in french gives 128 digits of PI:

```

Que j'aime à faire apprendre ce nombre utile aux sages !           3 1 4 1 5 9 2 6 5 3 5
Immortel Archimède, artiste ingénieur,                             8 9 7 9
Qui de ton jugement peut priser la valeur ?                       3 2 3 8 4 6 2 6
Pour moi, ton problème eut de pareils avantages.                  4 3 3 8 3 2 7 9
Jadis, mystérieux, un problème bloquait                          5 0 2 8 8
Tout l'admirable procédé, l'œuvre grandiose                     4 1 9 7 1 6 9
Que Pythagore découvrit aux anciens Grecs.                       3 9 9 3 7 5
0 quadrature ! Vieux tourment du philosophe                      1 0 5 8 2 9
Insoluble rondeur, trop longtemps vous avez                      9 7 4 9 4 4
Défié Pythagore et ses imitateurs.                               5 9 2 3 0
Comment intégrer l'espace plan circulaire ?                     7 8 1 6 4 0
Former un triangle auquel il équivaudra ?                        6 2 8 6 2 0
Nouvelle invention : Archimède inscrira                          8 9 9 8
Dedans un hexagone ; appréciera son aire                         6 2 8 0 3 4
Fonction du rayon. Pas trop ne s'y tiendra :                   8 2 5 3 4 2 1 7
Dédoublera chaque élément antérieur ;                          0 6 7 9
Toujours de l'orbe calculée approchera ;                       8 2 1 4 8 0
Définira limite ; enfin, l'arc, le limiteur                     8 6 5 1 3 2 8
De cet inquiétant cercle, ennemi trop rebelle                  2 3 0 6 6 4 7
Professeur, enseignez son problème avec zèle                    0 9 3 8 4 4

```

It should run in less one minute on a well trained brain :-))

Cheers.

Etienne

**Re: Computing many digits of Pi**

Message #13 Posted by [Juan Pablo Martinez \(Spain\)](#) on 12 Sept 2007, 8:47 a.m.,  
in response to message #12 by Etienne Victoria

You are right, Etienne. This is perhaps the fastest algorithm, but it is rather difficult to implement it in a calculator. I knew already the poem by heart, but only the first lines, about 60 digits. There is plenty of similar texts in different languages, helping to memorize even 1000 digits of pi. Of course, there is still a faster algorithm, to look at the many existing printed values, to look in the web for any of the several pi pages, or to use any of the available multiprecision programs, either Derive, Maple, Mathematica, etc. However, none of these ways has much to do with calculators. Many thanks

**Re: Computing many digits of Pi**

Message #14 Posted by [Palmer O. Hanson, Jr.](#) on 12 Sept 2007, 3:58 p.m.,  
in response to message #1 by Juan Pablo Martinez (Spain)



I have a pasteup available for my 2004 program for the TI-95. It is a conversion of the TI-59 program by Bob Fruit which appeared in V7N4/5P27 ff of TI PPC Notes. Since you keep your e-mail address private you will have to send your address to me at pohmwh@earthlink.net if you want a copy. I haven't figured out how to attach anything to the secure communication through the museum.

I have not found a pasteup of the Hewlett Ladd program for the TI-95. It is a conversion of the Science et Vie program for the TI-59 which appeared in V8N3P8-9 of TI PPC Notes. For a translation of the Science et Vie article go to V8N4P21-24 of TI PPC Notes.

### **Re: Computing many digits of Pi**

*Message #15 Posted by [Xerxes](#) on 12 Sept 2007, 5:05 p.m.,  
in response to message #14 by Palmer O. Hanson, Jr.*

It would be nice, if you can send me the TI-95 version too. Thank you.

### **Re: Computing many digits of Pi**

*Message #16 Posted by [Juan Pablo Martinez \(Spain\)](#) on 13 Sept 2007, 4:49 a.m.,  
in response to message #14 by Palmer O. Hanson, Jr.*

Many, many thanks! Finally I managed to contact you. I did not realize that my e-mail address was kept private. Here is it: jpmr...ipe.csic.es (with the @ sign instead the dots). I would be very grateful if you send me the paste. Besides several HP calculators I still own and use an old TI95. I wonder if your program could be changed to allow the use of either supplementary memory modules up to 32 K or even data recorded in magnetic tape.

Thanks again

### **Re: Computing many digits of Pi**

*Message #17 Posted by [Palmer O. Hanson, Jr.](#) on 13 Sept 2007, 9:14 a.m.,  
in response to message #16 by Juan Pablo Martinez (Spain)*

I have the 2004 program in an 8K RAM module. I don't think I ever had it on tape since my tape reader isn't working.

I sort of remember having the Hewlett Ladd program on tape but I haven't been able to find it. It is not on a RAM module. I have found a reference in which Hewlett indicated that his program was a translation of a TI-59 program from V8N4P26 of TI PPC Notes, that it was only 296 bytes and would calculate up to 1573 digits.

### **Re: Computing many digits of Pi**

*Message #18 Posted by [Egan Ford](#) on 18 Sept 2007, 10:35 p.m.,  
in response to message #1 by Juan Pablo Martinez (Spain)*

Using the Spigot Algorithm from *Pi Unleashed* + HPGCC I can compute 15000 digits of PI in 412 seconds on my 50g. If you are interested I can send you the binary so that you do not need to compile and install the ARM Toolbox. NOTE: Real 50g/49g+ required.

To use:

15000 pidf

Output to stack:

```
bytes used: 210056
  time(s): 412
  digits: 15000
 digits/s: 36.41
```

SD card will have file PIDIGITS.TXT with the output formatted with 32 digits/line, recall to stack with:

```
3:PIDIGITS.TXT RCL
```

Up Arrow VIEW to see all digits.

NOTE: HPGCC binaries can be large. Best to store on SD card and run with:

```
3:pidf EVAL
```

Put that in a small UserRPL script and save to main memory.

You can hold down any key (but ON) to stop the run and collect partial output. When done exit with ON.

```
/*
pidf.c
```

```
Get n from stack and compute n number of pi digits using
Spigot method from Pi Unleashed by Jorg Arndt & Christoph Haenel.
```

```
Mem allocated = ((n/4)+1)*14 * 4 bytes
```

```
Return to stack statistics, e.g.
```

```
(n=5000):
```

```
bytes used: 70056
  time(s): 46
  digits: 5000
 digits/s: 108.70
```

```
(n=15000):
```

```
bytes used: 210056
  time(s): 412
  digits: 15000
 digits/s: 36.41
```

```
Only HP specific comments, read book for algorithm details.
```

```
*/
```

```
#include <hpgcc49.h> //the standard HP lib
```

```
int main(void){
  int *a;
  int b;
  int c;
  int d = 0;
  int e = 0;
  int f = 10000;
  int g;
  int h = 0;
  int start;
  int end;
  int cc = 0;
  char buf[40];
  int ndigits;
  FILE *fh;
```

```

char *filename = "pidigits.txt";

sys_slowOff(); //max speed
clear_screen(); //clear the screen

if((fh = fopen(filename,"w"))) {
}
else {
    printf("Error opening %s\n",filename);
    beep();
    sys_slowOn(); //normal speed
    WAIT_CANCEL; //loop until ON pressed
    return(1);
}

ndigits = sat_pop_zint_llong(); //get ndigits from stack, must be int > 0
if(ndigits > 0) {
}
else {
    printf("Number of PI digits must be an\integer > 0!\n");
    beep();
    sys_slowOn(); //normal speed
    WAIT_CANCEL; //loop until ON pressed
    return(1);
}
c=(ndigits/4+1)*14;
a=malloc(c*sizeof(*a));

start = sys_RTC_seconds(); //get start time in seconds since 1/1/1970
while ((b=c-=14) > 0) { //logic, compute 4 digits of pi at a time then display
    while(--b > 0) {
        d *= b;
        if (h == 0)
            d += 2000 * f;
        else
            d += a[b] * f;
        g=b+b-1;
        a[b] = d % g;
        d /= g;
    }
    printf("%04d", e + d/f);
    fprintf(fh,"%04d", e + d/f);
    cc+=4;
    if(cc % 32 == 0) {
        printf("\n");
        fprintf(fh,"\n");
    }
    if(keyb_isAnyKeyPressed()) //hold any key to stop, do not use ON
        break;
    d = e = d % f;
    h = 4;
}
end = sys_RTC_seconds(); //get end time in seconds since 1/1/1970
fprintf(fh,"\n");
fclose(fh);
printf("\n\n");

sprintf(buf,"bytes used: %d",(ndigits/4+1)*14*(int)sizeof(*a));
printf("%s\n",buf);
sat_stack_push_string(buf); //push string to stack

sprintf(buf,"time(s): %d",end-start);
printf("%s\n",buf);
sat_stack_push_string(buf); //push string to stack

sprintf(buf,"digits: %d",cc);
printf("%s\n",buf);
sat_stack_push_string(buf); //push string to stack

if(end-start == 0)
    sprintf(buf,"digits/s: NAN");
else

```

```
    sprintf(buf,"digits/s: %.2f",(float)cc/(float)(end-start));
printf("  %s",buf);
sat_stack_push_string(buf);    //push string to stack

beep();
sys_slowOn(); //normal speed
WAIT_CANCEL; //loop until ON pressed
return(0);
}
```

*Edited: 24 Sept 2007, 11:37 a.m. after one or more responses were posted*

## **Re: Computing many digits of Pi**

*Message #19 Posted by [Rodger Rosenbaum](#) on 19 Sept 2007, 8:02 a.m.,  
in response to message #18 by Egan Ford*

I have a xerox of an old paper about the computation of Pi, titled "Some Comments on a NORC Computation of Pi". I think the paper dates from around 1956.

The authors say in the first paragraph:

"Among the problems suggested as demonstration routines for the NORC (Naval Ordnance Research Computer) was the calculation of Pi to a large number of digits. In 1949, Pi was calculated to 2035 digits on the ENIAC. The present computation on the NORC, which was carried out by the authors at the Watson Scientific Computing Laboratory, produced 3089 digits. This limit was chosen since the entire calculation could be contained in the NORC's high speed memory (2000 locations). The program was designed to produce any number of digits up to this limit."

They say that the computation took 13 minutes.

I wonder what kind of memory the NORC had? All of "2000 locations". And how much power was consumed during the computation?

In 2007, using the power provided by a few penlight cells, Pi can be computed to 15,000 digits in about 7 minutes. On a pocket sized computer with over 200,000 memory "locations"!

Mathematica keeps the first 10,000 digits of Pi pre-calculated and stored in memory. So if a calculation needs up to 10,000 digits, there's no delay in calculating them; they're just fetched from memory.

If more digits are needed, they're calculated using the Chudnovsky formula. On my laptop, Mathematica takes 3.5 seconds to calculate 1,000,000 digits of Pi, and 58 seconds to calculate 10,000,000 digits. And, no doubt, using far less power than the ENIAC or NORC did.

This is progress.

## **Re: Computing many digits of Pi**

*Message #20 Posted by [Egan Ford](#) on 19 Sept 2007, 9:38 a.m.,  
in response to message #19 by Rodger Rosenbaum*

The Spigot method isn't the fastest. But it is small, does not require MP or FP math (integers only), and you get to watch the action.

If I have time I'll try out Chudnovsky.

## **Re: Computing many digits of Pi**

*Message #21 Posted by [Juan Pablo Martinez \(Spain\)](#) on 24 Sept 2007, 4:11 a.m.,  
in response to message #18 by Egan Ford*

Many thanks for your advice. Do you know if the program can be run also in a HP-49g?(not a HP-49g+)

Juan Pablo

---

**Re: Computing many digits of Pi**

*Message #22 Posted by [Egan Ford](#) on 24 Sept 2007, 10:58 a.m.,  
in response to message #21 by Juan Pablo Martinez (Spain)*

AFAIK, the 49g uses the Saturn CPU. You need an ARM-based unit (49g+/50g).

---

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## HP Forum Archive 17

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### Product suggestion for HP...

Message #1 Posted by [BruceH](#) on 11 Sept 2007, 5:56 a.m.

Do people think that there is a market for an RPN, simple scientific with bluetooth that can act as either a numeric keypad for a laptop or simply just send the contents of the X register to the laptop as if it had been typed in?

I often find myself calculating on the calc and then re-typing the answer into the PC.

Targus have a couple of products that give an idea of how it might work: [keypad calculator but USB only](#) and [bluetooth keypad but no calc](#) but I wouldn't expect the keys to be full-sized -- it should primarily be, and look like, a calculator -- just one that happens to be convenient for sending results to a PC.

Obviously it would need to be fairly chunky in order to pack enough batteries to power bluetooth for a reasonable period but this need not be a bad thing.

Posts in this forum frequently request/beg/demand that HP produce an RPN four-banger. Well maybe this is the excuse they need to justify the effort needed to produce a simple RPN machine?

### Re: Product suggestion for HP...

Message #2 Posted by [DaveJ](#) on 11 Sept 2007, 7:17 a.m.,  
in response to message #1 by [BruceH](#)

Quote:

Do people think that there is a market for an RPN, simple scientific with bluetooth that can act as either a numeric keypad for a laptop or simply just send the contents of the X register to the laptop as if it had been typed in?

There is a market for everything, in this case an incredibly small one I suspect.

Quote:

I often find myself calculating on the calc and then re-typing the answer into the PC.

I do too, but I usually have to format it in some way afterwards anyway, so the advantage of having it entered automatically is not all that high.

Quote:

Targus have a couple of products that give an idea of how it might work: [keypad calculator but USB only](#) and [bluetooth keypad but no calc](#) but I wouldn't expect the keys to be full-sized -- it should primarily be, and look like, a calculator -- just one that happens to be convenient for sending results to a PC.

Obviously it would need to be fairly chunky in order to pack enough batteries to power bluetooth

for a reasonable period but this need not be a bad thing.

---

That is a bad thing in my opinion. A simple calculator should be as small and compact as possible, and last forever on batteries. But they aren't mutually exclusive though, you could have a Bluetooth interface and still make it small and last a long time on batteries if you engineered it right.

Quote:

---

Posts in this forum frequently request/beg/demand that HP produce an RPN four-banger. Well maybe this is the excuse they need to justify the effort needed to produce a simple RPN machine?

---

I don't think so. They would have much more success with say re-hashing the 12C as a non-programmable scientific.

Dave.

### **Re: Product suggestion for HP...**

*Message #3 Posted by [Maximilian Hohmann](#) on 11 Sept 2007, 7:29 a.m.,  
in response to message #1 by BruceH*

Hello!

Quote:

---

Obviously it would need to be fairly chunky in order to pack enough batteries to power bluetooth for a reasonable period but this need not be a bad thing.

---

I don't even think so! I have a bluetooth headset (two way) for my mobile phone that is so small that it hides behind your ears and that runs for hours on a charge of its miniature LiIon Battery. And it has to provide a continuous stream of data all the time, other than the calculator that must only transmit a few bytes every now and then.

On the other hand, a big battery would also be able to power an (O)LED display.

Greetings, Max

NB: I frequently use one of these USB-four-bangers together with my notebook computer. Since it also has incorporates an USB-hub and I have to connect my mouse anyway (I hate this trackpad-thing), I don't mind the USB cable at all...

### **Re: Product suggestion for HP...**

*Message #4 Posted by [Dennis Trafananko](#) on 11 Sept 2007, 3:21 p.m.,  
in response to message #1 by BruceH*

Quote:

---

I often find myself calculating on the calc and then re-typing the answer into the PC.

---

Use the excellent Free42 emulator on your laptop, then the "Edit | Copy" from its menubar. I was able to copy the result of a calculation (the X stack register) and paste it into notepad. The result is available anywhere via copy and paste.

Hope this serves your need.

Dennis

### **Re: Product suggestion for HP...**

*Message #5 Posted by [Alain Mellan](#) on 11 Sept 2007, 8:00 p.m.,  
in response to message #1 by BruceH*

Quote:

Do people think that there is a market for an RPN, simple scientific with bluetooth that can act as either a numeric keypad for a laptop or simply just send the contents of the X register to the laptop as if it had been typed in?

I often find myself calculating on the calc and then re-typing the answer into the PC.

I do too. I'd like to have a software version of the calculator running in sync (through Bluetooth) with my actual calculator. Then I could copy/paste the result into other applications. Maybe also have the emulator save a sequence of keystrokes received through Bluetooth and play them back (through Bluetooth) on the actual calculator.

### **Whitetooth (was Re: Product suggestion for HP...)**

*Message #6 Posted by [Walter B](#) on 12 Sept 2007, 1:50 a.m.,  
in response to message #5 by Alain Mellan*

Instead of blowing all the battery power in the air, I'd be perfectly satisfied with a cute little white USB cable like Apple has it. It will not cost battery life, but will even allow charging of rechargeables instead. And it will be found on a messy desk, too. Else, clean up!

### **Re: Whitetooth (was Re: Product suggestion for HP...)**

*Message #7 Posted by [DaveJ](#) on 12 Sept 2007, 3:00 a.m.,  
in response to message #6 by Walter B*

Quote:

Instead of blowing all the battery power in the air, I'd be perfectly satisfied with a cute little white USB cable like Apple has it. It will not cost battery life, but will even allow charging of rechargeables instead.

Rechargeable batteries in a low end scientific calc - why? I'd refuse to buy it on principle!

Dave.

### **Re: Whitetooth (was Re: Product suggestion for HP...)**

*Message #8 Posted by [Walter B](#) on 12 Sept 2007, 4:07 a.m.,  
in response to message #7 by DaveJ*

OK, this was just meant as an opportunity. A Whitetooth calc will work with normal batteries as



well, of course.

## **Re: Product suggestion for HP...**

*Message #9 Posted by **Jerome Fryer (New Zealand)** on 16 Sept 2007, 8:35 a.m.,  
in response to message #1 by BruceH*

Hi to all.

This idea seems quite good to me. Using a laptop is always a bit painful in my job (electrical calibration) and it is useful to always have a calculator handy for checking things out during spreadsheet development. A fairly basic calculator that could communicate with a PC (and cellphone, and PDA) via BlueTooth seems like something that would be marketable. Ideally I would like to see an improved HP 50G with BlueTooth functionality.

Engineers and scientists of all sorts, accountants, tradespeople, and business people in general would probably find an easy way to send a series of figures to their cellphone quite a useful feature. It would prevent transcription errors and speed up the "txting" business.

Possibly not so good for students, though! Yield not to temptation. ;)

The cost of implementing BlueTooth (licensing) may be the problem, rather than no market.

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## HP Forum Archive 17

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### Modified Duration on 17bII+

Message #1 Posted by [Patrick Landry](#) on 10 Sept 2007, 6:25 p.m.

Hi guys,

I was wondering if anyone could generate lines of coded needed to calculate the modified duration for a bond. I have tried and am not to familiar with all the many programming options available.

### Re: Modified Duration on 17bII+

Message #2 Posted by [Peter A. Gebhardt](#) on 10 Sept 2007, 6:48 p.m.,  
in response to message #1 by Patrick Landry

Patrick,

maybe that's what you're looking for?

<http://www.investopedia.com/university/advancedbond/advancedbond5.asp>

You can enter the formulas directly. Before you start become used to using SPPV, USPV etc. to ease entry of the formulas & save space.

Once we have a 17bII+ again which does fully support L() & G() functions, then you should look here!

From the "Financial Superstar", Tony Hutchins:

Quote:

File Info for UBONDS.ZIP

Section: HP 100/200 Contributor: 100250,2347 Size: 6436 Submitted: 27-Oct-95 Type: Binary  
Accesses: 419 Title: UBONDS - Universal Bond Solver EQN for Palmtop Keys: BONDS  
UBONDS HP100LX HP200LX SOLVER EQN

UBONDS.EQN provides the LX Palmtops with a superset of the HP12C and HP19B bond capabilities. Also handles additional coupon frequencies and calculates the Dollar Value of 1 Basis Point and the Macaulay duration. Has a Face value extension to the calculation. Supports dates in whatever format the LX is set to, and has three date accounting bases. Outputs nearby coupon dates so you can argue details with your broker! Uploaded by author.

<http://homepages.paradise.net.nz/th/>

Best regards

Peter A. Gebhardt

*Edited: 10 Sept 2007, 6:51 p.m.*

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## HP Forum Archive 17

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### Hp 35s - what color is it?

Message #1 Posted by [Martin Pinckney](#) on 10 Sept 2007, 5:26 p.m.

Just a sly way to start a new thread about first impressions. But seriously, from the online photos, I thought it was brown. After I received it, I still thought it was brown. Then when I put it alongside one of my Pioneers (definitely brown), it looks black. Black would be more consistent with making it look like a "classic" HP.

Which it doesn't, any more than a new Thunderbird "looks like" a classic 50's T-bird. It just "evokes" it. It actually looks more like a Pioneer on steroids, to me. With the slightly curved sides thrown in to make it look more classic. But then there are the sloped-front keys, which are definitely classic and not Pioneer-ish. In any case, it does look good.

As a new poster, I might mention that I started out with TI, and still prefer algebraic (gasp!) for most calculations (if interested, see my Memories post). But on this calculator (and other recent offerings) HP has implemented a form of ALG that is very annoying, requiring EVERYTHING to be infix while in ALG mode. I much prefer the older Pioneer algebraic, which had so-called unary functions postfix. It's almost as if HP engineers said "OK, you algebraic people, we're going to make you PAY for rejecting RPN, by making the ALG mode more complicated, then the RPN aficionados will have even more ammunition!"

Now I will admit that consistency demands that the trig functions and the like be infix [SIN( )], but unit conversions [MILE( )]? What sense does that make? This is not any kind of standard notation that I am aware of, and it is awkward. So, I switch to RPN mode when I do any kind of unit conversions. This is a roundabout way of saying that I like having the ability to switch modes in one calculator.

I have been using it about 2 weeks now. My impressions of its physical appearance and construction were initially very good, and that has not changed. My impressions of function were initially not so good, but the more I use it and the more I learn of its capabilities by reading the manual, the more it grows on me.

All-in-all, I think HP has a winner, and I sure hope sales are good enough to inspire them to produce more calculators in this mold and less in the TI mold.

### Re: Hp 35s - what color is it?

Message #2 Posted by [Martin Pinckney](#) on 11 Sept 2007, 2:55 p.m.,  
in response to message #1 by [Martin Pinckney](#)

At first the display looked odd to me - the aspect ratio of the digits is taller and narrower than what I have been used to on my Pioneers. But as I have gotten used to the calculator, I am really liking the display - it has so much better contrast than the Pioneers - really pops. Maybe the glossy screen, which some have commented on, contributes to this.

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### HP71B & RPN??

Message #1 Posted by [Vincze](#) on 10 Sept 2007, 3:23 p.m.

My friends, I apologize, but I traveling this week. I bring 71B to play with and forgot my 35s. So today, I have to do some mathematics, and since I no have my 35s, I decided to use 71b. What pain in butt this be. I so used to RPN, and it appear that 71b only do algebraic. Is there a way to switch into RPN mode, or was 71b no meant to do RPN.

### Re: HP71B & RPN??

Message #2 Posted by [Dave Johnson](#) on 10 Sept 2007, 3:47 p.m.,  
in response to message #1 by Vincze

You need the HP-41 Translation Module. The HP-71B was Algebraic only...

### Re: HP71B & RPN??

Message #3 Posted by [Vincze](#) on 10 Sept 2007, 4:51 p.m.,  
in response to message #2 by Dave Johnson

Okay, so I guess I have to deal with stupid mode (Algebraic) this week. Is there way to store to memory for later reuse? I not see memory key (which stupid use calculators normally have). OR, I bet I can assign variable to equation to call back? Yes? If so, is there naming limitation on variables? I apologize for asking these stupid question when I know it covered in manual, but I forget manual at home and I travel this week.

Thank you my friends.

### Re: HP71B & RPN??

Message #4 Posted by [Howard Owen](#) on 10 Sept 2007, 6:03 p.m.,  
in response to message #3 by Vincze

Quote:

Okay, so I guess I have to deal with stupid mode (Algebraic) this week

There is more than one RPN hack for the 71B out there. The HP41 module Dave mentioned is nice. But though it isn't hugely rare, the price on eBay can be very high. (Partly I think that's because you can't run the HP41 Translator or the Forth module under EMU71.) But there are BASIC programs on the swap disks that offer a simulated RPN environment.

Quote:

Is there way to store to memory for later reuse? I not see memory key (which stupid use calculators normally have). OR, I bet I can assign variable to equation to call back? Yes?

The 71B has BASIC programs, not equations. Yes, you can store data in a variable and it will stay there as long as you don't DESTROY it or run out of power. And yes, there is a fairly severe limitation on variable names They can consist of a single alphabetic character (without distinction of case) followed by one (optional) numeric digit. So I2 B9 G6 and O4 are all valid variable names. String variables are a "name space" separate from numbers. They are indicated by a '\$' at the end. ("d1\$,"g0\$" and so forth) You can also have array variables, and with them you can more or less fill up the 71B's memory with data if you care to. The memory is implemented as a file system from the computer's point of view, so another alternative is to create a data file that you can later load back in to "memory". (Both the file and the array are in RAM, of course.)

Regards,  
Howard

### Re: HP71B & RPN??

*Message #5 Posted by [Egan Ford](#) on 10 Sept 2007, 6:43 p.m.,  
in response to message #4 by Howard Owen*

Quote:

Partly I think that's because you can't run the HP41 Translator or the Forth module under EMU71.

Actually you can.

Put this in EMU71.INI for HP41 Translator:

```
5 ROM 16 fth41rom.bin
5 HRD 32 hrdfth41.bin
```

Forth Module:

```
5 ROM 16 FORTHROM.BIN
5 HRD 32 hrdforth.bin
```

I have the Translator ROM in my 71B--its a must have.

### Re: HP71B & RPN??

*Message #6 Posted by [Howard Owen](#) on 10 Sept 2007, 9:28 p.m.,  
in response to message #5 by Egan Ford*

Quote:

Actually you can.

Put this in EMU71.INI for HP41 Translator:

.

.

Oh, duh! That's right. What you can't do is to have Mike burn the Forth or HP41 ROMs into a CMT EPROM module. That means that the modules themselves are the only way I know to run those on a real HP71. I conflated that with EMU71. I've had both the 41 translator and the Forth ROM up under EMU71. (Not at the same time, however.)

Thanks for the correction.

Regards,  
Howard

### **Alarm for the 71? (Was: HP71B & RPN??)**

*Message #7 Posted by [Geir Isene](#) on 11 Sept 2007, 2:03 a.m.,  
in response to message #5 by Egan Ford*

Any way to add alarms to the 71 (à la 41CX)

### **Re: Alarm for the 71? (Was: HP71B & RPN??)**

*Message #8 Posted by [Egan Ford](#) on 11 Sept 2007, 2:19 a.m.,  
in response to message #7 by Geir Isene*

AFAIK, you can use timers. Set a timer, turn off, 71B will wakeup when timer ends and continue to run. I've never done it, just read it in the manual.

### **Re: HP71B & RPN??**

*Message #9 Posted by [Raymond Del Tondo](#) on 10 Sept 2007, 6:16 p.m.,  
in response to message #3 by Vincze*

> Okay, so I guess I have to deal with stupid mode (Algebraic) this week.  
>

Although I'm an RPN/RPL fanatic, the CALC mode of the HP-71B was the first algebraic entry mode implementation that rocked!

However you could still program your own RPN mode...

Raymond

### **Re: HP71B & RPN??**

*Message #10 Posted by [Egan Ford](#) on 10 Sept 2007, 6:53 p.m.,  
in response to message #1 by Vincze*

Algebraic on the 71B is not that bad at all if you remember the RES keyword.

E.g.:

```
>2 + 2
4
>RES * 8
32
>MOD(RES, 5)
2
```

RES is your last result.

RPNLEX is nice, if you can get it on your machine. You'll need HP-IL or type it in (~1000 bytes). If you want to type it in you will need to do some homework. Google: type in a lex file site:hpmuseum.org.

To use RPNLEX, type RPN. To exit, SHIFT OFF.

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## HP Forum Archive 17

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**HP 35 locking cradle**

Message #1 Posted by [Seth Morabito](#) on 10 Sept 2007, 3:23 p.m.

I've just bought an HP 35 from the unmentionable auction site. It works, but it's locked into a security cradle, and of course there's no key.

Is there any way of breaking it free without doing any damage to the calculator? Perhaps I should invest in a lock picking set ;)

**Re: HP 35 locking cradle**

Message #2 Posted by [Dave Johnson](#) on 10 Sept 2007, 3:50 p.m.,  
in response to message #1 by Seth Morabito

I have had luck with alternate keys. As long as it is close it can be opened with wiggling. (Yeah I know not too comforting if you bought it for \$800 in the day...)

**Re: HP 35 locking cradle**

Message #3 Posted by [Walter B](#) on 10 Sept 2007, 3:51 p.m.,  
in response to message #1 by Seth Morabito

Hmmh, these cradles were originally paid to secure the calc. The bottom plate is 2.5mm of flat steel, the lock bar has 3mm. So if you do not succeed in lock picking, there will be no other way but to sacrifice the cradle.

Turn around the cradle (the lock will rest on your desk now). Then grind away the plastic material at the **bottom** front of the cradle. It will take ca. 9mm material until the front latches will become free, but at least it is only plastic ;)

Happy burgling!

**Re: HP 35 locking cradle**

Message #4 Posted by [Alex L](#) on 10 Sept 2007, 3:56 p.m.,  
in response to message #1 by Seth Morabito

Consult a local locksmith - since you can bring it to them (no service call) it may be cheaper to pay the locksmith than to buy your own tools.

**Re: HP 35 locking cradle**

Message #5 Posted by [Bruce Bergman](#) on 10 Sept 2007, 7:04 p.m.,  
in response to message #4 by Alex L

Agreed. My brother's a locksmith and he's picked and opened almost every lock given to him in the last 35 years. Once picked, they can also cut a key for you that will fit.

thanks, bruce

*Edited: 10 Sept 2007, 7:05 p.m.*

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## HP Forum Archive 17

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### **Can someone lend me their 50g for my HHC2007 Conference Presentation**

Message #1 Posted by [hugh steers](#) on 10 Sept 2007, 3:54 a.m.

Hi Guys,

Is there someone attending the HHC 2007 in San Deigo, who is prepared to lend me a 50g on the Saturday for my presentation? I am travelling from the UK and would like to travel as light as possible. I will need it an hour or so before my talk to set it up and you can have it back straight afterwards.

Please only lend me your calculator if you are happy that i may need to perform a hard reset. I will need to install my software on it for demonstration, and as with all demos it is bound to crash and require a reset (like removing the batteries!)

I would be most grateful and as a bonus you will have a copy of my demo to play with for your amusement.

many thanks, -- hugh.

### **Re: Can someone lend me their 50g for my HHC2007 Conference Presentation**

Message #2 Posted by [Tim Wessman](#) on 10 Sept 2007, 9:47 a.m.,  
in response to message #1 by hugh steers

I can bring a new one fresh out of the box if you'd like. Just remind me to bring it that week in an email so I won't forget. :-)

TW

### **Re: Can someone lend me their 50g for my HHC2007 Conference Presentation**

Message #3 Posted by [hugh steers](#) on 10 Sept 2007, 2:03 p.m.,  
in response to message #2 by Tim Wessman

hi tim,

that would be excellent! my software wont break anything, but often people have a lot of stuff loaded in their own machines that they'd rather not lose. if its a new one, we can just reset everything afterwards and have it back to the factory state.

i plan to rig up a webcam to my laptop so that i can project the screen onto the screen, if you see what i mean.

cheers, -- hugh.

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## HP Forum Archive 17

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### HHP-16K 41C ROM Emulator

Message #1 Posted by [Ron Fredericks](#) on 10 Sept 2007, 3:51 a.m.

I recently acquired this device with no doc's so I'm not sure how to test it to see if it is working. When I plug this empty (no eproms) unit into my HP-41CX, should I be able to read anything from my calculator?

Anyone know how to configure the dip switches for some valid combinations of eproms?

[Some photos and a blog post](#)

Best regards,

Ron Fredericks

### Re: HHP-16K 41C ROM Emulator

Message #2 Posted by [Eric Smith](#) on 10 Sept 2007, 4:20 a.m.,  
in response to message #1 by Ron Fredericks

Quote:

When I plug this empty (no eproms) unit into my HP-41CX, should I be able to read anything from my calculator?

No.

### Re: HHP-16K 41C ROM Emulator

Message #3 Posted by [Winfried Maschke](#) on 11 Sept 2007, 10:04 a.m.,  
in response to message #1 by Ron Fredericks

Quote:

Anyone know how to configure the dip switches for some valid combinations of eproms?

I know only one switch setting for a 16K EPROM-Set with 2x2764 and 1x 2732.

The left 4 switches on the picture in your blog are selecting the type of EPROM-Set. 1 up, 2up, 3 down and 4 down is 16K. Only switch 2 has to be different to the picture.

With the other bank of switches on the right side you can select between port 1+2 or 3+4 in this case.

### Re: HHP-16K 41C ROM Emulator

Message #4 Posted by [Ron Fredericks](#) on 19 Sept 2007, 5:19 p.m.,  
in response to message #3 by Winfried Maschke

Thanks Winfried.

This helps alot. I continue to build out the blog post.

I hope to clarify DIP settings for port switches so I can addrees port 1+2 or port 3+4? Maybe on inspection this will be more obvious but if you get a chance, let me know.

All the best,

Ron

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## HP Forum Archive 17

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### Trading at the HHC San Diego

Message #1 Posted by [db \(martinez, ca.\)](#) on 9 Sept 2007, 12:42 p.m.

Does anyone who is going to the conference:

Have a spare classic charger and want to trade for a couple of the other types?

Have a 70 and want to trade for a 91.

Have a non hp rpn that i don't already have (see <http://www.msdsite.com/photopost/showgallery.php?cat=534&ppuser=> )and want to trade for some calc related thing?

I'm not sure but i think you can contact me through the forum.

### Re: Trading at the HHC San Diego

Message #2 Posted by [Gene Wright](#) on 9 Sept 2007, 1:50 p.m.,  
in response to message #1 by [db \(martinez, ca.\)](#)

Hey, what SPARES of those non-HP RPN calculators do YOU have?

Got a spare Corvus 500? :-)

I'm pretty sure I could come up with a trade.

See you in a couple of weeks. Gene

### Re: Trading at the HHC San Diego

Message #3 Posted by [db \(martinez, ca.\)](#) on 9 Sept 2007, 2:10 p.m.,  
in response to message #2 by [Gene Wright](#)

some spares may be had, including a functional corvus, but that'll cost you one of the other holy grails of the non hp rpn world. i can't write **out** on the forum's messaging thinger. email me if you want.

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## HP Forum Archive 17

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### HP-41C Wand Button Problem

Message #1 Posted by [Seth Morabito](#) on 9 Sept 2007, 1:59 a.m.

I've finally got a barcode wand (HP82153A) to help enter programs into my HP-41CX! It does work, but unfortunately the button seems to be a bit finicky.

If I press on the wrong part of the button, or if I press too hard, the red light will turn off. The best place to press seems to be near the red LED part of the wand. The worst place seems to be higher up on the wand, toward the cord. I have to give it just the right pressure, and make sure not to go over. If I do it just right, the light stays on and red the whole time, and barcodes can be scanned successfully. But if I press too hard, the light will go out in mid-scan.

Has anyone else ever seen this behavior? Is there anything I should try that might help?

---

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## HP Forum Archive 17

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### **Re: Connectivity Issues with 48G series**

Message #1 Posted by [Ed Look](#) on 9 Sept 2007, 12:52 a.m.

Allen, Thomas (Okken), I finally received my USB to RS-232 serial converter cable in the mail.

AND I AM FINALLY ABLE TO HAVE MY HP 48G AND 48G+ COMMUNICATE WITH MY PC AGAIN!!

Now, maybe programming will come a little easier, I can take 48G programs and port them easily to the 49G+, vice versa, and may even help in programming non-I/O units like the 35s and 33s, just by inference from 48G or 49G+ programs.

Thank you gentlemen for the great advice.

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## HP Forum Archive 17

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### Equation Library in 49G+/50G versus 48G

Message #1 Posted by [Jeff Kearns](#) on 8 Sept 2007, 9:33 p.m.

Hi all,

I am relatively new to the RPL family of calculators, having used the 41C, 15C and 32sii primarily. I recently acquired a pristine 48G for a mere pittance and have been fooling around with the Equation Library. So far, every example that I have worked through from the AUR went flawlessly (with some exceptions like Bernoulli's Equation: Pressure at Depth where Po registers in kPa instead of atmospheres as in the example, consequently giving the wrong answer). The same cannot be said for my 49G+ with the v92 ROM and EqLib L226 and L227 files. On several occasions, certain variables do not have units associated with them and the solver will not work properly. One example would be the 'A' Total Surface Area variable in the Solid Geometry/Cone equations set. This is only an example and has happened elsewhere too. I have purged all variables every time the problem happens and tried reinstalling the library files but to no avail. Has anyone else noticed this or am I missing something fundamental here? Thanks in advance.

Regards,

JeffK

### Re: Equation Library in 49G+/50G versus 48G

Message #2 Posted by [Norris](#) on 9 Sept 2007, 2:09 p.m.,

in response to message #1 by Jeff Kearns

I have both a 48GX and a 50G with the equation libraries, and they work identically for me. You might check the following issues:

(1) When you start the equation library, there should be three softkeys at the bottom left, marked SI, ENGL, and UNITS. The UNITS key toggles units on or off. When it's on, there's a little square on the right side of the key, so that it reads UNIT[] instead of UNITS. You can also toggle between SI and ENGL units, and the square shows which one is selected, although it doesn't make any difference unless UNITS is turned on.

If you've been toggling the UNITS button, it could explain why your units sometimes disappear. If you've been toggling the SI and ENGL buttons, it could also explain why Po registers as kPa in "Pressure at Depth", because the default unit in ENGL is psi. You can see the default units for "Pressure at Depth" by pressing VARS NXT.

(2) If you've been using a particular set of equations, then switch UNITS on or off, or switch between SI and ENGL, then you have to purge the variables in the current directory for the changes to take effect. If that's not working, you might also check for any similarly-named variables in any higher directories.

For example, suppose you are using the Equation Library in a subdirectory named SUBD1 in the HOME directory. You purge all of the variables in the HOME/SUBD1 subdirectory, including variable A. But if there is also another variable A in the HOME directory, then you may still have a problem.

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## HP Forum Archive 17

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### Keystroke Programming and Stacks

Message #1 Posted by [DaveJ](#) on 8 Sept 2007, 7:10 p.m.

I'm about to add keystroke programming to my new calculator design and am wondering whether or not to keep the traditional 4 level RPN stack I have now, or go with an "unlimited" size RPL style stack instead.

Note that the RPL style stack would not include algebraic expression and all that fancy stuff as on the 28/48 etc, it would simply be a large stack with the usual DROP/SWAP etc.

Advantages and disadvantages, comments and insights, and religious flame wars invited :->

Thanks Dave.

### Re: Keystroke Programming and Stacks

Message #2 Posted by [Arne Halvorsen \(Norway\)](#) on 8 Sept 2007, 7:35 p.m.,  
in response to message #1 by [DaveJ](#)

Just dont forget lastx you will do good :-) When I have had to use non rpn it is that I often has missed...

### Re: Keystroke Programming and Stacks

Message #3 Posted by [Geir Isene](#) on 8 Sept 2007, 7:45 p.m.,  
in response to message #1 by [DaveJ](#)

The [KISS principle](#) would do good.

### Re: Keystroke Programming and Stacks

Message #4 Posted by [Arne Halvorsen \(Norway\)](#) on 8 Sept 2007, 7:56 p.m.,  
in response to message #3 by [Geir Isene](#)

Keep it simple would be a no arbitrary limit stack with nothing special happening to value in at top of stack and no strange duplicating from bottom (well we are unlimited)... Nae, I take the complicated classic rpn stack...

### Re: Keystroke Programming and Stacks

Message #5 Posted by [DaveJ](#) on 9 Sept 2007, 3:48 a.m.,  
in response to message #4 by [Arne Halvorsen \(Norway\)](#)

Quote:

Keep it simple would be a no arbitrary limit stack with nothing special happening to value in at top of stack and no strange duplicating from bottom (well we are unlimited)... Nae, I take the complicated classic rpn stack...

I think perhaps the complicated classic RPN stack it is then, as I've already written it, unless someone can convince me otherwise...

It will have Algebraic keystroke programming too, just to keep everyone happy :)

Thanks Dave.

## Re: Keystroke Programming and Stacks

Message #6 Posted by **Egan Ford** on 8 Sept 2007, 8:23 p.m.,  
in response to message #1 by DaveJ

Let the user decide.

E.g., some programs efficiently take advantage of the T register copies on roll down. You'd lose that with unlimited stack.

E.g., some of us want to do complex calculations from start to end without thinking about a 4 level stack limit.

I'd have a programmable function that sets the stack depth.

## Re: Keystroke Programming and Stacks

Message #7 Posted by **Walter B** on 9 Sept 2007, 6:01 p.m.,  
in response to message #6 by Egan Ford

I'd second Egan: Let it have a settable fixed stack depth, .GE. 4.

## Re: Keystroke Programming and Stacks

Message #8 Posted by **Jeff O.** on 10 Sept 2007, 12:18 p.m.,  
in response to message #6 by Egan Ford

Quote:

I'd have a programmable function that sets the stack depth.

How about two settings which would be programmable, one that sets stack depth, and one that enables or disables replication of the top level.

*Edited: 10 Sept 2007, 12:18 p.m.*

## Re: Keystroke Programming and Stacks

Message #9 Posted by **DaveJ** on 10 Sept 2007, 5:58 p.m.,  
in response to message #8 by Jeff O.

Quote:

How about two settings which would be programmable, one that sets stack depth, and one that enables or disables replication of the top level.

The only problem with having adjustable stacks like that is then it's possible for some keystroke programs to only work properly in a certain stack mode. To overcome that I would have to ensure the

"stack mode" is stored with each program and have the calc automatically switch to that mode when before the program runs, and also return mode when it's finished.

But I guess I already have this sort of problem by having both RPN and Algebraic keystroke programming support.

Thanks Dave.

### **Re: Keystroke Programming and Stacks**

*Message #10 Posted by [Hugh Evans](#) on 9 Sept 2007, 12:29 a.m.,  
in response to message #1 by DaveJ*

If you're just going with basic RPN keystroke programming I say stick with a 4-level stack. You honestly won't go wrong either way.

-Hugh

### **Re: Keystroke Programming and Stacks**

*Message #11 Posted by [DaveJ](#) on 9 Sept 2007, 3:50 a.m.,  
in response to message #10 by Hugh Evans*

Quote:

\_\_\_\_\_

If you're just going with basic RPN keystroke programming I say stick with a 4-level stack. You honestly won't go wrong either way.

-Hugh

\_\_\_\_\_

Thanks.

What happened to the case you were working on Hugh?

Dave.

### **Re: Keystroke Programming and Stacks**

*Message #12 Posted by [Hugh Evans](#) on 9 Sept 2007, 4:12 p.m.,  
in response to message #11 by DaveJ*

I have enough free time to finish that up if you need it.

### **Re: Keystroke Programming and Stacks**

*Message #13 Posted by [Garth Wilson](#) on 9 Sept 2007, 10:02 p.m.,  
in response to message #1 by DaveJ*

The 4-level stack came from a time before 4 calculators were programmable. The assumption was that if there were any more levels, you wouldn't remember what you had on the the stack. That becomes irrelevant however when you use the stack for parameter-passing and intermediate results for multiple nested levels of routines. Even if no routine needs more than four levels itself and, at programming time, you're only concerned with the ones that particular routine uses, at run time it should still be permissible to have many levels underneath from other pending routines. Their presence is harmless regardless of how many there are. I would like to have a lot more than four levels available.

## Re: Keystroke Programming and Stacks

Message #14 Posted by [Katie Wasserman](#) on 10 Sept 2007, 11:17 a.m.,  
in response to message #13 by Garth Wilson

Quote:

\_\_\_\_\_

The 4-level stack came from a time before calculators were programmable.

\_\_\_\_\_

While it's true that the first RPN-type calculator, the Friden EC-130, did have 4-levels and wasn't programmable. The first HP calculator had just 3 levels and was programmable, the HP9100A. In the interviewing years (1963-1968) there were just a few other RPN-type calculators made.

Quote:

\_\_\_\_\_

The assumption was that if there were any more levels, you wouldn't remember what you had on the the stack.

\_\_\_\_\_

Remembering the stack on any of these calculators was not an issue since they displayed the entire stack. The HP-35 was the first to require the user to "remember" what was on the stack. I think that the major issue in choosing stack depth on the 35 was the cost in silicon to store the data as well as making sure that reasonable complexity expressions could be evaluated without resorting to paper and pencil.

## Re: Keystroke Programming and Stacks

Message #15 Posted by [Namir](#) on 10 Sept 2007, 2:57 p.m.,  
in response to message #14 by Katie Wasserman

Katie,

Cost was indeed a factor. I remember the HP-35 pointing out that the machine has one memory register and a stack of four dynamic registers to store temporary numbers. So in a way, it was like HP's manual was hinting that the machine had 5 registers .. in the era when single-memory registers in non-HP calculators was typical. That's why my first HP calculator was the HP-55 since it had 20 memory registers.

Namir

*Edited: 10 Sept 2007, 2:59 p.m.*

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## HP Forum Archive 17

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### Conquer the World with HP-IL/71B/41CX

Message #1 Posted by [Egan Ford](#) on 8 Sept 2007, 4:11 p.m.

Inspired by the book *Control the World with HP-IL* I though I'd try something other than PC to calculator communications.

I posted the following articles this afternoon. I hope you find them mildly entertaining.

[Explore the World with HP-IL/RS-232/71B + GPS](#)

[Control the World with HP-IL/RS-232/41CX + X10](#)

*Edited: 8 Sept 2007, 8:09 p.m. after one or more responses were posted*

### Re: Conquer the World with HP-IL/71B/41CX

Message #2 Posted by [Raymond Del Tondo](#) on 8 Sept 2007, 6:51 p.m.,  
in response to message #1 by [Egan Ford](#)

Very nice applications - My congratulations!

BTW: The 2nd link is (somewhat) broken, there's a 'http//' too much.

OT, but just came into my mind:

On the Allschwil2006 meeting, I demonstrated a setup of an HP-41, an HP-71B, and an HP-48 connected together at the same time.

The connection was made with a CMT Multicase, which includes an HP-IL RAM disc, an HP-IL LC display, and a battery-powered version of a 82164A compatible serial interface.

Actually the essential part was the 82164A interface, the display was nice for the visual feedback, and the RAM disc allowed for temporary data storage.

With the HP-71 in HP-IL device mode ('CONTROL OFF'), one could control the HP-IL side with the HP-41, and send and receive data from and to the HP-48, which was connected to the serial port.

On the Allschwil meeting before, I also showed a special HP-IL interface made especially for the HP-48.

With this interface and the associated control library on the HP-48, it is possible to access HP-IL mass storage devices, and, amongst other things, print to an HP-IL printer.

The interface, made by W&W, is different from the HP made HP-IL-to-somewhere interfaces in the respect that

the W&W interface is configured as the loop controller.

This way the HP-48, with this interface, can be seen as an HP-IL controller. Unfortunately I haven't found a way to turn off control on the interface so far, and in consequence you can't connect an HP-41 on the IL side, except if you set the HP-41 into MONITOR mode...

Raymond

**Re: Conquer the World with HP-IL/71B/41CX**

*Message #3 Posted by [Egan Ford](#) on 8 Sept 2007, 8:17 p.m.,  
in response to message #2 by Raymond Del Tondo*

Quote:

Very nice applications - My congratulations!

Thanks. Glad you liked them.

Quote:

BTW: The 2nd link is (somewhat) broken, there's a 'http/' too much.

Link fixed.

CMT Multicase. Very interesting. Google only produced one picture, do you know of any others?

Thanks again.

**Re: Conquer the World with HP-IL/71B/41CX**

*Message #4 Posted by [Raymond Del Tondo](#) on 8 Sept 2007, 9:18 p.m.,  
in response to message #3 by Egan Ford*

You have mail, at least if you still have your mail address from 2006;-)

**Re: Conquer the World with HP-IL/71B/41CX**

*Message #5 Posted by [Howard Owen](#) on 8 Sept 2007, 10:39 p.m.,  
in response to message #1 by Egan Ford*

Those are two great articles, Egan! Back in the day, GPS was very expensive and rare, not to mention inaccurate. So a similar program using LORAN might have been the killer app for the HP71B, and history would followed a different (LORAN plotted) course.

Have you tried doing the inner loop in Forth? You might get a little more time to do useful work that way.

Thanks for the interesting and entertaining reading!

Regards,  
Howard

**Re: Conquer the World with HP-IL/71B/41CX**



*Message #6 Posted by **Egan Ford** on 9 Sept 2007, 12:18 p.m.,  
in response to message #5 by Howard Owen*

Quote:

Have you tried doing the inner loop in Forth? You might get a little more time to do useful work that way.

I considered it. Given than it is not very portable, application is limited. I guess I could track position jitter, or satellite position.

Quote:

Thanks for the interesting and entertaining reading!

You are welcome.

### **Re: Conquer the World with HP-IL/71B/41CX**

*Message #7 Posted by **Geir Isene** on 9 Sept 2007, 1:39 p.m.,  
in response to message #1 by Egan Ford*

Now this is impressive. Both in content and form (you write very well). Thanks.

I will copy this - my house was built by an electro-engineer, it has all sorts of possibilities :)

### **Re: Conquer the World with HP-IL/71B/41CX**

*Message #8 Posted by **Egan Ford** on 10 Sept 2007, 1:32 a.m.,  
in response to message #7 by Geir Isene*

Glad you found it of interest. Thanks for the feedback.

### **HP41 interfacing**

*Message #9 Posted by **Christoph Klug** on 11 Sept 2007, 10:28 a.m.,  
in response to message #1 by Egan Ford*

Dear Egan Ford

Big congratulation for your HP41 interface application to real world by using RS232 and the X10 fire cracker. Nice to see that other HP41 enthusiasts create interface applications.

Actual I am working on the new issue of the I/O-Board manual and the IL2000 system manual. This would be the first time I combine this two manuals inside one heavy book with over 600 pages about HP41 interfacing, data logger and measurement applications and so on... Furthermore HP41 / PC interfacing is included, handling ROM image pages and last not least some completely new published chapters. Hope the new print is available until autumn 2007.

Best regards from Germany – Christoph Klug

### **Re: HP41 interfacing**

*Message #10 Posted by **Egan Ford** on 11 Sept 2007, 8:16 p.m.,*

*in response to message #9 by Christoph Klug*

Quote:

---

Big congratulation for your HP41 interface application to real world by using RS232 and the X10 fire cracker. Nice to see that other HP41 enthusiasts create interface applications.

---

Thanks. I must emphasize that I without EMU41/HP-IL it would have never happened. The effort to develop directly on the 41CX is too great. Thanks, JF Garnier.

Quote:

---

Actual I am working on the new issue of the I/O-Board manual and the IL2000 system manual. This would be the first time I combine this two manuals inside one heavy book with over 600 pages about HP41 interfacing, data logger and measurement applications and so on... Furthermore HP41 / PC interfacing is included, handling ROM image pages and last not least some completely new published chapters. Hope the new print is available until autumn 2007.

---

I look forward to reading it.

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## HP Forum Archive 17

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### Yet another HP35s first impressions thread

Message #1 Posted by [Brad Davis](#) on 8 Sept 2007, 4:00 p.m.

Well, mine showed up two days ago and I've put it through a pretty good workout or two since then. I am very pleased with every aspect of it so far.

Keyboard feel seems absolutely perfect to me. I had bought a 50g and hated its keys--way too stiff with too much travel. After 2 months, I still hadn't gotten used to it and made many times the calculation mistakes that I did with my 48G. The 35s seems perfect to me. I have a big nasty benchmark equation that I use to judge my speed. The very first time through it, I was faster with my 35s than I ever got to with the 50g and 1 sec. slower than with my 48G that I used for about 10 years.

I like the little case they send with it. One question: what do you guys use the net for? Seems like a pencil would apply pressure to the keys, so an eraser guide, small triangle, or paper would seem to me to be about all I'd put in there.

I've read about the screen glare and it's definitely there. Hasn't caused any problems yet, though.

### Re: Yet another HP35s first impressions thread

Message #2 Posted by [gteague](#) on 8 Sept 2007, 5:34 p.m.,  
in response to message #1 by Brad Davis

yeah, i wish they could re-package the 50g to make it look & feel like the 35s even if they probably couldn't squeeze it down to that small a package.

i sure wish they had put a mini or micro-sd slot or a mini-usb jack. i'm spoiled and don't enjoy keying in programs like i used to!

my verdict is still out on the case. it's great for storage and protection and well designed, but sort of bulky and unwieldy and slow to open. as to the net side, those folks who put out the overpriced laminated quick-reference 8x11 pages used to put out mini, credit card-sized versions with formulas and constants and other reference material. i have a handful of those that fit perfectly in that side along with some grid-lined notepaper.

/guy

### Re: Yet another HP35s first impressions thread

Message #3 Posted by [Stefan Vorkoetter](#) on 8 Sept 2007, 8:34 p.m.,  
in response to message #2 by gteague

Quote:

as to the net side, those folks who put out the overpriced laminated quick-reference 8x11 pages used to put out mini, credit card-sized versions with formulas and constants and other reference material. i have a handful of those that fit perfectly in that side along with some grid-lined notepaper.

I was thinking I'd put together a quick reference for the 35s itself, much like one used to get with HP calculators.

Stefan

### **Did i miss something?**

*Message #4 Posted by **Doctor Bubu** on 9 Sept 2007, 2:22 a.m.,  
in response to message #3 by Stefan Vorkoetter*

What Quick-Referenz?

I have some for my older HP (25 f.e.) but i d not have one for the 35s.

Greetings Juergen

### **Re: Did i miss something?**

*Message #5 Posted by **Stefan Vorkoetter** on 9 Sept 2007, 8:13 a.m.,  
in response to message #4 by Doctor Bubu*

That's my point, there currently isn't one for the 35s. That's why I want to make one.

### **Re: Yet another HP35s first impressions thread**

*Message #6 Posted by **Thomas Radtke** on 9 Sept 2007, 3:58 a.m.,  
in response to message #3 by Stefan Vorkoetter*

Would you mind sharing it? :-)

### **Re: Yet another HP35s first impressions thread**

*Message #7 Posted by **Stefan Vorkoetter** on 9 Sept 2007, 8:14 a.m.,  
in response to message #6 by Thomas Radtke*

Of course! If/when I ever get around to putting one together. There's always a question of how much to put in it. For people like myself and those in this forum for instance, it's probably safe to leave out the stuff that describes how the stack works.

### **Re: Yet another HP35s first impressions thread**

*Message #8 Posted by **Brad Davis** on 9 Sept 2007, 11:42 a.m.,  
in response to message #7 by Stefan Vorkoetter*

I look forward to seeing what you come up with.

The calculator is so intuitive that I can't really think of anything I'd need written down. I cracked the book for about 2 min. to get the idea of how the equation list works. Other than that, I've figured out how to use everything I've needed just by looking at the key labels.

I think I'll buy a tiny 60, 30 triangle and store that in the net.

I used the calculator all day yesterday and still can't really find anything to dislike. Also, after using graphing models for years, it's an extremely elegant little package.

**Re: Yet another HP35s first impressions thread**

*Message #9 Posted by [Don Shepherd](#) on 9 Sept 2007, 12:34 p.m.,  
in response to message #8 by Brad Davis*

Quote:

I've figured out how to use everything I've needed just by looking at the key labels

heh heh. I bet you don't have a need to convert hex values to another base. : )

**Re: Yet another HP35s first impressions thread**

*Message #10 Posted by [Thomas Radtke](#) on 9 Sept 2007, 12:58 p.m.,  
in response to message #8 by Brad Davis*

A list of constants and flags, especially the ones affecting the fraction mode would be nice. And who remembers the meaning of the /c Arguments 0 and 1? What about the variable names for two- and threedimensional linsolve?

I think there's a lot to put in such a reference booklet.

*Edited: 9 Sept 2007, 12:58 p.m.*

**Re: Yet another HP35s first impressions thread**

*Message #11 Posted by [Walter B](#) on 9 Sept 2007, 5:55 p.m.,  
in response to message #10 by Thomas Radtke*

Oh, now you start talking about a booklet ;) I still hope it will remain a QR CARD, maybe folded once or twice, like with the Woodstocks. However, I second your request for a list of flags as well as predefined variables and -- less important -- constants.

Just my 20 Milli-Euros

**Re: Yet another HP35s first impressions thread**

*Message #12 Posted by [Brad Davis](#) on 9 Sept 2007, 7:31 p.m.,  
in response to message #11 by Walter B*

Fortunately for me, I think I only use the easier parts.

Hexa-what? LOL.

**Re: Yet another HP35s first impressions thread**

*Message #13 Posted by [DLF](#) on 9 Sept 2007, 8:52 p.m.,  
in response to message #11 by Walter B*

Now you're talking! Those are exactly the kinds of things it's impossible to remember right at the instant you need to key them in.

**Re: Yet another HP35s first impressions thread**

*Message #14 Posted by **DLF** on 9 Sept 2007, 8:56 p.m.,  
in response to message #10 by Thomas Radtke*

Oh, and how about a brief, clear version of the polar/rectangular conversion instructions (35s manual page 4-11)?

Or is this too basic for this crowd? ;)

### **Re: Yet another HP35s first impressions thread**

*Message #15 Posted by **Brad Davis** on 9 Sept 2007, 10:25 p.m.,  
in response to message #14 by DLF*

Quote:

Oh, and how about a brief, clear version of the polar/rectangular conversion instructions (35s manual page 4-11)?

Or is this too basic for this crowd? ;)

I didn't read that. I figured I'd input X and Y as a complex number, then hit abs and arg to get the magnitude and angle. That's pretty fast and intuitive for me. Now I'll have to crack the book and see if this other way is faster, LOL.

### **Re: Yet another HP35s first impressions thread**

*Message #16 Posted by **Jeff O.** on 10 Sept 2007, 2:08 p.m.,  
in response to message #14 by DLF*

Based on the amount of previous discussion, I'd say your question is definitely not too basic for this crowd.

I'm not sure if you are looking for an explanation, or just suggesting that one be included on a quick reference card. If the former, read on. If the latter, my apologies for telling you what you already know.

The so-called polar/rectangular conversions presented on pages 4-10, 4-11 and 4-12 of the manual are more entry/display options for complex numbers rather than true conversions. Simply put, the 35s can hold a complex number in one stack level, and display those complex numbers in either rectangular or polar form. You may enter complex numbers in either rectangular or polar form, (regardless of the display mode) by utilizing the unshifted "i" to separate the imaginary from the real part if entering a rectangular form number, or the shifted "theta" to separate the angle from the magnitude if entering a polar form number. If you enter a number in a different form than the current display mode, upon pressing Enter the calculator will convert the displayed number to the current display mode. So if you have a polar form number and you want to see the rectangular form, you put the calculator in rectangular display mode, type in the magnitude, "theta", then the angle and press Enter. The calculator will calculate the rectangular components and display them as a complex number in "re i im" format (without any spaces between the numbers and the i). If you happen to want to split that complex number into two real numbers, e.g., imaginary in stack level y and real in stack level x, there is no built in function to do so. There are also no functions to let you do rectangular to polar and polar to rectangular conversions with complex numbers represented by real numbers in two stack levels, i.e., the "old-fashioned" way.

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## HP Forum Archive 17

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**HP35 battery pack**

Message #1 Posted by [Martin Mendelson](#) on 8 Sept 2007, 2:38 p.m.

I have an HP35 the works fine with the AC adapter, but whose battery pack expired years ago. I still have the pack, and I wonder if anyone has a procedure to rebuild it with new cells that would recharge with the original AC adapter.

Thanks for any suggestions.

mm

**Re: HP35 battery pack**

Message #2 Posted by [db \(martinez, ca.\)](#) on 8 Sept 2007, 2:52 p.m.,  
in response to message #1 by Martin Mendelson

slice it open.

carefully rip out the old tabs.

nicad battery packs of the same configuration, made for cordless phones, can found at radio shack.

solder the tabs onto the new battery pack.

glue or tape the pack back together.

**Re: HP35 battery pack**

Message #3 Posted by [Mad Dog ebaycalcnut](#) on 8 Sept 2007, 3:43 p.m.,  
in response to message #1 by Martin Mendelson

Buy a pack off the unmentionable auction website.

[Click on this link, the battery pack is only \\$14- including shipping](#)

Disclaimer: I am not waterhosko. Honest.

Edited: 8 Sept 2007, 3:46 p.m.

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## HP Forum Archive 17

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### **USB to AC power adapter for the HP 50g**

Message #1 Posted by [Miguel Toro](#) on 8 Sept 2007, 12:03 p.m.

Hello,

I bought a car kit for my Zune (yes I know...but I really like it!) and it came with a USB to wall adapter. Now I use it to power my HP 50g so I do not need to power on my computer, I can play with the calculator anywhere at home where there is a power outlet and of course I consume a lot less batteries this way. I think it is a good accessory for the 50g and it is not expensive at all.

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## HP Forum Archive 17

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### Sensory perception of calculators

Message #1 Posted by [Mad Dog ebaycalcnut](#) on 8 Sept 2007, 10:45 a.m.

We got into a little side joking around about eating an HP-10C in the Edsel discussion below.

Ok, I am not going to ask if anyone has ever tasted or ate one of their calculators.

But I will ask, has anyone ever noticed a smell difference between the various Hewlett Packard models? Or do they even smell different than Texas Instruments products?

*Edited: 8 Sept 2007, 10:46 a.m.*

### Re: Sensory perception of calculators

Message #2 Posted by [Jandro Kirkish](#) on 8 Sept 2007, 12:11 p.m.,  
in response to message #1 by [Mad Dog ebaycalcnut](#)

There is definitely a distinctive "HP calculator smell". I always loved the smell of my 28s--alas after 20yrs it has faded somewhat. All the new HPs I have gotten since (49g, 49g+ 50g, 13c and 33s), have shared this smell, except for the 35s. This one smells a little different to me--not as strong, but still recognizably HP. TIs and Casios have a more pedestrian plastic smell that fades quickly. But the HP smell is strong and long lasting. I confess that the smell of a calculator is important to me--and in that respect (as in so many others) nothing beats HP calcs.

### Re: Sensory perception of calculators

Message #3 Posted by [Mad Dog ebaycalcnut](#) on 8 Sept 2007, 12:49 p.m.,  
in response to message #2 by [Jandro Kirkish](#)

Thanks! I have a bad sense of smell, and I could never tell.

### Re: Sensory perception of calculators

Message #4 Posted by [DaveJ](#) on 8 Sept 2007, 6:26 p.m.,  
in response to message #1 by [Mad Dog ebaycalcnut](#)

My 48SX smells awful with cigarette smoke, and the case is so unusable I can't even keep it near anything else. I guess that's the chance you take when you get it 2nd hand.

Being a non-smoker, I can detect a single smoke molecule 10 meters up wind.

Anyone know how to get rid of the cigarette smell from the plastic? Alcohol wipes worked fairly well to get rid of a lot of the initial smell, but a fair amount remains.

Dave.

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## HP Forum Archive 17

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### The HP-10C and the Edsel

Message #1 Posted by [Karl Schneider](#) on 8 Sept 2007, 2:05 a.m.

September 4th marked the 50th anniversary of the 1957 introduction of Ford Motor Company's ill-fated line of cars named "Edsel", in honor of the late father of FoMoCo's then-president Henry Ford II. Its original 1958 models featured an unorthodox vertical grille that someone dubbed, "Oldsmobile sucking a lemon". An interesting article was prepared by *Washington Post* writer Peter Carlson, which has been published in newspapers across the US. Here's the link to the source, with an insightful excerpt:

[Full text of Edsel article](#)

Quote:

*The idea for the Edsel came from Ford executives who were thinking about market niches when they should have been thinking about cars.*

The Edsel line was a large undertaking that became synonymous with commercial failure on a grand scale; the Edsel cost FoMoCo US\$250 million in losses, or about \$2 billion at today's valuation.

A few parallels can be drawn with a much more modest and obscure unsuccessful product release -- namely, [Hewlett-Packard's HP-10C calculator](#), manufactured for only 18 months between September 1982 and March 1984. It was a member of the Voyager-series line that debuted in 1981, all of whose other models were produced until at least 1989. Here are the parallels between the HP-10C and the Edsel line:

1. Both products were designed to fill marketing niches, instead of a specific need or capability.
2. Both products were respectable in content, but flawed in execution.
3. Both products were pricier than comparable alternatives.
4. Both products were manufactured for only about two years, terminated after disappointing (or perhaps cannibalistic) sales.
5. Due to scarcity, both products now command premium prices on the collector's market.

The main difference between the Edsel line and the HP-10C is the following: The Edsel was intended to fill an upscale niche of an economical product line, while the HP-10C was intended to fill the price-leader niche of an affordable, but still premium product line.

The Edsel was saddled with an uncharismatic name, distinctive-but-undistinguished styling, and a higher price without being clearly "better" than the alternatives, including other Fords. The HP-10C offered a crummy programming paradigm and fewer useful functions than the HP-11C and HP-15C, yet was still costly (US\$80 in 1982) -- notably more so than non-HP's having comparable capabilities.

These were recipes for commercial failure -- case studies that illustrate the pitfalls caused by emphasis of marketing objectives instead of best engineering judgement for product development.

Here's a link to my discussions of the HP-10C:

<http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv016.cgi?read=92143#92143>

The above is not intended to assert that the HP-10C was a bad calculator (e.g., today's Le World models) any more than Edsels were bad cars (e.g, the Yugo). However, both designs were based on some questionable judgement, and the consequences followed (albeit of vastly differing severity).

-- KS

*Edited: 8 Sept 2007, 8:34 p.m. after one or more responses were posted*

## Re: The HP-10C and the Edsel

Message #2 Posted by [Eric Smith](#) on 8 Sept 2007, 4:35 a.m.,  
in response to message #1 by Karl Schneider

Without actual sales figures, how do you know that the 10C was a commercial failure? The fact that HP canceled it after two years isn't really enough to infer that; products can be canceled for many reasons. Large corporations have been known to cancel products or shut down entire divisions that were profitable but not profitable \*enough\*.

Quote:

---

The HP-10C offered a crummy programming paradigm

---

I dispute that the programming paradigm was "crummy". While it is clearly not as good as an 11C or 15C, it wasn't supposed to be. It was intended as a low-end scientific calculator with limited programmability, and it did that admirably. Far better than e.g. the TI-55 II or TI-57 LCD.

Quote:

---

and fewer useful functions than the HP-11C and HP-15C,

---

So you're saying that if you were the designer of the 10C, you would have included all of the useful functions of the 11C and 15C? If so, how would you have differentiated it from the 11C and 15C?

Quote:

---

yet was still costly (US\$80 in 1982) -- notably more so than non-HP's having comparable capabilities.

---

There weren't any non-HPs having "comparable capabilities", in that there were no non-HP RPN programmable calculators at the time. (I'm not 100% certain of that, but I think NS had dropped theirs before the 10C was introduced.) If someone didn't care about RPN, then they weren't likely to buy a 10C; the market opportunity for HP wasn't to say "look, you can get the same thing for twice the price", but rather "look, you can get the superior RPN, if you spend more money on an HP" (not to mention a mechanically superior keyboard, and better build quality in every other measurable way). Of course, they had to try to convince those people that RPN was worthwhile, but clearly the focus was NOT on offering the SAME feature set at a higher price point.

Even discounting the value of RPN, I'm not clear on which calculator of "comparable capabilities" you want to compare to the 10C.

The 10C was basically a replacement for the 31E and 32E, with simple programmability added. Are you going to make the same claims about the 31E and 32E that you've made about the 10C? If not, why?

I knew several people who bought the 10C, and I don't recall any of them complaining about it. Several later bought the 41CX.

It's possible that the 10C lost money for HP, but if so, it was clearly not for the same reasons as the Edsel.

### **Re: The HP-10C and the Edsel**

*Message #3 Posted by **Thomas Okken** on 8 Sept 2007, 11:51 a.m.,  
in response to message #2 by Eric Smith*

Quote:

---

I knew several people who bought the 10C, and I don't recall any of them complaining about it. Several later bought the 41CX

---

I bought an HP-10C when I was in college, \*after\* I bought my 41CX... I wanted something that would be more convenient for manual computation, with trig functions etc. accessible without having to press Shift all the time; an uncluttered keyboard and enough programmability that I could program a function and evaluate it repeatedly, or even use a simple Simpson's Rule integrator. Oh, and something that you can take to a college exam without fear that a proctor is going to disallow it!

The HP-10C fit that bill perfectly. I was very happy with it! Eventually, the HP-42S rendered it obsolete for me (another calculator with an uncluttered keyboard and unshifted trigs & logs etc.!), but I sure wish I hadn't given it away.

I guess Eric is probably right; hard to imagine HP losing money on the 10C, but they were probably making a lot more on the 11C and 12C, so the 10C got sacrificed to the gods of maximum profit. I imagine the story of the HP-27 is not much different, or the HP-19C/29C for that matter -- terrific calculators with disturbingly short production runs.

- Thomas

### **Re: The HP-10C and the Edsel**

*Message #4 Posted by **Karl Schneider** on 8 Sept 2007, 12:43 p.m.,  
in response to message #2 by Eric Smith*

Hi, Eric --

My post that started this thread linked an archived post that linked two more archived posts. One of those was part of a thread that contained this same debate between you and me. I'm not going to re-hash the previous posts, but I will make a few comments:

No, I don't have actual sales figures, but there was some anecdotal evidence of poor sales in one of the aforementioned threads -- like "jeff b" from 8 May 2006:

Quote:

---

*About the time they were discontinued a local HP retailer had a few dozen of the HP10C's on closeout. Several months went by and they were not selling. I wanted to make an offer on the lot but couldn't see far enough into the future...*

---

You are free to dispute my description of "crumminess", but any programming paradigm that lacks insert/delete editing within a program is a pain to use. The HP-55 that introduced it didn't last long either. The financial HP-12C shares the paradigm, but it is intended for users who don't typically develop their

own programs, relying instead on Solutions Book applications.

As I've stated before, a non-programmable HP-10C with more of the missing mathematical functions (e.g., hyperbolics, delta-%, and gamma) and backarrow would have been a more-useful and worthy entry-level product that might have sold well enough to survive in the product line.

Differentiation between the HP-10C and the upscale HP-11C and HP-15C? *Programmability and advanced functions*. Recall also that the HP-11C was basically eclipsed by the HP-15C, leaving the HP-11C no particular niche other than to occupy a price slot, particularly in the foreign market, where retail prices were higher. Once the HP-10C was gone, the HP-11C became the low-end model by default, even though it looked pretty much the same as the HP-15C.

Quote:

Even discounting the value of RPN, I'm not clear on which calculator of "comparable capabilities" you want to compare to the 10C.

How about the \$35 Casio fx-3600P of 1981? 10-digit-plus-exponent 7-segment LCD, 38 steps of programmability (without editing, though), statistics and linear regression. Plus: Hyperbolics, fraction arithmetic, and Simpson's Rule numerical integration. No, it wasn't RPN and the build quality wasn't comparable, but it provided a hugely better feature/price ratio than the HP-10C. Sharp made a similar model at the time. If it was HP's goal to sway low-end buyers from those competitors, I doubt that the HP-10C succeeded at it.

This is not to say that the HP-10C was an "Edsel" literally or colloquially -- just that there were many parallels of "marketing over engineering", with disappointing results.

-- KS

*Edited: 10 Sept 2007, 2:15 a.m. after one or more responses were posted*

## Re: The HP-10C and the Edsel

*Message #5 Posted by [Eric Smith](#) on 9 Sept 2007, 12:24 a.m.,  
in response to message #4 by Karl Schneider*

Quote:

there was some anecdotal evidence of poor sales

The example you cite is so anecdotal as to be completely irrelevant. I saw multiple stores that had many HP-33C, HP-34C, and HP-38C units in stock for YEARS after those were discontinued, but I certainly don't conclude that those models didn't sell well.

Quote:

The financial HP-12C shares the paradigm, but it is intended for users who don't typically develop their own programs

The 10C was also likely aimed at people who mostly don't write their own programs. Clearly anyone that does much programming wouldn't have wanted a 10C, TI 57, or Casio fx-3600P. Therefore I still don't think there was anything wrong with a low-end model having limited programming features.

Quote:

---

Differentiation between the HP-10C and the upscale HP-11C and HP-15C?  
*Programmability and advanced functions.*

---

Now you're trying to have it both ways. On the one hand you complain that the 10C should have had the programming and features of the 11C and 15C, and on the other you seem to be conceding that the product differentiation should be the programmability and functions, nor do I see any way in which having NO programming features (which you seem to advocate) would be better than having limited programming features.

It really sounds like you wanted an 11C for the price of the 10C, and are complaining because you have to pay more to get the 11C. Sorry, that's just the way the world works, and HP was in no way unique in doing that.

Even though the manufacturing cost of the 10C was likely identical to that of the 11C, making the 10C significantly better would have cut into 11C sales, and reduced HP's overall profit and revenues from calculators. No matter how much you'd like it to be otherwise, it does not make business sense to do such a thing.

Quote:

---

there were many parallels of "marketing over engineering"

---

Not really. Ford didn't seem to have a clue as to what their market was, or how to address it. They made the car that one of the executives wanted, without regard to what the public wanted, and it sold poorly. It was NOT designed the way it was for product positioning purposes to fill a gap in their product line. There were lots of criticisms of the design of the Edsel; I've never heard any legitimate criticisms of the 10C that aren't related to deliberate product positioning. It appears to me that HP's marketing people knew EXACTLY what they were doing.

## **Re: The HP-10C and the Edsel**

*Message #6 Posted by **Karl Schneider** on 9 Sept 2007, 3:52 a.m.,  
in response to message #5 by Eric Smith*

Quote:

---

The example you cite is so anecdotal as to be completely irrelevant.

---

What the heck does that mean?? An anecdote is the true story of one particular experience. No claim can be made of its representing the whole truth, or even what is generally true, but it's one piece of evidence -- it is what it is.

Quote:

---

I saw multiple stores that had many HP-33C, HP-34C, and HP-38C units in stock for YEARS after those were discontinued, but I certainly don't conclude that those models didn't sell well.

---

Here's another anecdote: In late 1983, I visited the college bookstore with the specific intent to purchase an HP-34C, which I had seen several years prior, but had been discontinued in January. The young salesman instead steered me toward the HP-15C, which had been out for a year, but was new to me. I tested both side-by-side, and bought the HP-15C.



So, this bookstore kept discontinued models in stock even after the newer, better replacements with modern technology (read: charger-free LCD) were available. If the old stock didn't sell well, there was a reason for that.

Obsolescence was not the issue with the HP-10C; its fancier siblings remained in production for five years or more after it was discontinued.

Quote:

---

*On the one hand you complain that the 10C should have had the programming and features of the 11C and 15C, and on the other you seem to be conceding that the product differentiation should be the programmability and functions, nor do I see any way in which having NO programming features (which you seem to advocate) would be better than having limited programming features.*

*It really sounds like you wanted an 11C for the price of the 10C, and are complaining because you have to pay more to get the 11C. Sorry, that's just the way the world works, and HP was in no way unique in doing that.*

---

Please don't put inconsistent nonsense and claptrap in my mouth when my statements were clear and unwavering, over time on several occasions: The HP-10C would have been better as a non-programmable with the *missing transcendental math and data-entry functions restored* (hyperbolics, delta-%, gamma, backarrow, and roll-up). Non-programmability would provide clear differentiation in functionality, especially against the HP-15C and its advanced functions. (I wonder how many buyers opted for the cheaper HP-10C instead of the HP-11C/15C, because they were told that it was "programmable".)

I make no claim that my version of the HP-10C would have sold well enough and not cannibalized HP-11C/15C sales to stay in the product line. Perhaps, although the idea was reasonable -- a "low-end" quality-made Voyager scientific -- it was destined not to succeed because its competitors were so much cheaper, and its target market less discerning. Still, I believe that my concept would have been more sound: a functionally-complete nonprogrammable instead of a pidgin programmable that lacked a few important basics.

Quote:

---

*Ford didn't seem to have a clue as to what their market was, or how to address it. They made the car that one of the executives wanted, without regard to what the public wanted, and it sold poorly. It was NOT designed the way it was for product positioning purposes to fill a gap in their product line.*

---

Is this what you inferred from the article? It's not what I understood. The Edsel was the brainchild of which executive? All I saw was a reference to the naming suggestion by Ernest Breech, Ford's chairman of the board.

From the article:

---

*The idea for the Edsel came from Ford executives who were thinking about market niches when they should have been thinking about cars.*

*They were worried that Ford owners who prospered in the postwar boom were trading in their cheap Fords for pricier Pontiacs and Buicks. They figured Ford needed a new line of medium-price*

*cars..*

There you have it.

It seems to me that the Edsel line would have been more successful (or at least less unsuccessful) if it had been designed with more emphasis on engineering and manufacturing, and less marketing hype and styling gimmicks, and, of course, a more-pleasing name. If Ford set out to claim the mid-range market, they should simply have made a better mid-range Ford. Execution, not concept, was the problem.

Quote:

I've never heard any legitimate criticisms of the 10C that aren't related to deliberate product positioning. It appears to me that HP's marketing people knew EXACTLY what they were doing.

I can't believe that the plan was to go to the trouble of creating a new model, then kill it after only 18 months. Once again, my criticisms of the HP-10C were of execution, not of concept and product placement.

-- KS

### **Re: The HP-10C and the Edsel**

*Message #7 Posted by [Eric Smith](#) on 9 Sept 2007, 3:30 p.m.,  
in response to message #6 by Karl Schneider*

I wrote:

Quote:

On the one hand you complain that the 10C should have had the programming and features of the 11C and 15C, and on the other you seem to be conceding that the product differentiation should be the programmability and functions,

You replied:

Quote:

Please don't put inconsistent nonsense and claptrap in my mouth when my statements were clear and unwavering,

I did no such thing.

Earlier in this thread, you wrote:

Quote:

The HP-10C offered a crummy programming paradigm and fewer useful functions than the HP-11C and HP-15C

Later, when I asked what you thought *\*should\** have differentiated the 10C from the 11C and

15C, you wrote:

Quote:

\_\_\_\_\_

Programmability and advanced functions.

\_\_\_\_\_

It's plain from those exact quotes that you first complain that the 10C doesn't have the advanced functions of the 11C and 15C, then state that the differentiation **SHOULD HAVE INCLUDED** the advanced functions. How could it both have the advanced functions to make you happy, and omit them to serve as product differentiation?

### **The HP-10C and the Edsel**

*Message #8 Posted by **Karl Schneider** on 9 Sept 2007, 7:30 p.m.,  
in response to message #7 by Eric Smith*

Here are the two sentences I wrote which *immediately followed* my "claptrap" sentence to which you objected, which should have cleared up any confusion that may have existed beforehand:

Quote:

\_\_\_\_\_

"The HP-10C would have been better as a non-programmable with the missing transcendental math and data-entry functions restored (hyperbolics, delta-%, gamma, backarrow, and roll-up). Non-programmability would provide clear differentiation in functionality, especially against the HP-15C and its advanced functions."

\_\_\_\_\_

So, the "useful functions" I'd mentioned earlier referred to the five listed transcendental math and data-entry functions that were missing from the HP-10C.

The "advanced functions" of the HP-15C (need I list them?) are numerical rootfinding (SOLVE), numerical integration (INTEG), complex number mathematics, and matrix functions.

If you didn't know exactly what I meant by "useful functions", then you shouldn't have jumped to conclusions by alleging that I was "trying to have it both ways", among other things. That was based on your own mistaken inferences of what I said. I do not like being publicly taken to task for things I never explicitly stated.

I don't believe that this argumentative endeavor serves any purpose.

-- KS

*Edited: 9 Sept 2007, 11:37 p.m.*

### **Re: The HP-10C and the Edsel**

*Message #9 Posted by **Walter B** on 10 Sept 2007, 2:52 a.m.,  
in response to message #8 by Karl Schneider*

Come on, folks. IMHO, this thread is a textbook example for raising heat in discussion (thus contributing to global warming ;). We all know that a few members of this honorable forum ( $\text{guess} < 2^{((\sin(12.34))^2 + (\cos(12.34))^2)}$ ) love to refer to their

previous posts. So, sometimes strange starting points (like old cars) seem to be welcome to construct a tower of thoughts on top of it. Nevertheless, I think this contributes to making this forum a fun place to visit, though some of these thoughts may be (and have been) disputable. However, instead of bashing on each other repeatedly, you could agree to disagree and leave it standing this way. Just a proposal, of course... ;)

Acknowledgements: Thanks to the dog for the idea of global warming brought into this thread. Thanks to Karl for a lot of deep thoughts about the 15C and its inferior siblings (BTW: the 15C was your first HP - the 25C was mine; I admire the 25C...). Thanks to Eric for his many different projects and achievements. I sign off sincerely hoping not to have forgotten any important points ;)

### **Re: The HP-10C and the Edsel**

*Message #10 Posted by **Thor Larsen** on 10 Sept 2007, 12:56 p.m.,  
in response to message #9 by Walter B*

You are correct, I tell you... Post something informative, and quite often there is minimal response. Post something silly, on the other hand, and a veritable beehive of ultimately insignificant discussion ensues.

We should remember that the Forum postings get archived by MoHPC, and are subsequently included in sales of CD/DVD sets. It's best to keep the Forum a forum, not a banal chatroom.

Where have I heard that before? Oh yes, never mind, one of those do as I say but not as I do kind of things, I should just lighten up.

*Edited: 10 Sept 2007, 1:24 p.m.*

### **Re: The HP-10C and the Edsel**

*Message #11 Posted by **Eric Smith** on 10 Sept 2007, 4:31 a.m.,  
in response to message #8 by Karl Schneider*

I very much doubt that adding those five instructions would have sold any significant number of additional 10C units. In fact, I think making it non-programmable would have reduced unit sales by a substantially larger percentage than adding those five functions could have increased unit sales. However, since you obviously disagree, it would be very interesting to hear other people's opinions on the relative merits of the five functions you want vs. "crummy" programmability.

Leaving the "advanced functions" of the 15C out of the 10C didn't help AT ALL to differentiate the 10C from the 11C. If you're trying to suggest that HP might have seriously considered putting those functions into the 10C, I suspect you are mistaken. Those functions use a substantial amount of ROM and RAM in the 15C, such that it had to include a second R2D2 chip, increasing the manufacturing cost. The 10C ROM probably had some leftover space, perhaps on the order of 2K words, but that would not have been enough room for the advanced functions, so a second R2D2 chip would have been necessary to add them. It is unlikely that HP would have considered any feature set that would have resulted in the 10C having a higher manufacturing cost than the 11C.

Quote:

\_\_\_\_\_

I don't believe that this argumentative endeavor serves any purpose.

Apparently not. It's unclear to me why you brought it up again; the comparison to the Edsel seems too fundamentally flawed to lend any additional credibility to your repeated claims that the 10C was a failure, or the reasons for that alleged failure.

### **Re: The HP-10C and the Edsel**

Message #12 Posted by **Karl Schneider** on 10 Sept 2007, 10:17 p.m.,  
in response to message #11 by Eric Smith

Quote:

Leaving the "advanced functions" of the 15C out of the 10C didn't help  
AT ALL to differentiate the 10C from the 11C.

Your first paragraph made some rhetorical sense, but this second one baffles me. It does not follow AT ALL from what I previously stated -- a complete *non sequitur*. Seriously, I wonder if you're carefully reading or comprehending my statements.

Non-programmability, not lack of the features expounded in the *HP-15C Advanced Functions Handbook*, would clearly differentiate the HP-10C from the HP-11C.

Quote:

If you're trying to suggest that HP might have seriously considered putting those functions into the 10C, I suspect you are mistaken...

What?? No, I'm not "trying to suggest that". SOLVE and INTEG are not very serviceable with poor programmability (i.e., no LBL, no GSB). And why would the most sophisticated features be put into what was intended to be the low-end model? You may shelve those suspicions of mistakenness...

Here's another possibility: The HP-10C was only a marketing experiment, and HP didn't really care whether it succeeded or failed. It was difficult to bridge the gap between the HP-11C/15C and competition such as the Casio fx-3600P or Sharp equivalent without creating a product that might steal significant sales from the pricier HP-11C/15C. A large segment of the target market could have been existing HP customers looking for an economical, quality-made unit to supplement their HP-11C, HP-15C, or HP-41. Or, one to give to a high-school son without risking too much from theft, loss, or damage. A non-programmable with all the transcendental math functions would have "fit the bill" and passed muster with teachers who forbade programmable calc's in exams. It also would not have directly competed with the HP-11C/15C. And, maybe it wouldn't have survived anyway...

For all I know, HP's marching orders and budget for development of the HP-10C were minimalist: "Do it as expediently as possible -- just re-use a legacy ROM if you can." I don't think it was their best possible effort, even for the limited role it was created to fill.

-- KS

*Edited: 10 Sept 2007, 11:30 p.m.*

## **Re: The HP-10C and the Edsel**

*Message #13 Posted by [Eric Smith](#) on 11 Sept 2007, 2:39 a.m.,  
in response to message #12 by Karl Schneider*

You wrote:

Quote:

---

Differentiation between the HP-10C and the upscale HP-11C and HP-15C? Programmability and advanced functions.

---

I wrote:

Quote:

---

Leaving the "advanced functions" of the 15C out of the 10C didn't help AT ALL to differentiate the 10C from the 11C.

---

You wrote:

Quote:

---

It does not follow AT ALL from what I previously stated

---

It doesn't?

Anyhow, my point is that if you're going to make some feature choices for product differentiation, in that process you're not likely to consider omitting features that had never even been under consideration for inclusion (for cost reasons). If Ford decided to introduce a new car and position it at a lower point than the Focus, they're not going to spend time trying to decide whether to leave out a GPS navigation system as a means of differentiation, since that's not even an option on the Focus.

## **Re: The HP-10C and the Edsel**

*Message #14 Posted by [Mike Morrow](#) on 10 Sept 2007, 8:26 p.m.,  
in response to message #4 by Karl Schneider*

Quote:

---

You are free to dispute my description of "crumminess", but any programming paradigm that lacks insert/delete editing within a program is a pain to use. The HP-55 that introduced it didn't last long either. The financial HP-12C shares the paradigm, but it is intended for users who don't typically develop their own programs, relying instead on Solutions Book applications.

---

The HP-25 and -25C also lack insert/delete editing, and have only the crude NOP function to help make up for this limitation. These two calculators rank as very successful products, often employed by folks who were deeply interested in programming. It must have been some other characteristic that doomed the HP-10C.

Regards, Mike

### **Success of HP-25/25C versus HP-10C**

*Message #15 Posted by **Karl Schneider** on 10 Sept 2007, 10:45 p.m.,  
in response to message #14 by Mike Morrow*

Quote:

The HP-25 and -25C also lack insert/delete editing, and have only the crude NOP function to help make up for this limitation. These two calculators rank as very successful products, often employed by folks who were deeply interested in programming. It must have been some other characteristic that doomed the HP-10C.

Thank you, Mike, for a thoughtful, non-argumentative, and non-sarcastic response to my statement. There's been a real shortage of those in this thread.

I'd surmise that affordability of this programmable was a prime factor. Its mid-1970's MSRP was about \$200, far less than those of the HP-65, HP-67, and HP-55. This made programmability attainable to many users for the first time. The Continuous Memory feature of the -25C was a huge convenience and engineering breakthrough. Also, these models had a crisp, clean, and compact form factor that was aesthetically pleasing to many (including the Curator).

By contrast for the HP-10C, affordable and much-better alternatives were readily available, particularly within HP's line.

Regards,

-- KS

### **Re: Success of HP-25/25C versus HP-10C**

*Message #16 Posted by **Eric Smith** on 11 Sept 2007, 7:20 p.m.,  
in response to message #15 by Karl Schneider*

Karl, if you're going to post controversial claims and strained comparisons in public forums, and only want "non-argumentative" responses, you'd best get used to disappointment.

### **Global Warming**

*Message #17 Posted by **Mad Dog ebaycalcnut** on 8 Sept 2007, 10:17 a.m.,  
in response to message #1 by Karl Schneider*

Hewlett Packard really screwed up.

Think about this. You seem to indicate that the HP-10C was the worst thing created in the history of man on this planet. Let's go with that premise (which I personally do not subscribe to, but I like to argue.)

In order to build 10C's Hewlett Packard or their subcontractors had to likely build some extra molds, an extra production line, etc. etc. etc. Doing all that probably took at least a little electricity from coal fired power plants. Even if the utility was 100% nuclear or hydroelectric, available potential power was displaced from places with coal fired plants as Oregon and other areas are connected into large grids.

When you burn coal, it generates greenhouse gases.

Not only was the HP-10C the most terrible thing that ever hit the Earth since the asteroid that wiped out the dinosaurs 65 million years ago, but it has also helped make hurricanes stronger.

As a protest, you and anyone else that may own 10C's should smash them to bits.

*Edited: 8 Sept 2007, 10:20 a.m.*

### **Re: Global Warming**

*Message #18 Posted by [Namir](#) on 8 Sept 2007, 10:22 a.m.,  
in response to message #17 by Mad Dog ebaycalcnut*

Sounds like you chewed your own HP-10C. Well that what you get for eating junk food!!

:~)

### **Re: Global Warming**

*Message #19 Posted by [Mad Dog ebaycalcnut](#) on 8 Sept 2007, 10:26 a.m.,  
in response to message #18 by Namir*

Well, I was hungry one night, and all I had in the house were calculators, and my car had a flat, and it was late, and I always wondered what a voyager series tasted like, but I needed the programming capability of my 15C, so the 10C became my necessary entree....

### **Re: Global Warming**

*Message #20 Posted by [Namir](#) on 8 Sept 2007, 11:10 a.m.,  
in response to message #19 by Mad Dog ebaycalcnut*

I ate my HP-10C many years ago ... with French fries. tasted very good. It did mess my mind up a bit (especially when solving equations that have minus signs) so I had to resort to the services of the surgeons at Intel. I am as good new new now!

### **Re: Global Warming**

*Message #21 Posted by [Mad Dog ebaycalcnut](#) on 8 Sept 2007, 11:41 a.m.,  
in response to message #20 by Namir*

Did you eat the HP-10C while you were sitting in an Edsel by any chance?

### **Re: Global Warming**

*Message #22 Posted by [Namir](#) on 8 Sept 2007, 4:08 p.m.,  
in response to message #21 by Mad Dog ebaycalcnut*

Nooooooooo .. that can't be!! you where there????????!!!!

:~)

### **Re: Global Warming**

*Message #23 Posted by [Mad Dog ebaycalcnut](#) on 8 Sept 2007, 4:22 p.m.,  
in response to message #22 by Namir*

Yes! I was at the car collector show two cars over, but all I had on me was a TI-30 to



nibble on... I was sick all that night!

### **Re: Global Warming**

Message #24 Posted by [Karl Schneider](#) on 8 Sept 2007, 12:55 p.m.,  
in response to message #17 by Mad Dog ebaycalnut

If this is an example of your best satirical comedic writing, don't quit your day job.

### **Re: Global Warming**

Message #25 Posted by [Namir](#) on 8 Sept 2007, 4:15 p.m.,  
in response to message #24 by Karl Schneider

Karl,

Who says Mad Dog and I are being funny? Don't let the text fool you. We may well be practicing cryptographic writing in which the "silly" text is nothing but a front to some series information.

Any decoders out there???? Show me what you can do!!

:-)

### **Perspectives, yours, the world's, and Hudendai**

Message #26 Posted by [Mad Dog ebaycalnut](#) on 8 Sept 2007, 4:16 p.m.,  
in response to message #24 by Karl Schneider

Karl, I am trying to help you gain perspective...

Really, it is just a calculator. It is not something to be used to predict the downfall of American industry.

But it could be worse. At least you are not writing poetry about rpn calculators....

Look at the poem that Hudendai actually put up on his unmentionable auction website "About Me" page

[Here is the link... Scroll down a little... It is called "Ode to my First HP"](#)

*Edited: 8 Sept 2007, 4:20 p.m.*

### **Re: Perspectives, yours, the world's, and Hudendai**

Message #27 Posted by [Karl Schneider](#) on 8 Sept 2007, 5:12 p.m.,  
in response to message #26 by Mad Dog ebaycalnut

Quote:

\_\_\_\_\_

Karl, I am trying to help you gain perspective...

Really, it is just a calculator. It is not something to be used to predict the downfall of American industry.

\_\_\_\_\_

Oh, pppptttthhh.

Neither I nor anyone else needs any help from one self-monikered "Mad Dog ebaycalcnut" to "gain perspective", insight or or wisdom regarding calculators or anything else, as evidenced by the following archived thread:

[HP 10C on ebay -- "MadDog ebayCalcnut"](#)

It certainly seems to me that you have mistakenly ascribed some profound meaning to my post, which really was just a comparison of two historical American examples of misbegotten product development -- one famously major and one relatively minor -- *to illustrate the consequences of allowing marketing objectives to take precedence over sound engineering*. That's all it was -- nothing else.

I hope that some readers will find the Edsel article both interesting and entertaining, although many or most of us were not alive at the time, and I suspect that our European friends wouldn't be able to relate very well.

Quote:

\_\_\_\_\_  
Look at the poem that Hudendai actually put up on his unmentionable auction website "About Me" page  
\_\_\_\_\_

Yes, we're aware of your preoccupation with Hudendai and other eBay sellers of HP's and their business practices. Complaints about those practices, and stupid stuff such as your replies to this thread (the worst one was deleted by someone) is pretty much all you have ever posted here.

-- KS

*Edited: 8 Sept 2007, 5:33 p.m. after one or more responses were posted*

### **Thebullcabinet**

*Message #28 Posted by [Mad Dog ebaycalcnut](#) on 8 Sept 2007, 5:31 p.m.,  
in response to message #27 by Karl Schneider*

Whatever. Maybe I will go try out what a spice calculator tastes like. Anyone got a spare 31E for me to sautee?

*Edited: 8 Sept 2007, 5:57 p.m.*

### **Re: Perspectives, yours, the world's, and Hudendai**

*Message #29 Posted by [Giancarlo \(Italy\)](#) on 10 Sept 2007, 6:13 a.m.,  
in response to message #27 by Karl Schneider*

Hi Karl.

Quote:

\_\_\_\_\_  
[...] I hope that some readers will find the Edsel article both interesting and entertaining [...]  
\_\_\_\_\_

Oh, yes, I did! And in fact I've just forwarded the link to my boss, asking him to guess how many "Edsels" we already experienced in our company!

Thank you for your interesting insight.  
Best regards.  
Giancarlo

**Thank you, Giancarlo. And in conclusion...**

*Message #30 Posted by [Karl Schneider](#) on 11 Sept 2007, 11:33 p.m.,  
in response to message #29 by Giancarlo (Italy)*

Hi, Giancarlo --

Thank you. It's pleasing to see that someone out there -- whose native language is not English, no less -- grasped the true, intended tone of my post. It was part comparison, and part simile.

I rode in an Edsel in the 1990's. It felt like the irresistible force versus the immovable object, which was quite typical of huge American cars in the late 1950's -- nothing like my dad's light, compact 1967 Alfa Romeo Giulia Super.

Here's a link to a photo and brief humorous description of a 1958 Edsel with the um, *distinctive* grille.

[1958 Ford Edsel - TIME](#)

[The HP-10C](#), of course, was certainly much more handsome...

Best regards,

-- KS

*Edited: 11 Sept 2007, 11:47 p.m.*

**Re: Thank you, Giancarlo. And in conclusion...**

*Message #31 Posted by [Giancarlo \(Italy\)](#) on 12 Sept 2007, 2:40 a.m.,  
in response to message #30 by Karl Schneider*

Hi Karl.

Thank you for the link to the full Time list of the worst 50 cars of all time :-)

It was very interesting to go through the list, and find the italian unutterable "Fiat Multipla" there!

I fully agree with Time's appraisal: a car that is almost as functional as ugly (I must say that the latest restylings made an almost decent job ;-)

Best regards.

Giancarlo

**Re: Perspectives, yours, the world's, and Hudendai**

*Message #32 Posted by [Howard Owen](#) on 8 Sept 2007, 10:56 p.m.,  
in response to message #26 by Mad Dog ebaycalcnut*

That poem is actually not too bad. It isn't art, but this HP calculator nut found it mildly entertaining.

Regards,  
Howard

---

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## HP Forum Archive 17

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### Emu71 and Doslink & Timeout

Message #1 Posted by [Vincze](#) on 7 Sept 2007, 3:19 p.m.

I sorry about all question on 71B and Emu71. I try and read documentation that come with Emu71, but I somewhat confused as to how to do things. I see how to list program by typing

```
ENDLINE CHR$(13)&CHR$(10)
PRINTER IS :DOSLINK
PLIST "MYPROGRAM"
PRINTER IS *
```

and that make sense to me to list out program. How does one have screen output when running program echo out to file though? My thought was to say PRINTER IS :DOSLINK before I run program, but this not the case. Emu71 direction not very clear on this other than say must have declaration in emu71.ini. I see it listed under [DEVICES], so I believe ini file correct. What am I missing (other than brain)?

Also, I see someplace, but can not find now, that there way to extend or turn off timeout of Emu71. It seem like it close itself after certain time. This frustrate me and I like to find way to eliminate, or extend. Can someone point me in correct path to this.

*Edited: 7 Sept 2007, 7:19 p.m.*

### Re: Emu71 and Doslink & Timeout

Message #2 Posted by [J-F Garnier](#) on 8 Sept 2007, 2:54 a.m.,  
in response to message #1 by Vincze

Hello Vincze,

I'm not sure to understand your first point:

Quote:

\_\_\_\_\_

How does one have screen output when running program echo out to file though ?

\_\_\_\_\_

If you mean that you want all screen outputs to be logged in a file, you can do:

```
DISPLAY IS :DOSLINK
SHOW PORT    or anything else
DISPLAY IS :DISPLAY    (or shorter DISPLAY IS 1, if the DISPLAY device is the 1st one)
```

If you want all display and printer outputs to be logged, you can do both DISPLAY IS :DOSLINK and PRINTER IS :DOSLINK.

To disable the auto-shutdown of the HP-71, just do SFLAG -3. Emu71 closes itself when the auto-shutdown delay elapses.

J-F

## **Math/Stat programs for the HP-71B**

*Message #3 Posted by [Namir](#) on 8 Sept 2007, 10:00 a.m.,  
in response to message #1 by Vincze*

If you are interested in some math and stat programs for the HP-71B, I have posted such program on [my web site](#). Some program require the Math ROM (you can use the EMU71 emulator in this case.)

Enjoy!

Namir

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### **35s in Korea (south)?**

Message #1 Posted by [Arne Halvorsen \(Norway\)](#) on 7 Sept 2007, 11:32 a.m.

My boss and another co-worker are in South Korea, and I just told em to check the shops if they got time for the hp-35s. My boss is propably not interested since he got two 15c (one for use and one for backup), but the other guy could be. Anybody know if they would get lucky? It do not seem the Korean website 'has the 35s' so I guess that is a bad sign..., they have the hp-35 story article though...

*Edited: 7 Sept 2007, 11:32 a.m.*

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## HP Forum Archive 17

[ [Return to Index](#) | [Top of Index](#) ]**Apologies to Vincze (symbolic differentiation on the 35S)**Message #1 Posted by [Peter Niessen](#) on 7 Sept 2007, 11:28 a.m.

Vincze, my friend,

recently you asked how to do symbolic differentiation on the HP35S. I thought this was easy, but it actually is harder than I thought. I know symbolic differentiation is pretty easy once you have your algebraic expression assembled as a tree, e.g. for

$$x + \sin(x \cdot x)$$

which would look like

$$\begin{array}{ccccc} & & + & & \\ x & & & \sin & \\ & & & & * \\ & & & x & x \end{array}$$

and where the rules are:

1. x -> 1
2. + -> diff (left branch) + diff (right branch)
3. sin -> diff (below branch) \* cos (branch)
4. \* -> diff (left) \* right + left \* diff (right)

resulting in

$$\begin{array}{ccccccc} & & + & & * & & \\ 1 & & & & & \cos & \\ & & + & & & & * \\ & * & & * & & & \\ 1 & x & & x & 1 & & x & x \end{array}$$

by applying the above recursively. I thought this would be easy to convert from the tree notation to RPN, but it was not so easy.

Storage of the expression on the 35S however seems pretty straightforward, by using the indirect registers and representing the operands as negative numbers (so you can e.g. solve for x by storing -24 in I), and representing the operators as positive numbers, +=1, -=2, \*=3 ... sin=21, cos=22, ... or whatever.

$$x \ x \ x \ * \ \sin \ +$$

would thus become

|     |     |     |     |   |    |   |
|-----|-----|-----|-----|---|----|---|
| I   | 1   | 2   | 3   | 4 | 5  | 6 |
| (I) | -24 | -24 | -24 | 3 | 21 | 1 |

This way you could write a routine which evaluates the indirect variables and leaves the result in the X register.

The trouble is now that when you're working your way through from right to left, you don't know yet where the operands finish yet (unlike in the case of the tree).



Therefore I did not succeed in providing the symbolic differentiation on the 35S.

Cheers, Peter.

*Edited: 7 Sept 2007, 11:29 a.m.*

## Re: Apologies to Vincze (symbolic differentiation on the 35S)

Message #2 Posted by [Vincze](#) on 7 Sept 2007, 12:03 p.m.,  
in response to message #1 by Peter Niessen

My friend Peter. That make sense, and I surprised you went through all work to do. I think I conclude that it not something easily done on 35S because it not designed for that. I have to relegate myself to use 48gx that I have to do this if need be. In most cases though, symbolic differentiation is not that hard to do using different rules, so it is more academic to see if 35s could do or not.

## Re: Apologies to Vincze (symbolic differentiation on the 35S)

Message #3 Posted by [Peter Niessen](#) on 16 Sept 2007, 1:19 p.m.,  
in response to message #2 by Vincze

Vincze, my friend,

there actually is hope!

So, to find out how "deep" an expression is in the stack, on has to count how many operators and operands there are. E.g.

```
(x+1) * x
x 1 + x *
```

Actually, every two valued operator needs two operands, so the number of operands should exceed the number of operators by 1:

```
expression      x 1 + x *
#operators      2   1
#operands       3 2  1
```

When seeing that the number of operands exceeds the number of operators by 1, we know that the expression is terminated.

Thus, we can now write our differentiation function. Here I chose a C(++)-like language which differentiates the expression between the positions from and to.

```
std::string diff (std::string expression, int from, int to) {
    switch (expression[from]) {
        case "constant": // constant is easily differentiated, is 0
            return "0";
            break;
        case "x":
            return "1"; // variable diffs to 1
            break;
        case "+":
            eox_1 = find_end_of_expression (expression, from + 1);
            eox_2 = find_end_of_expression (expression, eox_1 + 1);
            return diff (expression, from + 1, eox_1)
                + diff (expression, eox_1 + 1, eox_2)
                + "+";
            break;
        case "-": // basically same as -
        case "*": eox_1 = find_end_of_expression (expression, from + 1);
            eox_2 = find_end_of_expression (expression, eox_1 + 1);
            ex1 = copy (expression, from + 1, eox_1);
            ex2 = copy (expression, eox_1 + 1, eox_2);
```

```

        return diff (ex1, from + 1, eox_1) + ex2 + "*"
        + ex1 + diff (ex2, eox_1 + 1, eox_2) + "*" + "+";
        break;
    // and so on for /, sin, cos, ...
}
}

```

As an implementation, one could use the indirect registers for "expression", coding +, -, \*, / as .2, 1.2, 2.2, 3.2, sin, cos, tan, exp, ln as .1, 1.1, 2.1, 3.1, ... so that the fractional part gives the valuedness of the operator. The variables would be represented by A = -1, ... Z=-26 (you can't have numerical literals, I'm afraid).

Our example would thus become (using A to store 1)

```

clear text x      1      +      x      *
I          1      2      3      4      5
(I)       -24    -1      .2    -24    2.2

```

Now we have all the ingredients... On the 32S with only 6 levels of XEQ nesting, this would not be very much fun, but on the 35s with its 20 levels, one actually stands a chance.

Happy programming, whoever takes this challenge!

Cheers, Peter.

---

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## HP Forum Archive 17

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### SUDOGEN for HP71

Message #1 Posted by [Vincze](#) on 7 Sept 2007, 10:53 a.m.

Anyone have text file of Valentín's Sudogen program? I rather copy and paste that than type everything in. I thought I could copy text from PDF, but it appear that there is protection on PDF preventing this.

### I have found....but...

Message #2 Posted by [Vincze](#) on 7 Sept 2007, 11:59 a.m.,  
in response to message #1 by Vincze

I have found Text entry of Valentín's excellent program, but when I run, I get error that say ERR L35:Subscript. I do research in book and it appear that this is some sort of Array problem. When I type GERRM, though it say "Err:Excess Character" Line 35 have this code in it, and it look okay to me:

```
35 a(k div 9+1,mod(k,9)+1)=1(val(str$(num(b$(k div 2+1))-23)[i,i])) @ next k
```

Any idea?

### Re: I have found....but...

Message #3 Posted by [Valentin Albillo](#) on 7 Sept 2007, 1:46 p.m.,  
in response to message #2 by Vincze

Hi, Vincze:

Thanks for your interest in my articles & associated programs.

As for your difficulties with SUDOGEN, I suggest you check *very carefully* that the program listing, as produced by executing the **LIST** statement, does *exactly agree* with the listing in the article; it might be the case that some typos crept in while entering the program into the HP-71B.

In particular, I suggest you begin checking these lines:

15, 80, 81, and 82

and if they check alright, then the whole listing. Also check that the program is the right size, i.e., 123 lines = 3902 bytes (with comments) or 88 lines = 3267 bytes (without comments).

I test each and every program I publish by actually typing it in from a printed listing, as any reader would do, and then testing every example provided in the article so, if properly entered, it shall run Ok.

Best regards from V.

### Re: I have found....but...

Message #4 Posted by [Vincze](#) on 7 Sept 2007, 1:56 p.m.,

*in response to message #3 by Valentin Albillo*

I will do what you say my friend, but I able to copy the text from your PDF with an open source PDF viewer, so should be correct, if the PDF is correct. Regardless, I check lines you state.

With real 71B, how does one store program with card reader? I not find instructions in two manuals I get with unit, so I wonder if there is another manual I need to find this information out.

**\*\*EDIT\*\*** I see that in my program, 80 - 82 were not "exact" as it look like you have some lower case and some upper case. I have all uppercase. I retype to exactly what you have, still no luck.

Just curious, what does 80 - 82 do? It look like garbled text.

*Edited: 7 Sept 2007, 2:06 p.m.*

### **How to enter ` in Emu71?**

*Message #5 Posted by [Vincze](#) on 7 Sept 2007, 2:34 p.m.,  
in response to message #4 by Vincze*

I think I see problem. Maybe. In line 81 & 82 in PDF it list back tick, or the ` sign. This is not valid character in Emu71, I take because it not allow me to enter. Is correct character the single tick, or ' character?

Yes, that must be it, because I test before I post this and now it work, but only when I display. If I select print, It generate same error again on L35. I wonder what so special with line 35. I would think lines 117 - 123 where problem must be as that where it look like .

### **Re: I have found....but...**

*Message #6 Posted by [Raymond Del Tondo](#) on 7 Sept 2007, 2:59 p.m.,  
in response to message #4 by Vincze*

>With real 71B, how does one store program with card reader?  
>I not find instructions in two manuals I get with unit,  
>so I wonder if there is another manual I need to find this information out.  
>  
Reread the part where the COPY command is explained...

(Hint: COPY filename TO device, where device is CARD)

HTH

Raymond

BTW: Only halfway OT: If you have a real HP-48,  
I can recommend you the fastest SuDoKu solver for that platform.  
My SDK48 solves the 'diabolic' puzzle in less than 6 \_seconds\_.  
A real HP-71B needs between ten and fifteen \_minutes\_ for this,  
using Valentin's program.

*Edited: 7 Sept 2007, 3:06 p.m.*

### **Re: I have found....but...**

*Message #7 Posted by [Vincze](#) on 9 Sept 2007, 5:02 p.m.,*

*in response to message #6 by Raymond Del Tondo*

My friend Raymond, I be very interested to see HP48 version of program.

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## HP Forum Archive 17

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### 35S Cosmetic Issue

Message #1 Posted by [Ron G.](#) on 7 Sept 2007, 10:44 a.m.

Was there ever a concensus on what the "cosmetic" issue was with the 35S? Was it screen alignment, a misprinted keyboard, or what? Surely there is someone here with connections at HP who could let us in on the secret, now that the crisis has passed. Or did I miss the big announcement?

### Re: 35S Cosmetic Issue

Message #2 Posted by [Eric Rechlin](#) on 8 Sept 2007, 12:37 a.m.,  
in response to message #1 by Ron G.

There was no issue.

HP thought there may have been a problem, so they checked into it, and there ended up being nothing wrong. That's why I never ran out of inventory of the 35s. It's nice to see they are definitely caring about quality.

### Re: 35S Cosmetic Issue

Message #3 Posted by [Thomas Radtke](#) on 8 Sept 2007, 5:20 a.m.,  
in response to message #2 by Eric Rechlin

So, the problem with misaligned LCDs were solved silently? All calculators concerned were already sold at the point HP looked into it?

### Re: 35S Cosmetic Issue

Message #4 Posted by [Ron G.](#) on 8 Sept 2007, 4:38 p.m.,  
in response to message #2 by Eric Rechlin

Eric, did you get this information directly from an HP official source?

### Re: 35S Cosmetic Issue

Message #5 Posted by [Scott Newell](#) on 8 Sept 2007, 9:08 a.m.,  
in response to message #1 by Ron G.

Quote:

Was there ever a concensus on what the "cosmetic" issue was with the 35S?

I thought it might have been tool marks on the mold. I bought three calcs and each has a couple of identical small marks in the same place. (The marks are in line with the center of the top row of keys, on the top of the side outer lip/edge.)

**Re: 35S Cosmetic Issue**

*Message #6 Posted by [Miguel Toro](#) on 8 Sept 2007, 11:32 a.m.,  
in response to message #1 by Ron G.*

Well, I still believe that the problem is [this one](#). HP Canada offered me to replace the unit. I will wait and see.

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### **Would it be a debugged version of the HP 35s?**

Message #1 Posted by [Miguel Toro](#) on 7 Sept 2007, 9:04 a.m.

I was just wondering....

Yesterday I was entering a 3D vector and the calculator kept telling me that there was a syntax error (If I entered a 2D vector, all went well). I made a reset and nothing, then I cleared the indirect registers and voilà: the calculator let me enter the 3d vector again without problems.

It is such a excellent calculator, it would be a pity not to correct those little but sometimes annoying things.

Regards,

Miguel

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### What is Introduction to HP48 System RPL Worth?

Message #1 Posted by [bink](#) on 7 Sept 2007, 1:49 a.m.

Hi,

I tried to sell Introduction to HP48 System RPL by James Donnelly and didn't get any takers. It is a new copy. What should I expect to sell it for?

Thanks,

bink

*Edited: 7 Sept 2007, 1:50 a.m.*

### Re: What is Introduction to HP48 System RPL Worth?

Message #2 Posted by [Karl-Ludwig Butte](#) on 7 Sept 2007, 3:46 a.m.,  
in response to message #1 by bink

Hi bink,

according to [TechSoft World](#) the original list price was \$25 but the used price is \$377 !! In fact, I saw such an offer at the amazon marketplace and couldn't believe it. I would be very interested in your copy but to be honest not for \$377. If you would like to offer it at a reasonable price please contact me by email.

Kind regards

Karl

### Re: What is Introduction to HP48 System RPL Worth?

Message #3 Posted by [James M. Prange \(Michigan\)](#) on 7 Sept 2007, 2:51 p.m.,  
in response to message #1 by bink

I take it that you mean *An Introduction to HP 48 System RPL and Assembly Language Programming?* <http://www.calcpro.com/> offers it for US\$29.95. In case you're missing the floppy disk that should've been included with it, the source code for the programs is available at <http://holyjoe.net/hp/HP48.htm>.

Regards,  
James

*Edited: 7 Sept 2007, 3:05 p.m. after one or more responses were posted*

### Re: What is Introduction to HP48 System RPL Worth?

Message #4 Posted by [Arne Halvorsen \(Norway\)](#) on 7 Sept 2007, 2:56 p.m.,  
in response to message #3 by James M. Prange (Michigan)

<https://www.calcpro.com/> seems like a dead link :-)

**Re: What is Introduction to HP48 System RPL Worth?**

*Message #5 Posted by [James M. Prange \(Michigan\)](#) on 7 Sept 2007, 3:04 p.m.,  
in response to message #4 by [Arne Halvorsen \(Norway\)](#)*

It works for me, but <http://www.calcpro.com/> is probably a better link. Sorry about that.

Regards,  
James

**Re: What is Introduction to HP48 System RPL Worth?**

*Message #6 Posted by [Arne Halvorsen \(Norway\)](#) on 8 Sept 2007, 6:19 a.m.,  
in response to message #5 by [James M. Prange \(Michigan\)](#)*

Sorry about that, no problemo when try today, links fine :-)

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## HP Forum Archive 17

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### HP 48 Finance Apps? Graphing?

Message #1 Posted by [bink](#) on 7 Sept 2007, 1:47 a.m.

Hi,

I am new to the HP48G, so am not familiar with it's finance capabilities. AFAIK, it has basic time value of money functions built in. Are there any others?

Are there any applications that graph financial variable sensitivities? For example, showing how NPV varies with interest rate?

Thanks,

bink

### Re: HP 48 Finance Apps? Graphing?

Message #2 Posted by [bill platt](#) on 7 Sept 2007, 9:30 a.m.,  
in response to message #1 by [bink](#)

You should check out:

<http://www.hpcalc.org>

It has a huge wealth of programs and documentation available for download.

### Re: HP 48 Finance Apps? Graphing?

Message #3 Posted by [bink](#) on 7 Sept 2007, 2:50 p.m.,  
in response to message #2 by [bill platt](#)

Bill,

I had previously looked through this, but everything I saw was vanilla time value of money (plus a bond pricing program). I was wondering if there was anything fancy out there? For example, using graphics, or maybe something on mortgage prepayments, or key rate durations, etc.

Thanks,

bink

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### Problem - HP-97

Message #1 Posted by [gileno](#) on 6 Sept 2007, 10:38 p.m.

I ask for help.

In a HP97 with the battery totally full and tested in other 97 when I activate only appears the led indicating that I need to recharge the battery

I thank any help

### Re: Problem - HP-97

Message #2 Posted by [Hal Bitton in Boise](#) on 7 Sept 2007, 10:17 a.m.,  
in response to message #1 by [gileno](#)

Hi Gileno,

Have you tried running it on the AC adapter? (with the battery pack in of course). Also, try scrubbing the calculator's battery contacts real good with an eraser, then some alcohol on a cotton swab.

Best regards, Hal

### Re: Problem - HP-97

Message #3 Posted by [gileno](#) on 7 Sept 2007, 10:24 a.m.,  
in response to message #2 by [Hal Bitton in Boise](#)

Have you tried running it on the AC adapter?

Yes :-(

Battery contacts

Good :-(

Thank's :-)

### Re: Problem - HP-97

Message #4 Posted by [Tony Duell](#) on 7 Sept 2007, 1:52 p.m.,  
in response to message #3 by [gileno](#)

What electronic test equipment do you have, and what experience do you have with electronic repair?

The HP97 service manual is on the CD-ROM set. It contains full schematics of the machine.

I'd start by checking the voltages on the Vss (+6.2V) and Vgg (-12V) lines. If the power converter circuit in a Topcat isn't running, the protection circuit tries to bring the battery voltage right down and gets hot-and-bothered in the process!.

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## HP Forum Archive 17

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### **Share a hotel room for HPCC conference?**

Message #1 Posted by [Eric Smith](#) on 6 Sept 2007, 8:11 p.m.

Is anyone else going to the HPCC conference in London interested in sharing a hotel room?

---

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## HP Forum Archive 17

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**HP71B Arrive**

Message #1 Posted by [Vincze](#) on 6 Sept 2007, 7:51 p.m.

My friends, my HP 71B arrive today from Spain. It is beautiful and in excellent condition. It come with two 4k memory modules, a sleeve of memory card, the card reader, and two manuals still wrapped up ( I wonder if I should even open since I have manuals on PDF). One thing that shock me is how slow it is to run (and fact that math on 71B is not RPN but Alg). I very happy though as I finally have. Now I have to try some of Valentíne's programs and some of others that you all post.

If someone would send me information about what math module will do for me and maybe where I can find one reasonably, I would appreciate.

Your friend, Víncze

*Edited: 6 Sept 2007, 7:52 p.m.*

**Re: HP71B Arrive**

Message #2 Posted by [Namir](#) on 6 Sept 2007, 8:32 p.m.,

*in response to message #1 by Vincze*

You can check the web page for the [EMU71](#) emulator. Download it as well as the math rom and JPC rom (the web page has many links that you need to follow do download the various parts). Edit the file emu71.ini to include the math rom (and JPC rom if you like). The emulator will give you an idea what the math rom is capable of doing (pretty neat stuff).

Then watch eBay for MATH ROMs for sale and buy one when available.

Namir

**Re: HP71B Arrive**

Message #3 Posted by [Vincze](#) on 6 Sept 2007, 9:14 p.m.,

*in response to message #2 by Namir*

Thank you my friend. I will try that, I ashamed I not think of that.

Is there not some place to see what Math rom give you though? I thought MoHPC site might have something, but I not find yet.

*Edited: 6 Sept 2007, 9:20 p.m.*

**Re: HP71B Arrive**

Message #4 Posted by [Namir](#) on 6 Sept 2007, 10:10 p.m.,

*in response to message #3 by Vincze*

If you have the new museum DVD disks (or the previous version) you can find the PDF for the HP-71B Math ROM. The manual tells you how to use the ROM and what features are available in it.

Namir

## Math ROM articles

Message #5 Posted by [Valentin Albillo](#) on 7 Sept 2007, 6:02 a.m.,  
in response to message #3 by Vincze

Hi, Vincze:

Congratulations on your new acquisition. If interested, you can see the Math ROM in action by downloading and having a look at my two articles about it, both freely available in PDF format at [my calc web site](#), namely:

**HP-71B Math ROM Baker's Dozen (Vol. 1)**  
**HP-71B Math ROM Baker's Dozen (Vol. 2)**

18-page article, in two parts, featuring 13 assorted mini-topics discussing novel aspects of using the extremely powerful and versatile Math plug-in ROM for the HP-71B.

You might also want to download my article "*HP-71B Minimax Polynomial Fit*", which includes as an example a subprogram to compute the coefficients of an *arbitrary-degree polynomial Least Squares fit* to a set of data, extensively using Math ROM capabilities, and *just 3 lines long*.

Best regards from V.

## Emu71 copy and paste

Message #6 Posted by [Vincze](#) on 7 Sept 2007, 9:28 a.m.,  
in response to message #5 by Valentin Albillo

My friend, Valentín. I have to ask really dumb question. You have many cool program that you post here, and in Emu71, I see it allow user to cut and paste from windows environment. I take that to mean that I can write program in notepad, and then copy it to Emu71, and paste in there. Maybe I misunderstand, but when I copy from notepad, it not let me paste in Emu71. Does it work only where I copy **from** Emu71, and then paste in windows? If so, I would assume there is way to read file from disk. I guess I need to RTFM to figure that out?

**\*\*EDIT\*\*** Never mind, I figure out how to Paste to EMU71 (right click title bar in window, select edit and then paste).

I still interested in how to load and save from Emu71 though. I will figure out.

*Edited: 7 Sept 2007, 9:42 a.m.*

## Re: HP71B Arrive

Message #7 Posted by [Garth Wilson](#) on 6 Sept 2007, 9:43 p.m.,  
in response to message #1 by Vincze

Quote:

One thing that shock me is how slow it is to run



What did you try on it? With the 4-bit data bus and 64-bit registers, it will be slow for something like text operations or an empty FOR-NEXT loop, but it is optimized for floating-point math. With the Math ROM, it could do a 1024-point complex FFT twice as fast as the early PCs running GWBASIC. Also with the many available LEX files from the user groups, many operations can be dramatically sped up.

*Edited: 6 Sept 2007, 9:47 p.m.*

## Re: HP71B Arrive

*Message #8 Posted by [Vincze](#) on 7 Sept 2007, 8:40 a.m.,  
in response to message #7 by Garth Wilson*

I just do simple program as follows:

```
10 Print "Hello"
20 Print "World"
30 Goto 10
```

When it print, words, it display for about 1 - 2 seconds, then go to next word. I thought it would be much faster, but may it be designed to display longer?

What about manuals in sealed wrapper? Should I open, or should I just use PDF that I have and leave in wrapper.

## Re: HP71B Arrive

*Message #9 Posted by [Maximilian Hohmann](#) on 7 Sept 2007, 9:23 a.m.,  
in response to message #8 by Vincze*

Hello!

Quote:

---

What about manuals in sealed wrapper? Should I open, or should I just use PDF that I have and leave in wrapper.

---

Open them and use them for the purpose they were printed for. These things are not holy cows. And not old enough to be real antiques anyway. The only reason to keep them sealed would be if your intention is to re-sell the calculator in the future. For some people, sealed manuals increase the value of the product. But how big is the probability, that you encounter one of these in the very moment that you want to sell your calculator?

Enjoy your new toy :-)

Max

NB: My latest toy arrived yesterday (hp-67), now I have wait for my gummy-wheel-repair-kit to arrive from the states so that I can perform some open-heart surgery on it...

## Re: HP71B Arrive

*Message #10 Posted by [Howard Owen](#) on 7 Sept 2007, 10:45 a.m.,  
in response to message #8 by Vincze*

Quote:

---

What about manuals in sealed wrapper? Should I open, or should I just use PDF that I have and leave in wrapper.

---

I think it depends on how well the PDF files met your needs. Personally, I find a physical manual easier to use than a scanned-in PDF. That's partly because you can't search a scanned document, since its pages are just images of the originals. But it's mostly because I grew up learning how to use a book as a reference. Plus, a book is portable in a more convenient way than a laptop. (You don't have to plug a book in, or wait for it to boot up.) On the other hand, PDFs take up no physical space, so it's possible to have a complete library on your laptop or PC. If I'm on the road, this advantage is crucial.

Those are my reasons for preferring a physical manual. But your taste may differ. My advice is to take some time to think about how you would use a physical manual, as opposed to the PDF, and make your decision based on what you come up with.

Regards,  
Howard

**Re: HP71B Arrive**

*Message #11 Posted by **Egan Ford** on 7 Sept 2007, 2:15 p.m.,  
in response to message #10 by Howard Owen*

Quote:

---

That's partly because you can't search a scanned document, since its pages are just images of the originals.

---

Actually you can. I use Adobe Acrobat to OCR the documentation I used most. This way it is fully searchable.

**Re: HP71B Arrive**

*Message #12 Posted by **Bill (Smithville, NJ)** on 7 Sept 2007, 4:34 p.m.,  
in response to message #11 by Egan Ford*

Hi Egan,

Quote:

---

Actually you can. I use Adobe Acrobat to OCR the documentation I used most. This way it is fully searchable.

---

Well - Partially true - you have to be careful with this. I use Acrobat 6.0 professional to convert scanned pdf to text and it "appears" to do a great job. Everything appears great on the display, will print correctly and the size of the file is drastically reduced, but...

When I do a search for a particular word, it doesn't find all occurrences. For an occurrence that it doesn't find, I can select it with the text tool, copy it to the clipboard, and when I paste it into a document file, it comes up as mis-spelled or has some garbage characters in it.

It looks like Acrobat somehow keeps part of the scanned image with the OCR text. As a result, displays great, prints great, but will not search or cut and paste correct.

I'm not sure if later versions of Acrobat does this.

Bill

**Re: HP71B Arrive**

*Message #13 Posted by **Egan Ford** on 7 Sept 2007, 5:37 p.m.,  
in response to message #12 by Bill (Smithville, NJ)*

I have had good luck with version 7 OCRing the MoHPC DVD. I have had very few problems with search and cut/paste.

**Re: HP71B Arrive**

*Message #14 Posted by **Bill (Smithville, NJ)** on 8 Sept 2007, 7:21 a.m.,  
in response to message #13 by Egan Ford*

Hi Egan,

That's good to know. I'll have to upgrade to version 7.

Bill

**Re: HP71B Arrive**

*Message #15 Posted by **Egan Ford** on 8 Sept 2007, 2:56 p.m.,  
in response to message #14 by Bill (Smithville, NJ)*

If you like, I'll send you an OCR'd manual (assuming you have the DVD), then you can decided if an upgrade is necessary.

**Re: HP71B Arrive**

*Message #16 Posted by **Bill (Smithville, NJ)** on 8 Sept 2007, 5:47 p.m.,  
in response to message #15 by Egan Ford*

Egan,

Thanks - I have sent you an email with my email that can receive attachments. And yes, I do have the DVD.

Bill

**Re: HP71B Arrive**

*Message #17 Posted by **Howard Owen** on 7 Sept 2007, 10:48 a.m.,  
in response to message #8 by Vincze*

Quote:

\_\_\_\_\_

When it print, words, it display for about 1 - 2 seconds, then go to next word. I thought it would be much faster, but may it be designed to display longer?

\_\_\_\_\_

Yes, it is. Take a look at the DELAY keyword in the reference manual.

Regards  
Howard

---

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## HP Forum Archive 17

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### IPOD touch calculator (suggestion to hp)

Message #1 Posted by [Chuck](#) on 6 Sept 2007, 12:47 p.m.

The new IPOD touch and iphone have simple calculators built in. BUT, wouldn't it be nice if by rotating the units to landscape mode they automatically switch to an 11C or 15C? Would hp ever be willing to get in bed with Apple and produce the code for a useable RPN calc on their products? An 11C in my pocket along with my music would be icing on the cake.

### Re: IPOD touch calculator (suggestion to hp)

Message #2 Posted by [Eric Smith](#) on 6 Sept 2007, 1:06 p.m.,  
in response to message #1 by Chuck

If Apple supported third-party software development for the iPhone and iPod touch, this would happen without any need for HP's involvement. But Steve Jobs apparently finally has achieved his dream of having a completely closed platform. No compilers and SDK for you!

Yes, a few people have managed to build simple applications by reverse-engineering, but normal developers don't have the patience for that.

### Re: IPOD touch calculator (suggestion to hp)

Message #3 Posted by [Kevin Kitts](#) on 6 Sept 2007, 2:41 p.m.,  
in response to message #2 by Eric Smith

Since the iPod Touch is Mac OS X based - even if Apple does not open it up - I bet someone will find a way to install 3rd party apps on it. I think the odds are better for doing something with the iPod touch than with the iPhone.

IIRC, these devices change from portrait to landscape when you physically change the orientation of the device. So you should be able to have 11C and a 42s nicely laid out in their correct orientation.

### Re: IPOD touch calculator (suggestion to hp)

Message #4 Posted by [Egan Ford](#) on 6 Sept 2007, 4:50 p.m.,  
in response to message #3 by Kevin Kitts

Quote:

Since the iPod Touch is Mac OS X based - even if Apple does not open it up - I bet someone will find a way to install 3rd party apps on it. I think the odds are better for doing something with the iPod touch than with the iPhone.

Some already have. Google for iPhone toolchain, I am certain that it will be the same for the iPhone and the iPod touch. Google for iPhone NES and MAME emulators. If they can build video game emulators (the NES has multitouch support too), then building Free42/Nonpareil will be trivial after the

UI has been ported.

**Re: IPOD touch calculator (suggestion to hp)**

*Message #5 Posted by [Seth Morabito](#) on 6 Sept 2007, 4:14 p.m.,  
in response to message #1 by Chuck*

Chuck,

You may want to check out [SciCalc for iPhone](#), which a friend of mine wrote. It should also work on the new iPod Touch.

It defaults into Algebraic mode, but the author is an RPN fan as well, so it has a very useful RPN mode with an unlimited stack.

Due to an interesting feature in the Safari web browser (used on the iPhone and iPod), you can save the entire application to a bookmark and reload it, even when no wireless network is in range. So you do not need to be online to use the calculator. Just click on "Bookmarklet", and then bookmark the resulting page. Quite neat!

**Re: IPOD touch calculator (suggestion to hp)**

*Message #6 Posted by [Chuck](#) on 6 Sept 2007, 4:55 p.m.,  
in response to message #5 by Seth Morabito*

Wow. Now you really have me convinced to get one. I figured I could find an RPN calc when on wifi, but didn't realize it could be saved as a bookmarklet. Thanks for the info Seth.

**Re: IPOD touch calculator (suggestion to hp)**

*Message #7 Posted by [Ren](#) on 7 Sept 2007, 11:13 a.m.,  
in response to message #1 by Chuck*

To appeal more to the masses...

Maybe it should be a 12c when held horizontal?

Ren

dona nobis pacem

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## HP Forum Archive 17

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### **new educational calculators from TI and Casio**

Message #1 Posted by [Don Shepherd](#) on 6 Sept 2007, 10:50 a.m.

From the current issue of "Mathematics Teaching in the Middle School" published by National Council of Teachers of Mathematics.

Don't know anything about [these](#), but they look interesting.

### **Re: new educational calculators from TI and Casio**

Message #2 Posted by [Bruce Bergman](#) on 6 Sept 2007, 12:24 p.m.,  
in response to message #1 by Don Shepherd

Hi Don --

The new TI looks interesting. I'm guessing it's going to be a low-end version, but it seems to pack a pretty good punch. Tables, equations, what looks like good stats, etc. I bet it'll be under \$49. I don't know that I would call this a competitor to the HP-35s, but it MIGHT indeed be just that. I like the "patterns" feature - that would be great in the lower-ed math systems.

However, I AM freaking out about one thing: it has an ENTER key, and no equals (=) key. ;-)

Oh, and look at the "order of operations" screen. IMHO, that's EXACTLY why we need HP models in the classroom. To have a screen that basically tells students that unless they get their parenthesis right, their result is bogus, stinks. Oh well...

The Casio is that model I was writing about last month on the forums here. It's impressive. Super clear display, great functions, and even has some brain-dead BASIC-like programming language. I think Katie was mentioning that it can be programmed fairly nicely. One of the replies was a download link for both the manual (PDF version) and also for a 30-day evaluation of the calculator for the PC.

Although the menu system is a nightmare (and cluttered too), it was fun to poke around on the calc and see what it can do. At \$99 for the unit, with a \$100 discount for educators, it's a steal. ;-)

thanks, bruce

*Edited: 6 Sept 2007, 12:25 p.m.*

### **Re: new educational calculators from TI and Casio**

Message #3 Posted by [Alex L](#) on 6 Sept 2007, 1:34 p.m.,  
in response to message #2 by Bruce Bergman

Quote:

The new TI looks interesting. I'm guessing it's going to be a low-end version, but it seems to pack a pretty good punch. Tables, equations, what looks like good stats, etc. I bet it'll be under

\$49. I don't know that I would call this a competitor to the HP-35s, but it MIGHT indeed be just that. I like the "patterns" feature - that would be great in the lower-ed math systems.

[Amazon has it for \\$16.99](#). And I've seen it at the local Walgreen's drugstore for... I think \$19.99 or so.

-A

### Re: new educational calculators from TI and Casio

Message #4 Posted by [Chris McCormack](#) on 6 Sept 2007, 1:34 p.m.,  
in response to message #2 by Bruce Bergman

Quote:

The new TI looks interesting. I'm guessing it's going to be a low-end version, but it seems to pack a pretty good punch. Tables, equations, what looks like good stats, etc. I bet it'll be under \$49. I don't know that I would call this a competitor to the HP-35s, but it MIGHT indeed be just that. I like the "patterns" feature - that would be great in the lower-ed math systems. ...

Well, following the web links yields a price of \$17.99 at Staples.

### Re: new educational calculators from TI and Casio

Message #5 Posted by [sjthomas](#) on 8 Sept 2007, 2:19 p.m.,  
in response to message #4 by Chris McCormack

Quote:

Well, following the web links yields a price of \$17.99 at Staples.

It was actually \$15.99 in the brick&mortar Staples in Titusville FL yesterday.

### Re: new educational calculators from TI and Casio

Message #6 Posted by [RonHudson\(USA\)](#) on 6 Sept 2007, 1:52 p.m.,  
in response to message #2 by Bruce Bergman

Some at ITT have casio or other calculators where you type the equation in then press enter...

(3+5)\*7 [enter]

and the answer appears on another line... 56

No RPN :^( no Equals key

Link to a picture of the casio? (nevermind.. I see it's part of the PDF)

The casio is cool, a clamshell - wonder if it's programmable too.

Edited: 6 Sept 2007, 1:54 p.m.

### Re: new educational calculators from TI and Casio



*Message #7 Posted by [Don Shepherd](#) on 7 Sept 2007, 12:08 a.m.,  
in response to message #2 by Bruce Bergman*

Hi Bruce. I was intrigued by both these calculators, so I went out and bought both of them today (TI at Walgreens, as one person suggested, and the Casio at Staples)! The TI is no threat to the 35S. It does not have any type of \*solver\*. You can assign any of 7 variables (like x) a value, and it will evaluate  $x^2 + 3x + 4$ , but that's middle school for you.

I haven't opened the Casio yet, I'm just too tired and I need to prepare a lesson for my middle school kids for tomorrow.

### **Re: new educational calculators from TI and Casio**

*Message #8 Posted by [Pal G.](#) on 6 Sept 2007, 12:37 p.m.,  
in response to message #1 by Don Shepherd*

I love the Casio form factor. Too bad it isn't RPN tho... I'm not going back to algebraic.

Cheers.

### **Re: new educational calculators from TI and Casio**

*Message #9 Posted by [Donald Williams](#) on 6 Sept 2007, 2:31 p.m.,  
in response to message #8 by Pal G.*

Quote:

I love the Casio form factor. Too bad it isn't RPN tho... I'm not going back to algebraic.

Cheers.

I thought the same as you at one time, but I was so intrigued by the Casio I bought one. Nice calculator. The state of the equation writers on today's calculators is so good that RPN has lost most of the advantage it might have once claimed. It took about 5 minutes to adapt to the AOS.

Yes it is programmable, but the included applications and functions almost obviate any great need for programming.

Don W

*Edited: 6 Sept 2007, 3:00 p.m.*

### **Re: new educational calculators from TI and Casio**

*Message #10 Posted by [sjthomas](#) on 8 Sept 2007, 2:22 p.m.,  
in response to message #9 by Donald Williams*

Quote:

Nice calculator.

And the backlit display is nice -- very crisp -- wish I had had one in our darkened optics labs.

## **Re: new educational calculators from TI and Casio**

*Message #11 Posted by [DaveJ](#) on 6 Sept 2007, 5:52 p.m.,  
in response to message #8 by Pal G.*

Quote:

I love the Casio form factor. Too bad it isn't RPN tho... I'm not going back to algebraic.  
Cheers.

You could probably write your own if you were keen. There is an open source FX9860G development system called Revolution FX: <http://revolution-fx.sourceforge.net/>

It uses the very nice Renesas SuperH3 chip.

Presumably the SLIM model is the same hardware wise?

Dave.

## **Re: new educational calculators from TI and Casio**

*Message #12 Posted by [Bruce Bergman](#) on 6 Sept 2007, 6:51 p.m.,  
in response to message #11 by DaveJ*

VERY interesting idea!

Certainly, it doesn't make the calc an HP, nor even barely acceptable, but it has a certain appeal. I wonder if Free42 could be ported to that platform. Now THAT would be cool! ;-)

I've heard the chip in this puppy is a screamer too...

thanks, bruce

## **Re: new educational calculators from TI and Casio**

*Message #13 Posted by [Don Shepherd](#) on 7 Sept 2007, 4:20 p.m.,  
in response to message #12 by Bruce Bergman*

Bruce, I bought a Casio calculator years ago and, as I recall, learning how to use it was anything but intuitive. Sad to say, the same is true for the fx9860g slim. This is not the type of calculator that you can just pick up and figure out without reading the manual, and the online manual needs to be paper, not electronic. I'm going to continue to try to figure it out, but I'm thinking at some point it won't be worth the effort. Makes me appreciate HP all the more.

## **Re: new educational calculators from TI and Casio**

*Message #14 Posted by [Xerxes](#) on 7 Sept 2007, 6:01 a.m.,  
in response to message #11 by DaveJ*

Yes, your presumption is correct. The FX-9860G Slim has the same hardware as the FX-9860G or the FX-9860GSD with SD-Card slot.

## **Re: new educational calculators from TI and Casio**

*Message #15 Posted by [gteague](#) on 8 Sept 2007, 12:32 a.m.,  
in response to message #8 by Pal G.*

i bought this casio on impulse at a local staples while i was waiting for the hp35s to arrive. i should have taken it back for a refund.

what a lousy calculator! buttons are scattered around and not grouped for function. the display, even for being so large, does not display near the information it should be able to. it's hard to find your way around in the menu system. i can't remember my other complaints--i worked my way through the manual over the course of a day or two and then put it aside thinking i'd revisit it later as there had to be more to this calc than what i initially discovered. i later decided that no, there wasn't any more to the calc, but by that time my return period had expired.

they sell a non-foldable model that seems to have all the same functions for less than 1/2 the price.

the ti one looks like it has a useful display. i'm sure i'll pick it up first one i see. i'm like that with calculators.

/guy

### **Re: new educational calculators from TI and Casio**

*Message #16 Posted by [Vincze](#) on 6 Sept 2007, 7:59 p.m.,  
in response to message #1 by Don Shepherd*

It look nice and is interesting. It shame that HP not make one.

### **Re: new educational calculators from TI and Casio**

*Message #17 Posted by [Hugh Evans](#) on 7 Sept 2007, 9:55 p.m.,  
in response to message #16 by Vincze*

Now that HP has learned how to make a classic looking machine again it's only a matter of time until they re-invent the 48g

### **Re: new educational calculators from TI and Casio**

*Message #18 Posted by [Pal G.](#) on 8 Sept 2007, 2:04 a.m.,  
in response to message #17 by Hugh Evans*

Quote:

Now that HP has learned how to make a classic looking machine again it's only a matter of time until they re-invent the 48g

I've got a nice hp 50g to replace any hp 48xx. Of course it could use some ballast. But, wouldn't you rather have a new 11c/15c/16c???

And while we're dreaming, how about an hp 35sgx+III that can put an hp 42s to shame? The enclosure is done. Great job. That's the expensive part. Now expand the software so it stomps everything in it's class. Give the programmers all the pizza and mountain dew they need and have 'em squeeze the living potential out of the hp 35s.

Cheers, Pal

### **Re: new educational calculators from TI and Casio**

*Message #19 Posted by [Egan Ford](#) on 8 Sept 2007, 2:19 a.m.,  
in response to message #18 by Pal G.*

Don't forget I/O. There was a reason why the 41CX, 71B, and 48-50 are so popular and have large amounts of code. Data and code can be shared. The 41/71/48/49/50 are more than calculators, they are application platforms.

The 50g has 4 different electronic bidirectional I/O methods (USB, Serial, IR, SD). Incredible. The 35s++ should be able to come up with just one.

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## HP Forum Archive 17

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### HP35s included in the Spanish web of hp

Message #1 Posted by [JoseL](#) on 6 Sept 2007, 6:38 a.m.

Hi,

Finally we can see in the official Spanish web of hp the HP35s. But at the moment without price.

<http://h41111.www4.hp.com/calculators/es/es/scientific/35s/index.html>

Best regards

Jose

### Norway is following...

Message #2 Posted by [Arne Halvorsen \(Norway\)](#) on 6 Sept 2007, 8:09 a.m.,  
in response to message #1 by [JoseL](#)

Hey, your post got me to check hp-norway pages, and yes its here to now! No price info, but they do not have that on such items here...

*Edited: 6 Sept 2007, 8:10 a.m.*

### Germany also!

Message #3 Posted by [Doctor Bubu](#) on 6 Sept 2007, 8:20 a.m.,  
in response to message #2 by [Arne Halvorsen \(Norway\)](#)

;-)

### Re: Italy too!

Message #4 Posted by [Antonio Maschio \(Italy\)](#) on 6 Sept 2007, 8:29 a.m.,  
in response to message #3 by [Doctor Bubu](#)

;-)

### Re: Norway is following...

Message #5 Posted by [JoseL](#) on 6 Sept 2007, 8:30 a.m.,  
in response to message #2 by [Arne Halvorsen \(Norway\)](#)

In the Spanish web you can see the prices for the purchase on-line. Check the link to the HP50G ....

<http://h41111.www4.hp.com/calculators/es/es/graphing/50g/index.html>

### Re: HP35s included in the Spanish web of hp

*Message #6 Posted by [Arne Halvorsen \(Norway\)](#) on 6 Sept 2007, 8:32 a.m.,  
in response to message #1 by JoseL*

He, he, I can see where this is going... One could ofcourse scan all the 'missing' countries hp sites, BUT I think the natives should be doing the honour!

*Edited: 6 Sept 2007, 8:32 a.m.*

**Re: HP35s included in the Spanish web of hp**

*Message #7 Posted by [Ken Shaw](#) on 7 Sept 2007, 4:14 p.m.,  
in response to message #6 by Arne Halvorsen (Norway)*

Not on the Canadian site as of now.

**Re: HP35s included in the Spanish web of hp**

*Message #8 Posted by [Ivan Latorre](#) on 6 Sept 2007, 10:39 a.m.,  
in response to message #1 by JoseL*

As I said in [this forum post](#), [Pont Reyes Informatica](#) (an HP partner) is selling the 35s for €73,08 (including VAT). And it comes boxed (not in a blister pack) with manuals in Spanish and Portuguese.

**Re: HP35s included in the Spanish web of hp**

*Message #9 Posted by [Arne Halvorsen \(Norway\)](#) on 6 Sept 2007, 10:43 a.m.,  
in response to message #8 by Ivan Latorre*

Thats the way a HP calculator should be sold, in a box! Guess thats rare... hp35s boxes may sell for \$\$\$ on e-bay 20 years from now...

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## HP Forum Archive 17

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### Idea: "Support your favorite calc-related project"

Message #1 Posted by [Klaus](#) on 6 Sept 2007, 5:48 a.m.

Many people that trad with HP-things have made some "good deals", i.e. paid far less than what it is "worth" (in the eye of a collector) for an item. Many collectors also have duplicate machines. So why not sell a duplicate machine and support some calc-related project (like MLDL2000, Clonix, OpenRPN or nonpareil, emu48,...) with the money? Perhaps the projects can setup a description of their project, and the sellers put the items on ebay with a link to the project to be supported. The winner of the auction then pays directly to the project and gets the item. I would like to support some projects, but I will not register to paypal to do so, so it would be convenient for me that the buyer takes care of this. And the projects would perhaps get some attention from occasional ebay-lurkers.

What do you think of that idea?

### Re: Idea: "Support your favorite calc-related project"

Message #2 Posted by [Meindert Kuipers](#) on 6 Sept 2007, 8:28 a.m.,  
in response to message #1 by Klaus

Klaus,

Being the originator of the MLDL2000, I appreciate the idea of supporting these projects. On a personal level, money is not really the issue. I did the MLDL2000 because I simply wanted to do this, and I had the means to do it. The best support that I get is the fact that there are users all over the world that are now using it and have thanked me for creating it. The actual cost for me was covered by the income from 'selling' the units, but it really did not cover anything else than the cost. The amount of time that went into it (and is still going in the project) is enormous. But then again this is a hobby, and that is why I am doing it.

Again, I appreciate the support, but do not need it in terms of money. Just a pat on the shoulder every now and then is more than enough motivation ...

Meindert

### Re: Idea: "Support your favorite calc-related project"

Message #3 Posted by [Hugh Evans](#) on 6 Sept 2007, 5:01 p.m.,  
in response to message #1 by Klaus

Klaus,

As the founder of [OpenRPN](#) I appreciate your idea. However, the most valuable support comes directly from this community in the form of talent. AdSense revenue is sufficient to cover all of our hosting expenses (which now keeps the site running at all times.) Right now, the OpenRPN project is in shape to support a full-scale development effort, but we need programmers to return/join.

Best Regards, Hugh

**Re: Idea: "Support your favorite calc-related project"**

*Message #4 Posted by [Diego Diaz](#) on 15 Sept 2007, 8:41 a.m.,  
in response to message #1 by Klaus*

Hi all,

As the creator of Clonix & NoVRAM projects, I want to adhere myself to every word above expressed by Meindert and Hugh. But your idea may well inspire some others to develop new projects... and this is always a good new... ;-)

Cheers.

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## HP Forum Archive 17

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### HP 50g 75 Mhz Arm9 Processor

Message #1 Posted by [Gerry Schultz](#) on 5 Sept 2007, 4:42 p.m.

As I remember, both the 49g+ and the 50g use the Arm9 processor and emulate a Saturn processor in software that the calculator OS runs on. It's been several years and I was wondering why HP hasn't rewritten the OS to run natively on the Arm9? I originally thought that it was the fastest and easiest solution to get the 49 and 50 out quickly but I had thought that HP would release an OS update at a later time to run directly on the Arm9. But, that hasn't happened, why?

If HP were to release this kind of upgrade, imagine how much faster both calculators would be. Perhaps a new 51G is going to be released and it will have a new OS that runs directly on the Arm9 with firmware upgrades for the 49 and 50.

Does anyone have any other information or ideas on this?

Thanks,

Gerry

### Re: HP 50g 75 Mhz Arm9 Processor

Message #2 Posted by [Jake Schwartz](#) on 5 Sept 2007, 4:57 p.m.,  
in response to message #1 by [Gerry Schultz](#)

Quote:

As I remember, both the 49g+ and the 50g use the Arm9 processor and emulate a Saturn processor in software that the calculator OS runs on. It's been several years and I was wondering why HP hasn't rewritten the OS to run natively on the Arm9? I originally thought that it was the fastest and easiest solution to get the 49 and 50 out quickly but I had thought that HP would release an OS update at a later time to run directly on the Arm9. But, that hasn't happened, why?

If HP were to release this kind of upgrade, imagine how much faster both calculators would be. Perhaps a new 51G is going to be released and it will have a new OS that runs directly on the Arm9 with firmware upgrades for the 49 and 50.

Does anyone have any other information or ideas on this?

Thanks,

Gerry

Hi Gerry,

One reason is that this probably would take man years and the current R&D team (1) probably has other calculators to develop; and (2) does not have the number of people it would take to do this in any reasonable

amount of time. Of course, if HP felt that this effort was important enough (i.e. would sell TONS of more calculators), they'd probably acquire the resources to get it done. Just my two cents....

Jake Schwarz

### **Re: HP 50g 75 Mhz Arm9 Processor**

*Message #3 Posted by [Egan Ford](#) on 5 Sept 2007, 6:19 p.m.,  
in response to message #1 by Gerry Schultz*

The 35s is evidence that rewriting the OS is not always the best idea. I'd take a 42S running on Saturn emulation any day.

On the other hand you sometimes have to take a few steps back to move further forward. But you need to learn from history along the way. The 42S is a good example of that. The 42S did not use the same processor technology that peaked with the 41CX and 15C. The 42S used the new Saturn processor with an internal RPL-based OS. Despite all of this it is arguably the best RPN machine ever. Lessoned learned were not forgotten.

New code is inevitable, just don't forget your history.

### **Re: HP 50g 75 Mhz Arm9 Processor**

*Message #4 Posted by [papakanush](#) on 5 Sept 2007, 6:39 p.m.,  
in response to message #3 by Egan Ford*

Sorry,

But I don't worship the 42S as much as everyone else does. I had one back in the mid-90's, and used it for a few years but it did have a memory limitation. The metal cover wouldn't stayed adhered near the display. Then one day something fell on the display and cracked it. Bought a new 48G and loved it. I had to learn RPL programming instead of the much easier RPN programming. Once I figured a few things out, I'd never go back to the 42S. Now I have the 50g and and really happy with it. So I'm all for the continued development of the 50g and on, instead of trying to dumb-down the machine.

### **Re: HP 50g 75 Mhz Arm9 Processor**

*Message #5 Posted by [Walter B](#) on 5 Sept 2007, 7:10 p.m.,  
in response to message #4 by papakanush*

AFAIK the basic idea is to have the 50g (and 51g etc.) at the high end, the 35s at the low end of programmable calculator range, and some "43S" in between. This 43S shall be RPN and feature \*at least\* the complete function set of the 42S. Furthermore, it shall get a brisker and larger LCD reflecting the state of the art.

So, there's no intent to "dumb down the machine", but to reach (at least) the level of RPN again we had in 1988. Just a model the professionals will use :)

### **Re: HP 50g 75 Mhz Arm9 Processor**

*Message #6 Posted by [Egan Ford](#) on 5 Sept 2007, 7:43 p.m.,  
in response to message #5 by Walter B*

Quote:

\_\_\_\_\_

This 43S shall be RPN and feature \*at least\* the complete function set of the 42S.

\_\_\_\_\_

I like RPN because it is easy, simple, can be mastered in minutes. I like RPL because of the power. I'd like to see RPN evolve in the 43S. Extend the language a bit without losing its simple nature. I see some of this in the 35s, e.g. equations as a single statement.

**Re: HP 50g 75 Mhz Arm9 Processor**

Message #7 Posted by [Eric Smith](#) on 5 Sept 2007, 7:56 p.m.,  
in response to message #5 by Walter B

Walter B wrote:

Quote:

the basic idea is to have the 50g (and 51g etc.) at the high end, the 35s at the low end of programmable calculator range, and some "43S" in between.

Whose basic idea is that? Did HP state such an idea while I was sleeping? Or is this just idle speculation?

**Re: HP 50g 75 Mhz Arm9 Processor**

Message #8 Posted by [Hugh Evans](#) on 7 Sept 2007, 1:09 a.m.,  
in response to message #5 by Walter B

That concept sure sounds like an easy one for HP to pull off. Essentially, they could use the 50g with a smaller display and keyboard, retain the I/O, keep their saturn emulation, and load a slightly modified 42s ROM. Use keys from the 35s with new silkscreened legends.

I'd put the price point around \$75 and bet on them using a less powerful ARM CPU to do the job.

**Re: HP 50g 75 Mhz Arm9 Processor**

Message #9 Posted by [Egan Ford](#) on 5 Sept 2007, 7:38 p.m.,  
in response to message #4 by papakanush

Hardware-wise I'd have to agree. I think the build quality of my '85 15C, '93 GX, 50g, and 35s are superior to the 42S (I am still looking for a 42S hard case). But the software and the organization of the 42S is without equal for a midrange programmable.

Like you I 'upgraded' to the 50g and retired my still mint 48GX because the 50g is replaceable and the 50g is 100% compatible with all my 48GX code, it was an easy decision. Not so with the 15C/41CX/42S -> 35s.

I do not subscribe to the 'one tool to rule them all' philosophy. There is still a demand for a powerful shirt pocket calculator.

*Edited: 5 Sept 2007, 7:45 p.m.*

**Re: HP 50g 75 Mhz Arm9 Processor**

Message #10 Posted by [Bill Wiese](#) on 5 Sept 2007, 8:44 p.m.,  
in response to message #9 by Egan Ford

One other reason that emulation is successful is that *it generally introduces no other behavioral*

*bugs* when done successfully (and if no bugs are in the "I/O transition layer" for new hardware.

If there are errors in instruction emulation they are fundamental enough that reliability of the machine is likely impaired throughout multiple areas of its operational range. Emulation, though, of each instruction's function to 100% level is generally a readily achievable goal (with exception of timing-critical matters). If instruction fetch, instruction translation and I/O translation layers all work OK, then the emulation is successful, and the only bugs are timing-relationship ones (usu not an issue on such a design like a calculator) and the ones originally existing on the original nonemulated calculator firmware.

Contrast this with a complete rewrite on a new machine: likely the new coding would be a mix of C+ARM assembly and concepts transliterated from the Saturn HW+assembly world would not necessarily transfer over with grace and ease in a rapid enough fashion to be cost-effective for a small team. Getting back to orig calculator functionality with same bug levels would indeed be a challenge.

Bill Wiese  
San Jose CA USA

### **Re: HP 50g 75 Mhz Arm9 Processor**

*Message #11 Posted by [Gerry Schultz](#) on 5 Sept 2007, 10:22 p.m.,  
in response to message #10 by Bill Wiese*

Interesting points. As an electronics engineer, I am disturbed by the wasted processing power lost through emulation. Back when the 42 and 28C were released, their OSES were written for the Saturn processor to take advantage of the limited clock cycles and to maximize battery power to help differentiate their machines from the competition. I'm also thinking of the transition from the HP-65, to the 67/97, to the 41C to show what could be done with newer hardware.

Perhaps I'm too old fashioned, but I still think that with battery-powered hardware, HP would want the maximum bang-for-the-buck with processor power and battery life. I remember when I bought my 48GX, it's Saturn processor was twice as fast as the 48SX, so I decided to go with the 48GX even though it was brand new and I couldn't find any third-party books or other documentation other than HP's. At the time, my previous calculator was the 41C so it was a big technology jump for me. Side note: I recently found my copy of 41/48 Transitions book by William C. Wickes. I had forgotten completely that I had purchased it so long ago and I am stoked to re-read it.

In this day and age of 75 MHz processors (WOW!) and HP's apparent lack of interest in writing a native version for the Arm9, I question their commitment to building better calculators. The transition from RPN to RPL back in the 80's was such a big step and really showed HP pushing the technology envelope. I don't see that here with the 50g.

Does it cost a lot of money and manpower to rebuild an OS on new hardware? Of course it does, and I am thinking that with the success of the 41C, HP had the market-share and resources to build entirely new calculators based on the new Saturn processor like the 42 and 28. The 48GX was very successful but since then the 49, 49g+ and the 50g are extensions of the 48 series moved to new hardware (for the 49g+ and 50g). HP has not taken full advantage of this new hardware platform (other than I'm sure it's cheaper and the parts are readily available). I would like to see this new hardware platform scream as it should. To me, emulation adds complication to make it work.

I hope HP proves me totally wrong and comes out with a new high-end calculator that makes

full use of the Arm9. With the faster speed, new functions can be added that were too slow on the older platforms. Hopefully, HP is taking a long, hard look at the Inspire to build the next great calculator. They had the Xpander but dropped it for what I would guess was economic reasons. In the past 6 years technology has advanced enough for HP to come out with a new version of Xpander that is cheaper to build and blow the Inspire out of the water. That's what I would like to see. HP exercising their considerable technology muscles and producing a high-end calculator that affordable and leads the way on what is possible to build. Damn the expense and full speed ahead! That's how I remember the HP-41C when it came out. What a GREAT machine! It's the best example of what I think about HP's calculators.

Gerry

**Re: HP 50g 75 Mhz Arm9 Processor**

*Message #12 Posted by [DaveJ](#) on 5 Sept 2007, 10:50 p.m.,  
in response to message #11 by Gerry Schultz*

Would you like it all programmed in raw assembler too, to maximise every last cycle?

A "better" calculator does not necessarily mean a faster calculator. I'd personally put speed more toward the bottom of the list, not including user interaction speed of course, which should be instant.

Dave.

**Re: HP 50g 75 Mhz Arm9 Processor**

*Message #13 Posted by [Paul Dale](#) on 5 Sept 2007, 11:02 p.m.,  
in response to message #12 by DaveJ*

I'd look to using the extra speed for other purposes. Guaranteed accuracy e.g.

- Pauli

**Re: HP 50g 75 Mhz Arm9 Processor**

*Message #14 Posted by [DaveJ](#) on 5 Sept 2007, 11:30 p.m.,  
in response to message #13 by Paul Dale*

Quote:

\_\_\_\_\_  
I'd look to using the extra speed for other purposes. Guaranteed accuracy  
e.g.  
\_\_\_\_\_

Yep, or extra battery life by being able to \*drop\* the processor speed because you have a more powerful processor.

Dave.

**Re: HP 50g 75 Mhz Arm9 Processor**

*Message #15 Posted by [Hugh Evans](#) on 6 Sept 2007, 5:15 p.m.,  
in response to message #11 by Gerry Schultz*

With HP's resources, open development of a new code base seems like a no-brainer. They

write the specs, oversee the effort, run QC, and then provide end-product support. The algorithms have been around for decades, calculators are not the high-end of technology today, so there shouldn't be much (if anything) to lose in terms of trade secrets. I think HP is crazy for not making better use of the community they have.

**Re: HP 50g 75 Mhz Arm9 Processor**

*Message #16 Posted by **Egan Ford** on 5 Sept 2007, 10:08 p.m.,  
in response to message #4 by papakanush*

Quote:

\_\_\_\_\_

Bought a new 48G and loved it.

\_\_\_\_\_

I should add that as far as calculators go the user experience and interface of the 48 IMHO is the best there ever was. This is not about RPN vs RPL, its just about the usability as a calculator.

The 48 has an overloaded keyboard (34C/15C), has hierarchical menus (42S), and if you choose (and I do) you can lock the alpha and enter whatever function you like (41C). Some team of engineers really thought it through and provided the best of the best in one package as far as user interfaces go. I also like the ability to do algebraic with out an ALG mode by using ", the space as a stack separator (2 2 + on a single line is very nice, would be very helpful on a 2 line display), the no limit stack, units, and symbolic constants and variables.

Shrink the 48 down to 2 lines, lose the graphics, replace RPL with RPN, put it in a 42S size can and call it the ultimate RPN.

**Re: HP 50g 75 Mhz Arm9 Processor**

*Message #17 Posted by **Allen** on 5 Sept 2007, 10:26 p.m.,  
in response to message #16 by Egan Ford*

Egan, I could not agree more with your statements!!! Cheers, Al

**Re: HP 50g 75 Mhz Arm9 Processor**

*Message #18 Posted by **Pal G.** on 5 Sept 2007, 10:54 p.m.,  
in response to message #16 by Egan Ford*

Quote:

\_\_\_\_\_

Some team of engineers really thought it through and provided the best of the best in one package ...

\_\_\_\_\_

You know those WWII documentaries on the History Channel where they have veterans describing how it was? Are there any ex-HP engineers who hang out on this message board who can describe what it was like back then while they were designing all that great hardware, and maybe tell us what HP is thinking now?

I love hearing people brag about how great the old HP calcs are. Does anyone think 20 years from now I'm going to be bragging to my grandkids about the hp 35s? Can we get someone to fix the thing before it disappears from the face of the earth? And please let us have an hp 15c anniversary, an hp 42s anniversary, and a big Enter key on a 51g that is not emulating Saturn.

Thanks, Pal

**Re: HP 50g 75 Mhz Arm9 Processor**

*Message #19 Posted by [Brad Davis](#) on 5 Sept 2007, 11:40 p.m.,  
in response to message #18 by Pal G.*

Heck, all this talk makes me the caveman of the group.

I bought a 50g and like a lot of its features, but the keyboard feel is so bad (too hard with too much travel), in my opinion only, that it's now starting to collect dust. My fingers get physically tired after a page or two of basic engineering calcs and my error rate is multiples of what it was with my 48G and I've had it for at least 2 months now.

Doesn't matter to me if there's a GHz processor in there if the basics aren't to my liking. I don't know if others find the keyboard as objectionable as I do.

I finally had enough this evening and put it away. Unzipped my 48G pouch and now all is well, regardless of its processor.

*Edited: 5 Sept 2007, 11:41 p.m.*

**Re: HP 50g 75 Mhz Arm9 Processor**

*Message #20 Posted by [Pal G.](#) on 6 Sept 2007, 12:20 a.m.,  
in response to message #19 by Brad Davis*

Funny, my boss uses his 48GX daily at the office, and a 15c at the house for bills and other projects. I showed him my hp 50g and he hardly blinked. He has a Treo 700p, a tiny Sony Vaio, a brand new Honda Ridgeline with every option... but he doesn't need a new calculator as long as that brick is on his desk.

Maybe that is why HP is in no hurry to create a calculator better than the old 48s. As long as those old calculators keep working nicely there does not seem to be enough demand..

Cheers, Pal

**Re: HP 50g 75 Mhz Arm9 Processor**

*Message #21 Posted by [Brad Davis](#) on 6 Sept 2007, 12:55 a.m.,  
in response to message #20 by Pal G.*

Quote:

...Maybe that is why HP is in no hurry to create a calculator better than the old 48s. As long as those old calculators keep working nicely there does not seem to be enough demand.. ...

I hope they're spending their time trying to figure out how to NOT end up in the same boat at Apple vs Microsoft, having better technology but with little market share due to marketing.

I was in our university bookstore the other day and there is NOT ONE HP calculator for sale there. The wall is full of TIs. I asked my students last year to raise a hand if they used other than a TI, but not one did.

HP will figure out how to combat this kind of thing or they're going to be done for in a few years even if they come up with a GHz processor.

*Edited: 6 Sept 2007, 12:56 a.m.*

**Re: HP 50g 75 Mhz Arm9 Processor**

*Message #22 Posted by **Egan Ford** on 6 Sept 2007, 1:10 a.m.,  
in response to message #21 by Brad Davis*

Quote:

HP will figure out how to combat this kind of thing or they're going to be done for in a few years even if they come up with a GHz processor.

I'm sure the 12C will have something to say about that. :-)

**Re: HP 50g 75 Mhz Arm9 Processor**

*Message #23 Posted by **Howard Owen** on 6 Sept 2007, 1:24 a.m.,  
in response to message #22 by Egan Ford*

Something I found surprising is that the 33s was a bestseller in its class. I'm sure HP is expecting the 35s to fill those rather large shoes.

Regards,  
Howard

**Re: HP 50g 75 Mhz Arm9 Processor**

*Message #24 Posted by **Brad Davis** on 6 Sept 2007, 1:41 a.m.,  
in response to message #23 by Howard Owen*

Quote:

Something I found surprising is that the 33s was a bestseller in its class. I'm sure HP is expecting the 35s to fill those rather large shoes.

Regards,  
Howard

Yeah, but I'd guess that most of the buyers were older folks whose 11c, 15c, 32s, 42s, etc. had died and they didn't want a big 48 calculator. Also, I think a lot were 4-5 years out of school needing to take the PE test. I doubt many of those sales were at universities, but I'd be glad to find out I'm wrong.

*Edited: 6 Sept 2007, 1:41 a.m.*

**Re: HP 50g 75 Mhz Arm9 Processor**

*Message #25 Posted by **Pal G.** on 6 Sept 2007, 1:14 a.m.,  
in response to message #20 by Pal G.*



By the way, I meant "brick" in a good way, like indestructible, having presence, etc..

Definitely not a derogatory or haphazard remark..

Cheers.

**Re: HP 50g 75 Mhz Arm9 Processor**

*Message #26 Posted by [papaknush](#) on 6 Sept 2007, 1:20 p.m.,  
in response to message #19 by Brad Davis*

The 50g keys are stiffer and have more travel than the 48g, however, since I usually use my thumbs, the keys difference doesn't matter as much to me. The reason I use the 50g is the better communication with modern lap-tops and higher capacity.

**Re: HP 50g 75 Mhz Arm9 Processor**

*Message #27 Posted by [Howard Owen](#) on 6 Sept 2007, 1:10 a.m.,  
in response to message #16 by Egan Ford*

Quote:

\_\_\_\_\_

I should add that as far as calculators go the user experience and interface of the 48 IMHO is the best there ever was.

\_\_\_\_\_

I actually prefer the 50g, with its user interface a lineal descendant of the 48's. But in general, I agree with you on this.

Quote:

\_\_\_\_\_

Shrink the 48 down to 2 lines, lose the graphics, replace RPL with RPN, put it in a 42S size can and call it the ultimate RPN.

\_\_\_\_\_

I'm of two minds about this. On the one hand, I love the 42s as much as you seem to. It's not perfect, but it's as close as an RPN calculator ever got. I'd love to see an incremental improvement on the 42s running on modern hardware.

But on the other hand, I have this nagging feeling that hewing to that line could make us miss something novel and truly useful. This feeling has solidified since I began playing with the TI nSpire. This calculator has a killer user interface for education. The interface is a document broken into "problems." This is a set of pages, easily navigable with intuitive keystrokes. There's a tabbed interface, or, with a simple combined keystroke, a thumbnail view of the document. The controls work like a PC's do. ESC gets you out of where you are. CTRL modifies a key for its second function. These semantics are second nature to school kids today. On any page, you can place one of four applications. The applications are a calculation work area, a very nice and flexible graphing slate, a combined matrix editor and spreadsheet and a note taker. Variables have problem scope, so a lesson can link results, graphs, equations and notes together. The result is highly functional for presenting, practicing and testing mathematical knowledge. The display is super sharp and very attractive. It's the best greyscale LCD I've ever seen. And TI has done some very good design work with typography and other graphical elements.

I'm *not* saying that's the ideal interface for a professional calculator. But it sure is an innovative and

strikingly effective UI for education. Surely there's more that could be done with the time honored technical calculator interface? I'd like to see something that retained the stack, the postfix entry scheme, the keyboard look and, particularly, feel. But I want to see those elements applied to a revolutionary calculator design. TI has shown that such a thing is possible. I think the nSpire CAS is nothing short of brilliant for its target market. The field is clear to do some bold thinking with technical calculators. Please HP, surprise and amaze me!

Regards,  
Howard

**Re: HP 50g 75 Mhz Arm9 Processor**

*Message #28 Posted by [DaveJ](#) on 6 Sept 2007, 2:06 a.m.,  
in response to message #27 by Howard Owen*

Quote:

I'm *not* saying that's the ideal interface for a professional calculator. But it sure is an innovative and strikingly effective UI for education. Surely there's more that could be done with the time honored technical calculator interface? I'd like to see something that retained the stack, the postfix entry scheme, the keyboard look and, particularly, feel. But I want to see those elements applied to a revolutionary calculator design. TI has shown that such a thing is possible. I think the nSpire CAS is nothing short of brilliant for its target market. The field is clear to do some bold thinking with technical calculators. Please HP, surprise and amaze me!

What I would love is the ability to completely remap the primary keys, or at least the usual upper section of function keys. So I'd be able to have my ideal calculator key layout. I could get rid of those useless (to me) keys like HYP and put in the ones I want.

And by this I don't just mean a keypad overlay, I mean being able to easily swap the key themselves, so you get the molded keys in the positions you want them. They could supply a whole bag of keys with every calc, just pick and choose what you need. Now THAT would be innovation.

Dave.

**Re: HP 50g 75 Mhz Arm9 Processor**

*Message #29 Posted by [Kevin Kitts](#) on 6 Sept 2007, 12:32 p.m.,  
in response to message #28 by DaveJ*

I saw a rumor of a PC keyboard once where the actual keys were composed of OLEDs. In other words you could customize every key because each key was basically a mini display. Talk about flexibility... the cost was astronomical though - and I don't think it was ever really released

**Re: HP 50g 75 Mhz Arm9 Processor**

*Message #30 Posted by [Alex L](#) on 6 Sept 2007, 1:26 p.m.,  
in response to message #29 by Kevin Kitts*

Oh, it's more than a rumor. You can pre-order [Art Lebedev's Optimus Maximus Keyboard](#) today for just US\$1564.37 ~ 1256.86€

If I win the lottery, I might get one.

**Re: HP 50g 75 Mhz Arm9 Processor**

*Message #31 Posted by [Eric Smith](#) on 6 Sept 2007, 6:26 p.m.,  
in response to message #30 by Alex L*

I don't understand why anyone wants such a thing. I never look at my keyboard. I'm more inclined to buy the [Das Keyboard II](#), though I'd like it better if they'd get rid of the white "Das Keyboard" legend so the thing was totally black.

**Re: HP 50g 75 Mhz Arm9 Processor**

*Message #32 Posted by [DaveJ](#) on 6 Sept 2007, 6:00 p.m.,  
in response to message #29 by Kevin Kitts*

Quote:

I saw a rumor of a PC keyboard once where the actual keys were composed of OLEDs. In other words you could customize every key because each key was basically a mini display. Talk about flexibility... the cost was astronomical though - and I don't think it was ever really released

That is about 15 years too late. I remember seeing a keyboard like that back in probably the early 90's with a tiny LCD on every keytop.

Dave.

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## HP Forum Archive 17

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**AURORA FN1000 (HP 12c clone)**

Message #1 Posted by [Ivan Latorre](#) on 5 Sept 2007, 5:28 a.m.

[eBay link](#)

Interesting starting bid (only ships to US, though).

**Re: AURORA FN1000 (HP 12c clone)**

Message #2 Posted by [Eric Smith](#) on 5 Sept 2007, 1:21 p.m.,  
in response to message #1 by Ivan Latorre

Why is the starting bid "interesting"?

**Re: AURORA FN1000 (HP 12c clone)**

Message #3 Posted by [Ivan Latorre](#) on 5 Sept 2007, 3:59 p.m.,  
in response to message #2 by Eric Smith

It is low, imho.

**Re: AURORA FN1000 (HP 12c clone)**

Message #4 Posted by [Dave Shaffer \(Arizona\)](#) on 5 Sept 2007, 10:54 p.m.,  
in response to message #3 by Ivan Latorre

There are two ways you should start an ebay auction:

- 1) If you just want to get rid of something, start at \$0.99 or thereabouts. If it has any worth to somebody else, the price will rise rapidly (especially as you get to the end). Otherwise, you'll get rid of it for 99 cents (plus shipping).
- 2) If your item has some value (intrinsic, or maybe just something special to you), start it at the minimum you are willing to accept. It may or may not sell, but you won't feel that you lost money on it.

Seems to me that \$2.99 is reasonable under either condition for this one!

---

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## HP Forum Archive 17

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**Clonix41**

Message #1 Posted by [Seth Morabito](#) on 5 Sept 2007, 12:26 a.m.

Since I've become an avid HP-41(C|CV|CX) user and collector, I would love to buy a Clonix41 module.

Unfortunately, I cannot figure out how :) The Internet has failed me.

Are they still available? Is Mr. Diego Diaz still a member of this forum? I have not seen anything posted by him in quite some time.

**Re: Clonix41**

Message #2 Posted by [Massimo Gnerucci \(Italy\)](#) on 5 Sept 2007, 1:41 a.m.,  
in response to message #1 by Seth Morabito

[Here](#)'s the link to Diego's Clonix page. There you will find his e-mail address.

HTH,  
Massimo

**Re: Clonix41**

Message #3 Posted by [Seth Morabito](#) on 5 Sept 2007, 1:42 p.m.,  
in response to message #2 by Massimo Gnerucci (Italy)

Dear Massimo,

Grazie! I will write to Diego right away.

**Re: Clonix41**

Message #4 Posted by [Diego Diaz](#) on 15 Sept 2007, 8:47 a.m.,  
in response to message #1 by Seth Morabito

Hi Seth, Massimo...

I was on vacation for the last 4 weeks, sorry for the delay... now alikve and kicking... ;-)

Contact me thru the mail on this forum if you prefer.

Massimo, it seems that your link to my page is a bit obsolete, please update to:

<http://www.clonix41.org>

Thanks a lot and best wishes.

Diego.

---

**Re: Clonix41**

Message #5 Posted by [Massimo Gnerucci \(Italy\)](#) on 15 Sept 2007, 1:08 p.m.,  
in response to message #4 by Diego Diaz

Quote:

---

Massimo, it seems that your link to my page is a bit obsolete(...)

---

Hi Diego! Too many computers with too many browsers and so many links... I had both bookmarked and chose the wrong one!

Thank you,  
Massimo

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## HP Forum Archive 17

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### Trade Answers for HP71B case Recommendation

Message #1 Posted by [RonHudson\(USA\)](#) on 5 Sept 2007, 12:17 a.m.

Yay! I just got a newish HP71B (just a crack in the glass, not the lcd) no roms, no rams, no card reader, no hp-il verry basic.

First my contribution (since I am new to the community).... I have a little case by Jansport, the number 520199E35040 appears at the top of the care tag. It's almost 11" x 6.5" It has a nice zippered pocket as the last layer on the left, perfect for the 71B. Lots of other pockets, zippered and not, for 'stuff'.

As I said I just got a real 71B from my brother who was not using it. and I have a few short questions:

- 1)key "q", "mod(" how do I tell the 71 I don't want a endline? Can I have it put "mod(<)" where < is an insert cursor?
- 2)Anyone have a listing of the flags? I can't quite afford the cdrom manual yet.. no job. In school for another year (ITT-Tech) Perhaps some of the important ones?
- 3)How hard is it to get an HP-IL module? (assuming I don't want to mess with e-pay. A Serial port?)
- 4)How will my 71B like it if I feed it nickel-metal-hydride batteries?

Thanks! ron.

*Edited: 5 Sept 2007, 12:38 a.m.*

### Re: Trade Answers for HP71B case Recommendation

Message #2 Posted by [Egan Ford](#) on 5 Sept 2007, 1:46 a.m.,  
in response to message #1 by [RonHudson\(USA\)](#)

Quote:

2)Anyone have a listing of the flags? I can't quite afford the cdrom manual yet.. no job. In school for another year (ITT-Tech) Perhaps some of the important ones?

- 1 Warning messages suppressed.
- 2 Beeper is off.
- 3 continuous on.
- 4 Inexact result.
- 5 Underflow.

-6 Overflow.  
-7 Division by zero.  
-8 Invalid operation.  
-9 User keyboard is active.  
-10 Angular setting is radians.  
-11, -12 Round-off setting.  
-13, -14 Display format.  
-15 Lowercase lock.  
-16 Base option 1.  
-17 to -20 Number of display digits.  
-25 Beep set to loud.  
-26 Don't prompt.  
-46 Exact flag.  
-57 AC annunciator on.  
-60 Alarm annunciator on.  
-61 BAT annunciator on.  
-62 PRGM annunciator on.  
-63 SUSP annunciator on.  
-64 CALC annunciator on.

Quote:

3)How hard is it to get an HP-IL module? (assuming I don't want to mess with e-pay. A Serial port?)

Post a WTB. As for eBay you should find an HP-IL module and an HP82164A HP-IL/RS232 interface within a few months.

### **Re: Trade Answers for HP71B case Recommendation**

*Message #3 Posted by [RonHudson\(USA\)](#) on 5 Sept 2007, 2:46 a.m.,  
in response to message #2 by Egan Ford*

Thanks.

:^) ron.

### **Re: Trade Answers for HP71B case Recommendation**

*Message #4 Posted by [Vincze](#) on 5 Sept 2007, 9:19 a.m.,  
in response to message #1 by RonHudson(USA)*

My friend Ron, I have PDF of manuals, but almost 40Mb compressed. Let me know how I can get to you and I can send them.

### **Re: Trade Answers for HP71B case Recommendation**

*Message #5 Posted by [RonHudson\(USA\)](#) on 5 Sept 2007, 10:13 a.m.,  
in response to message #4 by Vincze*

Quote:

My friend Ron, I have PDF of manuals, but almost 40Mb compressed. Let me know how I can get to you and I can send them.

Thanks, Vincze for the kind offer :^) , but, sorry, I must decline.

When I have the cash I will support the museum with a purchase of the CD-Roms needed. In the mean time I am building my own "quick reference" that mostly documents the differences between common basic and HP Basic in the 71. I have gathered quite a bit from the archives.



## Re: Trade Answers for HP71B case Recommendation

Message #6 Posted by [Alex L](#) on 5 Sept 2007, 11:47 a.m.,  
in response to message #1 by [RonHudson\(USA\)](#)

I was lucky and got a 71B with manuals. :)

Quote:

1)key "q","mod(" how do I tell the 71 I don't want a endline? Can I have it put "mod(<)" where < is an insert cursor?

key "q","mod%;" - the semicolon shows that the assignment is a typing aid. I don't think there's a way to position the cursor within a typing aid.

Egan's replies to 2&3 match what I would have answered.

Quote:

4)How will my 71B like it if I feed it nickel-metal-hydride batteries?

I've only had mine for a few weeks, but it seems very happy with a set of the new NiMH hybrid batteries - I'm using Uniross Hybrio, but they're also available as GE/Sanyo Eneloop, RayOVac Hybrid, and I think even a Radio Shack brand. The advantage of these is that they hold a charge much longer even when on the shelf. You can buy two sets, swap and charge/store as needed.

## Re: Trade Answers for HP71B case Recommendation

Message #7 Posted by [RonHudson\(USA\)](#) on 5 Sept 2007, 3:55 p.m.,  
in response to message #6 by [Alex L](#)

Quote:

key "q","mod%;" - the semicolon shows that the assignment is a typing aid. I don't think there's a way to position the cursor within a typing aid.

That just put a ";" on the screen... but

key "q","mod("; worked as desired.

Anyone know any other key magic?

## Re: Trade Answers for HP71B case Recommendation

Message #8 Posted by [Garth Wilson](#) on 5 Sept 2007, 12:57 p.m.,  
in response to message #1 by [RonHudson\(USA\)](#)

Quote:

4)How will my 71B like it if I feed it nickel-metal-hydride batteries?

Even fully charged, their voltage is just about low enough for my HP-71's to show "Low Batt". A set of alkalines probably lasted at least 6 months or a year when I was using the 71 heavily every day in the late

1980's. Now that I'm not using them so much, a set of alkalines probably lasts two or three years, even in the 71 with HPIL, Math ROM, Forth/Assembler ROM, CMT 64KB RAM, and CMT 96KB RAM. There's no reason to use rechargeables.

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## HP Forum Archive 17

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### HP-95LX Programming

Message #1 Posted by [Thomas Okken](#) on 4 Sept 2007, 10:24 p.m.

Hi all,

I've just won an eBay auction for an HP-95LX. I probably would never have bid on it if it weren't for the enthusiasm about those HP old school "pocket PCs" on this forum! :-)

Of course, I'll have to wait and see just what kind of condition that machine is in, but assuming it works OK, I think I would like to try programming it -- meaning: to port some of my existing C/C++ programs to run in its DOS environment. Can anyone recommend any tools I might be able to use for that kind of work?

I have used DJGPP and RHIDE for DOS development in the past, but I think those tools are targeted to the 386 or later, and the 95LX only has a 8086 (or is it a 80186? I don't even know how they differ...).

I'm not looking to run the development tools themselves on the 95LX; I'm just looking for something that will generate code that can run on one. A C++ compiler would be really sweet. :-)

- Thomas

### Re: HP-95LX Programming

Message #2 Posted by [Chuck](#) on 4 Sept 2007, 10:59 p.m.,  
in response to message #1 by Thomas Okken

I have Turbo Pascal and Turbo C running on my 200LX, but I'm not sure if those will run on the 95LX. The memory may be too small, and I had quite a bit of trouble getting a decent size flash card to work on my 95LX (my 200LX has a 256 MB crucial card--big enough for all my DOS stuff.)

I made the mistake of getting a 95LX first and not being able to do much with it. You may want to keep an eye out for a 200LX 2MB or 4MB model; quite a bit more versatile.

CHUCK

### Re: HP-95LX Programming

Message #3 Posted by [Chan Tran](#) on 4 Sept 2007, 11:05 p.m.,  
in response to message #2 by Chuck

Well you can run the Turbo Pascal and or Turbo C on a PC and then run the compiled program on the 95LX.

### Re: HP-95LX Programming

Message #4 Posted by [Egan Ford](#) on 4 Sept 2007, 11:09 p.m.,  
in response to message #1 by Thomas Okken

Try: <http://www.openwatcom.org/>

You can install on Windows and cross compile 16 bit binaries for DOS.

## Re: HP-95LX Programming

Message #5 Posted by **DaveJ** on 4 Sept 2007, 11:15 p.m.,  
in response to message #1 by Thomas Okken

I have not tried them on a 95LX, but Borland's Turbo C++ for DOS used to be hugely popular (almost a defacto standard), and it can target the 8086/80186: <http://dn.codegear.com/article/21751> It is now freeware and you could no doubt pick up the full version with manuals etc on eBay for next to nothing if you want.

There is also the freeware HI-TECH Pacific C compiler:  
<http://www.hitech.com.au/products/compilers/PACIFICc.php> but it's not ++

Dave.

## Re: HP-95LX Programming

Message #6 Posted by **Bill (Smithville, NJ)** on 5 Sept 2007, 7:08 a.m.,  
in response to message #1 by Thomas Okken

Hi Thomas,

Congratulations on your HP-95LX. That was my first PDA. I had the 512K version, then had HP upgrade it to 1 MB and then went to the HP-200LX and still use it.

I agree with Chuck that you'll probably want to eventually get the HP-200LX, but there is a lot that can be done on the 95LX.

I just went over my old copies of the HP Palmtop Papers on disk and found PCC, which is a C compiler that is supposed to run on the 95LX. It's shareware so I could send you a copy.

You don't say whether you getting manuals with it, but manuals can be found at:

[HP-95LX Manuals](#)

There's some good technical info at:

[HP-95LX Technical Information](#)

Definetly check out the Palmtop Paper:

[Palmtop Paper](#)

You'll want to browse the early issues which have lots of info on the 95LX.

Don't forget the SuperSite:

[SuperSite](#)

Do a search for 95lx and grab the SUNDRV files. These will let you use up to 32mb ATA flash cards with the 95LX. Otherwise, you'll need to get SRAM memory cards, which are limited to 2 MB.

Not sure if there was a 95LX developer's package. I do have the developers package for the 100/200LX which lets you create System Manager (EXM) compliant programs using Borland C++.

Have Fun.

Bill

*Edited: 5 Sept 2007, 7:12 a.m.*

### **Re: HP-95LX Programming**

*Message #7 Posted by **Peter A. Gebhardt** on 5 Sept 2007, 7:54 p.m.,  
in response to message #6 by Bill (Smithville, NJ)*

Bill,

Special thanks to you (and the maintainer of the Australian HP Museum) for posting the Link to the 95LX User Manual!

This constitutes the "missing link" to LOTUS 123 documented features & commands left out from the 200LX Users Guide.

Best regards

Peter A. Gebhardt

### **Re: HP-95LX Programming**

*Message #8 Posted by **Anthony L. Mach** on 5 Sept 2007, 12:29 p.m.,  
in response to message #1 by Thomas Okken*

Nice purchase!

Well, I use Turbo Pascal 7.0 with mine. I do believe that Turbo 5.5 is still available for free from the Borland website (along with some other compilers). Set yourself up with an old computer and enjoy!

For porting, I ended up making a homebrew cable. I used the smaller end of a four pin CD-ROM to Soundcard (inside the computer) cable and wired it to a serial cable. Surely, the plans are out there somewhere. :) I never got the connectivity pack to work properly under windows. My guess is that you'll have to try some options. There is a program called DosBox that seems to work well - it might work with the connectivity pack. Unfortunately, I have have had the most luck with transferring files using Kermit (use Hyperterminal in windows).

Final thoughts: use good fresh alkaline batteries (watch the polarity carefully!!!) and a new CR2032 for the backup and it should run well.

Have fun!

Tony

### **Thanks!!**

*Message #9 Posted by **Thomas Okken** on 5 Sept 2007, 4:18 p.m.,  
in response to message #1 by Thomas Okken*

Thank you all for your replies. It looks like I'll have no problem getting my hands on some good development

tools!

I was also glad to hear that the manuals are available on-line, since I'm getting this machine without any of them.

One other thing that I'm not getting is a serial cable, but I've heard that the PC<->HP-48 cable is identical, and I do have one of those, so hopefully I'll have everything I need.

Thanks again!

- Thomas

### **Re: Thanks!!**

*Message #10 Posted by **Chuck** on 5 Sept 2007, 6:06 p.m.,  
in response to message #9 by Thomas Okken*

I used my 48/49 cable to link up the 95LX. It should work for you.

### **Re: HP-95LX Programming**

*Message #11 Posted by **Christoph Giesselink** on 5 Sept 2007, 5:01 p.m.,  
in response to message #1 by Thomas Okken*

10 and more years ago I wrote some small programs for the 95LX with MS QuickC 2.0 or MSVC 6.0. Both allowed using inline assembler, but mostly I wrote external ASM files which I assembled with MS MASM 5.1.

The latest DOS mode compiler from MS was Microsoft Visual C++ Version v1.52c for DOS and Windows 3.1x development. This CD was also included in later 32bit MS Compiler packages.

What's the difference between the use of MS compiler on one side and the Turbo / Borland products on the other side?

The 95LX has internal applications. They are started by the "System Manager". With a development kit it was possible to create own applications called by the System Manager. These tools have used the Microsoft Assemblers / Compilers and Make tools. I found a small annotation that it's also possible to create such applications with the Borland compiler, but with more work.

Small excerpt from BORC2EXM.TXT :

Quote:

[...] Yes, believe it or not, you can use Borland tools to create System Manager compliant applications for the 95LX! Although this has been tested only with Turbo C++ and Borland C++, it should work for the whole Turbo C family. The two basic problems to work around are the startup code and the E2M program. [...]

The HP-95LX is using a Intel 8088 CPU core, a 8086 variant with an external 8 bit data bus. For those, in short and incomplete words, who don't know the difference between the 8086 and 80186, the 80186 has the additional real mode opcodes, but not the protected mode of the 80286 CPU.

Hope this helps,

Cheers

Christoph

Edited: 6 Sept 2007, 2:53 a.m. after one or more responses were posted

## Re: HP-95LX Programming

Message #12 Posted by [Howard Owen](#) on 5 Sept 2007, 7:06 p.m.,  
in response to message #11 by [Christoph Giesselink](#)

Quote:

What's the difference between the MS compiler on one side and the Turbo / Borland products on the other side?

The former is from a company once led by a megalomaniacal marketing magician who couldn't stand to be second in anything, and yet was second for years. The latter company is the one that led the maniacs from micro-land with their development tools, starting with Turbo Pascal. This company was led by a self-aggrandizing megalomaniac who was famous for expensive stunts. (Actually, his proclivity for wasteful spending helped give Silicon Valley it's reputation for such things, even though this company was over the hill in Scotts Valley.) For example, he had a 1/5th scale model made of Stonehenge in England, and then shipped the pieces to his headquarters, where it got wrongly assembled by his minions. I worked in their headquarters for a time, in the latter days when the excesses and the megalomaniac were both long gone, and they had retreated to one building on the enormous campus. The company I worked for was leasing another building. It was a very nice place, with soccer field, Olympic pool and baseball diamond, and this subtly askew Stonehenge model.

But you wanted to know about *technical* differences? Well, in the DOS world, Borland's compilers were very, very, very quick. The name "Turbo" was not merely a marketing flourish. But Borland and MS got into a long term fight over the developer market, and it seemed the technical lead would waver, but mostly stayed in Borland's court while DOS was king. But after Windows was released, for some reason Borland couldn't deliver the goods quickly enough, and the quality suffered. I doubt this was due to the same sort of dirty tricks Microsoft was playing on Lotus, Stac, Novell, WordPerfect and a host of others during this same time. It's more likely Borland just forgot how to create developer tools. Amnesia, I would guess.

Be that as it may, my impression is that for DOS, Borland's tools are better, despite Microsoft's valiant attempts to *poison* Borland's devel... \* Ahem, I guess that would that would be slander, if it weren't satire. But for Windows, Visual C-- and its co-conspirators are better, if only for the fact that they've been market leaders so long, that most of the cool examples out there on the net are targeted at those tools.

Regards,  
Howard

EDIT:

Another big difference is that Borland's success began with Pascal, and they continued to support the language. They came out with an Object Oriented version that is in their Delphi products. You won't find comparable support for Pascal in Microsoft's toolbox.

Edited: 5 Sept 2007, 7:13 p.m.

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## HP Forum Archive 17

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**UAU ! :-)**

Message #1 Posted by [gileo](#) on 4 Sept 2007, 1:41 p.m.

[Ebay link](#)

**Re: UAU ! :-)**

Message #2 Posted by [Matthias Wehrli](#) on 4 Sept 2007, 1:45 p.m.,  
in response to message #1 by gileo

You know the circuit contacts are golden.. maybe this makes the high price?

**Re: UAU ! :-)**

Message #3 Posted by [Chan Tran](#) on 4 Sept 2007, 2:44 p.m.,  
in response to message #2 by Matthias Wehrli

Well it was sold for around \$3000 when it was new.

**Re: UAU ! :-)**

Message #4 Posted by [Doctor Bubu](#) on 4 Sept 2007, 2:55 p.m.,  
in response to message #3 by Chan Tran

At that time you get a new car for 3000\$.

So it seems the offer at ebay is good deal, or.

Greetingd Jürgen

**Re: UAU ! :-)**

Message #5 Posted by [Stefan Vorkoetter](#) on 4 Sept 2007, 4:00 p.m.,  
in response to message #1 by gileo

Interesting that the only sign that "it's working" is the power LED. There aren't any pictures of anything on the screen.

Stefan

**Re: UAU ! :-)**

Message #6 Posted by [Namir](#) on 4 Sept 2007, 4:08 p.m.,  
in response to message #1 by gileo

I emailed the seller and asked him to "significantly expand" on his auction text to discuss the state of the different parts of teh computer, any repairs he did, any testing he did. I pointed out that for his asking price he



should give a lot of information to the bidders to assure them that they are not getting a dud.

I suggest other folks ask him similar question?

Namir

**Re: UAU ! :-)**

*Message #7 Posted by [Howard Owen](#) on 4 Sept 2007, 4:23 p.m.,  
in response to message #1 by gileno*

Check out his other auctions at the bottom of the listing: similarly outrageous prices on other random old hardware.

My prediction: he will go broke from listing fees before he sells one. "Garunteed!"

Regards  
Howard

**Re: UAU ! :-)**

*Message #8 Posted by [Alex L](#) on 4 Sept 2007, 6:02 p.m.,  
in response to message #7 by Howard Owen*

It's a Buy It Now or Best Offer listing. The massive Buy It Now price just means the seller will take a bunch of offers, and isn't obligated to sell at all. It's like having an auction without the commitment to actually sell.

**Re: UAU ! :-)**

*Message #9 Posted by [Howard Owen](#) on 4 Sept 2007, 7:13 p.m.,  
in response to message #8 by Alex L*

I take your point. However, people who know the true value of the stuff he is selling might be disinclined to bid. And folks who don't necessarily know the value are likely to be scared off. So I'd say he's either living in a fantasy world and believes the prices he's posting, or else he's going to be disappointed in the results for the reasons I just gave.

Coburlin sells at outrageous prices, but they are usually a multiple of 2 or 3 times above a reasonable price. Assuming a par price for an HP85 of \$600.00 (which is high, being the price that guy in So Cal is charging for a refurbished machine with a high density tape drive) this guy is selling at  $\$2700/\$600 = 9/2 = 4.5$  times the "high bluebook."

Regards,  
Howard

**Re: UAU ! :-)**

*Message #10 Posted by [Alex L](#) on 5 Sept 2007, 11:53 a.m.,  
in response to message #9 by Howard Owen*

Howard, I agree that the seller is likely to be disappointed on this listing. BUT - suppose he gets *some* offers, declines them all, then uses them to figure out a new Buy It Now price for the next Buy It Now or Best Offer listing. One that is still above the "book" value, but not so high as to scare off those in the know, and maybe, just maybe, low enough to snare that one shopper who just

has to have it and doesn't want to risk letting it fall to offers.

If you view it as an iterative non-auction auction process, it's labor-intensive but possibly effective.

[edited typo]

*Edited: 5 Sept 2007, 11:53 a.m.*

**Re: UAU ! :-)**

*Message #11 Posted by [Bruce Bergman](#) on 4 Sept 2007, 4:50 p.m.,  
in response to message #1 by gileno*

Someone must've told him something. I saw this same model listed a week or so ago for significantly less. I THINK it was under \$500, but I'm not positive.

I wonder what caused the huge jump in price?

thanks, bruce

**Re: UAU ! :-)**

*Message #12 Posted by [Namir](#) on 4 Sept 2007, 9:27 p.m.,  
in response to message #11 by Bruce Bergman*

I am not a salesman (I studied engineering) but have observed over the years that some people sell at outrageous prices (here and on Amazon) based on (at least) of the following approaches:

1. High price says it's worth something and will appeal to buyers with big egos for whom money means nothing.
2. The seller has nothing to lose (or so he thinks) by asking a high price. Someone, some day, will bite!!

The above lines of thinking are detached from smart marketing that taps into supply and demand strategies. Instead such sellers are looking for the one buyer who clicks the BIN button and pays.

Namir

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## HP Forum Archive 17

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### What do you use to write user rpl for the 50G?

Message #1 Posted by [Chan Tran](#) on 4 Sept 2007, 8:45 a.m.

What do you use to write program in user rpl for the 50G? Nothing at all? or any kind of software running on the PC or Mac? I tried a few free software but it's still more difficult that what I used to do with PDL for the 48 series.

### Re: What do you use to write user rpl for the 50G?

Message #2 Posted by [Giancarlo \(Italy\)](#) on 4 Sept 2007, 10:19 a.m.,  
in response to message #1 by Chan Tran

Hi Chan Tran.

Despite not being a UserRPL customary programmer, I found [HP UserEdit 4.0](#) quite friendly and easy to use.

IIRC, it comes with its own EMU48 instance on board...

Hope this helps.

Best regards.

Giancarlo

### Re: What do you use to write user rpl for the 50G?

Message #3 Posted by [Massimo Gnerucci \(Italy\)](#) on 4 Sept 2007, 1:00 p.m.,  
in response to message #2 by Giancarlo (Italy)

Link to [updated](#) version.

Greetings,  
Massimo

### Re: What do you use to write user rpl for the 50G?

Message #4 Posted by [Brad Davis](#) on 5 Sept 2007, 8:31 a.m.,  
in response to message #3 by Massimo Gnerucci (Italy)

Am I missing something or is there not an English version?

### Re: What do you use to write user rpl for the 50G?

Message #5 Posted by [Giancarlo \(Italy\)](#) on 5 Sept 2007, 9:39 a.m.,  
in response to message #4 by Brad Davis

Hi Brad.

The English version is available from [www.hpcalc.org](http://www.hpcalc.org)

The "language.dat" file is freely available for editing and translation (provided that:

Quote:

---

Not modify the strings "%s", "|" and "&" ; that represent arguments for HPUserEdit

---

as the file heading recommends. For example, I translated it into Italian ;-)  
(by the way, Italian Forum fellows: if you would like to get it from me, just drop me a line :-)

Hope this helps.

Best regards.

Giancarlo

---

**Re: What do you use to write user rpl for the 50G?**

*Message #6 Posted by [Antonio Maschio \(Italy\)](#) on 5 Sept 2007, 11:26 a.m.,  
in response to message #5 by Giancarlo (Italy)*

I would.

Of course.

-- Antonio

Note in italian for Giancarlo.

Mi ricordo dai tempi del Liceo che "of course" era una \*libera\* traduzione per "di corsa!", per cui se qualcuno chiedeva qualcosa, la voleva "of course". Naturalmente non è il tuo caso. Prenditela comoda.

-- Antonio

*Edited: 5 Sept 2007, 11:28 a.m.*

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**Re: What do you use to write user rpl for the 50G?**

*Message #7 Posted by [Vincze](#) on 5 Sept 2007, 1:42 p.m.,  
in response to message #5 by Giancarlo (Italy)*

This give English commands, but how you get English menu and messages?

**\*\*EDIT\*\*** Never mind my friend, I see Language control in Option menu.

*Edited: 5 Sept 2007, 1:44 p.m.*

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## HP Forum Archive 17

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### run time type info on the hp-35s?

Message #1 Posted by [Arne Halvorsen \(Norway\)](#) on 4 Sept 2007, 8:01 a.m.

Hi,

I know this may very well be RTFM question, feel free to tell me so or ignore, my only excuse (again) is that my manual is in the mail and no pdf of manual put up by the ordinary nice company HP.

Right... been programming the machine in head, one thing I'am wondering about is there a way to tell the dimension of a vector, if it is 2D or 3D vector, propper or trick?

The use I can think of is making user friendly programs; some problems are *similar* in 2D or 3D, it could then be userfriendly to have the same program solve both the 2D and 3D case even if need to compute differently: The program first looks at what the user has given: 2D or 3D input.

I expect this may not be possible, but perhaps?

Regards, Aha

### Re: run time type info on the hp-35s?

Message #2 Posted by [Thomas Klemm](#) on 4 Sept 2007, 9:05 a.m.,  
in response to message #1 by [Arne Halvorsen \(Norway\)](#)

Quote:

\_\_\_\_\_

is there a way to tell the dimension of a vector, if it is 2D or 3D vector, propper or trick?

\_\_\_\_\_

I don't have my HP-35s at hand so I can't test but the following might do the trick:

```
(REGX*0+1)*(REGX*0+1)
```

### Re: run time type info on the hp-35s?

Message #3 Posted by [Arne Halvorsen \(Norway\)](#) on 4 Sept 2007, 9:26 a.m.,  
in response to message #2 by [Thomas Klemm](#)

Ofcourse... Only allow for destruction of the vector content (that is okey, save the orginal or work on a copy), should be possible to wrap up in a nice utility routine.

Shall be known as Klemm's vector dim trick!

### Nope :-P

Message #4 Posted by [Valentin Albillo](#) on 4 Sept 2007, 9:31 a.m.,  
in response to message #3 by [Arne Halvorsen \(Norway\)](#)

Nice try but you can't add a scalar value to a vector, so the "+1" part gets you an enthusiastic "INVALID DATA" message to cheer up your efforts :-)

Best regards from V.

*Edited a typo out*

*Edited: 4 Sept 2007, 10:25 a.m. after one or more responses were posted*

### **Re: Nope :-P [NT]**

Message #5 Posted by [Arne Halvorsen \(Norway\)](#) on 4 Sept 2007, 9:34 a.m.,  
in response to message #4 by Valentin Albillo

Darn

### **Re: Nope :-P [NT] --> an interesting problem**

Message #6 Posted by [Katie Wasserman](#) on 4 Sept 2007, 9:57 p.m.,  
in response to message #5 by Arne Halvorsen (Norway)

This is a tricky problem because there is so little you can do with vectors on the 35s but here's a code fragment that will return 1, 2 or 3 showing the number of elements in a vector:

assumes DEC mode and RPN mode with the vector in X.

```
CF 5      don't stop on overflow
1E499
*         cause an overflow, most likely
LASTx
*         make sure of an overflow!
HEX      produce a TOO BIG number
7FFFFFFFh
/         produce a vector filled with 7FFFFFFFh
LASTx
/         produce a vector filled with 1h
ENTER
*         dot product
DEC
```

unfortunately this has two problems:

1) It doesn't count elements of vectors that are exactly zero. 2) It will give a one for both 1-D vectors and scalars. Ideally you'd want this code to return a zero for a scalar, I would think.

Can anyone do better?

-Katie

*Edited: 6 Sept 2007, 10:35 a.m. after one or more responses were posted*

### **Re: Nope :-P [NT] --> an interesting problem**

Message #7 Posted by [Paul Dale](#) on 5 Sept 2007, 4:08 p.m.,  
in response to message #6 by Katie Wasserman

It also doesn't seem to work for complex numbers...

I've not been able to come up with anything truly discerning either.

- Pauli

**Re: Nope :-P [NT] --> an interesting problem**

Message #8 Posted by [Arne Halvorsen \(Norway\)](#) on 6 Sept 2007, 6:38 a.m.,  
in response to message #6 by Katie Wasserman

Looking forward to try your trick once I get the machine!

Thinking about that it does not work for  $[0, 0], [0, 0, 0]$ : May not turn out to be an issue in most problems. That vector has no direction or length will in many contexts be 'illegal'. The *positional* vectors  $[0, 0], [0, 0, 0]$  are ofcourse legal.

However there is not that much to be done for a single point, take for example a program that accepts a line defined by two points p and q and need to check if user is in 2D or 3D space. One of p or q may be the all zero vector but it will be illegal for q-p to be, so use your method on that vector (if  $\text{abs}(q-p)=0$  the user failed to give valid input anyway...).

*Edited: 6 Sept 2007, 6:41 a.m.*

**Re: Nope :-P [NT] --> an interesting problem**

Message #9 Posted by [Valentin Albillo](#) on 6 Sept 2007, 7:05 a.m.,  
in response to message #8 by Arne Halvorsen (Norway)

Hi, Arne:

Arne wrote:

*"Thinking about that it does not work for  $[0, 0], [0, 0, 0]$ : May not turn out to be an issue in most problems. That vector has no direction or length will in many contexts be 'illegal'."*

$[0], [0, 0]$ , and  $[0, 0, 0]$  are *not* the only vectors which won't work but actually *any* vector having one or more 0 components, such as  $[0, 3]$ ,  $[-1, 0, 7]$ ,  $[2, 0, 0]$ ,  $[3.14, 2.71, 0]$ , etc.

As soon as your vector has a 0 component, the reported dimension will be wrong. This will surely play havoc with the subsequent computations, unless the input to Katie's routine is guaranteed not to include 0 components.

Best regards from V.

**Re: Nope :-P [NT] --> an interesting problem**

Message #10 Posted by [Arne Halvorsen \(Norway\)](#) on 6 Sept 2007, 7:12 a.m.,  
in response to message #9 by Valentin Albillo

Sure, but you can do the  $\text{abs}(v)=0$  test first not caring about the dimension of v before trying to find out it's dimension, right? So if the '0' vector is illegal then method may be usable, I think...

Or are you saying method does not work if 'a' 0 in v? That would be show stopper, sorry do not have machine....

I see that I may have missed that... sorry...

*Edited: 6 Sept 2007, 7:16 a.m.*

### **Re: Nope :-P [NT] --> an interesting problem**

*Message #11 Posted by [Katie Wasserman](#) on 6 Sept 2007, 10:48 a.m.,  
in response to message #10 by Arne Halvorsen (Norway)*

Yes, that's correct *any* element of the vector equal to zero will cause this routine to return a value less than the actual size of the vector. For example [3.14, 2.71, 0] will return a value of 2 not 3.

The more I play with this problem, including complex numbers and scalars as well, the harder it seems. In thinking about this more and generalizing a bit...

A good test (ie, necessary function) for any programmable calculator that can handle more than one type of data is that it should be able to determine the type of data pragmatically. HP, please add this to your list of things to keep in mind for the next version of whatever.

### **Serendipity**

*Message #12 Posted by [Thomas Klemm](#) on 7 Sept 2007, 2:24 a.m.,  
in response to message #6 by Katie Wasserman*

So we still don't have the DIM? for vectors but your clever trick gives us a way to calculate the  $L^1$ -Norm  $|x|_1$  of a vector  $x$ :

```
N001 LBL N
N002 ENTER
N003 CF 5
N004 C
N005 !
N006 *
N007 LASTx
N008 *
N009 LASTx
N010 /
N011 x<>y
N012 *
N013 RTN
```

It doesn't work for complex numbers though!

PS: While searching for a simple way to produce an OVERFLOW I stumbled across the following phenomenon:

TANH(x) for  $30000 \leq x$  produces an OVERFLOW but gives 1 as a result.

What could be the reason for this special limit?

*Edited: 11 Sept 2007, 7:23 p.m. after one or more responses were posted*

### **Re: Serendipity --> Another HP35s bug -- TANH/SINH/COSH**

*Message #13 Posted by [Katie Wasserman](#) on 9 Sept 2007, 12:00 p.m.,  
in response to message #12 by Thomas Klemm*

Quote:



---

TANH(x) for  $30000 \leq x$  produces an OVERFLOW but gives 1 as a result.

---

I think that you found yet another 35s bug, congratulations (or condolences)!

The 32SII and the 33S don't generate this error message. Even if the answer is correct on the 35s, the OVERFLOW message is very misleading.

More investigation reveals genuine bugs for the SINH and COSH functions with large values. For example:

```
SINH 25000 = OVERFLOW --> 1E500  
SINH 30000 = OVERFLOW -- >3E499
```

What seems to happen when the argument is greater than 29999.999... is that the mantissa is kept and the characteristic is changed to 499.

The 33S behaves this way too (was this previously known?), although the 32SII does it right of course.

-Katie

*Edited: 10 Sept 2007, 11:41 p.m. after one or more responses were posted*

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**Re: Serendipity --> Another HP35s bug -- TANH/SINH/COSH**

Message #14 Posted by [Karl Schneider](#) on 10 Sept 2007, 11:28 p.m.,  
in response to message #13 by Katie Wasserman

Hi, Katie --

Interesting findings. Of course, you are right that the HP-33s/35s responses are incorrect in two ways: Inconsistent "OVERFLOW" result value, and temporary display of "OVERFLOW" for a quotient-function value (TANH) that asymptotically approaches unity, even though each individual term of the quotient might represent "OVERFLOW" conditions.

The inconsistent "OVERFLOW" result values might be related to a bug in the HP-33s (corrected in later models), in which a combination or permutation that was too large ("OVERFLOW") displayed what might have been the last value in the running product, rather than 1E500. That is, an intermediate-step result was displayed in both cases instead of the correct "final value".

Those rock-solid Saturn-processor mathematical routines are to be appreciated.

-- KS

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## HP Forum Archive 17

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### **EMU71/SERIAL1 and Windows XP**

Message #1 Posted by [Egan Ford](#) on 3 Sept 2007, 10:35 p.m.

Has any been successful at getting EMU71 serial support working with Windows XP and the standard Windows CMD shell?

Thanks.

### **Re: EMU71/SERIAL1 and Windows XP**

Message #2 Posted by [RonHudson\(USA\)](#) on 5 Sept 2007, 12:40 a.m.,  
in response to message #1 by [Egan Ford](#)

I have, but i seem to have to start the shell, then cd to the directory containing emu-71.

Um. I don't use the serial port though.

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## HP Forum Archive 17

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### Great books that you'll enjoy

Message #1 Posted by [Paul Guertin](#) on 3 Sept 2007, 3:16 p.m.

I just ordered Jean-Michel Muller's book on Elementary functions, and am looking forward to reading it. Thanks to the poster who mentioned it (sorry, I can't find your name right now).

How about a topic for listing books that members of this forum might enjoy? I'll start with five:

1. **Astronomical Algorithms by Jean Meeus** Date of Easter? Precession in elliptical coordinates? Appearance of Saturn's rings? They're all in there.
2. **Hacker's Delight by Henry S. Warren, Jr.** A cookbook of non-obvious ways to mix logical and arithmetic operations in assembler. If you enjoyed MIT's HAKMEM, this is for you.
3. **Software Tools by Kernighan and Plauger** Despite the outdated language used (RATFOR), this remains one of the best books for learning good programming practice through examples.
4. **Threaded Interpretive Languages, by L.G. Loeliger.** Probably hard to find, this vintage book will teach you everything you need to write your own Forth-like language.
5. **Algebra by Michael Artin** (This is abstract algebra, not the linear kind.) This textbook has just the right balance between abstract ideas and concrete examples. If you've ever wondered about permutation groups, polynomial rings, and Galois theory, read this.

### Re: Great books that you'll enjoy

Message #2 Posted by [Jeff Kearns](#) on 3 Sept 2007, 3:18 p.m.,  
in response to message #1 by Paul Guertin

6. Dead Reckoning: Calculating Without Instruments, by Ronald Doerfler

JeffK

### Re: Great books that you'll enjoy

Message #3 Posted by [Arne Halvorsen \(Norway\)](#) on 3 Sept 2007, 5:42 p.m.,  
in response to message #2 by Jeff Kearns

7. That was timely, I just blogged about my fav. programming book 'The Science of Programming': [my java blog](#)

### Re: Great books that you'll enjoy

Message #4 Posted by [Antonio Maschio \(Italy\)](#) on 4 Sept 2007, 3:15 a.m.,  
in response to message #3 by Arne Halvorsen (Norway)

8. "Math Toolkit for real-time programmers", CMP Books 2000, by J. Crenshaw [A must-have in my

opinions]

-- Antonio

**Re: Great books that you'll enjoy**

*Message #5 Posted by [Trent Moseley](#) on 4 Sept 2007, 8:45 p.m.,  
in response to message #1 by Paul Guertin*

Addenda to the Jean Meeus list. There are four editions of his "Mathematical Astronomy": "Morsels I, II, III, and IV". The last has just been published.

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## HP Forum Archive 17

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### Just why is the HP-35s so slooow?

Message #1 Posted by [Jeff Kearns](#) on 3 Sept 2007, 3:09 p.m.

Hi everyone,

I am a new poster, having only responded to a couple of other posts here and there but I visit the forum frequently. I received my new HP35s last week and was at first quite pleased that the display was not noticeably askew. I am somewhat disappointed however at the relatively slow speed of the calculator and would like some feedback on this issue. I know it has been discussed that the 35s is slower than the 33s (I managed to sell mine), but when I compare it to the trusty 32sii, it just doesn't measure up, especially for definite integral evaluation and I do not understand why. One example is the evaluation of Vardi's integral (you can find this and other great examples on the Wolfram Mathworld website under definite integrals) to 5 decimal places; the 35s takes 00:01:46 to evaluate this integral compared to 00:01:28 on the 32sii. It takes more than 20% longer on the 35s. I have had even worse results with other programs. What's the logic behind this lack of speed, when you consider that the 33s was quite a bit faster than the Pioneers. It still outperforms the 41CX and the 15C, mind you (except for matrices...). One poster mentioned that there is always a trade-off between speed and battery life, however I will gladly bet that my faster Pioneer will still be going strong on its years-old button cells after many battery changes in the 35s. Thanks, JeffK

### Link to Vardi's Integral

Message #2 Posted by [Jeff Kearns](#) on 3 Sept 2007, 3:12 p.m.,  
in response to message #1 by Jeff Kearns

<http://mathworld.wolfram.com/VardisIntegral.html>

### Re: Just why is the HP-35s so slooow?

Message #3 Posted by [Don Shepherd](#) on 3 Sept 2007, 3:30 p.m.,  
in response to message #1 by Jeff Kearns

Jeff, my theory on the slowness of the 35S is this. The register size is 37 bytes, to allow for all kinds of different data types, like vectors and so on. That means every operation involving a register must move 37 bytes into the CPU, versus maybe 8 bytes for an older series calculator that does not have this overhead. I think that must add up. I don't know this is the real reason, but my intuition tells me so.

### Re: Just why is the HP-35s so slooow?

Message #4 Posted by [Raymond Del Tondo](#) on 3 Sept 2007, 4:20 p.m.,  
in response to message #3 by Don Shepherd

Hello,

these 37 bytes are a virtual boundary only.

Since each so-called 'register' is preceded by a status byte, it isn't necessary to always read the whole 'three-in-one' quantity.

Register operations should be even faster than in the 33s,

since type checking can be done by reading a single byte.

Of course I don't know how they actually implemented it...

Maybe the read and write routines always access the whole '3-in-1' quantity of 37 bytes, even for real numbers, in a way like:

Write real number, then two or three times zero, and finally the marker byte, or alike.

That would be easy to implement, but plain dumb from a performance point of view.

Let's hope they lowered the CPU clock rate instead, to preserve batts;-)

Raymond

## Re: Just why is the HP-35s so slooow?

Message #5 Posted by [Karl Schneider](#) on 3 Sept 2007, 4:33 p.m.,  
in response to message #1 by Jeff Kearns

Welcome, Jeff --

Quote:

.. but when I compare (*the HP-35s*) to the trusty 32sii, it just doesn't measure up, especially for definite integral evaluation and I do not understand why. One example is the evaluation of Vardi's integral ... to 5 decimal places;

There's an unobvious, but important difference between the HP-32SII and the HP-33s/35s in the meaning of the display setting for specifying the "uncertainty" of the user's integrand function.

On the HP-35SII, "FIX 5" sets an absolute uncertainty of 0.000005 -- i.e., the fifth decimal digit is assumed to show the correct rounded function value. On the HP-33s and HP-35s, "FIX 5" sets a relative uncertainty of 0.00001 -- i.e., the uncertainty is the absolute value of the function multiplied by 1E-05.

So, if the magnitude of the integrand function is small (say, less than 0.1), "FIX n" specifies a tighter tolerance for the integrand on the HP-35s than on the HP-32SII. This will prompt more evaluations of the functions, and longer execution time for integration. Conversely, if the magnitude of the integrand function is large (say, greater than 10), the HP-35s, er, *might* be faster for a "FIX n" setting.

That difference having been acknowledged, the HP-35s does seem to be substantially slower for integration than the HP-33s. My favorite example is that of integrating

$$f(x) = \sqrt{x}/(x-1) - 1/\ln(x)$$

for x between 0 and 1.

(This problem was originally presented in the HP Journal article from 1980 describing the INTEG function on the HP-34C. The example was later presented in the HP-15C Advanced Functions Handbook, the HP-71B Math ROM manual, and probably others.)

With a "FIX 6" setting, the HP-33s and HP-35s return the same results (0.0364899763890 with estimated error 3.648998E-08). Representing f(x) as a keystroke program (not an equation), the HP-35s takes 4:05 minutes; the HP-33s takes 2:15 minutes.

Neither the HP-33s nor the HP-35s manuals explain the details of the integrand accuracy setting. I inferred it from comparisons with the HP-48G, for which the methods are explained and the results are identical. Please see the following article and thread:

[HP SOLVE-INTEG on all RPN-based models](#)

[Uncertainty and accuracy for numerical integration](#)

-- KS

*Edited: 4 Sept 2007, 11:38 p.m. after one or more responses were posted*

**Re: Just why is the HP-35s so slooow?**

Message #6 Posted by [Antonio Maschio \(Italy\)](#) on 4 Sept 2007, 3:20 a.m.,  
in response to message #5 by Karl Schneider

As usual, Karl's post is simple, clear and complete.

-- Antonio

**Thank you, Antonio --**

Message #7 Posted by [Karl Schneider](#) on 4 Sept 2007, 4:59 a.m.,  
in response to message #6 by Antonio Maschio (Italy)

-- for the compliment. I do admit that the post took some time to prepare and edit. I'll have to update article #556 to include the HP-35s.

-- KS

**Re: Thank you, Antonio --**

Message #8 Posted by [Jeff Kearns](#) on 4 Sept 2007, 7:53 a.m.,  
in response to message #7 by Karl Schneider

Karl,

Thanks for your reply. I appreciate that it took time to prepare. I also enjoyed (re)reading your previous posts on this same subject and the back and forth with Valentin. The 15C had a very elegant implementation of the Romberg method.

JeffK

**Re: Just why is the HP-35s so slooow?**

Message #9 Posted by [dbatiz](#) on 3 Sept 2007, 7:42 p.m.,  
in response to message #1 by Jeff Kearns

I thought I'd see how the 50g handles Vardi's integral. First I tried in exact mode, then approximate, and after 5 minutes my low bat indicator came on so I stopped the operation. Is this a case of operator error?

Very Respectfully,

David

**Re: Just why is the HP-35s so slooow?**

*Message #10 Posted by [Jeff Kearns](#) on 3 Sept 2007, 8:09 p.m.,  
in response to message #9 by [dbatiz](#)*

David,

My HP 49G+ with ROM Build 92, takes 01:01:12 to evaluate this integral (-0.260443) in exact mode with Number Format set to FIX 6. I suspect you have your Number Format set to Standard.

**Re: Just why is the HP-35s so slooow?**

*Message #11 Posted by [Jeff Kearns](#) on 3 Sept 2007, 8:11 p.m.,  
in response to message #10 by [Jeff Kearns](#)*

Correction, I meant 00:01:12. Sorry. - JeffK

**Re: Just why is the HP-35s so slooow?**

*Message #12 Posted by [dbatiz](#) on 6 Sept 2007, 5:05 p.m.,  
in response to message #11 by [Jeff Kearns](#)*

You were exactly right. Thanks for the tip!

Very respectfully,

David

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## HP Forum Archive 17

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**MEMORYLOST the sweetest word ever!!!**

Message #1 Posted by [Arne Halvorsen \(Norway\)](#) on 3 Sept 2007, 1:48 p.m.

Hi,

I probably should make this into some memory entry, but it happened right now and I just wanna share!

Some of you may have read this newbie's posts and know I am getting back in the game of hp rpn calculators because of the new 35s (in the mail).

Ok, my history with hp programmables are I started late primary school, my first programs (ever, I become a programmer) done on a HP-33E I \*think\* (at some point I sold it).

In high school I borrowed money from my brother and got me a HP-41cv, loved that machine. Wrote astronomic programs. After three years in high school it lasted through my 15 months mandatory military service. Then just about at the time going to university it fell to ground and would never more woke up!

I could not bring me to throw it away, but it got placed away somewhere...

All this 'hp35s I am going to have a big enter calc again' brought back memories, so this weekend visiting my parents place I did some snooping around... and under a ton of dust on top of a cabinet I found it... The calculator inside the holster so it was dust free, battery pack beside with some very old batteries in it...

Put it in and turn it on nothing... Ofcourse, these batteries are more 15+ year old...

I had to try, got out and got me four lr1 ones, brand new..., put it in...

Nothing... well, well...

Then after a minute or so, I tried again....

And suddenly... a word

>MEMORYLOST

And then

>0.0000

I tried

2 enter +

>4.0000

I am a bit emotional right now..., sure you guys understand...

**Re: MEMORYLOST the sweetest word ever!!!**

*Message #2 Posted by [Stefan Vorkoetter](#) on 3 Sept 2007, 2:32 p.m.,  
in response to message #1 by Arne Halvorsen (Norway)*

We understand!

I suspect when you initially dropped it that the plastic posts that the back screws into got cracked. It may be that it will once again stop working if there's not enough pressure pressing the logic board against the backplane. You might want to open it up (screws under the feet) and take a look.

Stefan

**Re: MEMORYLOST the sweetest word ever!!!**

*Message #3 Posted by [Arne Halvorsen \(Norway\)](#) on 3 Sept 2007, 6:11 p.m.,  
in response to message #2 by Stefan Vorkoetter*

Thanks, it sounds like you may have nailed it... The machine is ofcourse not ok; it was not power it ran out of all those years ago...

But it was working fine 10 or 15 min just me testing it in no prgm mode, then I tried to hit the prgrm key; no mode change.

But after some more prgrm key hits I did get into pgrm mode and enter a small program (thanks to the museum for providing basic 41 prgram info, I don't remember this stuff anymore!).

Then I started to get problems again with the power key...

But I am a bit excited! There seems to be 15+ year old live 41cv inside a broken shell. What do you experts say, sounds fixable? A job for the 'fix that calc' guys?

Yea, I know, I could get one on ebay if the point is just to have a working one, but there is the (silly) sentimental side, and the side that there could be one more live 41 in the world...

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## HP Forum Archive 17

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### HP50g (Vibration Analyzer)

Message #1 Posted by [Brad Davis](#) on 3 Sept 2007, 1:19 p.m.

I do vibration testing (single channel FFT and multi-channel modal analysis--pretty simple stuff as vibe testing goes) and had an interesting thought a couple of days ago.

Does anyone know of a vibration analyzer developed around the HP50g, single channel or otherwise? I searched briefly online and didn't find anything. Currently, analyzers are heinously expensive for the most part. There is one developed around a Palm device that is only a few thousand bucks, but the Palm has its own problems, IMO.

The 50g has FFT and IFFT and I have to think it's fast enough to at least work as a two channel input-only analyzer.

### Re: HP50g (Vibration Analyzer)

Message #2 Posted by [Donald Williams](#) on 3 Sept 2007, 1:24 p.m.,  
in response to message #1 by Brad Davis

What is your highest frequency of interest? Since you are stuck with serial data transfer, that would probably limit your frequency response - unless your sensor/data acquisition device had on board memory.

### Re: HP50g (Vibration Analyzer)

Message #3 Posted by [Brad Davis](#) on 3 Sept 2007, 1:36 p.m.,  
in response to message #2 by Donald Williams

20 Hz max, almost never > 10 Hz. Civil engineering applications, mostly floors.

### Re: HP50g (Vibration Analyzer)

Message #4 Posted by [Donald Williams](#) on 3 Sept 2007, 2:00 p.m.,  
in response to message #3 by Brad Davis

This is not a high quality device, but interesting. Cheap price.

[Here](#)

I think it can be interfaced to the 50G through a CBL, but I have not personally attempted this.

### Re: HP50g (Vibration Analyzer)

Message #5 Posted by [Jeff Kearns](#) on 3 Sept 2007, 2:48 p.m.,  
in response to message #4 by Donald Williams

The note on that page reads: "All Vernier products are designed for educational use only. Our equipment is not designed or recommended for research or any apparatus involved with any industrial or commercial process such as life support, patient diagnosis, control of a manufacturing

process, or industrial testing of any kind."

I would not recommend using this device for your application. They do refer you to a different website for industrial apps.

Regards,

JeffK

**Re: HP50g (Vibration Analyzer)**

*Message #6 Posted by **DaveJ** on 3 Sept 2007, 5:11 p.m.,  
in response to message #1 by Brad Davis*

The market for that would be ridiculously small, so I'd be very surprised if there is any commercial product. There is a Compact Flash one for Pocket PC's: <http://www.easylaser.com/MicroVibe.htm>

Dave.

**Re: HP50g (Vibration Analyzer)**

*Message #7 Posted by **Brad Davis** on 3 Sept 2007, 5:23 p.m.,  
in response to message #6 by DaveJ*

Yeah, no doubt it would be a small market. Then again, folks have done it for the Palm and I've heard of one that was software only that worked with a high-end notebook computer sound card.

I figured that somebody might've programmed one almost for fun.

Thanks everybody.

**Re: HP50g (Vibration Analyzer)**

*Message #8 Posted by **DaveJ** on 3 Sept 2007, 6:01 p.m.,  
in response to message #7 by Brad Davis*

Quote:

Then again, folks have done it for the Palm

Yes, but the Palm is a massive market compared with the 50G though. Plus it has a bigger more suitable screen, is more readily available, development tools are better etc

Quote:

and I've heard of one that was software only that worked with a high-end notebook computer sound card.

Yes, plenty of those around, even Freeware.

Quote:

I figured that somebody might've programmed one almost for fun.

Well, software ain't enough of course, you need a decent hardware front end.

Do you \*really\* want to see FFT's on that tiny 50G screen?

Dave.

### **Re: HP50g (Vibration Analyzer)**

*Message #9 Posted by [BruceH](#) on 3 Sept 2007, 6:21 p.m.,  
in response to message #7 by Brad Davis*

You need to get in touch with Brian McGuire at Saltire Software. They are developing [this](#). The prototype was demonstrated at last year's conference (HHC2006) and it was **excellent**. Sadly, nothing seems to have happened in the meantime.

He demonstrated an accelerometer attached to a wooden ruler which was "pinged" on the desk. So it is more than capable of picking up your 20Hz max frequency but you would have to ask about the sensitivity. (Although the instrument bit is interchangeable so you could always fit a more sensitive accelerometer.)

Please do get in touch with him (and hassle through Richard Nelson if you don't get anywhere) because if you were willing to be a real-life case-study then that might just give HP the impetus they need to give Saltire a poke and get things going again.

### **Re: HP50g (Vibration Analyzer)**

*Message #10 Posted by [Matt Kernal](#) on 4 Sept 2007, 5:20 p.m.,  
in response to message #9 by BruceH*

I want to second Bruce's opinion.. Brian McGuire's demo of the Saltire Data Streamer was **impressive!** I remember seeing, on more than one occasion, HP representatives talking with Brian outside of the main conference following his presentation. I was glad to see HP's interest in the product. Hopefully we'll see more this "Mobile Digital Laboratory" collaboration soon.

### **Re: HP50g (Vibration Analyzer)**

*Message #11 Posted by [Dave Shaffer \(Arizona\)](#) on 3 Sept 2007, 7:29 p.m.,  
in response to message #1 by Brad Davis*

Are you more concerned about price or size/portability?

As others have noted, the price could be quite reasonable if you use a PC sound card, or the Vernier unit referred to by Don Williams.

You'd still need an accelerometer of some kind, but you can get a very simple but adequate A/D convertor from folks like DATAQ (their 240 sample per second unit is well under \$100). I've played with it and like it.

By the way, the Vernier unit is part of a very large data collection and analysis system designed primarily for educational labs, and interfaced to either PCs or TI8x calcs (USB or serial). Their warning is mostly a CYA so that somebody (who'd have to be approaching brain-dead himself) doesn't use their stuff for life-critical purposes. For a testing lab, they should be quite OK (that's why they pay us scientists and engineers the big bucks: to decide what kind of lab/test equipment is suitable for the applications at hand!).

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**50g Serials**

Message #1 Posted by [Tim Wessman](#) on 2 Sept 2007, 8:43 p.m.

Just out of curiosity. . .what is the "closest" serial number match that anyone has? I mean the internal serial number in comparison to the external sticker. Anyone have anything identical?

TW

**Re: 50g Serials**

Message #2 Posted by [Bruce Bergman](#) on 2 Sept 2007, 11:34 p.m.,  
in response to message #1 by Tim Wessman

Tim, how do you find the internal serial number?

thanks, bruce

**Re: 50g Serials**

Message #3 Posted by [Tim Wessman](#) on 3 Sept 2007, 7:56 a.m.,  
in response to message #2 by Bruce Bergman

256 ATTACH SERIAL

TW

**Re: 50g Serials**

Message #4 Posted by [Giancarlo \(Italy\)](#) on 3 Sept 2007, 2:16 a.m.,  
in response to message #1 by Tim Wessman

Hi Tim.

On my 50G:

sticker ---> CNA61806215

SERIAL ---> CNA6200958

I guess I won't be the winner ;-)

Best regards.

Giancarlo

**Re: 50g Serials**

Message #5 Posted by [Reth](#) on 3 Sept 2007, 7:16 a.m.,  
in response to message #1 by Tim Wessman

internal: CNA6213326 external: CNA61806979 NO TYPOS :) reth

**Re: 50g Serials**

Message #6 Posted by [John Keith](#) on 3 Sept 2007, 8:28 a.m.,  
in response to message #1 by Tim Wessman

External: CNA63802810

Internal: CNA6301349

Since the serial # format is YWWnnnn the only way they would be the same is if the calc is assembled the same week as the chip (ROM, flash?) is programmed, and even then the following digits are probably assigned sequentially and seem to have 4 digits internally and 5 digits externally. In other words, I doubt they would ever be identical.

John

**Re: 50g Serials**

Message #7 Posted by [Tim Wessman](#) on 3 Sept 2007, 9:32 a.m.,  
in response to message #6 by John Keith

Well mine is 61100015 and 6110013. . .

**Re: 50g Serials**

Message #8 Posted by [Jake Schwartz](#) on 5 Sept 2007, 8:43 a.m.,  
in response to message #7 by Tim Wessman

Quote:

Well mine is 61100015 and 6110013. . .

Case: CNA 61100004 and Serial: CNA6110003.

Jake Schwartz

**Re: 50g Serials**

Message #9 Posted by [Bruce Bergman](#) on 5 Sept 2007, 10:24 a.m.,  
in response to message #8 by Jake Schwartz

I'd say THAT wins... :-)

thanks, bruce

**Re: 50g Serials**

Message #10 Posted by [Bruce Bergman](#) on 3 Sept 2007, 10:55 a.m.,  
in response to message #1 by Tim Wessman

Thanks for the info...

Internal: CNA 6181387 Sticker : CNA 61806897

Hmmm. Missing a zero somewhere?

thanks, bruce



---

**Re: 50g Serials**

*Message #11 Posted by [Chan Tran](#) on 3 Sept 2007, 11:54 a.m.,  
in response to message #10 by Bruce Bergman*

Internal: CNA7112345 Sticker: CNA72001091 Again missing a digit somewhere.

---

**Re: 50g Serials**

*Message #12 Posted by [Tim Wessman](#) on 3 Sept 2007, 1:00 p.m.,  
in response to message #10 by Bruce Bergman*

I think the outside stickers have a 5 digit count. I've never seen anything other than a 0 on the first digit of the five though on any of the units I've sold.

XXX0XXXX

TW

---

**Re: 50g Serials**

*Message #13 Posted by [Mike Sebastian](#) on 3 Sept 2007, 3:58 p.m.,  
in response to message #1 by Tim Wessman*

Internal: CNA6201868  
Sticker: CNA61805924

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**GraphCalc**

Message #1 Posted by **Jean-Michel** on 2 Sept 2007, 3:51 p.m.

Free & open software of a great graphic (2D/3D) calculator.

<http://www.framasoft.net/article1163.html>

It's in French, but follow "Site officiel" and download...

Many other interesting softwares on Framasoft site, especially for those interested in Astronomy, like me, some marvellous Planetarium.

Regards.

**Re: GraphCalc**

Message #2 Posted by **gteague** on 2 Sept 2007, 6:39 p.m.,  
in response to message #1 by Jean-Michel

thanks for the link. i'm picking up some nifty little tools that i wouldn't have otherwise found since my main machine is a mac. but now that i can boot into vista or run linux and windows via virtualization, i can take advantage of these windows programs i was never able to use previously.

/guy

Edited: 2 Sept 2007, 7:13 p.m.

**Re: GraphCalc**

Message #3 Posted by **Pal G.** on 3 Sept 2007, 1:28 a.m.,  
in response to message #2 by gteague

Sure, windoze has a few "nice" apps to play with, but here is what we get to play with..

First, does everyone (mac users) know about "Grapher", which is in the Applications/Utilities/ directory, in OSX 10.4.x? Full featured 2d/3d graphing application for some reason buried in utils..

My short list of fun (freeware/opensource):

Nonpareil:: <http://homepage.mac.com/mba/nonpareil/index.html>

Eigenmath:: <http://eigenmath.sourceforge.net/>

MathPad:: <http://pubpages.unh.edu/~mwidholm/MathPad/>

Plot:: <http://plot.micw.eu/>

Calc:: <http://plot.micw.eu/Main/Calc>

Celestia:: <http://www.shatters.net/celestia/>

Stellarium:: <http://www.stellarium.org/>

Xaos:: <http://wmi.math.u-szeged.hu/xaos/doku.php>

PDP-8/E simulator:: <http://www.bernhard-baehr.de/pdp8e/pdp8e.html>

...

I could go on.....

Cheers, Pal

### **Re: GraphCalc**

*Message #4 Posted by [gteague](#) on 3 Sept 2007, 6:37 a.m.,  
in response to message #3 by Pal G.*

believe it or not, i do have the pdp8e simulator. my first computer job out of the navy involved eight of those installed at a small newspaper. 12-bit and programmed via toggle switch and lights, just like the altair 8800.

oh, and there's an enigma simulator for the mac also. just found it last week when it popped up on versiontracker.

/guy

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### **Alt-Az accuracy with HP 35S**

Message #1 Posted by **Howard Lazerson** on 2 Sept 2007, 3:14 p.m.

We have had clear skies in S. Calif the past week allowing me to check out the accuracy of the alt az pgm posted a few weeks ago. The pgm delivers +- 1.5 degree theoretical accuracy with many objects less than one degree. This means if the scope is level [ a simple bubble level wii suffice ] and the az and alt circles well laid out, most objects should fall in or just outside the field of view of a wide fied eyepiece. This is exactly what happened using my 5" f5 refractor mounted on a simple wood fork mount. Objects were checked on both sides of the meridian at various altitudes. Regards, Howard

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### Early HP 70

Message #1 Posted by [Michael Eckstein](#) on 2 Sept 2007, 2:46 p.m.

I present an information for HP calculators collectors, who may be interested in the information about lowest serial numbers of old calculators:

I have found HP 70 with early S/N. It's earlier than the earliest known HP 70 S/N here at this [Hpmuseum page](#)

That calculator was owned by the former HP manager working in HP at that time, so he could acquire it just at the first moment of the HP 70 release. Here are some images:

<http://members.chello.cz/eckstein/hp70-3.jpg> <http://members.chello.cz/eckstein/hp70-4.jpg>

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### Web site update: A new article & more !

Message #1 Posted by [Valentin Albillo](#) on 2 Sept 2007, 11:57 a.m.

Hi all:

I've just updated [my HP calc website](#) to include some new goodies for you to freely download if interested, namely:

- **New PDF article online: "Long Live The HP-34C !":**

This is a 9-page article dedicated to the wonderful **HP-34C**, a landmark of vintage HP calculator design in many aspects, which introduced for the first time a number of state-of-the-art computing capabilities never before seen in any handheld device.

The article includes fond *personal remembrances* related to this model, as well as an *application program* taking full advantage of some of its most advanced built-in capabilities.

- **New Section: "My Challenges":**

This section will feature my "*Mini-Challenges*" and "*Short & Sweet Math Challenges*", as originally posted to the [Forum of The Museum of HP Calculators](#).

For this particular update, one Mini-Challenge and three S&SMC are now available in PDF format at my site.

I hope you enjoy them. Any and all comments are truly welcome.

Best regards from V.

### Re: Web site update: An HP-34C article & more !

Message #2 Posted by [Karl Schneider](#) on 2 Sept 2007, 4:02 p.m.,  
in response to message #1 by [Valentin Albillo](#)

Hi, Valentin --

A "congratulations" on the updated website, and a "thanks" for the new HP-34C article.

My remembrances of the HP models of that time were similar: I was enthralled by the HP-41 in 1980, but couldn't afford it. I was impressed by the HP-34C being used by another university student in 1981. Setting out to buy one in late 1983, I was steered by the young salesman to buy the HP-15C instead. It took some convincing to revise my plans and expectations.

One quibble: I realize that the article was meant to be celebratory, with minimal emphasis on problems. However, the phrase, "build quality suffered a little in the end, most specially delicate battery contacts" is misleading. As I'm sure you know, the late HP-34C's from 1982 corrected the main problem of the flawed

original design, which was the non-soldered circuit boards that relied instead on strong clamping pressure and a heavy metal backing. Key feel was also improved, with less travel and required effort.

The delicate battery terminals were probably OK as long as users stuck with the standard HP NiCd two-cell rechargeable battery packs. Unfortunately, the packs probably offered short operating time on a charge, and cost US\$12 to replace in the 1980's when they failed. Many users substituted the longer disposable AA cells, and broke the contacts.

It's certainly to HP's credit that they spent the money and effort in 1981-82 to remedy the HP-34C's design problems, before its 1983 discontinuation following the release of the HP-15C in late 1982. The HP-15C rendered the HP-34C obsolete -- except perhaps for field work particularly in cold conditions, for which the HP-34C's vertical layout and LED display were better suited.

-- KS

*Edited: 2 Sept 2007, 4:15 p.m.*

### **Re: Web site update: A new article & more !**

*Message #3 Posted by [Bruce Bergman](#) on 2 Sept 2007, 11:32 p.m.,  
in response to message #1 by Valentin Albillo*

Although my first HP calc was the 25 (and 25c about a month later :-), I traded up to the 34c the next year. It was an amazing calc, and one that was well worth the upgrade. I still have it, and I'm quite surprised to find that there are features to it I STILL haven't seen or used. Either that or I've forgotten about it. ;-) In any case, it truly is one amazing calculator, and one of the best HP made around that time.

Fond memories...

thanks, bruce

### **Re: Web site update: A new article & more !**

*Message #4 Posted by [bink](#) on 3 Sept 2007, 4:49 a.m.,  
in response to message #3 by Bruce Bergman*

Valentin,

This is the first time I have come across your website, and I want to thank you for all the effort you have put into this. It is of the highest standard and kudos to you for producing such a great resource.

Thanks,

bink

### **Thanks to all of you for your feedback, much appreciated. [NT]**

*Message #5 Posted by [Valentin Albillo](#) on 3 Sept 2007, 5:56 a.m.,  
in response to message #4 by bink*

Best regards from V.

### **Re: Web site update: A new article & more !**

*Message #6 Posted by [Mike T.](#) on 4 Sept 2007, 6:12 a.m.,  
in response to message #1 by Valentin Albillo*

Brilliant...!

Mike T.

**Thanks ! [NT]**

*Message #7 Posted by [Valentin Albillo](#) on 4 Sept 2007, 6:20 a.m.,  
in response to message #6 by Mike T.*

Best regards from V.

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### **71B <> PC via RS232.**

*Message #1 Posted by [Egan Ford](#) on 2 Sept 2007, 7:34 a.m.*

I am looking for the program that "andy" mentions in this thread or any other similar programs (with or without source). The thread is old and "andy" does not have a registered email address. Thanks.

<http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv013.cgi?read=45238>

### **Re: 71B <> PC via RS232.**

*Message #2 Posted by [Etienne Victoria](#) on 2 Sept 2007, 1:27 p.m.,  
in response to message #1 by [Egan Ford](#)*

Egan,

Michael Markov has produced an excellent program to link a 71B to a PC via RS232. You can find it [here](#).

Cheers

Etienne

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### **Another Retail Source for HP 35s**

*Message #1 Posted by [Ed Look](#) on 1 Sept 2007, 8:47 p.m.*

Newegg.com now has the HP 35s in stock for \$50.99 and \$5.84 shipping, comparable to Costco.com and a little less than Walmart.com.

### **Re: Another Retail Source for HP 35s**

*Message #2 Posted by [Ken Shaw](#) on 4 Sept 2007, 2:08 p.m.,  
in response to message #1 by [Ed Look](#)*

But, unfortunately, they don't ship outside the USA.

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**Free equation editor**

Message #1 Posted by [Bruce Bergman](#) on 1 Sept 2007, 4:59 p.m.

Not sure if people know about this site, but they have something today that might interest folks the here.

GiveAwayOfTheDay is a site that offers one normally-commercial program FREE per day. They make a deal with software vendors to help them release new programs, help them get word out about their software and company, etc. The software often ranges in value from \$10 to as much as \$249. The best part is that these are all legit and legal programs, fully enabled, all 100% free of spam, phishes, spyware, etc. You don't have to sign up for anything or even give them your name. The bad part is you sometimes have to sit through a run of silly screensavers or other junky programs to get to the jewels. I'd say about 20% of the time I find some really cool stuff from these guys -- I check them daily.

Anyhow, today they have a Windows-based Equation Editor/Solver. Check it out:

[GiveAwayOfTheDay.com](http://GiveAwayOfTheDay.com)

(I have yet to download it today, so I'll leave the reviews to those of you who are the experts in math...)

thanks, bruce

**Re: Free equation editor**

Message #2 Posted by [Dave Colver](#) on 1 Sept 2007, 5:20 p.m.,  
in response to message #1 by Bruce Bergman

Thanks Bruce - its rather fun!

Silly restriction on taking a factorial of a number greater than 20 though.

**Re: Free equation editor**

Message #3 Posted by [Walter B](#) on 1 Sept 2007, 6:01 p.m.,  
in response to message #2 by Dave Colver

Thanks Bruce! To all: there are only 9 hours left to get it for free ...

**Re: Free equation editor**

Message #4 Posted by [Raymond Del Tondo](#) on 1 Sept 2007, 7:24 p.m.,  
in response to message #1 by Bruce Bergman

Thanks for the link.

However, I won't download it.

One of the reviewers wrote that you have to run a program named activate.exe to be able to actually use the editor.

This rang my alarm bells.

For all others: Set a recovery point before installing the editor;-)

### **Re: Free equation editor**

*Message #5 Posted by [Ed Look](#) on 1 Sept 2007, 8:29 p.m., in response to message #4 by Raymond Del Tondo*

Raymond, what do you think activate.exe does?

### **Re: Free equation editor**

*Message #6 Posted by [Raymond Del Tondo](#) on 1 Sept 2007, 9:23 p.m., in response to message #5 by Ed Look*

I think it establishes an internet connection to a company I never heard of before, to retrieve the activation key.

This could have been achieved in a more passive way, either through email or via a web page the user has to visit to get the activation key.

Programs like 'download.exe' or 'activate.exe' are always suspicious these days, to contain some more code than needed.

Since I want to keep my PC free of trojans, viruses, or other malware, I don't download everything advertized as 'free';-)

### **Re: Free equation editor**

*Message #7 Posted by [Bruce Bergman](#) on 1 Sept 2007, 11:58 p.m., in response to message #6 by Raymond Del Tondo*

I have been using software -- and this web site -- for well over a year. I can tell you that in that period of time, even after almost daily checking to see what is knew and reading reviews, this group has only ONCE been caught off-guard. In that instance, the software included some questionable add-on executables by the manufacturer that could marginally be considered spyware. Within 30 minutes of being alerted to this by the community, the software was removed.

Yes, you must run activate.exe. All that does is connect to the GAOTD web site to retrieve the activation codes for the software you downloaded. As I said, these are full commercial software packages, and 99% of them require activation codes. When GAOTD makes a deal for one of the packages, they handle the activation for that 24 hour period. Once the 24 hour period is up, you cannot activate or register the software you downloaded. The activation does NOTHING more than connect, retrieve the code, validate the offer of the day, and then activate your software. While it might log your IP address, it never asks for emails, never pulls any other personal information.

They don't use passive methods because they verify that the software you download is within the 24 hour period of the offer. That's part of the deal they make with the manufacturers.

In fact, if you go read the policy and terms for the site, you'll see that they "guarantee" no spyware, no malware, ads, no viruses, etc. These guys go to great lengths to ensure that nothing untoward happens, and trust me, they'd lose their readership in 10 minutes if they ever did any shady.

I applaud caution in this day and age, and I definitely took care the first time I used this service, but this has been one of the few places that has EVERY TIME lived up to their word and been above board. Of course, it's your personal choice, but I'd recommend you give them a chance.

thanks, bruce

### **Re: Free equation editor**

*Message #8 Posted by **Ed Look** on 2 Sept 2007, 12:11 a.m.,  
in response to message #7 by Bruce Bergman*

This is all good to hear. I have installed it. It looks great, except I was a little surprised and disappointed to see that it only solves algebraic equations.

But hey, if I have a tough integral or differential expression, I guess I could always use a HP calculator... ;)

(More'n likely tho', I'd probably reach for a math table or some such to see if there is some "easier" analytical way out first.)

### **Re: Free equation editor - More Advice**

*Message #9 Posted by **Bruce Bergman** on 2 Sept 2007, 11:01 a.m.,  
in response to message #7 by Bruce Bergman*

A few other suggestions for new GAOTD readers:

- 1) Be sure to look at the thumbs-up vs. thumbs-down rating on the download page. That will give you a very quick idea of whether the software offered for the day is worthwhile or not.
- 2) Once you've glanced at the ratings, then read some of the comments. Especially if there is a high number of thumbs-down and it otherwise seems like a good download.

For example, the other day I saw an Apache Web Monitor program. Looked great, and I was excited. However it was (at that time) 45% thumbs-down, which surprised me. I checked and found out that it was of limited use, and only for Apache installations running on Windows boxes (a very small minority). While I was one of the few who had an Apache running on my box, the comments also said it had problems with large log files, it crashes occasionally, and there were other open-source alternatives. So I passed.

Use the ratings and the comments; they're usually right on.

- 3) When installing the software, make sure you install it first, run the activation program (if one is included; see next note) and THEN run the software. Sometimes if you run it before activation, it tries to get you to register, and that will result in a failure.
- 4) Some of the installs use the "new" method, which installs and activates in one step. Some use the "old" method, which has two executables in the zip file. In this case, consult the previous note to make sure you install things in the right order.

All Game GAOTD downloads use the "new" method where there is only one activation. However, right now, the Game GAOTD (GGAOTD!) is on vacation. It should come back in late September, and then you have two sites to visit. ;-)

- 5) Some activations come as a text window that opens up and gives you the registration code.

Just copy-n-paste it into the registration window once you start the app.

6) Every GAOTD download must be downloaded and activated in the 24 hour period. If you miss the deadline and a new offering comes up, you are generally out of luck on activation. Even if you have already installed the software, you have to activate it before the deadline.

That being said, there appears to be a loophole in this, related to timezones. Out here on the west coast, I can download one of the offerings and as long as I install it and activate it before 2am my time, the activation works. Even if there is a new offering on the main GAOTD page. I've done this a few times, when I didn't make it home before midnight, but a cool program was out. As long as I do the activation before 2am, I'm good. Note that you **STILL** must download the software before midnight though, or you miss it. I don't know if this is the same in other timezones, BTW.

Don't tell anyone else about #6. :-)

7) Some of the downloads are really big. There was one a while back that was over 600MB. Use the mirror site if you see performance problems on the main download site. Start your download early in the morning, so that you can come back later and install and activate it. Use trick #6 if you run out of time and are near the deadline.

8) As you can never activate a program after the deadline, once you've installed and activated it, you might as well delete the download file. If you want to buy more of what you got for free, you can always contact the manufacturer through Help->About. For all practical purposes, the original download file won't ever be useful to you again, and just takes up space.

thanks, bruce

*Edited: 2 Sept 2007, 11:14 a.m.*

## **Re: Free equation editor**

*Message #10 Posted by [gteague](#) on 1 Sept 2007, 7:24 p.m.,  
in response to message #1 by Bruce Bergman*

thanks bruce! being the polar opposite of an expert in math, i always appreciate math aids like this. i especially like that it shows the simplification steps as i slept through that segment in algebra in school.

i was hoping this was an algebra solver though. i've been trying to find one for free or cheap that doesn't take a degree in unix or linguistics to get running. the open source ones i've found have been pretty inscrutable to one like me who has never used one outside of the calculator-based ones by hp and ti.

thanks again,

/guy

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## HP Forum Archive 17

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**Size of BH's shirt pocket**

Message #1 Posted by [Peter Niessen](#) on 1 Sept 2007, 10:46 a.m.

Hi all,

this is maybe a question for the (elementary) math teachers here (or others who deal with rulers on a daily basis).

[The Wikipedia article on the HP 35](#) mentions

Quote:

The HP-35 was exactly 5.8 inches long and 3.2 inches wide. This was the size of William Hewlett's pocket, hence "pocket calculator".

[HP museum confirms these dimensions here](#). Now the question: Can you buy rulers which will have tick marks at these distances? If not, any idea how these numbers were determined?

Cheers, Peter.

I guess I should wish all the people who can potentially answer this a nice 3 day weekend.

**Re: Size of BH's shirt pocket**

Message #2 Posted by [Dave Shaffer \(Arizona\)](#) on 1 Sept 2007, 11:46 a.m.,  
in response to message #1 by Peter Niessen

Quote:

Now the question: Can you buy rulers which will have tick marks at these distances? If not, any idea how these numbers were determined?

You can readily buy engineering rulers which are triangular in cross section and a foot long, and have six different scales along the vertices (one along each side of each vertex): 10, 20, 30, 40, 50, and 60 divisions per inch.

So, measuring with 0.1 inch tick marks would have been no challenge, especially to a group of engineers in the 1970s.

"HOW" they actually did it, I've no idea! Probably measured Bill's shirt itself, with or without him in it.

**Re: Size of BH's shirt pocket**

Message #3 Posted by [db \(martinez, ca.\)](#) on 1 Sept 2007, 11:56 a.m.,  
in response to message #1 by Peter Niessen

They probably did it the same way engineers always get their data. They sent a surveyor to measure it for

them.

**Re: Size of BH's shirt pocket**

*Message #4 Posted by [Jesse Dodd](#) on 1 Sept 2007, 12:10 p.m.,  
in response to message #1 by Peter Niessen*

It's difficult to use a ruler to measure a three dimensional object. Most mechanical engineers would use a micrometer:

<http://en.wikipedia.org/wiki/Micrometer>

These devices are usually accurate to .005 of an inch.

**Re: Size of BH's shirt pocket**

*Message #5 Posted by [Hugh Evans](#) on 1 Sept 2007, 1:27 p.m.,  
in response to message #4 by Jesse Dodd*

For operations such as part inspection or QC, yes. But a shirt pocket? I'd just reach for a ruler.

**Re: Size of BH's shirt pocket**

*Message #6 Posted by [Fred Lusk](#) on 1 Sept 2007, 1:42 p.m.,  
in response to message #4 by Jesse Dodd*

Yes, but...these were electrical engineers, and EEs do almost everything as a schematic without reference to actual dimensions :-)

**Re: Size of BH's shirt pocket**

*Message #7 Posted by [Stefan Vorkoetter](#) on 1 Sept 2007, 1:31 p.m.,  
in response to message #1 by Peter Niessen*

I have several rulers that are graduated in 1/10 and 1/50 inch increments.

Stefan

**Re: Size of BH's shirt pocket**

*Message #8 Posted by [Walter B](#) on 1 Sept 2007, 3:50 p.m.,  
in response to message #1 by Peter Niessen*

Assume they have used a slide gauge. No problem to measure pocket with these.

**Re: Size of BH's shirt pocket**

*Message #9 Posted by [Peter Niessen](#) on 1 Sept 2007, 7:49 p.m.,  
in response to message #8 by Walter B*

Quote:

Assume they have used a slide gauge. No problem to measure pocket with these.

This sounds logical. The ones I've seen however are all scaled in  $(1/2)^2$ " [like this one](#).



However, I'll go to WalMart next possible opportunity and buy one of these rulers which Stefan V. mentioned. I should get some discount in the "back to school" department :-). Maybe they even have the nice ones with the little cats or ponies.

Cheers, Peter.

**Re: Size of BH's shirt pocket: No golden ratio here...**

Message #10 Posted by [Andrés C. Rodríguez](#) on 1 Sept 2007, 4:10 p.m.,  
in response to message #1 by Peter Niessen

I expected otherwise, but just checked and saw that BH's pocket was not governed by the golden ratio.

With some disappointment (and no math), Andrés

PS: Somewhere I read a story in which Sony CEO Morita challenged his engineers to create the first Discman (portable CD player). According to the tale, Morita kept a wood block as a physical specification of what he wanted, avoiding tricks with the targeted size.

*Edited: 1 Sept 2007, 4:11 p.m.*

**Re: Size of BH's shirt pocket: No golden ratio here...**

Message #11 Posted by [Bill \(Smithville, NJ\)](#) on 1 Sept 2007, 4:41 p.m.,  
in response to message #10 by Andrés C. Rodríguez

Quote:

According to the tale, Morita kept a wood block as a physical specification of what he wanted

This trick was used for many a great design.

Walter Zapp used a wood block to determine the size for the first Minox camera. the wood block still exists and there is a photo of it in the book "Spy Camera, the Minox Story".

Jeff Hawkins used a similar method in developing the Palm Pilot. From the "The Next Small Thing" at [Fastcompany.com](#):

Quote:

How small is small enough? His answer yielded the second principle: Small enough to fit in a shirt pocket. He paced the hallways at Palm headquarters, ruler in hand, measuring pocket sizes against small blocks of balsa wood.

Original Link to Full Article: [The Next Small Thing](#)

Bill

*Edited: 1 Sept 2007, 4:42 p.m.*

**Re: Size of BH's shirt pocket**

Message #12 Posted by [Chuck](#) on 1 Sept 2007, 9:07 p.m.,  
in response to message #1 by Peter Niessen

Sure is. I have an old 6-inch General ruler with 32nd and 64ths on one side and 10ths and 100ths on the other.

<http://home.wavecable.com/~stevensc/photos/ruler.jpg>

CHUCK

*Edited: 2 Sept 2007, 1:19 a.m.*

### **Re: Size of BH's shirt pocket**

*Message #13 Posted by [DaveJ](#) on 2 Sept 2007, 6:44 p.m.,  
in response to message #12 by Chuck*

At work I have one of these (851-012F) from Products Eneineering:

<http://www.productsengineering.com/tools/onlinecatalog/rules/roundendrules.html>

1/10", 1/16", 1/20", 1/32", 1/50", and 1/100" scales.

Mine comes in a nice black though. Very thin and flexible, great for measuring shirt pockets. Calibrated at 20 degC.

Dave.

### **Re: Size of BH's shirt pocket**

*Message #14 Posted by [DaveJ](#) on 1 Sept 2007, 10:18 p.m.,  
in response to message #1 by Peter Niessen*

Even my cheap Chinese steel ruler from the stationary store I use at home has 1/10", 1/16", 1/20", 1/32", and 1/64" scales.

Dave.

---

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## HP Forum Archive 17

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### Strange calculator math?

Message #1 Posted by [Bruce Bergman](#) on 1 Sept 2007, 12:30 a.m.

Found this on an auction site. What's interesting is if you blow up the picture of the back of the calc, and look at the "addition" example. Almost a weird kind of 50% RPN, 50% AOS. Anyone know anything about this calc?

[Litronix 2290](#)

thanks, bruce

### Re: Strange calculator math?

Message #2 Posted by [Jonathan Eisch](#) on 1 Sept 2007, 12:53 a.m.,  
in response to message #1 by Bruce Bergman

head... hurts... postfix addition/subtraction, prefix multiplication/division? ouch...

*edit: oh, my. it's worse than I thought...*

*Edited: 1 Sept 2007, 1:42 a.m.*

### Re: Strange calculator math?

Message #3 Posted by [Anthony L. Mach](#) on 1 Sept 2007, 1:00 a.m.,  
in response to message #1 by Bruce Bergman

I had to laugh at the comment on rskey:

"If there had been an award given for the least functional programmable calculator ever made..."

Tony

### Re: Strange calculator math?

Message #4 Posted by [Maximilian Hohmann](#) on 1 Sept 2007, 5:13 a.m.,  
in response to message #1 by Bruce Bergman

Hello!

Quote:

Found this on an auction site.

Thank you so much for this link, I've been looking for this thing quite some time and actually never seen one on eBay in Europe. Soon I will own one .-) (But there is one left with the seller right now).

But this calculator does not, unfortunately, have any kind of 'strange' math implemented. It is plain and simple

'AOS' (not really, because for true AOS, introduced by Ti when they brought out the SR-52, you need parentheses). They only placed the '=' on the '+' and '-' keys, thereby gaining a key for '%', 'sqrt' or whatever. The calculator 'knows' when to interpret the keystroke as '+' or '='. This practise was very common then and I think, that I have more calculators built like this than otherwise.

Greetings, Max

**Re: Strange calculator math?**

Message #5 Posted by **Thomas Radtke** on 1 Sept 2007, 6:03 a.m.,  
in response to message #4 by Maximilian Hohmann

Quote:

\_\_\_\_\_  
(But there is one left with the seller right now).  
\_\_\_\_\_

Can you get me in contact, Max?

**Re: Strange calculator math?**

Message #6 Posted by **Maximilian Hohmann** on 1 Sept 2007, 6:28 a.m.,  
in response to message #5 by Thomas Radtke

Hi!

Quote:

\_\_\_\_\_  
Can you get me in contact, Max?  
\_\_\_\_\_

It is article no. 330159939091 on eBay U.S. (Seller: iarnstein). Presently it says: '1 of 2 left'.

Good luck, Max

**Re: Strange calculator math?**

Message #7 Posted by **Namir** on 1 Sept 2007, 8:14 a.m.,  
in response to message #6 by Maximilian Hohmann

Not any more :-)

**Re: Strange calculator math?**

Message #8 Posted by **Thomas Radtke** on 1 Sept 2007, 8:24 a.m.,  
in response to message #7 by Namir

Congrats, Namir!

**Re: Strange calculator math?**

Message #9 Posted by **Namir** on 1 Sept 2007, 9:53 a.m.,  
in response to message #8 by Thomas Radtke

Congratulate me after I receive the machine and make sure it does work!!!

:-)

Namir

**Re: Strange calculator math?**

*Message #10 Posted by [Thomas Radtke](#) on 1 Sept 2007, 10:27 a.m.,  
in response to message #9 by Namir*

Have you asked how much he charges for shipping? This was what hindered me from buying it-he didn't answered fast enough, darn ;-).

However, I wish you good luck with it :-).

**Re: Strange calculator math?**

*Message #11 Posted by [Namir](#) on 1 Sept 2007, 10:28 a.m.,  
in response to message #10 by Thomas Radtke*

The auction states the shipping charges as \$4.66.

**Re: Strange calculator math?**

*Message #12 Posted by [Bruce Bergman](#) on 1 Sept 2007, 12:02 p.m.,  
in response to message #9 by Namir*

Namir, if it works, bring it with you to the conference -- I'm sure there are a few of us who would like to see it in "action". ;-)

(I'm thinking about buying one of those Soviet MK-xx calcs; I might bring it with me for examination too...)

thanks, bruce

**Re: Strange calculator math?**

*Message #13 Posted by [Namir](#) on 1 Sept 2007, 2:19 p.m.,  
in response to message #12 by Bruce Bergman*

Will do!!!

:-)

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## HP Forum Archive 17

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### OT - Dot Matrix Display

Message #1 Posted by [Oswaldo Rodriguez](#) on 31 Aug 2007, 2:42 p.m.

Has anyone ever had consistent problems with dot matrix display on calculators after not using the calculator for several months. I never have problems with HP or Casio calculators, however, several of my sharp and TI calculators; after being stored away for several months, I take them out to play with them again the some of the displays will have missing rows and columns of pixels. Typically I have to use them daily for a couple of weeks and the displays slowly come back. However, on some the displays just gets worst.

This has happened with the following models sharp pc 1350 sharp el-9000 sharp el-9900 Radio Shack ec-4033 And several low end TI models, like the TI-25 and TI-35/36

Oswaldo Rodriguez

### Re: OT - Dot Matrix Display

Message #2 Posted by [Ken Shaw](#) on 31 Aug 2007, 4:34 p.m.,  
in response to message #1 by Oswaldo Rodriguez

I have a Sharp EL-9000 from 1988 that I use only rarely. All the pixels work and I have never observed a problem with them.

### Re: OT - Dot Matrix Display

Message #3 Posted by [Giancarlo \(Italy\)](#) on 31 Aug 2007, 5:00 p.m.,  
in response to message #1 by Oswaldo Rodriguez

Hi Oswaldo.

I have a Sharp PC-1401 since my college days (a dozen years ago - sigh!) and all the rows and columns of pixels seem to work fine, but the "edge" of each square pixel seems not to be that "sharp" (no pun intended).

It is as the pixels started to "wear out".....

Hope this helps.

Best regards.

Giancarlo

### Re: OT - Dot Matrix Display

Message #4 Posted by [Antonio Maschio \(Italy\)](#) on 1 Sept 2007, 11:07 a.m.,  
in response to message #3 by Giancarlo (Italy)

Wow! I too used a PC-1401 as a calculation companion during my high school (final years of the liceo scientifico) and the first years of my Civil Engineering years (the most involved with math). It still works perfectly, and it's one the non-HP calculators I use more.

Think: I tried to substitute it with a Sharp PC-E500 during my job first year, but its gum keys tended not to

respond correctly, so I reverted to my (limited) PC-1401, which has a fine keyboard, though not comparable to the one of my HP-15C.

I used to keep the 1401 full of BASIC programs, which performed quite everything, from beam calculation to easter day determination, from statistical (short) programs to the calculation of stars magnitudo.

Once I bought the HP-32SII in 1998, it fell into oblivion, for a while, until I discovered the programs got lost because batteries ran out. No leaking, though, so it's perfect still today.

I've got a little nostalgia for old BASIC calculators: they were both calculators and small computers.

-- Antonio

P.S. can you report its Serial Number, and the year you bought it, if you remember?

### **Re: OT - Dot Matrix Display**

*Message #5 Posted by [Giancarlo \(Italy\)](#) on 3 Sept 2007, 2:32 a.m.,  
in response to message #4 by Antonio Maschio (Italy)*

Ciao Antonio.

My PC-1401's serial number is: 57049935

I purchased it around 1987 (more or less - can't remember exactly...) and it always worked flawlessly :-)

I too used to keep all sort of programs stuffed in it; I can still remember an amazing BASIC program that I regularly used for drawing Bode diagrams - a great help during the exam :-)

It still works perfectly, except for that strange "wear" of the pixels edge...

Did you ever notice the ""hissing" the 1401 was used to do when doing some long and hard calculation or program?

It could be heard just by putting the back of the calc close to the ear....

Best regards.

Giancarlo

### **Re: OT - Dot Matrix Display**

*Message #6 Posted by [Antonio Maschio \(Italy\)](#) on 5 Sept 2007, 8:15 a.m.,  
in response to message #5 by Giancarlo (Italy)*

Giancarlo wrote:

Quote:

Did you ever notice the ""hissing" the 1401 was used to do when doing some long and hard calculation or program?

No. To tell the truth, this is the first time I hear news about buzzes and hisses of the 1401 during (long) program executions. My unit works in perfect silence (of course, I may report a different thing in a few days - Murphy's law!)

Thanks for your data. I'll use them to retrieve the year when I bought it circa, since I forgot completely.

-- Antonio

### Re: OT - Dot Matrix Display

Message #7 Posted by **Thomas Okken** on 5 Sept 2007, 7:39 p.m.,  
in response to message #5 by Giancarlo (Italy)

Quote:

Did you ever notice the ""hissing" the 1401 was used to do when doing some long and hard calculation or program?

My HP-41CX used to do that, too. No sound when the machine was off, a very faint noise when it was on but idle, and a kind of "hissing" when it was running a program.

- Thomas

### Re: OT - Dot Matrix Display

Message #8 Posted by **Egan Ford** on 5 Sept 2007, 7:47 p.m.,  
in response to message #7 by Thomas Okken

Quote:

My HP-41CX used to do that, too. No sound when the machine was off, a very faint noise when it was on but idle, and a kind of "hissing" when it was running a program.

That's the fan. It kicks in when the CPU is under load. My notebook does the same. The 41CX is an incredible machine.

:-)

### Re: OT - Dot Matrix Display

Message #9 Posted by **Dan Greil** on 31 Aug 2007, 9:19 p.m.,  
in response to message #1 by Osvaldo Rodriguez

I've heard that *tin whiskers* are a problem with aging electronics. The leads of components on a circuit board get shorted by microscopic crystalline tin growths.

I think there was even something recently on the Discovery Channel here in the US about this phenomena. From what I understand, the conditions in which these occur aren't understood, but everything from satellites to calculators have succumb to its effects.

Given that what you're seeing develops over time, it would seem possible tin whiskers might be at fault.

[NASA's Tin Whisker Page](#)

-Dan

### Re: OT - Dot Matrix Display

Message #10 Posted by **Osvaldo Rodriguez** on 31 Aug 2007, 9:59 p.m.,  
in response to message #9 by Dan Greil

Dan:



Very interesting reading. One of the articles is from HP, apparently they have a program where they train engineers to test for and identify whisker formation in electronics. Furthermore one of the articles mentioned in some situations low currents, those less than 10 mA can lead to permanent shorts, however, if you pass currents greater than 10 mA it may be able to melt the whisker and resume seminormal contact. As I mentioned, for some of the calculators, they problem begins to go away the more I use them. I'll keep reading.

Thanks

Oswaldo

### **Re: OT - Dot Matrix Display**

*Message #11 Posted by [Dan Greil](#) on 31 Aug 2007, 11:07 p.m.,  
in response to message #10 by Oswaldo Rodriguez*

The first I'd heard of whiskers was in regard to the raised-floor tiles where I work. I was surprised that we contracted a firm to come in periodically, take out the tiles and clean them and the floor underneath. I asked why only to be told about zinc whiskers which grow on the tiles and when broken off can get ingested by air-cooled equipment. The effect is similar to tin whiskers but the source is air-borne instead of growth from within.

[NASA's Other Metal Whiskers Site](#)

Regarding the higher current remedy for tin whiskers, we're probably doomed there with LCD displays consuming mere micro or even nano-amps. Older calculators with LED displays would likely consume >10mA but that may be confined to the display circuit leaving the rest vulnerable.

-Dan

### **Re: OT - Dot Matrix Display**

*Message #12 Posted by [Garth Wilson](#) on 31 Aug 2007, 10:23 p.m.,  
in response to message #9 by Dan Greil*

Quote:

I've heard that tin whiskers are a problem with aging electronics. The leads of components on a circuit board get shorted by microscopic crystalline tin growths.

Tin whiskers are only a problem with the new lead-free solders. I have two HP-71's from 20 years ago that have never had a problem of any kind.

### **Re: OT - Dot Matrix Display**

*Message #13 Posted by [Dan Greil](#) on 31 Aug 2007, 11:13 p.m.,  
in response to message #12 by Garth Wilson*

Garth,

That's interesting. So when gaining RoHS certification (by being lead-free) components are now more vulnerable to tin whiskers.

Everything is a trade-off.

-Dan

**Re: OT - Dot Matrix Display**

Message #14 Posted by [Garth Wilson](#) on 1 Sept 2007, 2:25 a.m.,  
in response to message #13 by Dan Greil

Our company has been watching this RoHS garbage carefully. So far our markets have not required us to go RoHS, but I've collected and read a lot of articles because I suspect we will have to convert at some point. We would just rather let other companies be the guinea pigs and get the problems figured out before we get into it.

There are a lot of disadvantages to lead-free besides tin whiskers, such as that lead-free solder does not wet as well, requires higher soldering temperatures that cause other problems, and it cracks a lot more easily. All of this, I believe, for nothing. I grew up in another country and all our drinking water came to us in lead pipes, and yet a high percentage of the kids in the grade school I went to became doctors and engineers. So did all that lead hurt our brains? Near me now is a local land fill with decades of electronics waste in it, and the water company sends a report on the ground water quality every year along with the water bill. The quantity of lead in it is about one-eighth as high as it would need to be to take action, and the suspected source is "erosion of natural deposits," not the landfill.

**Re: OT - Dot Matrix Display**

Message #15 Posted by [RonHudson\(USA\)](#) on 5 Sept 2007, 10:30 a.m.,  
in response to message #9 by Dan Greil

Quote:

I've heard that *tin whiskers* are a problem with aging electronics. ... -Dan

My understanding is that the Lead (pb) in solder prevents these tin whiskers, and that recent environmental laws have banned lead, so this should not be a problem with most things created before the laws if they are using tin/lead solder.

**Re: OT - Dot Matrix Display**

Message #16 Posted by [Osvaldo Rodriguez](#) on 31 Aug 2007, 9:45 p.m.,  
in response to message #1 by Osvaldo Rodriguez

I beginning to think if it is environmental. At first it only happened with the very low end TI's the TI-25 (which is a solar calculator) used to be like \$12 or less 10 years ago, but in the last couple of years it began with the sharp models. At first I tried to search on the net and did not find anything about this. I do have to say this though I do use my calculators, thus they do take a beating sometimes since I carry them with books and do leave my bag inside my car at times. Summers in west Texas can be upwards of 100 F. I should begin to pay closer attention.

Osvaldo Rodriguez

**Re: OT - Dot Matrix Display**

Message #17 Posted by [Hugh Evans](#) on 1 Sept 2007, 12:22 a.m.,  
in response to message #1 by Osvaldo Rodriguez

I've seen it and heard about it. From anecdotal evidence my understanding is that the typical cause is

environmental stress (shock and temperature extremes). As I recall pulling the batteries and installing them again will often spontaneously resolve the problem. What conditions are these machines being stored in?

**Re: OT - Dot Matrix Display**

*Message #18 Posted by [Howard Lazerson](#) on 1 Sept 2007, 7:33 p.m.,  
in response to message #17 by Hugh Evans*

My first and only AOS calc was A Casio progamable, f 602p. It was easy to prg but the keys were soft- no feed back and working complicated formulae was not easy. It has a nice dot matrix display which never degraded and something Ive never seen on a calculator- it has both upper and lower case letters! It still works as does its printer Howard

**Re: OT - Dot Matrix Display**

*Message #19 Posted by [Ed Look](#) on 1 Sept 2007, 8:33 p.m.,  
in response to message #18 by Howard Lazerson*

I don't know if the 48G series and later graphing calculators count, but they do both lower and upper case letters... even (some) Greek letters, but only lower case; I'm not sure I've seen capital Greek letters on them.

**Re: OT - Dot Matrix Display**

*Message #20 Posted by [Gordon Strickland](#) on 1 Sept 2007, 11:47 p.m.,  
in response to message #19 by Ed Look*

A comprehensive display of the characters that the HP48G and its successors can display is shown by pressing <RS> <CHARS>. These include numerous lower case Greek characters, and the upper case sigma, pi, and omega. Of course, a number of the other upper case Greek letters are the same as their English (or Latin) counterparts.

**Re: OT - Dot Matrix Display**

*Message #21 Posted by [Ed Look](#) on 2 Sept 2007, 12:13 a.m.,  
in response to message #20 by Gordon Strickland*

Oh yes, you are right! I haven't programmed my 48G's and 49G+ so long I forgot! It's almost as good, if I now recall properly, as the character tables in Windows or ANSI keyboard codes in a word processor!

Kudos to HP for including them in the 48's and 49's.

**Re: OT - Dot Matrix Display**

*Message #22 Posted by [Thomas Okken](#) on 2 Sept 2007, 12:11 a.m.,  
in response to message #19 by Ed Look*

Hmmm... earliest HP calculator with lowercase letters in the display? I'm not going to count the 41C, which only has lowercase a through e... I think it would be the 28C, which was introduced 3 years after the Casio FX-602P. Can't win 'em all. :-)

- Thomas

## Re: OT - Dot Matrix Display

Message #23 Posted by [Massimo Gnerucci \(Italy\)](#) on 2 Sept 2007, 5:44 a.m.,  
in response to message #22 by Thomas Okken

Quote:

-----  
Hmmm... earliest HP calculator with lowercase letters in the display? I'm not going to count the 41C, which only has lowercase a through e...  
-----

Well, halfnut 41C\* indeed had all the lowercase characters (ugly as some of them look)... just hard to show on the display ;)

You can try Angel Martin's Sandbox ROM to use them.

Greetings,  
Massimo

## Re: OT - Dot Matrix Display

Message #24 Posted by [Thomas Okken](#) on 2 Sept 2007, 3:36 p.m.,  
in response to message #23 by Massimo Gnerucci (Italy)

Quote:

-----  
Well, halfnut 41C\* indeed had all the lowercase characters (ugly as some of them look)... just hard to show on the display ;)  
-----

Really? I didn't know that... I used to own a 41C, and later a 41CX, both of which I bought within months after they were introduced; both fullnuts... I didn't get into synthetic programming until after switching from the 41C to the 41CX, but on the CX, as I recall, character codes 102 through 122 all displayed asterisks. Do you know if there are any screen shots online that show those other lowercase letters?

Dang, maybe I should get a 41C again. It would be almost like owning an original VW Beetle. Ah, nostalgia. :-)

- Thomas

## Re: OT - Dot Matrix Display

Message #25 Posted by [Massimo Gnerucci \(Italy\)](#) on 2 Sept 2007, 6:19 p.m.,  
in response to message #24 by Thomas Okken

Hi Thomas,  
Screenshots from V41 and Sandbox ROM:

<http://emgee.altervista.org/files/41lc1.jpg>  
<http://emgee.altervista.org/files/41lc2.jpg>  
<http://emgee.altervista.org/files/41lc3.jpg>

You get the idea...

Not so useful *per se* since you have no way to use them from the basic hardware, but they are there nonetheless.

Greetings,  
Massimo

### Re: OT - Dot Matrix Display

Message #26 Posted by **Thomas Okken** on 2 Sept 2007, 7:21 p.m.,  
in response to message #25 by Massimo Gnerucci (Italy)

Hi Massimo,

Thank you for those screen shots! I think those letters look pretty decent, actually. I'm not sure I understand what you were saying about the Sandbox ROM, though; does that ROM somehow override the 41C's built-in character definitions? In other words, if I do 102 XTOA on a halfnut, will I only see the lowercase **f** if I have that ROM installed, and the usual asterisk otherwise?

Best regards,

- Thomas

### 41C lowercase charset

Message #27 Posted by **Massimo Gnerucci (Italy)** on 3 Sept 2007, 1:16 p.m.,  
in response to message #26 by Thomas Okken

Quote:

\_\_\_\_\_

In other words, if I do 102 XTOA on a halfnut, will I only see the lowercase **f** if I have that ROM installed, and the usual asterisk otherwise?

\_\_\_\_\_

No, you will see the usual *boxed star*. To access the extended character set you have to enable it.

More info on Ken Emery's **HP-41 MCode for Beginners** (also available on the Museum's DVD set) from page 107.

I'm sure I once found and printed some additional documentation but I am currently unable to find it.

HTH,  
Massimo

*Edited: 3 Sept 2007, 1:17 p.m.*

### Re: 41C lowercase charset

Message #28 Posted by **Thomas Okken** on 3 Sept 2007, 2:19 p.m.,  
in response to message #27 by Massimo Gnerucci (Italy)

Quote:

\_\_\_\_\_

To access the extended character set you have to enable it.  
More info on Ken Emery's **HP-41 MCode for Beginners** (also available on the Museum's DVD set)

---

Thank you for the info! I guess this means I need to upgrade my Museum DVD...

- Thomas

### **Re: OT - Dot Matrix Display**

*Message #29 Posted by **Oswaldo Rodriguez** on 4 Sept 2007, 5:49 p.m.,  
in response to message #17 by Hugh Evans*

I must admit that I became a collector by accident. By the time I realized I had a few calculators piled up in different places. They have been stored in plastic containers placed in a closet. Dark, mostly dry place. The temperatures may get high during the summer, but not above mid 80's. As I mentioned before, it always happens from lack of use, and I have had it happened in older calcs, as well as new ones. The sharp EL-9900, is only about two years old. I had not used it in over a year. I pulled it out a couple of weeks ago and as soon as I placed batteries I noticed missing pixel lines both vertical and horizontal. I have been using it for the last two weeks and with the exception of two vertical lines, the other have "fixed" themselves.

Oswaldo

### **Re: OT - Dot Matrix Display**

*Message #30 Posted by **Frank Boehm (Germany)** on 4 Sept 2007, 10:22 a.m.,  
in response to message #1 by Oswaldo Rodriguez*

I would expect "natural corrosion" as the main cause. If the connection isn't soldered, humidity and H<sub>2</sub>S or SO<sub>2</sub> will do their work and create a thin layer of non-conductive stuff on the contacts. Disassembling the unit and cleaning the contacts (mostly flex strips) will probably help.

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## HP Forum Archive 17

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### Sad day for HP calcs at my lab

Message #1 Posted by [JaSon](#) on 31 Aug 2007, 2:17 p.m.

Today the lab we received our replacement calculators. Casio FX-300ES. Casios in a labratory filled with Hp GC/MS and Hp/agilent GC/MS equipment. There used to be Hp 32sii Calculators everywhere but the keys have slowly stopped working till just several are left. I admit, that the computers handle most calculations, but I still used the HP a least 10 times a day. To top it off the new calcs don't even have formula memory which is what I used the most. Management's main reasoning, Casios are cheap.

Unless HP starts making cheap RPN calculators as well as nicer quality calcs. (I don't consider the 9s an HP) They are going to just keep fading away like this.

### Re: Sad day for HP calcs at my lab

Message #2 Posted by [Chan Tran](#) on 31 Aug 2007, 2:26 p.m.,  
in response to message #1 by [JaSon](#)

I would disagree! The problem is that management tried to save money by buying cheap calcs. How much it really hurts the bottom line if they spent more for the calcs?

### Re: Sad day for HP calcs at my lab

Message #3 Posted by [Hal Bitton in Boise](#) on 31 Aug 2007, 2:35 p.m.,  
in response to message #1 by [JaSon](#)

Well, the good news is, the Casios will probably wear out in a matter of months (if not weeks) in an industrial environment, at which point your management may re-assess the wisdom of going the cheap route. I'm guessing of course that your old 32sii's lasted at least a few years.

Maybe there's a bevy of 35s's in your labs future....

Best regards, Hal

### Re: Sad day for HP calcs at my lab

Message #4 Posted by [Frank Rottgardt](#) on 31 Aug 2007, 3:05 p.m.,  
in response to message #3 by [Hal Bitton in Boise](#)

Not to forget about the slow down this Casios will cause, when engineers and scientists suddenly need to learn how to handle parantheses.

Would be interesting to see if the managment guys also gonna buy Casios once their HP-12 stops working?

RPN is the best way to handle complex equations. But lets face the truth. AOS is here to stay and the world will not stop turning the day RPN will turn into RIP.

### Re: Sad day for HP calcs at my lab

*Message #5 Posted by [bill platt](#) on 31 Aug 2007, 4:01 p.m.,  
in response to message #4 by Frank Rottgardt*

RPN is great when you are calculating step by step or "in the head" but a full equation editor trumps it every time for a fully known or developed equation. Especially for solving repetitively, it is so much more sure than RPN. I use the equation editor all the time on the 48GX as well for this reason.

### **Re: Sad day for HP calcs at my lab**

*Message #6 Posted by [Eric Smith](#) on 31 Aug 2007, 4:38 p.m.,  
in response to message #3 by Hal Bitton in Boise*

Quote:

I'm guessing of course that your old 32sii's lasted at least a few years. Maybe there's a bevy of 35s's in your labs future....

It is not clear that the physical construction of the 35s is such that it will last longer than a Casio. Disassembly of a 35s is not indicative of the materials and construction being different in any significant way from a midrange Casio scientific.

The feel of the 35s keys, however, is much better than the Casio, IMNSHO. While it's not identical to the traditional HP keys, it at least seems fairly comparable, and a huge improvement over the 33s.

### **Re: Sad day for HP calcs at my lab**

*Message #7 Posted by [DaveJ](#) on 1 Sept 2007, 6:46 a.m.,  
in response to message #3 by Hal Bitton in Boise*

Quote:

Well, the good news is, the Casios will probably wear out in a matter of months (if not weeks) in an industrial environment

Funny how all of my Casio's have lasted for 10-15 years, some of them in an industrial environment. In fact I have never had a Casio die on me, ever.

Dave.

### **Re: Sad day for HP calcs at my lab**

*Message #8 Posted by [Arne Halvorsen \(Norway\)](#) on 1 Sept 2007, 6:59 a.m.,  
in response to message #7 by DaveJ*

Same thing here, three hp dead, but my first scientific got before any hp, a casio, still works... Dont know about todays build, but the old ones was quality...

### **Re: Sad day for HP calcs at my lab**

*Message #9 Posted by [Garth Wilson](#) on 31 Aug 2007, 10:19 p.m.,  
in response to message #1 by JaSon*

Quote:



Management's main reasoning, Casios are cheap.

Oh yeah, right-- and all that Agilent equipment was cheap??

### Re: Sad day for HP calcs at my lab

Message #10 Posted by [Hugh Evans](#) on 1 Sept 2007, 12:39 a.m.,  
in response to message #1 by JaSon

It certainly sounds like your managers knows how to spend money on GC/MS equipment, which are many orders of magnitude beyond the cost of expensive calculators. I'd have to lean towards picking up a 35s, if your co-workers are used to RPN it should be enough to incite demand for a more suitable replacement.

I agree that HP should develop a limited/non-programmable scientific RPN calculator to compete in the ~\$20 range. That could easily be the equivalent of a 35s, without programming and the same build quality.

### Re: Sad day for HP calcs at my lab

Message #11 Posted by [Arne Halvorsen \(Norway\)](#) on 1 Sept 2007, 6:23 a.m.,  
in response to message #10 by Hugh Evans

Yea, that was what I was hoping for when found the hp35s. However being a long lost fan I did find the hp35s price ok. But if low end rpn got out I could have choosen to get back in the game of programmable calcs/hp calcs by getting my a low end rpn and a hp50g.

### Re: Sad day for HP calcs at my lab

Message #12 Posted by [DaveJ](#) on 1 Sept 2007, 6:52 a.m.,  
in response to message #1 by JaSon

Since when has management ever dictated what calculator an engineer uses? In every place I have ever worked, engineers supply their own calc, or management pays for whatever calc you want as a basic office/stationary expense. If you don't like what they supply, ditch it and get whatever you like yourself.

Haven't you ever slipped a calc on a purchase order with a description like "industrial keypad" ;->

Dave.

### Re: Sad day for HP calcs at my lab

Message #13 Posted by [papanush](#) on 1 Sept 2007, 11:21 a.m.,  
in response to message #12 by DaveJ

I agree,

I have never used a company purchased calculator. Always my own HP (42S, then 48g, now 50g)

### Re: Sad day for HP calcs at my lab

Message #14 Posted by [Jean-Michel](#) on 1 Sept 2007, 1:50 p.m.,  
in response to message #1 by JaSon

Hi JaSon,

the CASIO fx-300ES is sold in France uder the name "fx-92 Collège" (except that it doesn't have the dual

power functionality). I bought one for my son who's entering high school this year, and learned how to use it to teach my son when necessary. I'd like to correct some points of your post, and posts from other readers:

- even if this isn't an RPN calculator, it's very user friendly, and has certain functionalities very useful. You'll probably discover them when you'll have received yours.

- this calculator DOES have a formula memory, and more to say, very easy to use.

- CASIO calculators, and this one also, are totally able to resist to an industrial environment, except if using it in a dusty atmosphere or any critical conditions. My fx-602P is still operating and I use it at my office quite every day since 1985 (in fact, I have several calculators, amongst which some HP's, and I use them all, depending on how far they are from my hand, and what I have to do with.)

HP calculators, especially the first vintage models, were better than other brands calculators in the past, but nowadays, they aren't. You have to face the reality as it is. It's probably sad for the HP enthusiasts, but if HP wants to recover its prominent place, they have to do a lot of work... The HP-35s is a good example of what remains to be done in terms of quality.

Just to finish : my '602P gives  $\sin(90) = 0$  in DEG mode, and  $\sin(\pi) = 0$  in RAD mode...in accordance with the mathematic rules.

To my opinion, one of the main points in which HP remains the "best", is the design of the calculators (except some models that we all know). And according to this point of view, the 35s is a very good step in the right direction ! (I say "best" because I find that the competition that some people set between calculators brands is kind of puerile to my opinion).

Kind regards.

Jean-Michel.

### Re: Sad day for HP calcs at my lab

Message #15 Posted by **Gerson W. Barbosa** on 1 Sept 2007, 2:58 p.m.,  
in response to message #14 by Jean-Michel

Hello Jean-Michel,

Quote:

my '602P gives  $\sin(90) = 0$  in DEG mode, and  $\sin(\pi) = 0$  in RAD mode...in accordance with the mathematic rules.

My CASIO PB-700 evaluates  $\text{SIN}(\text{PI}) = 0$ , in RAD mode (ANGLE 1), which is nice.  $\text{SIN}(3.141592654)$  returns  $-4\text{E}-10$ , which is slightly worse than the HP-15C result,  $-4.1\text{E}-10$ . The actual 10-digit result for  $\text{SIN}(3.141592654_{\text{rad}})$  is  $-4.102067615\text{E}-10$ . What are the results on your CASIO calculators?

Regards,

Gerson.

### Re: Sad day for HP calcs at my lab

Message #16 Posted by **John Limpert** on 2 Sept 2007, 3:53 a.m.,  
in response to message #14 by Jean-Michel

Quote:

Just to finish : my '602P gives  $\sin(90) = 0$  in DEG mode, and  $\sin(\pi) = 0$  in RAD mode...in accordance with the mathematic rules.

My calculator must be using a different set of rules. :-)

### **Re: Sad day for HP calcs at my lab**

*Message #17 Posted by [Frank Rottgardt](#) on 2 Sept 2007, 8:17 a.m.,  
in response to message #16 by John Limpert*

My 1981 made in Italy TI-30 LCD gives:

RAD:  $\text{SIN}(\pi)=0$  DEG:  $\text{SIN}(90)=1$

### **Re: Sad day for HP calcs at my lab**

*Message #18 Posted by [vq](#) on 2 Sept 2007, 11:58 a.m.,  
in response to message #14 by Jean-Michel*

Quote:

Just to finish : my '602P gives  $\sin(90) = 0$  in DEG mode, and  $\sin(\pi) = 0$  in RAD mode...in accordance with the mathematic rules.

Are you sure? My Casio 602P gives correct results in deg mode. Btw, after some 10 years of daily use, all keys register well and everything works just fine. The 602P is not AOS, it's much more similar to the TI 58C (but with much better keyboard - my TI's keyboard lasted only 1-2 years).

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## HP Forum Archive 17

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### The trigonometric bug is spreading !?

Message #1 Posted by [Lyuka](#) on 31 Aug 2007, 6:25 a.m.

One of the hp calculator dealer informed me about the calculation results of  $\cos(1.57079632)$  on various calculators.

Quote:

```
hp 50g: 6.79489661923e-9
hp 48gII: 6.79489661923e-9
hp 39gs: 6.79489661923e-9
hp 9g: 6.794896619e-9
hp 35s: 6.79489e-9
hp 33s: 6.79489e-9
hp 30s: 6.794896619e-9
hp 10s: 6.794897343e-9
hp 9s: 6.79489e-9
hp 8s: 6.795e-9
```

Some calculation results on the calculators at hand.

```
hp 50g: 6.794899661923e-9
hp 35s: 6.79489e-9
hp 32sII: 6.79489661923e-9
hp 15C: 6.795000000e-9
```

The new calculators except the graphing model may be getting to be hopeless. That's too bad.

### Re: The trigonometric bug is spreading !?

Message #2 Posted by [hugh steers](#) on 31 Aug 2007, 8:26 a.m.,  
in response to message #1 by [Lyuka](#)

looks like all the new models that aren't emulating the old code are in trouble here - oops!

lyuka has shown some good trig implementation from scratch, but it got me wondering if there's a way to "patch up" the existing stuff by transforming the input to part of the domain that doesn't suffer the defects, eg half or double angle formulae or somesuch?

### Re: The trigonometric bug is spreading !?

Message #3 Posted by [Peter Niessen](#) on 31 Aug 2007, 10:28 a.m.,  
in response to message #1 by [Lyuka](#)

Quote:

```
cos(1.57079632)
```

Some calculation results on the calculators at hand.

```
hp 35s: 6.79489e-9
hp 32sII: 6.79489661923e-9
```

---

Quite natural. Since the quoted value 1.57079632 is  $6.8e-9$  away from  $\pi/2$  (or HPs representation of it), and since there

$\cos(\pi/2 \pm x) \sim \mp x$

I would say everything is fine.

Cheers, Peter.

*Edited: 31 Aug 2007, 10:31 a.m.*

---

### Re: The trigonometric bug is spreading !?

Message #4 Posted by **Gerson W. Barbosa** on 31 Aug 2007, 12:10 p.m.,  
in response to message #1 by Lyuka

Quote:

---

That's too bad.

---

Even worse, it appears "Don't tell" is the rule now. (<http://www.hpmuseum.org/hp35.htm>)

---

### Re: The trigonometric bug is spreading !?

Message #5 Posted by **John Noble** on 31 Aug 2007, 12:19 p.m.,  
in response to message #1 by Lyuka

My 12C with Valentin's "Tried & Tricky" trig program yields:

0.000037417 :-)

Values near  $\pi/2$  are known to be a problem, though.

Mac OS X's included Calculator.app gives:

0.0000000067948967

XCalc gives:

6.794896e-09

Google Calculator sez:

$6.79489671 \times 10^{-9}$

They agree to six decimal places, which is good enough for me

---

### Re: The trigonometric bug is spreading !?

Message #6 Posted by **Hal Bitton in Boise** on 31 Aug 2007, 3:00 p.m.,  
in response to message #1 by Lyuka

Quote:

---

Some calculation results on the calculators at hand.

hp 50g: 6.794899661923e-9 hp 35s: 6.79489e-9 hp 32sII: 6.79489661923e-9 hp 15C:  
6.795000000e-9

---

I guess I don't understand why you would not use the full accuracy provided by the calc...on my 15c, 29c, 41cx, 67 and 34c, if I key pi, then divide by 2, then take the cos, I get -205.00e-12, which is much closer to zero. I get the results you posted if I truncate pi/2 to 8 decimal places, but I don't understand why you do that and then evaluate the resultant lack of accuracy.

Best regards, Hal

### **Re: The trigonometric bug is spreading !? -> BCD arith. with Python**

*Message #7 Posted by [Alain Mellan](#) on 31 Aug 2007, 3:24 p.m.,*

*in response to message #6 by Hal Bitton in Boise*

This discussion reminded me that some time ago I toyed with Python and its 'decimal' library, which implements, well, true decimal arithmetic (after IBM's BCD library).

I have the beginning of an RPL interpreter (just basic arithmetic, SIN/COS/TAN and few stack functions), but it's fun to play with. The default precision is 28 digits.

Anbody interested, send me an email, I'll email back the code.

### **Re: The trigonometric bug is spreading !?**

*Message #8 Posted by [Lyuka](#) on 31 Aug 2007, 4:34 p.m.,*

*in response to message #6 by Hal Bitton in Boise*

I'm not talking about cos(pi/2) but cos(1.57079632000) which should be 6.79489661923e-9 in 12 digits accuracy.

35s's builtin trigonometric functions tend to lose its accuracy around pi/2 and so on, however, it shows accurate result for the value just next to pi/2 as follows.

```
cos(1.57079632679)= 4.89661923132e-12  
cos(1.57079632680)=-5.10338076868e-12
```

it seems strange to me.

regards,

Lyuka

*Edited: 31 Aug 2007, 4:38 p.m.*

### **Re: The trigonometric bug is spreading !?**

*Message #9 Posted by [Eric Smith](#) on 31 Aug 2007, 7:04 p.m.,*

*in response to message #8 by Lyuka*

Transcendental functions are very difficult to get right. HP has had errors in them in nearly every generation of their calculator math routines.

1st gen: HP-35 log/exp bug

2nd gen: HP-67/97 arcsin/arccos bug (also in early 19C/29C, not sure about 91)

3rd gen: HP-41C sin/cos of small angles bug

The bugs in the 67/97 and 41C trig crept in even though the algorithms by that time were well-understood. That was back when HP's calculator division had a large number of engineers and mathematicians on staff. Now they have only a few (perhaps only one?), so it is not surprising that recent HP calculators have more bugs. The high-end calculators such as the 49G+ and 50G use flash memory to facilitate firmware upgrades for bug fixes, but the current low-cost calculators (e.g. 33s, 35s) use masked ROM to reduce the manufacturing cost. It would not take very many product recalls of masked-ROM calculators for HP management to realize that the use of masked ROM may be a false economy.

Many people don't realize that even something as seemingly simple as argument range reduction can introduce large errors if it is done in a naive manner.

The best survey I've found of algorithms for elementary functions is [Elementary Functions: Algorithms and Implementation](#) by Jean-Michel Muller. The book gives detailed explanations of polynomial and rational approximations, shift-and-add algorithms (e.g., CORDIC), range reduction, correct rounding, etc.

## Re: The trigonometric bug is spreading !?

Message #10 Posted by [Jesse Dodd](#) on 1 Sept 2007, 1:28 a.m.,  
in response to message #1 by Lyuka

It appears that the HP calculator dealer may have given you some incomplete information. The hp 9g and the much maligned hp 30s calculates the  $\cos(1.57079632)$  to  $6.794896619231321e-9$ . This is the correct answer to 16 significant figures making these the most accurate calculators to bear the HP logo.

## HP-30S and HP-9S accuracy

Message #11 Posted by [Karl Schneider](#) on 1 Sept 2007, 2:16 a.m.,  
in response to message #10 by Jesse Dodd

Quote:

The hp 9g and the much maligned hp 30s calculates the  $\cos(1.57079632)$  to  $6.794896619231321e-9$ . This is the correct answer to 16 significant figures making these the most accurate calculators to bear the HP logo.

These models are able to do that because they use 80-bit extended-precision floating-point representations (good for 24 digits), not 12-digit binary-coded decimal (BCD). However, the number of correct digits in the result can vary, and these models will also round values extremely close to an integer to that integer, negating the extra accuracy in the interest of eliminating possible floating-point errors.

Try this: Enter pi using the marked button on an HP-30S, then reveal digits by subtracting the integer portion and multiplying by 10. You'll keep getting digits, but after a while, they'll be essentially random...

I'd rather get only 12 digits that I know I can trust.

-- KS

## Re: The trigonometric bug is spreading !?

Message #12 Posted by **Rodger Rosenbaum** on 1 Sept 2007, 4:56 a.m.,  
in response to message #10 by Jesse Dodd

Quote:

It appears that the HP calculator dealer may have given you some incomplete information. The hp 9g and the much maligned hp 30s calculates the  $\cos(1.57079632)$  to  $6.794896619231321e-9$ . This is the correct answer to 16 significant figures making these the most accurate calculators to bear the HP logo.

Exactly what did you do to get this result?

I don't get this on my HP30S. If I type:

$\text{COS}(1.57079632)*1E17-679489661$  ENTER

I get .923035657 which is the result with the leading digits 679489661 missing.

So the actual result of  $\text{COS}(1.57079632)$  is:

$6.79489661923035657E-9$ , only 12 accurate digits.

### Re: The trigonometric bug is spreading !?

Message #13 Posted by **Jesse Dodd** on 1 Sept 2007, 1:37 p.m.,  
in response to message #12 by Rodger Rosenbaum

Quote:

Exactly what did you do to get this result? I don't get this on my HP30S. If I type:  
 $\text{COS}(1.57079632)*1E17-679489661$  ENTER I get .923035657 which is the result with the  
leading digits 679489661 missing. So the actual result of  $\text{COS}(1.57079632)$  is:  
 $6.79489661923035657E-9$ , only 12 accurate digits.

It appears that your getting a rounding error by multiplying by  $10e17$ . If you instead type:

$\text{COS}(1.57079632)*1E5*1E5*1E7-679489661$

You will get the result of .92313212

This gives the correct answer to 16 significant figures

Quote:

I'd rather get only 12 digits that I know I can trust.

This is a valid concern, and yes the 9g and 30s calculate in binary --not that there's anything wrong with that : ) -- but it does not change the fact that these cheap chinese machines are more accurate than the hp 50g.

### Accuracy and calculating in binary

Message #14 Posted by **Karl Schneider** on 1 Sept 2007, 3:27 p.m.,  
in response to message #13 by Jesse Dodd



Quote:

---

...the 9g and 30s calculate in binary --not that there's anything wrong with that -- but it does not change the fact that these cheap chinese machines are more accurate than the hp 50g.

---

"Accurate" in that they can carry more digits (up to 24), but the user never knows how many can be trusted, so what's the point?

Excerpt from the following link illustrates some pitfalls of floating-point math. It's definitely faster than BCD, but that advantage is best suited for computer programs.

<http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv009.cgi?read=24977>

*"...but try this in Excel: enter the equation =100-99.99-0.01 into a cell and hit Enter. Instead of ZERO, you should see 5.1156995306556E-15 ... As you can imagine, this can ruin a perfectly good test for ZERO..."*

*"Your "100-99.99-0.01" example shows exactly why HP and other calculators use BCD floating-point math and not binary floating-point math. It is also why many financial software packages use BCD math, and why BCD math libraries are available for some compilers (and BCD support is built into COBOL, for example).*

*Negative powers of 10 (.1, .01, .001...) are not exactly representable as a finite series of binary digits and are in fact the binary equivalent of 'repeating decimals' (like 1/3=0.3333333333...)"*

BTW, I got your result, even with multiplying by 1E17 instead of 1E5\*1E5\*1E7. Rodger may have made a mistake. Still, either way should always produce the same result in an accurate calculator.

-- KS

## Re: Accuracy and calculating in binary

Message #15 Posted by [Rodger Rosenbaum](#) on 1 Sept 2007, 4:23 p.m.,  
in response to message #14 by Karl Schneider

Quote:

---

BTW, I got your result, even with multiplying by 1E17 instead of 1E5\*1E5\*1E7. Rodger may have made a mistake. Still, either way should always produce the same result in an accurate calculator.

-- KS

---

This is very strange. I typed in, very carefully:

COS(1.57079632)\*1E5\*1E5\*1E7-679489661

and I see in the display:

.923035657

I made sure the calculator is in radians mode. Can anyone think of a setting that might make

this difference? Is it possible that a later version of the HP30S came out with improved firmware?

The serial number of my unit is CN0019.

### **Re: Accuracy and calculating in binary**

*Message #16 Posted by **Jesse Dodd** on 1 Sept 2007, 6:33 p.m.,  
in response to message #15 by Rodger Rosenbaum*

my 30s serial number is:

CNA 63400675. Purchased June of this year from hp.

### **Re: Accuracy and calculating in binary**

*Message #17 Posted by **Rodger Rosenbaum** on 1 Sept 2007, 4:46 p.m.,  
in response to message #14 by Karl Schneider*

Karl,

There was a thread: <http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv009.cgi?read=24977>

a while ago where we were playing around with the HP30S, and after your discussion of digit-revealing, I said:

Quote:

---

I wonder why you got the decimal digits corresponding to a 77 bit approximation to PI, and I got those for a 70 bit approximation. What I did to "retrieve pi" was to press the PI button just to the left of the "enter" button. That was my starting number for the process. Did you do something different?

Quote: The digit-revealing procedure after computing  $e^{(1)}$  on the HP-30S produces 2.7182 8182 8459 0452 018...

If I carry the process further, I get: 2.7182 8182 8459 0452 0181 7900 7609... which is the correct decimal re-conversion of a properly rounded 55-bit representation of e. Don't ask me why 55 bits instead of 80 bits. Or why the 77 bits and 70 bits for PI above. I've noticed this behavior before when investigating the internals of the HP30S.

---

I think there may indeed be more than one firmware in the HP30S. I must have a very early one. This could explain the different results we got in the earlier thread.

### **HP-30S threads?**

*Message #18 Posted by **Karl Schneider** on 1 Sept 2007, 11:30 p.m.,  
in response to message #17 by Rodger Rosenbaum*

Roger --

I remember that discussion, but it's not in the thread from 2002 that you posted. I thought I

had bookmarks to the HP-30S threads.

BTW, my HP-30S has a serial # of CN0303.

-- KS

### **Re: HP-30S threads?**

*Message #19 Posted by **Rodger Rosenbaum** on 2 Sept 2007, 1:48 a.m.,  
in response to message #18 by Karl Schneider*

Boy, I don't know how that URL got FUBAR'd.

Try:

[http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv016.cgi?  
read=103499#103499](http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv016.cgi?read=103499#103499)

Jesse, would you try the digit-revealing process Karl described in the above thread, and see if you get what Karl got, or what I got.

I think we have discovered a change in firmware for the HP30S.

### **Re: HP-30S threads?**

*Message #20 Posted by **Jesse Dodd** on 2 Sept 2007, 2:43 a.m.,  
in response to message #19 by Rodger Rosenbaum*

Quote:

\_\_\_\_\_  
Jesse, would you try the digit-revealing process Karl described in the  
above thread, and see if you get what Karl got, or what I got.  
\_\_\_\_\_

I got the same results with my 30s that Karl got.

3.14159....264 8727

### **Re: Accuracy and calculating in binary**

*Message #21 Posted by **Jesse Dodd** on 1 Sept 2007, 5:49 p.m.,  
in response to message #14 by Karl Schneider*

Quote:

\_\_\_\_\_  
"Accurate" in that they can carry more digits (up to 24), but the user never knows  
how many can be trusted, so what's the point?  
\_\_\_\_\_

I really agree with you, but I enjoy playing devils advocate because the best part about these forums is they make people think. All good calculators have guard digits beyond the digits that can be displayed. These guard digits can produce non-zero (but very close to zero) errors similar to the Excel example you showed even with BCD, because not all decimal numbers can be represented exactly. In the original post on this thread Lyuka was lamenting the fact that the hp 33s and hp 35s were not accurate in the displayed digits, and as you pointed out, this is a well know and uncorrected bug with these models. But at the end of the post he noted that:

"The new calculators except the graphing model may be getting to be hopeless."

Since the numbers he presented showed fewer digits for the 9g and 30s I assumed that he meant these (newer) machines were less accurate. I now realize that this is the total number of digits that these machines will display. I think the hp 9g and hp 30s use twenty-four digits internally to make sure that the displayed digits are always accurate. If you want to set an arbitrary limit of, say, 13 significant digits, then the 30s will be more accurate than the 50g and you don't have to worry about any digits that appear after the 13th. Using the popular calculator forensic test of

$\text{Arcsin}(\text{Arccos}(\text{Arctan}(\tan(\cos(\sin(9 \text{ degrees}))))))$ ,

the 9g and 30s are two of the very few calculators that return an exact answer of 9. I assume that the reason that they do so is because of the 24 digit internal calculations. Of course 13 digit accuracy is mostly academic because, for example, you can calculate the earth's orbit to within a single meter with 13 digits and this is far more accurate than the actual measured values.

### HP-30S accuracy?

Message #22 Posted by **Karl Schneider** on 1 Sept 2007, 11:45 p.m.,  
in response to message #21 by Jesse Dodd

Quote:

Using the popular calculator forensic test of

$\text{Arcsin}(\text{Arccos}(\text{Arctan}(\tan(\cos(\sin(9 \text{ degrees}))))))$ ,

the 9g and 30s are two of the very few calculators that return an exact answer of 9. I assume that the reason that they do so is because of the 24 digit internal calculations.

I consider the [forensic to be quite overrated](#) in its actual value. The "perfect" results HP-30S were discussed in a thread several years ago that I didn't bookmark. The HP-30S' performance is also attributable to its rounding of values extremely close to an integer to that integer. This helps to eliminate the floating-point computational errors, but can also provide results that are not strictly correct.

Please try a few of the " $\sin(\pi - x)$ " and " $\cos(\pi/2 - x)$ " calculations I tabulated, using your HP-30S. Enter enough digits of the input argument, and the result will always be zero, instead of the correct "missing digits" result.

-- KS

### Re: Accuracy and calculating in binary

Message #23 Posted by **Rodger Rosenbaum** on 2 Sept 2007, 1:52 a.m.,  
in response to message #21 by Jesse Dodd

Jesse,

Have a look at:

<http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv015.cgi?read=85973#85973>

## Re: Accuracy and calculating in binary

Message #24 Posted by [Jesse Dodd](#) on 2 Sept 2007, 3:33 a.m.,  
in response to message #23 by Rodger Rosenbaum

Quote:

---

Please try a few of the " $\sin(\pi - x)$ " and " $\cos(\pi/2 - x)$ " calculations I tabulated, using your HP-30S. Enter enough digits of the input argument, and the result will always be zero, instead of the correct "missing digits" result.

---

I did as you suggested and entered  $\sin(3.14159265358)$  into the 30s and obtained the incorrect value of 0. Because I didn't read the posts from 2006, I never knew that the 30s played this slight of hand with near integers. Interestingly, the 9g give the correct answer to  $\sin(3.14159265358)$  even though I thought that it used the same algorithms as the 30s.

Just out of curiosity I tried

$\arcsin(\arccos(\arctan(\tan(\cos(\sin(8.999999999 \text{ deg}))))))$  and  
 $\arcsin(\arccos(\arctan(\tan(\cos(\sin(9.000000001 \text{ deg}))))))$

on the 9g and both answers were accurate to 18 figures as opposed to 12 on the 30s.

## Re: Accuracy and calculating in binary

Message #25 Posted by [DaveJ](#) on 2 Sept 2007, 8:47 a.m.,  
in response to message #24 by Jesse Dodd

Quote:

---

I did as you suggested and entered  $\sin(3.14159265358)$  into the 30s and obtained the incorrect value of 0. Because I didn't read the posts from 2006, I never knew that the 30s played this slight of hand with near integers. Interestingly, the 9g give the correct answer to  $\sin(3.14159265358)$  even though I thought that it used the same algorithms as the 30s.

---

For  $\sin(3.14159265358)$  on my Casio FX-992s I get  $9.8e-12$ , but I get 0 if I use the inbuilt PI function.

Dave.

## Re: Accuracy and calculating in binary

Message #26 Posted by [Rodger Rosenbaum](#) on 6 Sept 2007, 12:28 a.m.,  
in response to message #24 by Jesse Dodd

Well, I went out and bought another HP30S.

My old unit has a serial no. of CN0019 and the new one has a serial of CN0143 .

The new one behaves differently. I get the same result as Karl and Jesse on the various tests we've been discussing.

I notice that on the old one, SIN(3.14159265358) returns 9.793238461E-12, whereas the new unit returns exactly zero.

I experimented around and found that they have done some more of that "purification" of certain results.

The HP30S can only accept 13 digits as keyboard input, so to perform calculations on 24 digit inputs, one must do arithmetic in the input string.

So, if I type:

```
sin(3.1415926535+7391741495627E-23)*1E17-1587582 enter
```

I get:

```
.3506383
```

which is more or less consistent with internal 80 bit (24 decimal digit) arithmetic.

But, if I type:

```
sin(3.1415926535+7391741495628E-23) enter
```

I get exactly zero. So, if you get close enough to PI on input, they return a result as if the input was exactly PI. The older unit doesn't do this for this particular calculation.

Also, I notice that the new unit returns a correct 24 digit square root. Joe Horn had noticed that the HP30S didn't return a result accurate to 24 digits when the calc was first released, but that has been fixed now.

So, the firmware has definitely been changed since the initial introduction of the HP30S. Whether it's an improvement or not depends on your point of view.

## HP-33s/35s trigonometric bug tabulated

Message #27 Posted by **Karl Schneider** on 1 Sept 2007, 1:58 a.m.,  
in response to message #1 by Lyuka

As you correctly point out in a subsequent post in this thread,

cosine of 1.57079632000 radians is 6.79489661923e-9 with 12 digits of accuracy.

This is easy to show:

$$\cos(y - x) = \cos(y)\cos(x) + \sin(y)\sin(x)$$

So,

$$\begin{aligned}\cos(\pi/2 - x) &= \cos(\pi/2)\cos(x) + \sin(\pi/2)\sin(x) \\ &= 0 * \cos(x) + 1 * \sin(x) \\ &= \sin(x)\end{aligned}$$

Let x represent the "missing" digits of pi/2. The calculation of cosine (pi/2 - x) in radians will yield sine (x),

which will be extremely close to  $x$  for very small values of  $x$ . Hence, cosine "fills in" the missing digits of  $\pi/2$ .

This calculation is very similar to  $\sin(\pi - x)$  for small  $x$ , where sine "fills in" the missing digits of  $\pi$ . I've discussed that one a few times as a good example of the algorithmic accuracy introduced with the Saturn processor for 1984 in the HP-71B.

Here's a discussion of the "cosine bug" in the HP-33s and HP-35s, in which the accuracy of cosine for arguments near 90 degrees is erratic -- losing significant digits one by one as the input gets closer to 90 (e.g., 89.9999), then suddenly becoming more accurate as  $x$  gets to almost 90 degrees:

<http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv016.cgi?read=103989#103989>

(See Bill Platt's post -- message #14 in that thread.)

Given those findings, it's reasonable that the calculation of cosine in radians mode also loses significant digits on these models as the argument nears zero, because an argument in degrees must be converted to radians. There's definitely a flaw in the algorithm; it seems to be terminating prematurely in some cases.

HP calculators with pre-Saturn microprocessors (e.g., HP-15C) and many modern calculators from other manufacturers (e.g, TI-82) sometimes give only two significant digits for the sine and cosine calculations described. I suspect that they calculate out to their internal precision of three guard digits, round the answer to the second guard digit and "call it good", without recognizing that even more digits could be calculated due to the small magnitude of the result. Example:

|                   |       |           |
|-------------------|-------|-----------|
| input             | guard | extra     |
| sin 3.14159265358 | 000   |           |
| = 0.00000000000   | 979   | 323846264 |

On any Pioneer-series model and some descendants, you get 9.79323846264e-12 as the result. On some newer 12-digit non-HP's, you might get 9.8e-12 as the result.

Here's a table of results for  $\sin(\pi - x)$  and  $\cos(\pi/2 - x)$  in radians:

| pi - x        | sin(pi - x)<br>HP-32SII   | ~x<br>HP-33s/HP-35s | ULP error |
|---------------|---------------------------|---------------------|-----------|
| 3.1           | 4.15806624333E-02         | 4.15806624333E-02   | 0         |
| 3.14          | 1.59265291649E-03         | 1.59265291648E-03   | 1         |
| 3.141         | 5.92653555099E-04         | 5.92653555096E-04   | 3         |
| 3.1415        | 9.26535896607E-05         | 9.26535896582E-05   | 25        |
| 3.14159       | 2.65358979324E-06         | 2.65358979000E-06   | 324       |
| 3.141592      | 6.53589793238E-07         | 6.53589790000E-07   | 3238      |
| 3.1415926     | 5.35897932384E-08         | 5.35897900000E-08   | 32384     |
| 3.14159265    | 3.58979323846E-09         | 3.58979000000E-09   | 323846    |
| 3.141592653   | 5.89793238463E-10         | 5.89793238463E-10   | 0         |
| 3.1415926535  | 8.97932384626E-11         | 8.97932384626E-11   | 0         |
| 3.14159265358 | 9.79323846264E-12         | 9.79323846264E-12   | 0         |
|               |                           |                     |           |
| pi/2 - x      | cos(pi/2 - x)<br>HP-32SII | ~x<br>HP-33s/HP-35s | ULP error |
| 1.5           | 7.07372016677E-02         | 7.07372016677E-02   | 0         |
| 1.57          | 7.96326710733E-04         | 7.96326710728E-04   | 5         |
| 1.570         | 7.96326710733E-04         | 7.96326710728E-04   | 5         |
| 1.5707        | 9.63267947477E-05         | 9.63267947464E-05   | 13        |
| 1.57079       | 6.32679489658E-06         | 6.32679488998E-06   | 660       |
| 1.570796      | 3.26794896619E-07         | 3.26794890000E-07   | 6619      |
| 1.5707963     | 2.67948966192E-08         | 2.67948900000E-08   | 66192     |
| 1.57079632    | 6.79489661923E-09         | 6.79489000000E-09   | 661923    |
| 1.570796326   | 7.94896619231E-10         | 7.94896619231E-10   | 0         |
| 1.5707963267  | 9.48966192313E-11         | 9.48966192313E-11   | 0         |
| 1.57079632679 | 4.89661923132E-12         | 4.89661923132E-12   | 0         |

The patterns are remarkably similar: As the number of digits in the input increases, small errors in the lowest-order digits of the results occur and grow, then significant digits are lost, then finally the answers become correct.

Note that, for each result of less than 12 significant digits, the input and result combine for 15 digits that are not trailing zeroes. This probably stems from the 12 digits of the returned result and the three guard digits.

-- KS

*Edited: 7 Sept 2007, 12:54 a.m. after one or more responses were posted*

## **Re: The trigonometric bug is spreading !?**

*Message #28 Posted by [gteague](#) on 1 Sept 2007, 3:08 a.m.,  
in response to message #27 by Karl Schneider*

hey! i thought we'd all agreed, no math on the calc forum. (and no fighting in the warroom)

[g]

seriously, what keystrokes are you guys using? i'm not afraid to ask stupid questions.

< edited for idiocy ... someone snuck around and set all my calculator to degrees mode. hey, no one until karl mentioned radians ... move along ... nothing to see here ... >

/guy

*Edited: 1 Sept 2007, 3:15 a.m.*

## **Re: The trigonometric bug is spreading !?**

*Message #29 Posted by [Garth Wilson](#) on 6 Sept 2007, 2:21 a.m.,  
in response to message #1 by Lyuka*

Quote:

One of the hp calculator dealer informed me about the calculation results of  $\cos(1.57079632)$  on various calculators.

<snip>

The new calculators except the graphing model may be getting to be hopeless. That's too bad.

It's not reasonable to want the same number of significant figures for everything, so there's no need to blame the calculator. As long as you're not putting a bunch of zeroes after the 1.57079632 input number, in real-life practical use you are saying the input could be anywhere from 1.570796315 to 1.570796325, so correct outputs of that range could go all the way from about 1.79E-9 to 1.18E-8, a ratio of more than 6:1. It's not hopeless, but rather the nature of the function. So if  $\text{COS}(1.57079632)$  gives you something around 7E-9 (yes, **one** significant digit), that's as good as you're going to get, regardless of how many digits the calculator has. Try it. My HP-71 says  $\text{ACOS}(5\text{E-}9)=1.57079632179$  and  $\text{ACOS}(6\text{E-}9)=1.57079632079$ . From a 20% change in input, the output stays the same for the first 9 digits, 1.57079632. If you want 12 digits of the COS, how many digits does that correspond to in the angle in this part of the circle? Maybe 40? (That's only a wild guess. I don't have an easy way to find out, so I'll leave it for someone else who has the computational resources.)



Edited: 6 Sept 2007, 2:26 a.m.

## Re: The trigonometric bug is spreading !?

Message #30 Posted by [Lyuka](#) on 6 Sept 2007, 8:27 a.m.,  
in response to message #29 by Garth Wilson

As far as it's specified, the accuracy itself is not a problem. But the lack of quality-control to pass through such kind of trivial bugs, which make me feel it's not reliable, at least as a tool for professionals.

regards, Lyuka

## Re: The trigonometric bug is spreading !?

Message #31 Posted by [Karl Schneider](#) on 6 Sept 2007, 11:47 p.m.,  
in response to message #29 by Garth Wilson

Hi, Garth --

Quote:

It's not reasonable to want the same number of significant figures for everything...

*And just why not?? :-)*

Seriously, an obvious design objective of the Saturn-processor mathematics microcode was to provide a result correct to 12 significant digits with three-digit exponent for every transcendental function, using any valid input argument. As far as I know, that objective was met -- not considering any bugs that might have been present in the earliest versions (e.g., HP-71B). Clearly, that objective has not been fully met for the HP-33s and HP-35s.

Granted, it is usually quite difficult to put 12 significant digits to effective practical use in "real-world" physical applications. However, it's all about the mathematics.

Quote:

As long as you're not putting a bunch of zeroes after the 1.57079632 input number, in real-life practical use you are saying the input could be anywhere from 1.570796315 to 1.570796325, so correct outputs of that range could go all the way from about 1.79E-9 to 1.18E-8, a ratio of more than 6:1.

How many significant digits the user intends or claims for the input is not considered by the calculator (with the notable exception of integrand-function uncertainty for numerical integration). The calculator treats each input argument as an exact value to its supported number of significant digits -- 10 or 12 for most HP's. 1.57079632 is treated as 1.57079632000 by any Pioneer-series or RPL-based model, HP-71B, HP-75, HP-33s or HP-35s.

The user may select a display specification that rounds the result to the justified number of significant digits, but the calculation is always "full rank", to borrow a term from linear algebra.

(Come to think of it, your example suggests a good application for "FIX/SCI/ENG I" and "delta-%" in a short RPN program: Accept a value and a number of decimal digits as input to a programmed function, then calculate the percentage difference between the extrema of possible output values for the display setting.)

The results for  $\cos(\pi/2 - x)$  for very small  $x$  are nearly zero, so a ratio of two close values can be very large indeed. Also,  $|d(\cos y)/dy|$  and  $|d(\sec y)/dy|$  are at maximum for  $y$  near  $\pi/2$ , so the results are sensitive to small changes in  $y$  and must be used with care. That's the user's responsibility, not the calculator's...

-- KS

*Edited: 14 Sept 2007, 12:36 a.m. after one or more responses were posted*

## Re: The trigonometric bug is spreading !?

Message #32 Posted by [Garth Wilson](#) on 7 Sept 2007, 2:15 a.m.,  
in response to message #31 by Karl Schneider

Quote:

However, it's all about the mathematics.

Mathematics is not an end in itself. Its value only extends to its application in real-world engineering, finance, etc.. I fear that math teachers forget that, getting too fascinated with math for math's sake.

If you take the COS of a number A near  $\pi/2$  that has 12 significant figures and get an answer B with only 2 significant figures correct, and then take the ACOS of B and get the original input A back again with all 12 significant figures identical, you must consider further digits in the intermediate answer to be unimportant, maybe even dangerous. Otherwise, your gizmo design can run into trouble because an uncontrollably small variation in input will mean a very low yield in production, or maybe great expense or even human deaths in the field. The concept cannot be sterilized for math enthusiasts. It's all about the application.

Being a circuit designer, I'm much, much stronger in math than most technicians, mechanics, etc.; but I'm not a mathematician like some of you guys are. I have however seen, too many times, where for example someone depended on certain precision for their design, only to forget that temperature variations in the field would throw that precision out the window and result in a constant string of expensive malfunctions in the field. In that one, I was given the job of redesigning the product. I looked over what had been done and saw the many things that all had to be accurate for the thing to work, and then took an entirely different design approach. With thousands of the new units in the field for the last 18 months, there have been zero reports of malfunction.

Slide rules had a precision limitation that was a big problem for some applications; but the slide rule did graphically illustrate the comparative value of various operations' precisions. What finally lured me away from the slide rule to the calculator was that I needed something programmable.

## Says who ?

Message #33 Posted by [Valentin Albillo](#) on 7 Sept 2007, 4:12 a.m.,  
in response to message #32 by Garth Wilson

Hi, Garth:

Garth posted [the underlining is mine]:

*"Mathematics is not an end in itself. Its value only extends to its application in real-world engineering, finance, etc.."*

ROTFL ! Good joke. Try another, you seem pretty inspired today.

Best regards from V.

**Re: The trigonometric bug is spreading !?**

*Message #34 Posted by [DaveJ](#) on 7 Sept 2007, 4:57 a.m.,  
in response to message #32 by Garth Wilson*

Quote:

Mathematics is not an end in itself. Its value only extends to its application in real-world engineering, finance, etc.. I fear that math teachers forget that, getting too fascinated with math for math's sake.

Calculators are not an end in themselves, their value only extends to their application in real-world engineering, finance etc. I fear that calculator enthusiasts forget that, getting too fascinated with calculators for the sake of calculators!

Hence this forum should close immediately, there is no purpose to it!

:-)

Dave.

---

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## HP Forum Archive 17

[ [Return to Index](#) | [Top of Index](#) ]**Mastering the HP48G Book - Thomas Adams - Any Reviews?***Message #1 Posted by [bink](#) on 30 Aug 2007, 11:57 p.m.*

I have seen this book for sale on eBay. Is it recommended? How much should it go for?

Is there a better introductory book to the HP48?

Thanks,

binky

**"The HP48G provides the lubrication..."***Message #2 Posted by [Allen](#) on 31 Aug 2007, 1:25 a.m.,  
in response to message #1 by [bink](#)*

I believe this is not a good book, and at least two [other people](#) agree. (scroll to bottom of linked page for reviews)

**The Good...**

None. See comments below.

**The Bad...**

- 1) "The HP48G provides the lubrication..." That is how Chapter 3 describes the function of the [CAS] in helping the struggling reader solve equations. I think you can safely judge the merits of the rest of the book (and the cheap quality printing) from those 5 words.
- 2) The 185 page book is obviously fluffed by large font size and obnoxious (too large, poorly placed, and injudicious) figures.. There are probably less than 100 pages of info. This could have been distilled further to a compact and useful reference if they had put useful figures instead of full page flow charts and cut-and-paste tables from some spreadsheet.
- 3) BAD narratives throughout! On p.51, the author starts a 5-page solver example with an unnamed article "The effect of mound temperature on mating habits of nesting Australian Brush Turkey." (I'm serious!)

**...and the Ugly.**

1) While they chose to use FIVE different fonts on the cover of the book, the author or publisher saw fit to print everything inside the same Times New Roman font (boring!). This makes finding and reading the sample programs more difficult than if they had formatted HP48 sections with a fixed-width font. (Ironic that the subtitle to the book says it's easy to read! The program examples look like this formatting example):

Example 1: LS,R,O,L,L,ENTER, G,E,T,SPC,S,W,A,P,1,+4,5%,<<>>,3,2,G,E,T,ENTER,P,U,T,F,R,O,M,+A,L,P,H,A,  
S,U,B,-  
,O,V,E,R,D,U,P,\*LS,R,O,L,L,ENTER,G,E,T,SPC,S,W,A,P,1,4,5%,<<>>,3,2,G,E,T,ENTER,P,U,T,F,R,O,M,+A,L,P,H,A,  
S,U,B,-,O,V,E,R,D,U,P,LS,\*-,R,O,L,L,+,+,ENTER,1,4,5%,<<>>,3,2,G,E,T,ENTER,P,U,T,F,R,O,M,+A,L,P,H,A,S,U,B,-  
,O,V,E,R,D,U,P,ALPHA,H,A,R,D,T,O,R,E,A,D,T,H,I,S,T,R,A,S,H,STO

**Alternative Reading**

As far as introduction to the HP 48, I recommend the 48G series Manual first and foremost. Two other excellent alternatives: HP48 Insights by Wickes (ISBN:0962525855) or HP48 Handbook by Donnelly (ISBN:1879828049).

*Edited: 31 Aug 2007, 1:43 a.m.*

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## HP Forum Archive 17

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### Help with 71emu

Message #1 Posted by **Chuck** on 30 Aug 2007, 7:27 p.m.

Since it doesn't look like I can compete with the daft ebayers for an actual 71B, I decided to install 71emu on to my trusty 200LX. Well, ... it works.... but what the heck do I do now? Can anyone here point me to some helpful sites for using the 71emu. I've searched around, and found a few programs to "load" (how?) but no real help to get started. It's most likely that one should start with an actual 71B, then to the 71emu, not visa-versa. Any suggestions?

Tack, CHUCK

### Re: Help with 71emu

Message #2 Posted by **Egan Ford** on 30 Aug 2007, 9:12 p.m.,  
in response to message #1 by Chuck

I started with EMU71 before getting a 71B. I would recommend that others do as well. Running EMU71 on Windows or Linux/DOSEMU allows for cut/paste to load up programs easily.

If you have a 71B the most effective way is HP-IL.

Your worse case scenario is to type it in.

I have not use EMU71 for the 200LX, but assuming it has emulated HP-IL support you have a few options:

1. Install EMU71 on a Windows or Linux PC, cut/paste, then store to :HDRIVE1 (virtual floppy drive). Then copy the virtual floppy drive to your LX200.
2. Copy the source as a text file to your LX200. Add EOF to the end and save as emu\_in.dat in your EMU71 directory. Then type:

```

10 DESTROY ALL
20 DIM A$(100)
30 INPUT "FILENAME: "; F$
35 PURGE F$
40 CREATE TEXT F$
50 ASSIGN #1 TO F$
60 ENTER :DOSLINK ;A$
65 IF A$="EOF" THEN CLEAR :DOSLINK @ END
70 DISP A$
80 PRINT #1;A$
90 GOTO 60

```

Save as DOS2TXT, then run it.

3. Type it in.
4. I have not done this, but you may be able to do a serial to serial transfer from PC running EMU71.

### Re: Help with 71emu

Message #3 Posted by **Pal G.** on 30 Aug 2007, 11:15 p.m.,  
in response to message #1 by Chuck

Chuck,

You want a good cry? Have a look Item 31 on the list of HHC 2006 door prizes.

<http://holyjoe.net/hhc2006/DoorPrizes.pdf>

When I saw that I could not believe my eyes. And I'm not even a collector! I just like BASIC, and hp calcs.

Regards, Pal

[edited with advance formatting technique to make url clicky..]

*Edited: 30 Aug 2007, 11:17 p.m.*

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## HP Forum Archive 17

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### HP 71B

Message #1 Posted by [Frank V](#) on 30 Aug 2007, 4:11 p.m.

I recently wanted to use my beloved HP 71B. I took it out of wraps and continued to install new batteries. I get no response at all upon hitting the ON key. I tried using another set of batteries to no avail. Any help would be much appreciated.

### Re: HP 71B

Message #2 Posted by [Maximilian Hohmann](#) on 30 Aug 2007, 6:21 p.m.,  
in response to message #1 by Frank V

Hello!

Quote:

... hitting the ON key ...

My 71B probably has the same problem, a very unresponsive ON key. 'Hitting' will not bring it to life, I always need to press gently (but firmly) for a couple of seconds before the machine will turn itself on. In the beginning, not even this technique would help, so I used compressed air spray to blow out dust from underneath the keys. You have to open the calculator to do this, otherwise you will not get close enough to the contacts. If nothing else helps, you can try the same with contact spray, but I would do this only as a very last resort. Once you start using contact spray, the end is near...

Good luck, Max

### OT: Re: HP 71B

Message #3 Posted by [Vincze](#) on 31 Aug 2007, 8:31 a.m.,  
in response to message #2 by Maximilian Hohmann

Quote:

Once you start using contact spray, the end is near...

The end near... oh no, I better go to confession. :)

### Re: OT: Re: HP 71B

Message #4 Posted by [Maximilian Hohmann](#) on 31 Aug 2007, 10:44 a.m.,  
in response to message #3 by Vincze

Hello!

Quote:



---

The end near... oh no, I better go to confession. :)

---

Wait till you have your 71B - when it refuses to work one day, after you have gotten used to it, you really think that this is the end of the world as we know it ;-)

But kidding aside: It is really my experience that once you start to use contact spray to get electronic devices back to work, they don't last very long afterwards. The intervals at which you have to re-apply the spray get shorter and shorter, and after some time, the spray/cleaner/solvent will not work any more. Probably because together with the oxide, also a little of the contact material (usually gold plating) gets removed as well. Also, the dissolved oxides, dust, sweat from underneath the keys get re-deposited elsewhere in the keyboard (out of reach!) and start new corrosion there.

Greetings, Max

---

**Re: OT: Re: HP 71B**

*Message #5 Posted by [Vincze](#) on 31 Aug 2007, 12:53 p.m.,  
in response to message #4 by Maximilian Hohmann*

Yes, when I get 71B. I have emailed sender now twice and not hear anything from them. I hope I not get rip off scam.

---

**Re: OT: Re: HP 71B**

*Message #6 Posted by [Garth Wilson](#) on 31 Aug 2007, 1:11 p.m.,  
in response to message #5 by Vincze*

fixthatcalc should be able to take care of it.

---

**Re: OT: Re: HP 71B**

*Message #7 Posted by [Vincze](#) on 31 Aug 2007, 1:21 p.m.,  
in response to message #6 by Garth Wilson*

With broken 71B, yes. I still waiting for sender to send me 71B. I bought from person in Spain. I wire money, they send me tracking number, but I still waiting. I just hope it is just taking longer than expected.

---

**Re: OT: Re: HP 71B**

*Message #8 Posted by [Maximilian Hohmann](#) on 31 Aug 2007, 1:24 p.m.,  
in response to message #5 by Vincze*

Hello!

Quote:

---

Yes, when I get 71B. I have emailed sender now twice and not hear anything from them. I hope I not get rip off scam.

---

When they sent it as an 'ordinary' parcel with the mail and not with one of the courier services like FedEx or UPS (very expensive and difficult to use for private persons here in Europe), it can take between three and six weeks in my experience. And if you bought it from Germany:

There are still school holidays in some regions, so the seller may not be home right now.

Greetings, Max

**Re: OT: Re: HP 71B**

*Message #9 Posted by **Massimo Gnerucci (Italy)** on 31 Aug 2007, 1:53 p.m.,  
in response to message #8 by Maximilian Hohmann*

Quote:

When they sent it as an 'ordinary' parcel with the mail and not with one of the courier services like FedEx or UPS (very expensive and difficult to use for private persons here in Europe), it can take between three and six weeks in my experience

*Surface shipping can take over two months to show up... if ever...*

Greetings,  
Massimo

**Re: OT: Re: HP 71B**

*Message #10 Posted by **Vincze** on 31 Aug 2007, 2:41 p.m.,  
in response to message #8 by Maximilian Hohmann*

It come from Spain, and seller say 3 - 10 days. I figure it take some time with customs, but it worry me that seller not even contact me back. I shall be patient. It when you want something it seem to take forever. I should know with packages going and coming from Hungary that it take time.

**Re: HP 71B**

*Message #11 Posted by **Frank V** on 2 Sept 2007, 10:43 a.m.,  
in response to message #2 by Maximilian Hohmann*

Max, thank you for your help. I purchased a brand new set of batteries and the unit turn on. This calculator has been sitting on my desk for the past three years, maybe this had something to do with it. All is well now except when upon turning on the unit, it takes about 5 seconds for the cursor to go on. Best regards from Flushing Queens.

**Re: HP 71B**

*Message #12 Posted by **Valentin Albilló** on 2 Sept 2007, 11:35 a.m.,  
in response to message #11 by Frank V*

Hi, Frank:

Frank posted:

*"All is well now except when upon turning on the unit, it takes about 5 seconds for the cursor to go on."*

If you've got an HP-IL module plugged in, that's likely the cause. Just execute the command OFFIO from the command line and see if that solves the problem.

Whenever you need to do HP-IL I/O again, execute RESTOREIO. Don't forget to execute OFFIO once more when you're done with I/O.

Best regards from V.

**Re: HP 71B**

*Message #13 Posted by [Frank V](#) on 2 Sept 2007, 3:22 p.m.,  
in response to message #12 by Valentin Albillo*

Greetings Valentin, your diagnosis was correct. Thanks for all your contributions to this site.  
Regards.

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## HP Forum Archive 17

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### **New HP calculator videos online**

Message #1 Posted by [Gene Wright](#) on 30 Aug 2007, 3:02 p.m.

HP has made available several new videos for how to use their calculators.

Videos include:

Introduction to Finance

Power of the graphing series (39g+ and 39gs, 49g+ and 50g)

Pre-calculus using the HP 39g+ (and 39gs)

Pre-algebra and Algebra I using the HP 39g+ (and 39gs)

and

Calculus using the HP 49g+ (and 50g)

[Video link](#)

### **Re: New HP calculator videos online**

Message #2 Posted by [Jonathan Eisch](#) on 30 Aug 2007, 4:04 p.m.,  
in response to message #1 by Gene Wright

I just checked out the calculus one, and I'm impressed. Very nice! Keep up the good work, HP!

-Jonathan

### **Re: New HP calculator videos online**

Message #3 Posted by [Frank Rottgardt](#) on 30 Aug 2007, 4:34 p.m.,  
in response to message #1 by Gene Wright

Hi Gene,

in one video there is a typo:

Calculate the numerical integral of TAN (X/2) from 0 to Pi/6 in radian mode.....

Answer c) is wrong! Its a typo. It must be 0.06933.. (not 0.09633..)

I checked it with my 48GX. You know, the old fashioned reliable stuff ;-)

// Frank

**Re: New HP calculator videos online**

Message #4 Posted by **Gene Wright** on 30 Aug 2007, 4:50 p.m.,  
in response to message #3 by Frank Rottgardt

Which video is that one in?

I'll pass the typo along...

**Re: New HP calculator videos online**

Message #5 Posted by **Frank Rottgardt** on 30 Aug 2007, 5:00 p.m.,  
in response to message #4 by Gene Wright

Hi,

Power of the Graphing Series

Slide 13

Greetings from Sweden // Frank

**Re: New HP calculator videos online**

Message #6 Posted by **Giancarlo (Italy)** on 30 Aug 2007, 5:29 p.m.,  
in response to message #1 by Gene Wright

Hi Gene.

Thank you for the link, both for the videos themselves and for the possibility of looking at a picture of yours ;-)  
)

[digression]

In fact, I was thinking that having hang out at the forum since some time now, I've become familiar with many names,

but most of them are associated to a picture I've made into my mind.

Sometimes it's interesting to get to see if the real looking fits the envisioned one(s)

[\digression]

Now, back to the serious things ;-)...

Is there any way to download those videos and store them locally for future use?

Thank you.

Best regards.

Giancarlo

**Re: New HP calculator videos online**

Message #7 Posted by **Allen** on 8 Sept 2007, 9:02 p.m.,  
in response to message #1 by Gene Wright

Gene, Great idea! I like the training videos. The audio is a little undersampled, even for the readers low-pitched voice.

Of note: there is an audio error at the end of the 12c platinum cost estimation video. (may be at the end of the other cost estimation videos, too, not sure.)

In the final example:125,000 can produce how many chairs?

The reader states: "...the total costs would be 5755 dollars."

Should read "Estimated production from a cost of \$125,000 is estimated to be 5755 **chairs**."

Keep up the great work!, Allen

---

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## HP Forum Archive 17

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### HP Connect0.91 (MacOSX) and HP50G

Message #1 Posted by [Miguel Saiz](#) on 30 Aug 2007, 2:35 p.m.

Does any had tried to connect to HP50G using a Mac? I am planning yo buy one HP50G (long time user of HP calculators) but would like to know if is possible to connect to a MAC using USB,

Thanks

Miguel

### Re: HP Connect0.91 (MacOSX) and HP50G

Message #2 Posted by [Pal G.](#) on 30 Aug 2007, 3:03 p.m.,  
in response to message #1 by Miguel Saiz

Yes, and your timing is coincidental. We were just discussing this on comp.sys.hp48.

I have no problems connecting my hp 50g to my Macbook Pro, using USB and HPConnect 0.9.1.

Regards, Pal

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## HP Forum Archive 17

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**SD card reader as cheap 50G accessory**

Message #1 Posted by [Norris](#) on 30 Aug 2007, 2:22 p.m.

This is probably old news to many users, but I suspect that others may not be aware that an SD card reader is an inexpensive and convenient accessory for the HP-50G (presumably the 49G+ as well).

The 50G comes with a USB cable and Conn4x software. So that's what I've been using to connect my 50G to my home PC. But more recently, I wanted a similar setup for my work PC.

My first thought was to buy a second USB cable and install Conn4x at work, just like at home. But I happened to see an SD card reader for \$9.76 at the local Wal-Mart, and decided to try that instead. It was in the digital camera section, by the SD cards. It looks similar to [this one](#), though mine doesn't have a cap to cover the card.

I have a 16M SD card for my 50G, which originally came with a Canon digital camera. A 16M card is ridiculously undersized for a camera, so I bought a 1G card for the camera instead. The 16M card was donated to the calculator, where it is plenty big.

The card reader is a little plastic device with a USB connector on one end and an SD card slot at the other. I can pop the SD card out of the calc and into the reader, then plug the reader into the USB port of a PC. Any reasonably modern PC seems to recognize and mount the card automatically (sometimes it takes a little longer the first time, but it goes quickly after that).

With the card reader, I can easily move files between the 50G and any of the desktops or laptops at work or home, without untangling cables or installing software. To install a library, for example, you just copy it from the PC to the card via the card reader, put the card back in the calculator, use the filer to copy the library to Port 2, and press On-C to reboot.

It's a pretty handy accessory for 10 bucks.

*Edited: 30 Aug 2007, 2:23 p.m.*

**Re: SD card reader as cheap 50G accessory**

Message #2 Posted by [Tim Wessman](#) on 30 Aug 2007, 2:33 p.m.,  
in response to message #1 by Norris

Yup. The only reason to use the cable is if you need to take screenshots. Other than that, it is much quicker and easier to just use an SD card.

TW

**Re: SD card reader as cheap 50G accessory**

Message #3 Posted by [Bruce Bergman](#) on 30 Aug 2007, 4:41 p.m.,  
in response to message #1 by Norris

Another option (a better option, IMHO) is the SanDisk Ultra II PLUS SD cards. Note, this is NOT the Ultra II



devices -- the "PLUS" is significant. Basically, they took a standard SD card and embedded a full USB connector in the same package. It's a marvel of engineering, once you look at one...

When you want to use it with your HP-50g, just shove it in. When you need to put data on it, take it out, snap it in half (a little hinge in the middle allows this) and insert it directly into your USB port. Transfer the data, snap it back together and insert into your calc.

This card has pretty much revolutionized the market for transfer among SD devices and USB. The best part is that it's only a few bucks more than a traditional SD card. Well worth the money.

thanks, bruce

### **Re: SD card reader as cheap 50G accessory**

*Message #4 Posted by [Norris](#) on 30 Aug 2007, 5:01 p.m.,  
in response to message #3 by Bruce Bergman*

OK, now that is just too cool. And the 512M version is going for only \$12.44 (plus shipping) at [amazon](#). That may well be the best way to go.

### **Re: SD card reader as cheap 50G accessory**

*Message #5 Posted by [Ron G.](#) on 31 Aug 2007, 9:57 a.m.,  
in response to message #3 by Bruce Bergman*

I have a friend who has one of these. She has trouble getting good contact with the USB in her computer. W/o the alignment part of the USB connector, it's a little difficult to line it up properly. I haven't actually tried it myself; and honestly, while she's good at code stuff, she's not the most brilliant person otherwise. It may work well if you're able to tie your shoes.

Here's a link to a competitor - [Click](#).

### **Sandisk Ultra II SD Plus USB as cheap 50G accessory**

*Message #6 Posted by [Norris](#) on 31 Aug 2007, 1:40 p.m.,  
in response to message #3 by Bruce Bergman*

OK, since I was totally outgeeked with my card reader suggestion, I stopped by a local Circuit City store to see the SanDisk cards. Sure enough, they had the 512M version for \$18, so I got one.

It seems to work as advertised. In SD card mode, the 50G has no trouble with it. And if you fold it in half, you can stick it directly into a PC's USB port, no reader required.

The first time I used the card in my home PC, it took a minute or two for the PC to figure out what it was. But now the PC recognizes the card immediately.

So I have adopted this option, and would recommend it to others, with a few possible caveats:

- The "folded" card might not "plug in" to a computer with recessed USB ports (in this case, you would need a separate USB cable as an "extension cord")
- It's a bit tricky to "unfold" the card, and it might be more difficult if you were clumsy or had large fingers
- You have to watch whether the "folded" card is plugged in upside down (this is not possible with a standard USB connection).

**Re: Sandisk Ultra II SD Plus USB as cheap 50G accessory**

Message #7 Posted by [Gerry Schultz](#) on 31 Aug 2007, 2:48 p.m.,  
in response to message #6 by Norris

A slightly different answer is the thumb drive sized SD card reader. It's basically a wide USB thumb drive shaped SD card reader that you can plug in an SD memory card. On my 50G, that's how I move files back and forth to and from my PC or Mac. Very convenient.

Gerry

**Re: Sandisk Ultra II SD Plus USB as cheap 50G accessory**

Message #8 Posted by [Bruce Bergman](#) on 31 Aug 2007, 6:07 p.m.,  
in response to message #6 by Norris

Hi Norris ;-)

Yeah, I was a bit hesitant about being "rough" with my card too for a while, but then one evening, in the near dark, I was trying to snap it open and was really really "folding" it hard until I realized that it was upside down. Turns out the card itself didn't even blink. I think they put some kryptonite in it or something. ;-)

Since then, I've been pretty nonchalant with it and it's never even shown signs of wear or stress. That's not to say I recommend throwing it around and being mean to it, but it seems to handle almost daily abuse with no problem. I've had my 2GB card now for over a year and no problems with it whatsoever. It just SEEMS like it should be fragile, since it's so stinking small, but it is strong too.

As for shoving it in a USB jack (and as someone else pointed out), yeah, it may take a second longer to align it properly. Fortunately, there's nothing to short out on the underside, and I just look for the little green light. If it's on, it's inserted fine. If it's off, I either re-insert it or flip it over. I haven't experienced any tight USB jacks, but I suppose there are some that might be that way.

It's a very cool device though. Definitely gets the "wow" factor when people see it. ;-)

thanks, bruce

**Re: Sandisk Ultra II SD Plus USB as cheap 50G accessory**

Message #9 Posted by [Norris](#) on 31 Aug 2007, 6:44 p.m.,  
in response to message #8 by Bruce Bergman

<< I just look for the little green light >>

Mine also has a tiny light, but it's blue. Maybe the 512 MB card has a different light than the 2 GB card.

And what do you put in a 512 MB card anyway ?? My HP-48GX has an old-school 512 KB card in Slot 2, and I actually did put a serious dent in that.

But 512 MB ?? Or 2 GB ??

*Edited: 31 Aug 2007, 6:54 p.m.*

**Re: Sandisk Ultra II SD Plus USB as cheap 50G accessory**

*Message #10 Posted by [Bruce Bergman](#) on 31 Aug 2007, 7:38 p.m.,  
in response to message #9 by Norris*

I should have clarified, sorry.

I use my 2GB card for my Treo. On that, I keep backups of the Treo, games, e-books, music and more.

On the HP-50g, I use a 512MB like you. I have a ton of programs, mostly around statistics, plus about 15-20 utilities (backup programs, splitters, editors, database programs, etc) and a pretty big collection of games. I also keep a copy of each of the programs I have on the calc in its zipped form, in case a buddy says "hey, I want that one!". I can just pop the card out, transfer the zip file over and then they have it.

Still, it's not even half full. Maybe someday there'll be a music player for the HP-50g. ;-)

thanks, bruce

### **Re: SD card reader as cheap 50G accessory**

*Message #11 Posted by [Eric Rechlin](#) on 31 Aug 2007, 5:33 p.m.,  
in response to message #1 by Norris*

I have an even more compact SD card reader on my site ([hpcalc.org](http://hpcalc.org)) for \$5. Nobody's bought one yet (everyone around here seems to prefer Samson Cables for some reason) so I haven't had to decide on a shipping price, though.

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## HP Forum Archive 17

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### Classic Calculators in the UK?

Message #1 Posted by [Bruce Bergman](#) on 30 Aug 2007, 12:58 p.m.

Just found this site by accident, while I was looking for a very specific HP part. Never heard of them before. I see they are selling the HP-35s over in the UK too. Does anyone know anything about them, or has anyone purchased anything from them before?

[Classic Calculators](#)

thanks, bruce

### Re: Classic Calculators in the UK?

Message #2 Posted by [Fred Lusk](#) on 30 Aug 2007, 7:23 p.m.,  
in response to message #1 by Bruce Bergman

Bruce...

I'm in California and have never ordered from Classic Calculators. However, several years ago they ran a contest through their website. The top prize was a BNIB HP-41CX, one out of a bunch they had found in a warehouse. I ended up winning the third prize, which was an HP-10B. It arrived in less than a week, which is better service than some U.S. vendors I have dealt with.

Fred

### Re: Classic Calculators in the UK?

Message #3 Posted by [Chris Dean](#) on 31 Aug 2007, 3:11 a.m.,  
in response to message #2 by Fred Lusk

I have used Classic Calculators to buy a number of HP calculators and have found them to be a very helpful and reliable company to deal with. They provide a good fast service and if you are a UK resident they can deliver next day if the item is in stock. They even have free delivery on the HP35S for UK on-line orders.

Chris Dean (no association with the company Classic Calculators)

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## HP Forum Archive 17

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### HP 35s trigonometric functions alternative

Message #1 Posted by [Lyuka](#) on 30 Aug 2007, 9:11 a.m.

To all who might be interested, here is another trigonometric program specially for the HP 35s.

[HP 35s trigonometric functions \(sin, cos and tan\) alternative](#)

Quote:

The HP 35s's built-in trigonometric functions seems to lose its accuracy around  $\pi/2$ ,  $\pi/4$ ,  $\pi/3$  and so on. In some case its accuracy goes down to seven digits or less which is not acceptable as the scientific calculator that features internal 15 digits precision. Anyway as it was necessary, I wrote the alternative trigonometric functions for the HP 35s. [Aug. 30, 2007]

Best regards,

Lyuka

### Re: HP 35s trigonometric functions alternative

Message #2 Posted by [Ed Look](#) on 30 Aug 2007, 12:22 p.m.,  
in response to message #1 by Lyuka

Impressive!

I applaud and appreciate your mathematical and coding passion.

### Re: HP 35s trigonometric functions alternative

Message #3 Posted by [Gerson W. Barbosa](#) on 30 Aug 2007, 3:28 p.m.,  
in response to message #1 by Lyuka

Congratulations!

Alternative trigonometric functions for the HP-35s are always welcome. Hopefully at least until the next ROM revision :-)

Saving the stack and the LastX register is nice. It's a pity the 35s is not as fast as the 33s. I'd like to know what your other references are, since you've used a different approach.

Best regards,

Gerson.

### Re: HP 35s trigonometric functions alternative

Message #4 Posted by [Lyuka](#) on 31 Aug 2007, 4:41 a.m.,

*in response to message #3 by Gerson W. Barbosa*

Thanks.

I really want the bug-fixed version of the HP 35s.

By the way, I have no other reference since it is a kind of my original. Taylor series, the continued fraction, Chebyshev approximation, and Pade approximation itself are all well known mathematical method. However, I thought a method that optimise only the coefficients of the parts which have smaller computational error sensitivity, based on rational Chebyshev approximation.

'pi' in my program is coded as builtin PI (3.14159265359) - 2.06761537357E-13 this yields 25 digits pi approximation 3.141592653589793238462643.

Regards,

Lyuka

### **Re: HP 35s trigonometric functions alternative**

*Message #5 Posted by **Gerson W. Barbosa** on 31 Aug 2007, 12:18 p.m.,  
in response to message #4 by Lyuka*

Quote:

'pi' in my program is coded as builtin PI (3.14159265359) - 2.06761537357E-13 this yields 25 digits pi approximation 3.141592653589793238462643.

Oops! I ought to have paid attention to the constant in line J078.

Thanks again for the very original contribution!

Gerson.

### **Re: HP 35s trigonometric functions alternative**

*Message #6 Posted by **Gerson W. Barbosa** on 30 Aug 2007, 10:01 p.m.,  
in response to message #1 by Lyuka*

Both your program and the built-in sine function give the same answer for

```
sin(3.1415926535)
```

```
-> 8.97932384626E-11
```

This means pi does not have to be hard-coded to 24 digits for this result to be possible, contrary to what I thought:

<http://64.233.169.104/search?q=cache:FdTXWPVCnGIJ:www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/forum.cgi%3Fread%3D122855+site:hpmuseum.org+DLF&hl=en&ct=clnk&cd=2>

The 2-second running time is very good. Too bad on the 35s at least THREE keystrokes are required before programs start running...

Regards,

Gerson.

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## HP Forum Archive 17

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### encrypting messages on 42s

Message #1 Posted by [Howard Lazerson](#) on 29 Aug 2007, 3:25 p.m.

Does anyone know if there are any simulations for encrypting messages on the 42s similar but on a much smaller scale that are available for computers vs the enigma machine. Howard

### Re: encrypting messages on 42s

Message #2 Posted by [Thomas Okken](#) on 29 Aug 2007, 3:52 p.m.,  
in response to message #1 by Howard Lazerson

There is an implementation of the Advanced Encryption Standard (AES) for the HP-42S at <http://mathstat.carleton.ca/~brett/Research/Code/index.html#hpaes>.

- Thomas

### Re: encrypting messages on 42s

Message #3 Posted by [Howard Lazerson](#) on 29 Aug 2007, 6:10 p.m.,  
in response to message #2 by Thomas Okken

Excellent !, thanks for your help, Howard

### Rijndael on a 42s?!?

Message #4 Posted by [Howard Owen](#) on 30 Aug 2007, 1:12 a.m.,  
in response to message #2 by Thomas Okken

My goodness, how fast does Rijndael run on a Saturn? Have you tried that code on Free42, Thomas?

Regards,  
Howard

### Re: Rijndael on a 42s?!?

Message #5 Posted by [Thomas Okken](#) on 30 Aug 2007, 8:36 a.m.,  
in response to message #4 by Howard Owen

Quote:

My goodness, how fast does Rijndael run on a Saturn? Have you tried that code on Free42, Thomas?

No, I haven't tried it myself. The author, Brett Stevens, submitted his code for the programs page on my web site, and I linked back to his page, that's all.

According to the author's documentation, he wrote the program as a proof of concept, to show that an



advanced algorithm like AES could be implemented on a limited architecture like the 42S. The author does not provide performance measurements, either, but of course you could run a few tests of your own... In case you'd rather not type in all that code by hand, there are \*.raw files on [my programs page](#). :-)

- Thomas

### Re: Rijndael on a 42s?!?

Message #6 Posted by [Alain Mellan](#) on 30 Aug 2007, 11:46 a.m.,  
in response to message #5 by Thomas Okken

Quote:

According to the author's documentation, he wrote the program as a proof of concept, to show that an advanced algorithm like AES could be implemented on a limited architecture like the 42S.

Is he trying to prove [Church's Thesis](#)? :-)

It basically says that "any calculation that is possible can be performed by an algorithm running on a computer, provided that sufficient time and storage space are available"

### Re: Rijndael on a 42s?!?

Message #7 Posted by [Howard Owen](#) on 30 Aug 2007, 12:53 p.m.,  
in response to message #5 by Thomas Okken

One of the requirements for AES was that it be easy to implement in hardware. That means several things, but in particular that the algorithm needed to have small memory requirements and a relatively low demand for CPU cycles. "Relatively" in this case probably meant with respect to low to medium speed embedded CPUs. I'm sure that speeds like those offered on the 42s (a Saturn at, what, 640 KHz?) weren't considered in scope. But in scope or not, the referenced program would seem to prove that rijndael algorithm, the eventual winner of the AES competition, truly has a tiny memory footprint.

It would be interesting to see how fast the algorithm runs on a real 42s. However that would require typing in a lot of numbers and program lines. If I get a free afternoon or so, I might attempt it. My 42s can be accelerated, so I could compare the two modes on something really computationally intensive relative to the machine. A comparison with Free42 would also be interesting, and wouldn't demand nearly so many keystrokes. 8)

Regards,  
Howard

### Re: Rijndael on a 42s?!?

Message #8 Posted by [Thomas Okken](#) on 30 Aug 2007, 2:21 p.m.,  
in response to message #7 by Howard Owen

Quote:

It would be interesting to see how fast the algorithm runs on a real 42s. However that would require typing in a lot of numbers and program lines.

You could also use Emu42 in "original speed" mode. I don't think it has an "original **accelerated** speed" mode, though. <g>

- Thomas

### Re: Rijndael on a 42s?!?

Message #9 Posted by **Howard Owen** on 30 Aug 2007, 6:39 p.m.,  
in response to message #8 by Thomas Okken

Quote:

I don't think it has an "original **accelerated** speed" mode, though. <g>

It depends on how the acceleration is implemented on the real calculator, and if that/those feature(s) are emulated in emu42. I agree it's less likely to be there.

That's a good suggestion, though. I'm leaning toward keying the program in, but I have a development project (basically, an airline time filler) underway. I don't know if the AES code would fit alongside my current stuff. If not, I'd have to move the programming up my priority list, or else just accept re-keying the program after doing the AES stuff. In the meantime, emu42 might serve as a stand-in for the real machine, at least for now.

Regards  
Howard

### Re: Rijndael on a 42s?!?

Message #10 Posted by **Thomas Okken** on 30 Aug 2007, 11:15 p.m.,  
in response to message #9 by Howard Owen

Quote:

It depends on how the acceleration is implemented on the real calculator, and if that/those feature(s) are emulated in emu42.

As far as I know, accelerated HP calcs simply have a modified master clock, which makes *\*everything\** run faster, i.e. all the hardware -- not like speeding up a PC by overclocking the CPU, where only the CPU runs faster, while memory and peripherals still run at the same speed as before. So, theoretically, an HP-42S whose clock has been cranked up by a factor  $x$  from the normal 1 MHz, should do *\*everything\** faster by a factor  $x$ . I don't know about the HP-42S' "**Fast Mode**", though -- that may well be different. Christoph, if you're listening, could you shed some light as to how that may work in Emu42?

Quote:

I don't know if the AES code would fit alongside my current stuff.

**aes.raw** and **aesprep.raw** are 3357 bytes together -- that's almost half the HP-42S' total user memory. Pretty darn big by HP-42S standards, but you should still be able to do a great deal even with those things loaded.

It should be possible to shave off some bytes by using a matrix to hold the constants from **aesprep.raw**, and writing a small program to load the required registers from that; in a matrix, each number takes up 8 bytes, while in a program, it can be significantly more (and the numbers in **aesprep.raw** are definitely more than 8 bytes each -- count 1 byte each for each digit, minus sign, decimal point, and exponent sign, plus one extra byte for the "null" byte that is automatically inserted in front of each number).

- Thomas

### **Re: Rijndael on a 42s?!?**

*Message #11 Posted by **Howard Owen** on 31 Aug 2007, 2:22 p.m.,  
in response to message #10 by Thomas Okken*

Quote:

\_\_\_\_\_

I don't know about the HP-42S' "Fast Mode", though

\_\_\_\_\_

That's the speedup I have available on my machine. I'm pretty sure it's a clock doubling hack because BEEP tones go up an octave. The mode is enabled in software, however.

Quote:

\_\_\_\_\_

**aes.raw** and **aesprep.raw** are 3357 bytes together -- that's almost half the HP-42S' total user memory. Pretty darn big by HP-42S standards, but you should still be able to do a great deal even with those things loaded.

\_\_\_\_\_

Yes, indeed. I should have plenty of room for both projects.

Regards,  
Howard

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## HP Forum Archive 17

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### **HP 12C: 1988 USA vs 1991 Brazil**

Message #1 Posted by [RandyL](#) on 29 Aug 2007, 3:09 p.m.

Would you consider these models to be of the same quality (build, tactile quality of keys, etc)? I understand that the models from the US and Brazil prior to 1995 are all pretty good. If so, would it make sense to buy the newer model to reduce the odds of having issues due to electronic corrosion etc? Thanks for any insight.

### **Re: HP 12C: 1988 USA vs 1991 Brazil**

Message #2 Posted by [marais](#) on 30 Aug 2007, 3:27 p.m.,  
in response to message #1 by [RandyL](#)

I have both an USA and a Brazil model and find them equivalent. Don't recall the manufacturing years though.

A.

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## HP Forum Archive 17

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### **Dynatech is selling HP 35s in germany!**

Message #1 Posted by [Doctor Bubu](#) on 29 Aug 2007, 3:03 p.m.

The german Firm Dynatech now has the 35s in Stock for 69,95 Euro.

[Dynatech](#).

Greetings Juergen

*Edited: 30 Aug 2007, 12:15 p.m. after one or more responses were posted*

### **Re: Dynatech is selling HP 35s in germany!**

Message #2 Posted by [Massimo Gnerucci \(Italy\)](#) on 29 Aug 2007, 4:04 p.m.,  
in response to message #1 by Doctor Bubu

This afternoon I already asked them if they will ship to Italy... no reply until now... ;)

Thanks anyway!

Greetings,  
Massimo

### **Re: Dynatech is selling HP 35s in germany!**

Message #3 Posted by [Raymond Del Tondo](#) on 30 Aug 2007, 12:35 a.m.,  
in response to message #1 by Doctor Bubu

Hi Juergen,

I think the link should read [www.dynatech.de](http://www.dynatech.de) ,  
with two dots instead of a comma;-)

Regards

Raymond

### **Re: Dynatech is selling HP 35s in germany!**

Message #4 Posted by [Walter B](#) on 30 Aug 2007, 2:03 a.m.,  
in response to message #1 by Doctor Bubu

They are also offering at TAS, but watch it: you'll save 30 Euros (ca. 41 US\$) on a 50G using their website instead!

### **Re: Dynatech is selling HP 35s in germany!**

*Message #5 Posted by [Patrick Rendulic](#) on 30 Aug 2007, 1:24 p.m.,  
in response to message #1 by Doctor Bubu*

I don't want to interfere with anyones business. But even for European buyers it might be cheaper to get the calculator from Samson Cables.

**Re: Dynatech is selling HP 35s in germany!**

*Message #6 Posted by [Marcus von Cube, Germany](#) on 5 Sept 2007, 4:55 a.m.,  
in response to message #5 by Patrick Rendulic*

The problem is that I'm still waiting for my 35s since Aug 1st, 2007. Somehow they managed to misplace my order.

Marcus

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## HP Forum Archive 17

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### **OT: Mathamatics behind the perfect wiggle**

Message #1 Posted by [Vincze](#) on 29 Aug 2007, 1:01 p.m.

My friends, this is funny. I just reading article in the UK Telegraph that state they figured out how to find the perfect ratio of hips to waist to have proper strength to have perfect wiggle when she walks. They say perfect ratio is 7.0. So let me get this straight, if Godlilla has waist that are 250' and hip that is 360', he have perfect wiggle when he walk?

Here is link to story: <http://www.telegraph.co.uk/news/main.jhtml?xml=/news/2007/08/25/nwiggle125.xml>

### **Re: OT: Mathamatics behind the perfect wiggle**

Message #2 Posted by [Ken Shaw](#) on 29 Aug 2007, 1:15 p.m.,  
in response to message #1 by Vincze

I assume you mean 0.7, not 7.0

### **Re: OT: Mathamatics behind the perfect wiggle**

Message #3 Posted by [Vincze](#) on 29 Aug 2007, 1:30 p.m.,  
in response to message #2 by Ken Shaw

Uh, yes... Overweight Godzilla might be a 7.0 ;)

### **Re: OT: Mathamatics behind the perfect wiggle**

Message #4 Posted by [Howard Owen](#) on 29 Aug 2007, 2:43 p.m.,  
in response to message #3 by Vincze

Quote:

Overweight Godzilla might be a 7.0 ;)

Um, Godzilla is at ideal weight? I'd be dieting in his shoes .. er .. claws.

Regards,  
Howard

### **Re: OT: Mathamatics behind the perfect wiggle**

Message #5 Posted by [Vincze](#) on 29 Aug 2007, 3:18 p.m.,  
in response to message #4 by Howard Owen

I not know, you go weigh him. ;)

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## HP Forum Archive 17

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### Now THIS is nuts!

Message #1 Posted by [Bruce Bergman](#) on 29 Aug 2007, 10:11 a.m.

Okay, so we all giggle about some unusually high prices for calcs on that auction site from time to time, but this one is crazy.

I was looking for a particular calc and there was this banner ad at the bottom of the page. Clearly targeting my needs, I thought I'd peak at it, and then I saw the price. I almost couldn't believe it!

#### [HP Paper](#)

So if my math is correct, that's only six rolls of paper. Are these guys for real? Don't they know I can get a 24-pack of new paper from Office Depot for like \$15.00?

Truly amazing.

### Re: Now THIS is nuts!

Message #2 Posted by [Bill \(Smithville, NJ\)](#) on 29 Aug 2007, 10:23 a.m.,  
in response to message #1 by [Bruce Bergman](#)

Hi Bruce,

I find things like this quite common on Amazon. Don't really understand how the vender comes up with their high price point.

Maybe they figure the Box adds value :)

You know \$6 for 6 rolls of paper and \$545 for the official HP box.

What's really interesting is there are TWO venders with exactly the same high price.

Thanks for the chuckle.

Bill

### Re: Now THIS is nuts!

Message #3 Posted by [Ren](#) on 29 Aug 2007, 11:28 a.m.,  
in response to message #1 by [Bruce Bergman](#)

Quote:

Don't they know I can get a 24-pack of new paper from Office Depot for like \$15.00?

Truly amazing.

Bruce, **THEY** probably know that, they might even be buying up OD rolls and repackaging them.

But what about some bureaucrat's assistant who was ordered, "Buy more paper for the HP calc's!!!" And when she/he called up GSA (Government Services Administration ( a US Gov't TLA) ) Helpdesk, she/he couldn't get a definite answer that the OD paper will work, so they go with what they know...

Or maybe a similar situation in the military, only here it is an E-3 (Enlisted, level 3 pay scale) who is also working on getting there GED (High School Equivalency Diploma) and the OD paper does have a MIL-SPEC number...

Ren dona nobis pacem

**Re: Now THIS is nuts!**

*Message #4 Posted by [Chan Tran](#) on 29 Aug 2007, 4:03 p.m.,  
in response to message #3 by Ren*

Hmm I have the box with only 5 rolls in it. Should I sell the box only as I have no use for it?

**eBay sure is a crazy place...**

*Message #5 Posted by [Randy](#) on 29 Aug 2007, 5:33 p.m.,  
in response to message #1 by Bruce Bergman*

It's been a while since we had an eBay dogpile. While I know it's not of interest to some here, once in a while you just gotta laugh at how stupid some of the auctions are. This one just screams SHILL SHILL SHILL. It's sad that eBay doesn't have better controls on this kind of nonsense. After all, how hard is it to compare IP addresses?

[A nice HP48G+ for \\$250](#)

PS: I put eBay in the subject line so those who wish to skip the post may do so - for fear they might waste some time or whatever it is about eBay posts that is offensive or whatever.

*Edited: 29 Aug 2007, 5:38 p.m.*

**Re: eBay sure is a crazy place...**

*Message #6 Posted by [Ron G.](#) on 30 Aug 2007, 9:18 a.m.,  
in response to message #5 by Randy*

Definitely some interesting bidding going on. It's quite a coincidence that several of the bidders have such similar names.

**Re: eBay sure is a crazy place...**

*Message #7 Posted by [Ren](#) on 30 Aug 2007, 10:47 a.m.,  
in response to message #6 by Ron G.*

Yeah, sometimes I wonder if eBay is used for laundering money.

What if...

I put a RARE! MINT! NIB! watchamacallit up for auction, that typically sells for 1 Ducat. I notify my friend, Euclid, in Kanuckistan of the auction, (eh?). He in turn notifies his friend, Kwazymodo, of the

auction. The two of them get in a bidding war and Euclid buys my trinket for 998 Samoluskies. I get the money, and along with the watchamacallit he receives a kilo or so of fine Afghani snow.

What if I do it daily with dozens of "friends" around the world under dozens of seller accounts?

**Re: eBay sure is a crazy place...**

Message #8 Posted by **Ken Shaw** on 31 Aug 2007, 9:19 a.m.,  
in response to message #7 by Ren

The scary thing is that this idea has as much credibility as the idiot-buyer theory. We don't really have proof that the market for all these HP calculators hasn't been inflated.

**Re: eBay sure is a crazy place...**

Message #9 Posted by **Dave Shaffer (Arizona)** on 2 Sept 2007, 11:49 p.m.,  
in response to message #6 by Ron G.

Quote:

It's quite a coincidence that several of the bidders have such similar names.

I thought that, too - at first.

I have since seen such similar names on several other ebay auctions - i.e. names with a first and last letter or number and a bunch of asterisks inbetween. I think this is ebay's new bidder naming convention, replacing the "bidder1" "bidder2" etc. that they had recently begun using when the bid price got high enough (somewhere between \$100 and \$200, it appears).

**Re: eBay sure is a crazy place...**

Message #10 Posted by **Ron G.** on 6 Sept 2007, 12:19 a.m.,  
in response to message #9 by Dave Shaffer (Arizona)

Yes, you are correct. I just found this: *To protect bidder privacy, when the price or highest bid on an item reaches or exceeds a certain level, User IDs will be displayed as anonymous names... Note: Anonymous names may appear more than once and may represent different bidders.*

Anyway, eBay is not consistent on this policy, as I just saw a \$1000 bid on an item i was watching, and bidder names were still displayed. At the same time I saw two items at less than \$100, with anonymous bidders. So, whatever.

**Re: eBay sure is a crazy place...**

Message #11 Posted by **Frank Rottgardt** on 30 Aug 2007, 4:52 p.m.,  
in response to message #5 by Randy

Hi Randy,

that is really insane. For two weeks ago I got hold of an mint HP48GX with original box, blister, manuals, HP-connectivity kit incl. floppy disc and an additional 128 kB Calculus I ROM card for 43 USD (bought the set on internet, but not ebay!)

the calc is a 1994 Singapore made.

### **Re: eBay sure is a crazy place...**

*Message #12 Posted by [megarat](#) on 31 Aug 2007, 2:34 p.m.,  
in response to message #5 by Randy*

> After all, how hard is it to compare IP addresses?

Unfortunately this wouldn't work. Comparing IP addresses would create heaps of false positives, as there are many, many major providers that represent thousands of users with a single IP address, because of their router/firewall topology.

I would be quite upset if I placed a last-second bid on a beloved item, only to have eBay's shill-bot reject the bid, simply because the seller (or another bidder) and I shared the same ISP.

While I haven't given this much thought, the only meaningful way I can envision to sniff out shill bidders would be to (data-mining style) run some comprehensive queries on all the auction data, perhaps via machine-learning algorithm. For each auction, note the seller, the bidders, and probably some other behavior (like the bid increment amount, and time before auction close), and do a full comparison. The shilling IDs would (hopefully) be visible through bids on multiple auctions by the same seller.

Even so, this still wouldn't be perfect ... in an eBay niche like vintage calculators, people bid on multiple auctions by the same seller all the time, so you'd still get false positives, even if you use a smart-ish distinguishing criteria. I expect that there would be some obvious true positives, possibly by bid volume or other behavior, and perhaps public enforcement of these cases would scare everyone else straight.

Alas, this type of analysis isn't free, and since eBay stands to benefit from shill bids, I can't imagine they'd bother with something like this, unless the reputation of their marketplace was seriously at stake.

Still, it's a fun mental exercise.

-cam

### **Re: eBay sure is a crazy place...**

*Message #13 Posted by [Peter K](#) on 31 Aug 2007, 10:02 p.m.,  
in response to message #12 by megarat*

Actually, ebay *\*does\** some analysis to identify shill bidding. I was "caught" by ebay's safe harbor team, because a co-worker purchased an item on ebay from me. The same person purchased maybe 3-4 items from me over the course of the last two years, and never paid through PayPal (why would she, cash is king). Ebay made me go through a 30 minute online shill bidding tutorial, and my account was blocked from selling for 14 days.

Here is the thing, though: I always tell people at work when I am selling something. Sometimes they are interested, and they are likely to pay a bit more because there is no shipping involved, and I like it because they are no PayPal fees, but ebay does *\*not\** allow you to sell to co-workers. Even that is considered shill-bidding.

Ebay's suggestion: Cancel the bids and end the auction early - even if it's just minutes, then sell it off-line. Exactly what I am going to do from now on...

### **Re: Now THIS is nuts!**

*Message #14 Posted by [Donald Williams](#) on 3 Sept 2007, 11:07 a.m.,  
in response to message #1 by Bruce Bergman*

It just gets crazier and crazier

[Here](#)

**Re: Now THIS is nuts!**

*Message #15 Posted by [Karl Schneider](#) on 3 Sept 2007, 12:08 p.m.,  
in response to message #14 by Donald Williams*

Wow! US\$177 for a Classic (e.g., HP-35) battery charger. The fair-market "right price" should be around \$35 w/o box.

-- KS

**Re: Now THIS is nuts!**

*Message #16 Posted by [Donald Williams](#) on 3 Sept 2007, 1:19 p.m.,  
in response to message #15 by Karl Schneider*

If this kind of bidding holds up, counterfeiters will enter the market. It would be easy to counterfeit a charger and box and still make plenty of profit.

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## HP Forum Archive 17

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### HP-35s Samson online invoice

Message #1 Posted by [Arne Halvorsen \(Norway\)](#) on 29 Aug 2007, 8:21 a.m.

I placed an order 08/23/2007 with Samson for the HP-35s. The status of my order still reads 'not processed'. Monday I asked them and got reply it would ship that day. Funny thing is it still read 'not processed'.

I probably will email them again, have a feeling things are ok (that I will be told it shipped), but anyone else with experience with their online invoice not updated?

Should I worry?

### Re: HP-35s Samson online invoice

Message #2 Posted by [Nenad \(Croatia\)](#) on 29 Aug 2007, 9:25 a.m.,  
in response to message #1 by Arne Halvorsen (Norway)

Quote:

Should I worry?

Not at all. I had the same situation with Samson Cables. It seems that they update their webpage tracking information slower than they do the real job.

Anyway, my HP35s arrived to me in exactly 7 days (Salt Lake City to Split) after my order was placed.

You should expect that everything will be OK. This is at least my experience.

### Re: HP-35s Samson online invoice

Message #3 Posted by [Arne Halvorsen \(Norway\)](#) on 29 Aug 2007, 9:33 a.m.,  
in response to message #2 by Nenad (Croatia)

That reasuring to hear.

Actual they have been *\*very\** promptly answering my emails, so that kindof balances things up.

Been pestering (litle and very polite) them a bit on this issue, because when they have this service I think they should make it work...

### Re: HP-35s Samson online invoice

Message #4 Posted by [Jim Creybohm](#) on 29 Aug 2007, 9:33 a.m.,  
in response to message #1 by Arne Halvorsen (Norway)

Hi Arne.

I had the same discovery with Samson. As stated above, the web page seems to be MUCH slower to be

updated than the actual order status. I wouldn't worry too much about it.

Jim

**Re: HP-35s Samson online invoice**

*Message #5 Posted by **Walter B** on 29 Aug 2007, 11:30 a.m.,  
in response to message #1 by Arne Halvorsen (Norway)*

SC may have a bit slow methods to handle the paperwork (i.e. "bitwork" nowadays) sometimes. Nevertheless they've shipped my HP35s properly. So if everything is clear from your side, you paid and you passed all necessary information, just wait. For Europe, I won't get nervous for 2 weeks after they claim they shipped.

HTH, Walter

**Samson US sold out...**

*Message #6 Posted by **Arne Halvorsen (Norway)** on 30 Aug 2007, 4:37 a.m.,  
in response to message #1 by Arne Halvorsen (Norway)*

Okey....

Now my order states both that it has been shipped and canceled!

And there is an email to me from them saying that they are sorry: They could not execute the order because the US party of HP-35s gone!

Okey:

1. Since I am in Europe I was supposed to get it from their European office. This for speed and not paying custom (they handle). 2. Monday they told me it was going out.

Well the good news in the mail is that now(!) it is being shipped from europe...

Lets hope I make it in on their European stock of 35s...

*Edited: 30 Aug 2007, 4:37 a.m.*

**Re: Samson US sold out...**

*Message #7 Posted by **Giancarlo (Italy)** on 30 Aug 2007, 8:37 a.m.,  
in response to message #6 by Arne Halvorsen (Norway)*

Hi Arne.

I think you should not worry - mine was shipped from Spain as well (Alicante, IIRC), even though they did not advise me before that.

I'm confident everything is going well :-)

Farvel.

Giancarlo

**Re: Samson US sold out...**

*Message #8 Posted by **Arne Halvorsen (Norway)** on 30 Aug 2007, 8:50 a.m.,  
in response to message #7 by Giancarlo (Italy)*

I am to.

But reading the latest the mail from Samson it seems a mistake was made so my order would have gone out from the states, BUT I was saved by the fact they run out of 35s state side! The importance aside from time to get it to me is I would have had to pay custom extra if transported over the drink.

I know have a very funny invoice :-) It says: Order canceled, shipped and fully paid!

One nice thing though is that it seems like the 35s sells like if numbers where going out of fashion!

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## HP Forum Archive 17

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### Question about HP48GX Manuals

Message #1 Posted by [bink](#) on 28 Aug 2007, 9:21 p.m.

Which manuals came with a new HP48GX??

I thought it was a Quick Start guide and a User Manual. However, I also saw one reference that said the Advanced User Guide came with it as well. Did this happen normally or ever?

Thanks

### Re: Question about HP48GX Manuals

Message #2 Posted by [bink](#) on 28 Aug 2007, 9:22 p.m.,  
in response to message #1 by [bink](#)

Here is the reference:

<http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv010.cgi?read=28520>

The problem is that I have not seen this included with any HP 48GXs.

### Re: Question about HP48GX Manuals

Message #3 Posted by [James M. Prange \(Michigan\)](#) on 28 Aug 2007, 10:23 p.m.,  
in response to message #2 by [bink](#)

The 48G series AUR was an "extra cost" option that had to be ordered as a separate item. The same was true of the 48SX *Programmer's Reference Manual*. If one of these happens to be included with a calculator, consider it a bonus.

Regards,  
James

*Edited: 28 Aug 2007, 11:22 p.m.*

### Re: Question about HP48GX Manuals

Message #4 Posted by [Les Bell](#) on 29 Aug 2007, 3:14 a.m.,  
in response to message #1 by [bink](#)

"Did this happen normally or ever?"

Nope. There wasn't even room in the box. The AUR was extra (and on coarser stock with comb binding, on the one I have).

Best,

--- Les

[<http://www.lesbell.com.au>]

*Edited: 29 Aug 2007, 3:15 a.m.*

## **Re: Question about HP48GX Manuals**

*Message #5 Posted by **James M. Prange (Michigan)** on 29 Aug 2007, 4:13 a.m.,  
in response to message #4 by Les Bell*

Quote:

\_\_\_\_\_

(and on coarser stock with comb binding, on the one I have)

\_\_\_\_\_

I think that I've seen one like that, or perhaps it was the *48SX Programmer's Reference Manual*, and it appeared to be photocopied from the original so-called "perfect bound" manual. I think that HP may have done this after those models were already out of production and the stock of professionally published manuals was used up.

<https://www.calcpro.com/> lists an "HP 48 Advanced Users Reference Manual", Item# HP90136, for US\$29.95 under "Books - Sci. & Graphing Calc's", but as to which edition and binding type it is, I wouldn't know; one could ask though.

A scan of the AUG is available at <http://www.hpcalc.org/details.php?id=6036>

Regards,  
James

*Edited: 29 Aug 2007, 4:25 a.m.*

## **Re: Question about HP48GX Manuals**

*Message #6 Posted by **Les Bell** on 29 Aug 2007, 5:16 a.m.,  
in response to message #5 by James M. Prange (Michigan)*

"I think that HP may have done this after those models were already out of production and the stock of professionally published manuals was used up."

Could be - I got mine from Wholesale Advantage, probably in 2000 or 2001. I don't mind the comb binding, as at least it lies flat on the desk (not that I've been using it that much).

Best,

--- Les

[<http://www.lesbell.com.au>]

## **Re: Question about HP48GX Manuals**

*Message #7 Posted by **Chan Tran** on 29 Aug 2007, 8:50 a.m.,  
in response to message #6 by Les Bell*

I bought both the "48SX programmer reference manual" and the "48GX Advance User Guide". They are both extra cost books.

## **Re: Question about HP48GX Manuals**

*Message #8 Posted by [Ed Look](#) on 29 Aug 2007, 12:43 p.m.,  
in response to message #5 by James M. Prange (Michigan)*

The version I received from Calcpro of the 48G AUR several years ago was bound much like the 35s manual, a glued, paper binding. I don't know what that's called in the trade, but it's certainly not spiral, if that's what some might expect.

The binding isn't important here; the contents of that 48G Series Advanced User's Reference guide are priceless.

### **Re: Question about HP48GX Manuals**

*Message #9 Posted by [Norris](#) on 29 Aug 2007, 8:02 p.m.,  
in response to message #8 by Ed Look*

During the 1998-1999 time frame, the AUR was distributed in a 3-ring binder. That's what I have. See previous discussion [here](#).

So it sounds like the AUR may have been issued in three different bindings at various times: glued, comb, 3-ring

*Edited: 29 Aug 2007, 8:06 p.m.*

### **Re: Question about HP48GX Manuals**

*Message #10 Posted by [Ed Look](#) on 29 Aug 2007, 11:46 p.m.,  
in response to message #9 by Norris*

Son of a gun!

You AND I both were in the discussion... and I FORGOT IT COMPLETELY!! Oh well, if you vouch for it, I'll believe it!

Anyway, on the lower left back cover in small pitch type, it says, "Printed in Singapore 12/94", and on the lower right, "Edition 4".

I'd be curious to know what yours... or anyone else's says.

### **Re: Question about HP48GX Manuals**

*Message #11 Posted by [Norris](#) on 30 Aug 2007, 12:39 p.m.,  
in response to message #10 by Ed Look*

My AUR has the same info on the back cover. In my case, the front and back cover pages measure 9.5 by 9.5 inches, and are inserted into pockets on the covers of a similarly-sized 3-ring binder. But the pages inside the binder are only 8.5 by 5.5 inches, the same as in the User's Guide.

The width of the binder, measured at the spine, is about 3.3 inches thick. Since the binder also has 9.5 by 9.5 inch covers, the sheer volume of the "binder" AUR is probably enormous compared to the volume of the "comb" or "glued" AURs.

My AUR also says "Printed in Singapore" on the bottom of the title page. On the reverse side of the title page, there is an "Edition History" table, which indicates the following:

Edition 1...July 1993

Edition 2...January 1994  
Edition 3...May 1994  
Edition 4...December 1994

I would guess that Edition 4 was the last one, and that every AUR printed after 12/94 had the same text, regardless of binding

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## HP Forum Archive 17

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### **My HP collection's at home !**

Message #1 Posted by [Giancarlo \(Italy\)](#) on 28 Aug 2007, 6:56 p.m.

Hi Forum.

I must admit the following might be of no interest for most of you, but I felt urged to share it with you, so here it goes:

I'd like to publicly acknowledge my wife for allowing me to use one of the drawers at home to store my entire HP calc collection!

Now all my calcs are safe at home (provided my 3 y.o. son doesn't discover the treasure ;-) and I can forget worrying about them being unsafely left in a cardboard box in my office (even if, to be honest, at least 90% of my colleagues do not show any appreciation for this "obsession" of mine :-).

See, sometimes miracles happen :-D

Thank you for your patience...

Best regards.

Giancarlo

*Edited: 28 Aug 2007, 6:57 p.m.*

### **Re: My HP collection's at home !**

Message #2 Posted by [Walter B](#) on 28 Aug 2007, 7:15 p.m.,  
in response to message #1 by [Giancarlo \(Italy\)](#)

Buona notte, Giancarlo,

la donna e mobile ...

Buona sorte!

(This was a quotation of a well known aria. No way to translate ;)

### **Re: My HP collection's at home !**

Message #3 Posted by [Giancarlo \(Italy\)](#) on 28 Aug 2007, 7:33 p.m.,  
in response to message #2 by [Walter B](#)

Guten nacht, Walter!

Your reply is a funny joke, as "mobile", in the famous aria you quoted, means "moody" (gramlich in German?), and in fact it goes on like "qual foglia al vento", that stands for "like a leaf in the wind" -

but it also means "piece of furniture", so "closing the circle" with the gift of my wife's (just a piece of furniture, i.e. a drawer :-)).

Nice (inadvertent?) joke!

Mit freindlichen grussen.  
Giancarlo

P.S.: sorry, but can't remember how to type umlauts :-)

**Re: My HP collection's at home !**

*Message #4 Posted by **Vincze** on 28 Aug 2007, 7:46 p.m.,  
in response to message #3 by Giancarlo (Italy)*

Quote:

P.S.: sorry, but can't remember how to type umlauts :-)

ALT-0252 do u with umlaut my friend.

**Re: My HP collection's at home !**

*Message #5 Posted by **Walter B** on 29 Aug 2007, 5:13 a.m.,  
in response to message #3 by Giancarlo (Italy)*

Buon giorno, Giancarlo,

I must admit I did not think of the furniture when I posted the response :) In the aria, "mobile" is translated to "trügerisch" due to the same number of syllables. To reflect the meaning, "wankelmütig" would be better (corresponding to "today this way, tomorrow another way"). "Grämlich" sounds more like "sourly" and would not be fitting in the context, would it?

Anyway, as you pointed out, the four words could also mean "the lady and furniture ...". Here we are again: sometimes you have to know the context to understand the words right.

Saluti, Walter

**Re: My HP collection's at home !**

*Message #6 Posted by **Les Wright** on 29 Aug 2007, 7:55 a.m.,  
in response to message #2 by Walter B*

It means, roughly, "the lady is a car...."

**Re: My HP collection's at home !**

*Message #7 Posted by **Walter B** on 29 Aug 2007, 11:17 a.m.,  
in response to message #6 by Les Wright*

:D

Therefore American tourists have to pay more in Italy ;)

**Re: My HP collection's at home !**

*Message #8 Posted by **Don Shepherd** on 28 Aug 2007, 7:29 p.m.,  
in response to message #1 by Giancarlo (Italy)*

I think most of our wives are willing to put up with our calculator obsessions because the alternatives are almost always worse! There must be a high correlation between RPN and successful marriages.

**Re: My HP collection's at home !**

Message #9 Posted by [Giancarlo \(Italy\)](#) on 28 Aug 2007, 7:37 p.m.,  
in response to message #8 by Don Shepherd

Hi Don.

After my wife's official statement ;-) I must admit you're right, but before I was not that sure - maybe I should have asked much before for that concession and discover the "correlation".

I'll keep this lesson for my next wife (just kidding, in case she will ever read this post ;-) Warmest regards.  
Giancarlo

**Re: My HP collection's at home !**

Message #10 Posted by [Vincze](#) on 28 Aug 2007, 7:54 p.m.,  
in response to message #1 by Giancarlo (Italy)

I thought always that girlfriend express true love by allowing you to keep tooth brush and tooth powder at her house. :)

Now true love with wife is allowing you to store HP calculators in a drawer.

My friend, you should show us picture of calculator in drawer. It would be nice to see. You have most kind wife. My beautiful wife still think I strange for collecting calculator.

**Re: My HP collection's at home !**

Message #11 Posted by [Hal Bitton in Boise](#) on 28 Aug 2007, 9:46 p.m.,  
in response to message #1 by Giancarlo (Italy)

I think my wife (bless her heart) would prefer that my collection be in a drawer, out of sight, rather than in a glass case, in the living room, right next to her milk-glass collection. Whenever she shows one of her friends her collection, I invite them to also cast their gaze across my collection...I get many strange looks when I do this, and my wife usually rolls her eyes and shakes her head...but that's OK, she loves me anyway :)

Best regards, Hal

**Re: My HP collection's at home !**

Message #12 Posted by [frank rottgardt](#) on 29 Aug 2007, 3:49 a.m.,  
in response to message #1 by Giancarlo (Italy)

Hi Giancarlo,

Quote:

\_\_\_\_\_

I'd like to publicly acknowledge my wife for allowing me to use one of the drawers at home to store my entire HP calc collection!

\_\_\_\_\_

I guess most of us guys here are allowed to have one drawer for their collection. But this is by far no good deal, having in mind that the remaining three drawers are occupied with pairs of shoes our beloved wives possess. I don't even dare to think about how much more money must have been spend on their "collection" 8-)

//Frank

### **Re: My HP collection's at home !**

*Message #13 Posted by **Maximilian Hohmann** on 29 Aug 2007, 4:41 a.m.,  
in response to message #12 by frank rottgardt*

Hello!

Quote:

I guess most of us guys here are allowed to have one drawer for their collection. But this is by far no good deal, having in mind that the remaining three drawers are occupied with pairs of shoes our beloved wives possess.

Well, I'm afraid my drawer is a little overfilled by now :-). All empty spaces in my wardrobe between the socks and the shirts are full. Even the boxes my wife buys her shoes in are full, as you can see here:

<http://www.bombie.de/tmp/CalcuMess.jpg>

I'm afraid, I will have to hire a barn or a garage somewhere for this stuff, as our son is going to move into my 'temporary calculator storage room' soon (as he is big enough now to safely use the steep stairs that lead up there).

Otherwise I'll have to sell everything and really only keep those calculatos that fit into my drawer... but which ones ...

Greetings, Max

### **Re: My HP collection's at home !**

*Message #14 Posted by **Bruce Bergman** on 29 Aug 2007, 11:19 a.m.,  
in response to message #13 by Maximilian Hohmann*

Oh my.

:-)

Quite a pile there...

thanks, bruce

### **Re: My HP collection's at home ! - (A Family Affair)**

*Message #15 Posted by **Chris McCormack** on 29 Aug 2007, 6:39 a.m.,  
in response to message #1 by Giancarlo (Italy)*

My 'collection' is spread across the family. I'm currently using the HP15C I bought as an undergrad. My wife has the HP11C she used in college. My daughter in college has the HP49G+. My high-school aged son an HP48G. The sixth-grader has an HP33S in his bag. That just leaves the fourth-grader out. (I guess he can use the HP6S in the drawer, but that doesn't really count, does it?)

The sad parts are my high-school HP29C that I no longer have, and the HP48GX that got lost on a business trip.



**Re: My HP collection's at home !**

*Message #16 Posted by **Ren** on 29 Aug 2007, 11:32 a.m.,  
in response to message #1 by Giancarlo (Italy)*

Giancarlo!

Get a lock on that drawer!

(If your 3 year old is ANYTHING like mine!)

Ren

dona nobis pacem

**Re: My HP collection's at home !**

*Message #17 Posted by **Ed Look** on 29 Aug 2007, 11:52 p.m.,  
in response to message #16 by Ren*

I'll second that.

Now, mine at that age never got to my precious HP calc (yeah, at the time, I only had one, not that I have too many now), but he did spill Diet Coke all over my roughly one week old Gateway 66 MHz 80486 computer's keyboard. (In case anyone wants to know that computer and exact keyboard is still in use, even if not at my house.)

But many years later now, even though he prefers his algebraic 39G, he still thinks that the red LED eyes of the 34C is "the coolest".

**Re: My HP collection's at home !**

*Message #18 Posted by **Giancarlo (Italy)** on 30 Aug 2007, 2:31 a.m.,  
in response to message #16 by Ren*

Hi Ren.

Good suggestion - I'll look into that :-)

But what about trying to get the kid on our side instead of "fighting" with him?

I mean: would you suggest showing him the calcs by purpose to try and have a young budding RPN calc fan ;-)?

(mmmh!...why I myself am not so convinced about what I just said....?).

Best regards.

Giancarlo

**Re: My HP collection's at home !**

*Message #19 Posted by **Walter B** on 30 Aug 2007, 2:54 a.m.,  
in response to message #18 by Giancarlo (Italy)*

Buon giorno, Giancarlo,

of course you cannot start too early, but at the age of 3 !?!? ;)

Saluti, Walter

---

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## HP Forum Archive 17

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**Finally (HP 41CX)**

Message #1 Posted by [Seth Morabito](#) on 28 Aug 2007, 6:22 p.m.

At long last, I have a 41CX in my hands. It cost me more than I like to admit, but not as much as some of the 41CX's that I've seen sell on eBay recently. My goodness, those prices are getting as bad as 42S prices! I believe it was less expensive because it has several very faint, barely noticeable name inscriptions. I have to really look to see them, and I really don't mind. They add character. Besides that the unit is in flawless shape, no battery corrosion. In contrast, my 41C has really bad corrosion and worn contacts.

I've wanted a CX for a while because of the Extended Functions, Memory, and Timer modules built in. It'll be fun to use.

**Re: Finally (HP 41CX)**

Message #2 Posted by [Wayne Brown](#) on 28 Aug 2007, 8:01 p.m.,  
in response to message #1 by Seth Morabito

Congratulations. I still think it's the overall best compromise between size, power, features and usability of any calculator HP ever made (or probably ever will).

**Re: Finally (HP 41CX)**

Message #3 Posted by [Stefan Vorkoetter](#) on 28 Aug 2007, 9:27 p.m.,  
in response to message #2 by Wayne Brown

I've always wondered why they stopped making them. After all, with the module system, they're fully expandable, and I'm sure they could have come out with a 32Kb (or even 256Mb) module by now. They still make the 12C, so why not the 41CX (41CXSii or some newer yet compatible version). There's nothing in the 35s that the 41CX couldn't do, and there's a whole lot in the CX that the 35s can't do.

Stefan

**Re: Finally (HP 41CX)**

Message #4 Posted by [Vincze](#) on 28 Aug 2007, 9:08 p.m.,  
in response to message #1 by Seth Morabito

You wish to sell 41C?

**Re: Finally (HP 41CX)**

Message #5 Posted by [Seth Morabito](#) on 29 Aug 2007, 12:26 a.m.,  
in response to message #4 by Vincze

Hello Vincze!

Sorry, but no. I would like to keep my 41C as a backup, and as part of my little collection.

-Seth

**Re: Finally (HP 41CX)**

*Message #6 Posted by [Chan Tran](#) on 29 Aug 2007, 8:52 a.m.,  
in response to message #5 by Seth Morabito*

HP replaced the 41CX with the 48SX. While different, I think the 48SX can do much of what the 41CX can do.

**Re: Finally (HP 41CX)**

*Message #7 Posted by [Jim Creybohm](#) on 29 Aug 2007, 9:37 a.m.,  
in response to message #6 by Chan Tran*

Without getting into a discussion about this calc vs. that calc - which everyone will have a differing opinion on, the 41 is a great calc. Yes, the 48 can do much of what the 41 can do, but the 41 is still "relatively" pocket sized. Because it is also RPN, for me it combines the best power per cubic cm volume.

I am sure that if I had learned to use the 48 first, I would feel the same way about it. (Except it is not shirt pocket portable)

**Re: Finally (HP 41CX)**

*Message #8 Posted by [Chan Tran](#) on 29 Aug 2007, 10:04 a.m.,  
in response to message #7 by Jim Creybohm*

I do understand what you mean. I started out with the 41CV in 1979 and then a CV because my 41C was stolen. I got a number of CX blank nut as well. And yes the 41 series is my favorite calc. I do feel that the 48SX is a good replacement for the 41 although it can not do all what the 41 can. The 41 series calculators came with a large case to accomodate the card reader so unless you carry the 41 without its case, it's the same size as the 48.

**Re: Finally (HP 41CX)**

*Message #9 Posted by [Seth Morabito](#) on 29 Aug 2007, 5:14 p.m.,  
in response to message #6 by Chan Tran*

It's funny you should mention that, because the HP-48SX was my first HP calculator. For that nostalgic reason alone, it is still my favorite. I got it as a present from my parents when I was in high school, a few months after it was released -- At that time, I had a Casio fx7000g and wanted more programmability. I had lusted after the HP-28S, but I never got one. When the HP-48SX came out, my poor parents couldn't stand to see me staring longingly at the calculator displays in the big department stores any more. They bought one for me for Christmas, bless their hearts. The price was a LOT of money for them, and I'm still grateful. It opened up a love of math and computers that I may not have otherwise had.

That 48SX was my daily calculator from 1991 until 2006. It still works fine, and I've always taken wonderful care of it.

**Re: Finally (HP 41CX)**

*Message #10 Posted by [Egan Ford](#) on 29 Aug 2007, 6:48 p.m.,  
in response to message #9 by Seth Morabito*

Quote:

---

That 48SX was my daily calculator from 1991 until 2006. It still works fine, and I've always taken wonderful care of it.

---

Don't leave us hanging, what happened in 2006?

My father gave me a 48GX in 1993. It was my daily calculator, home and on-the-road. A few years back I looked at getting a 2nd (one for home, one for the bag) and was surprised how the calculator landscape had changed. To protect my 48GX I retired it last year and switched to a 50g. It's 100% UserRPL compatible and more importantly replaceable. SD card, case, and LCD are an improvement over the 48GX. It did not take long to adapt to the feel and layout of the keyboard. Human beings are amazingly adaptable.

### **Re: Finally (HP 41CX)**

*Message #11 Posted by [Seth Morabito](#) on 29 Aug 2007, 7:05 p.m.,  
in response to message #10 by Egan Ford*

Quote:

---

Don't leave us hanging, what happened in 2006?

---

I bought an HP-50g ;) The 48SX is still in excellent working order, and is part of my growing little collection.

### **Re: Finally (HP 41CX)**

*Message #12 Posted by [Vincze](#) on 29 Aug 2007, 3:19 p.m.,  
in response to message #5 by Seth Morabito*

My friend Seth, I fully understand.

### **Re: Finally (HP 41CX)**

*Message #13 Posted by [Hal Bitton in Boise](#) on 29 Aug 2007, 1:55 p.m.,  
in response to message #1 by Seth Morabito*

Quote:

---

Congratulations. I still think it's the overall best compromise between size, power, features and usability of any calculator HP ever made (or probably ever will).

---

Absolutely...I think the HP41 series was probably 8-10 years ahead of it's time...and what other calculator in the world had (or has) as one of it's accessories a barcode scanning wand!

Best regards, Hal

### **Re: Finally (HP 41CX)**

*Message #14 Posted by [Vincze](#) on 29 Aug 2007, 3:22 p.m.,  
in response to message #13 by Hal Bitton in Boise*

Quote:

\_\_\_\_\_

and what other calculator in the world had (or has) as one of it's accessories a barcode scanning wand!

\_\_\_\_\_

I think that alone put it years ahead of its time. I still fascinated that one could load program from wand and barcode.

I have 71B on way from Europe. Hopefully here this week, but 41C is next model I would like to get.

### **Re: Finally (HP 41CX)**

*Message #15 Posted by **Maximilian Hohmann** on 29 Aug 2007, 6:45 p.m.,  
in response to message #14 by Vincze*

Hello!

Quote:

\_\_\_\_\_

I have 71B on way from Europe. Hopefully here this week, but 41C is next model I would like to get.

\_\_\_\_\_

You will absolutely like the 71B, but as a pure calculator, you will like the 41 more. The 41CX has an internal stopwatch that keeps running even with the calculator turned off - good for aviation purposes. There are also aviation modules available, but quite rare and very expensive.

The 71 has a very weird 'CALC' mode, neither RPN nor truly algebraic, and the worst thing is that they forgot the 'Clear' key... The only calculator I ever saw without one! For programming and playing around it is by far the best calculator hp ever made.

The big disadvantage of the 41, from the collectors point of view, is the infinite number of accessories and third-party software that were made for it. You can spend a fortune and will never have a complete collection :-)

Greetings, Max

NB: If you want one, I have a spare 41CX here. I would trade it against a Hungarian calculator (any model! but not the paper&pencil version that you mentioned earlier) to complement my Polish, Bulgarian and Russian calculators...

### **Re: Finally (HP 41CX)**

*Message #16 Posted by **Egan Ford** on 29 Aug 2007, 6:57 p.m.,  
in response to message #15 by Maximilian Hohmann*

Quote:

\_\_\_\_\_

The 71 has a very weird 'CALC' mode, neither RPN nor truly algebraic, ...

\_\_\_\_\_

Unless you get the HP-41 Translator ROM. For me this is a must. I can use it in native HP-41 mode, e.g.:

ENTER

2

+

Or in a hybrid mode somewhat like RPL calc:

2 2 +

And FORTH is a huge bonus. Faster than BASIC.

Sadly, very hard to find and cannot be burned (or so I read).

### Re: Finally (HP 41CX)

Message #17 Posted by [Garth Wilson](#) on 29 Aug 2007, 9:29 p.m.,  
in response to message #16 by Egan Ford

Quote:

\_\_\_\_\_  
You will absolutely like the 71B, but as a pure calculator, you will like the 41 more.  
The 41CX has an internal stopwatch that keeps running even with the calculator  
turned off  
\_\_\_\_\_

Yes, the 41 is better as a pure calculator. The 71 does have the timer resources that keep going when the computer is off, but you have to write your own programs for alarms and things to get the functions that are built into the 41cx. I've used my 71 as an alarm clock, stop watch, etc., but I had to write the programs.

Quote:

\_\_\_\_\_  
And FORTH is a huge bonus. Faster than BASIC.  
\_\_\_\_\_

The 71's Forth implementation is a very poor one. Fortunately, being Forth, you can get under the hood and modify even the compiler. Without using assembly language, I re-wrote a lot of the Forth words, in Forth, speeding them up by factors of anywhere from 4 to 13.

### Re: Finally (HP 41CX)

Message #18 Posted by [Vincze](#) on 30 Aug 2007, 9:09 a.m.,  
in response to message #17 by Garth Wilson

Well, if anyone have 41 that they wish to part with, you know how to reach me.

It look like they not too hard to find on ebay. Some more than others.

---

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## HP Forum Archive 17

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### A small cosmetic flaw

Message #1 Posted by [Walter B](#) on 28 Aug 2007, 5:11 p.m.

Don't know whether anyone noticed and mentioned this before: On my 35s, the linear regression menu is printed L.R instead of L.R. as it should be. Could that have been the minor cosmetic issue HP stopped delivery for some weeks ago? Are there any HP35s with the correct print?

### Re: A small cosmetic flaw

Message #2 Posted by [Vincze](#) on 28 Aug 2007, 5:22 p.m.,  
in response to message #1 by Walter B

Guten Abend mein Freund Walter. I look on both of my calculators (one pre production stop, and one post), and both have L.R just like you indicate.

*Edited: 28 Aug 2007, 5:25 p.m.*

### Re: A small cosmetic flaw

Message #3 Posted by [Dan Greil](#) on 28 Aug 2007, 7:59 p.m.,  
in response to message #1 by Walter B

I purchased my 35s from HP Home and Office *after* the recall and my key has "L.R" so I doubt that was the subject of the recall.

-Dan

### Re: A small cosmetic flaw

Message #4 Posted by [Trent Moseley](#) on 28 Aug 2007, 8:43 p.m.,  
in response to message #1 by Walter B

I suppose serial numbers would be the best way to start. My 35s lacks the requisite period, serial no: CNA 72104035.

tm

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## HP Forum Archive 17

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### HP35s Sorting Routine

Message #1 Posted by [Nenad \(Croatia\)](#) on 28 Aug 2007, 4:43 p.m.

Hello, world

**The following is a small step for a man, but even much smaller for the mankind!**

What is so important in the program that follows? The fact that this is the only sorting routine I fully understand. Why? Because I learned it first time in Fortran IV on IBM 1130 in 1977 (imagine dinosaurs walking around). As it worked correctly at that time, I did not give even a try to understand and/or learn any other sorting procedure, just ported this one from one computer to another.

This is how it looks like in HP Basic (if I typed here the original IBM 1130 program from my memory, who would care about it anyway):

```
! HP Basic Sorting Routine
DIM A(800)
INPUT "N=", N
REDIM A(N)
! Input unsorted data
FOR I=1 TO N
  DISP I
  INPUT A(I)
NEXT I
! Sorting
FOR I=1 TO N-1
  FOR J=I+1 TO N      ! edited, thanks Gerson
    IF A(I)>A(J) THEN
      TEMP=A(I)
      A(I)=A(J)
      A(J)=TEMP
    END IF
  NEXT J
NEXT I
! Output sorted data
FOR I=1 TO N
  PRINT I, A(I)
NEXT I
END
```

The presented listing in HP Basic serves to preserve talking too much about the HP35s program itself.

### HP35s program listing // edited, thanks all

```
*LBL S ! asterisk should have been omitted, but this reminds me of my HP-67 time
INPUT N ! # of data points
1
+
STO I
STO (I)      ! reserve variable space+1
RCL N
1E3
/
1
+
STO I
S013: RCL (I)
VIEW(I) ! prompt for data input
STO(I) ! here I input my data point
ISG I
```

```

GTO S013
SF 10
EQN "SORTING"
PSE
CF 10
RCL N
1
-
1E3
/
1
+
STO I
S030: RCL N
1E3
/
RCL I
IP
+
1
+
STO J
S039: RCL (I)
RCL(J)
x<y?    ! In case of reverse sort change to x>y?
x><y    ! No need for TEMP variable, this is what I like
STO (J)
x><y
STO (I)
ISG J
GTO S039
ISG I
GTO S030
SF 10
EQN "FINISHED"
PSE
CF 10
1
RCL N
1E3
/
+
STO I
S060: VIEW (I)
RCL (I)
ISG I
GTO S060
RTN

```

Note: In our language there is an expression "A jobless priest baptises little goats". Certainly you can notice from the entire post above that I am still on vacations;)

*Edited: 29 Aug 2007, 9:01 a.m. after one or more responses were posted*

## Re: HP35s Sorting Routine

Message #2 Posted by [Vincze](#) on 28 Aug 2007, 4:57 p.m.,  
in response to message #1 by Nenad (Croatia)

Am I right to assume that you just keep entering data somehow? What let it know when you done entering data?

**\*\*Edit\*\*** Never mind, I see answer on line S002. Duh...

*Edited: 28 Aug 2007, 4:58 p.m.*

## Re: HP35s Sorting Routine

Message #3 Posted by [Don Shepherd](#) on 28 Aug 2007, 6:46 p.m.,  
in response to message #1 by Nenad (Croatia)

Ahh, the bubble sort. It has always held a high place in my minimalist philosophy.

### Re: HP35s Sorting Routine

Message #4 Posted by **Thomas Radtke** on 29 Aug 2007, 6:11 a.m.,  
in response to message #3 by Don Shepherd

Doesn't look like bubblesort. AFAIR, bubblesort compares only adjacent entries and usually takes several runs.

### Re: HP35s Sorting Routine

Message #5 Posted by **Gerson W. Barbosa** on 28 Aug 2007, 7:46 p.m.,  
in response to message #1 by Nenad (Croatia)

Hello Nenad,

Quote:

```
! Sorting
FOR I=1 TO N-1
  FOR J=1 TO N
```

This should be

```
! Sorting
FOR I=1 TO N-1
  FOR J=I+1 TO N
```

shouldn't it?

Would you try the following classic variation for the bubble-sort algorithm and see how it would perform on the 35s?

```
! HP Basic Sorting Routine
DIM A(800)
INPUT "N=", N
REDIM A(N)
! Input unsorted data
FOR I=1 TO N
  DISP I
  INPUT A(I)
NEXT I
! Sorting
FOR I=1 TO N-1
  K=I
  FOR J=I+1 TO N
    IF A(K)>A(J) THEN
      K=J
    END IF
  NEXT J
  IF I<>K THEN
    TEMP=A(K)
    A(K)=A(I)
    A(I)=TEMP
  END IF
NEXT I
! Output sorted data
FOR I=1 TO N
  PRINT I, A(I)
NEXT I
END
```

Regards,

Gerson.

*Edited: 28 Aug 2007, 7:47 p.m.*

### Re: HP35s Sorting Routine

Message #6 Posted by [Paul Dale](#) on 28 Aug 2007, 7:48 p.m.,  
in response to message #5 by Gerson W. Barbosa

Quote:

\_\_\_\_\_

This should be

```
! Sorting
FOR I=1 TO N-1
  FOR J=I+1 TO N
```

shouldn't it? [/pre]

\_\_\_\_\_

This makes it more efficient but it works either way.

By the way, it *isn't* bubble sort.

- Pauli

### Re: HP35s Sorting Routine

Message #7 Posted by [Gerson W. Barbosa](#) on 28 Aug 2007, 8:18 p.m.,  
in response to message #6 by Paul Dale

Quote:

\_\_\_\_\_

By the way, it *isn't* bubble sort.

\_\_\_\_\_

Which one? The original algorithm presented by Nenad or the variation? I always thought the former was bubble-sort, but I may be wrong.

Gerson.

### Re: HP35s Sorting Routine

Message #8 Posted by [Paul Dale](#) on 28 Aug 2007, 8:34 p.m.,  
in response to message #7 by Gerson W. Barbosa

Neither is bubble sort. They are known as selection sort. Similar dismal performance though.

Wikipedia is good for information (and animations) about [bubble sort](#) and [selection sort](#).

- Pauli

*Edited: 28 Aug 2007, 8:35 p.m.*

### Nice animations! Thanks! NT

Message #9 Posted by [Gerson W. Barbosa](#) on 28 Aug 2007, 8:52 p.m.,  
in response to message #8 by Paul Dale

**Re: HP35s Sorting Routine**

Message #10 Posted by [Don Shepherd](#) on 28 Aug 2007, 9:13 p.m.,  
in response to message #6 by Paul Dale

Sure looks like bubble sort to me. You are working your way through the array, swapping cells side-by-side so the larger is on the right, and ultimately the larger cells "bubble" to the top.

**Re: HP35s Sorting Routine**

Message #11 Posted by [Paul Dale](#) on 28 Aug 2007, 9:17 p.m.,  
in response to message #10 by Don Shepherd

My mistake, the original is bubble, just coded funnily. Gerson's is selection.

- Pauli

**Re: HP35s Sorting Routine**

Message #12 Posted by [Don Shepherd](#) on 28 Aug 2007, 9:36 p.m.,  
in response to message #11 by Paul Dale

Thanks Pauli. Now I am spending my evening reminiscing about sort strategies from 30 years ago! We are such creatures of the past.

I remember in school we always talked about how \*bad\* the bubble sort was, although it was great in its simplicity. Then one day I found out about the quicksort, and that seemed much more efficient.

The sad truth is, in all my jobs, I never had the need to implement a sort routine; there was always one already there!

**Re: HP35s Sorting Routine**

Message #13 Posted by [Vincze](#) on 29 Aug 2007, 8:50 a.m.,  
in response to message #12 by Don Shepherd

Yes, I recall to. It be interesting if we could test other sort data structures and see which is quickest on 35s. We all know that Bubble sort is not most efficient, but it is simple. It look like Nenad's bubble sort is the more enhanced one that adds some efficiencies. (all elements in position  $\geq n-i$  are already in proper position after iteration  $i$ . And step to determine when everything in order to prevent unnecessary iteration).

It be nice if we can try quicksort or Shell sort, or even Radix sort. I am not sure if these would be possible in RPN, but it would be interesting to try.

My friend, Nenad, I hope you write this sort up and submit to Datafile to share with others. It is nice work.

*Edited: 29 Aug 2007, 8:51 a.m.*

**Re: HP35s Sorting Routine**

Message #14 Posted by [Ed Look](#) on 29 Aug 2007, 1:17 p.m.,  
in response to message #5 by Gerson W. Barbosa

I need a routine to sort from twenty to oh, say a hundred numbers, and then do some basic statistics on them, like average, median, etc., and have been intending for a couple of weeks now to code it in my 35s (and then 33s)

I'll try to find some time... probably between the end of baseball on TV and bedtime (what, about twenty minutes??) and come up with something.

I will also NOT look at these posted programs and then I'll probably revive this thread and compare to see how poorly mine looks in relation to yours.

But, I did see something that has given me a big hint to start with- I might just try a FORTRAN sorting routine first (or maybe a 48G+ RPL routine first) and then translate to 35s RPN keystrokes! That might be easier than just doing it cold from the 35s keyboard.

### **Re: HP35s Sorting Routine**

*Message #15 Posted by [Don Shepherd](#) on 29 Aug 2007, 2:28 p.m.,  
in response to message #14 by Ed Look*

Ed, the 17bii or 17bii+ can do it all without programming! I realize you probably want to write a program, though.

### **Re: HP35s Sorting Routine**

*Message #16 Posted by [Vincze](#) on 29 Aug 2007, 3:26 p.m.,  
in response to message #15 by Don Shepherd*

How can 17bii do it without program? Are you talking just statistics functions, or sorting as well?

**\*\*EDIT\*\*** Never mind, I go out to HP site and download manual for 17BII, and yes, it can sort list of numbers AND do statistical calculations. That too cool.

*Edited: 29 Aug 2007, 3:40 p.m.*

### **Re: HP35s Sorting Routine**

*Message #17 Posted by [Bruce Bergman](#) on 29 Aug 2007, 4:36 p.m.,  
in response to message #16 by Vincze*

Yes it is (cool, that is). I think the 17bii/17bii+ gets a bum rap at times; it's much more powerful than I ever thought, and IMHO puts the 12c to shame. It's easy to gloss over what it does, but Don illustrates the power it has very simply implemented.

thanks, bruce

### **Re: HP35s Sorting Routine**

*Message #18 Posted by [Don Shepherd](#) on 29 Aug 2007, 5:27 p.m.,  
in response to message #16 by Vincze*

Vincze, now that's research!!

:)

Don

**Re: HP35s Sorting Routine**

Message #19 Posted by [Ed Look](#) on 29 Aug 2007, 5:23 p.m.,  
in response to message #15 by Don Shepherd

Ah, Don, I no gots no 17bii, + or - . :(

**Re: HP35s Sorting Routine (EDITED)**

Message #20 Posted by [Nenad \(Croatia\)](#) on 29 Aug 2007, 9:18 a.m.,  
in response to message #1 by Nenad (Croatia)

Thank you all for your posts and comments, they are really appreciated. I have edited my original post upon your comments. Just forgot to add the following to the edited post:

```
LBL S
LN=225
CK=4BA1
```

(the CK info might be useless, who knows)

Gerson: You are perfectly right. The correct statement in HP Basic program is (and was intended to be):

```
FOR J=I+1 TO N
```

All: In my original post I have made two essential mistakes: the one above and the one in the HP35s program. In the latter the loop above began at J=I instead at J=I+1.

It is obvious that I still remember the original FORTRAN IV routine correctly, but I was a bit careless transcribing my original post from my notebook (not a computer, but a real notebook, that I carry with me down to the seashore to write down such thoughts;)

Never mind, my post is now corrected, though not very useful. Imagine somebody entering up to 800 numbers into the HP35s, just to sort them (as he/she cannot transfer these data to something else, because of the lack of I/O, but this is another story).

**Re: HP35s Sorting Routine (EDITED)**

Message #21 Posted by [Arne Halvorsen \(Norway\)](#) on 29 Aug 2007, 9:26 a.m.,  
in response to message #20 by Nenad (Croatia)

Have you tried to sort 800 numbers on the hp35s :-) Fun to know how long time program would use.

I guess you could write a small program to fill it up with random numbers to be sorted.

Actual, if there would be a use of a sorting numbers on the hp35s it would be results of other programs I guess.

Edited: 29 Aug 2007, 9:27 a.m.

**Re: HP35s Sorting Routine (EDITED)**

Message #22 Posted by [Maximilian Hohmann](#) on 29 Aug 2007, 10:39 a.m.,  
in response to message #21 by Arne Halvorsen (Norway)

Hello!

Quote:

Have you tried to sort 800 numbers on the hp35s :-)

There is a very nice animated comparison (+ background information) about various sorting algorithms to be found here:

<http://www.cs.ubc.ca/~harrison/Java/sorting-demo.html>

Saves you the hassle to enter all those numbers into the 35s, that is really not the right machine for this kind of stuff.

Greetings, Max

### **Re: HP35s Sorting Routine (EDITED)**

*Message #23 Posted by [Vincze](#) on 29 Aug 2007, 11:06 a.m.,  
in response to message #22 by Maximilian Hohmann*

My friend Max, it took this Hungarian a little time trying to figure out how to make animations work. I kept clicking on links and get java code, but finally this Hungarian wise up and click on picture.

That is very cool indeed.

You also very right that HP35s not proper tool to sort large numbers (or even small number set). In real life, I would use SQL server to do that, or Excel spreadsheet for small set (or my own brain). I think this is an excellent study though by our friend Nenad on how indirect variable are used. I know, I learn much from his program on how to implement this on 35s.

### **Re: HP35s Sorting Routine (EDITED)**

*Message #24 Posted by [Gerson W. Barbosa](#) on 29 Aug 2007, 12:07 p.m.,  
in response to message #22 by Maximilian Hohmann*

Thanks for the link!

I thought *QuickSort* was tops, now I see there is *Fast QuickSort*. What will come next? *Rapid Fast QuickSort*? :-)

Regards,

Gerson.

### **Re: HP35s Sorting Routine (EDITED)**

*Message #25 Posted by [Vincze](#) on 29 Aug 2007, 11:27 a.m.,  
in response to message #21 by Arne Halvorsen (Norway)*

My friend Arne, I not try 800 items, but as an exercise, I try 100 items. I let calculator run for 10 minutes and it still running. I abort program as I needed calculator for something, but I would imagine 800 would take considerable amount of time with simple bubble sort algorithm.

### **Re: HP35s Sorting Routine (EDITED) - Look at current month Datafile**



*Message #26 Posted by **Gene Wright** on 29 Aug 2007, 1:48 p.m.,  
in response to message #25 by Vincze*

I have been printing sorting routines in Datafile for the 35s.

The sorting routine (I put) in the 35s indirect module is a very bad implementation - of course, I wrote it! :-)

I then used an updated sort from Miguel in the current month along with some tests for speed. Random, sorted, reverse sorted, to see how the timings went.

Used a specified seed of 0.123456789 and filled the first 100 indirect registers with the random numbers generated.

Should be repeatable and a good test to see how a sort works.

Timings for Miguel's routine were:

Random list of 100 from 0.123456789 seed: 230 seconds

Resort of sorted list: 17 seconds

Worst (?) case of inverse sorted list: 420 seconds

Much better than the one I used in the module. :-)

### **Re: HP35s Sorting Routine (EDITED) - Look at current month Datafile**

*Message #27 Posted by **Vincze** on 29 Aug 2007, 3:50 p.m.,  
in response to message #26 by Gene Wright*

My friend, Gene, I normally just skip article you write in Datafile. I just kidding my friend. :)  
Actually, I have not studied current issue much, but I will look at it when I have chance.

### **Re: HP35s Sorting Routine**

*Message #28 Posted by **Drago Pejic** on 30 Aug 2007, 7:37 a.m.,  
in response to message #1 by Nenad (Croatia)*

Without any intension to make any commercial advertisement or expose a big ego, I am sure that Data Integrity Institute Inc. has developed and owns the world fastest and most efficient sort algorithm. It is non comparison sort, something very remotely related to radix sort, but it is not radix sort or any academically described.

Remember all quick sorts are so called comparison sorts where you have two kinds of comparisons:

- active comparison, where each item is compared (of course respecting the item type, like integer, float, string, etc.) to others, sometime several times

- passive comparison, where the item position (which is always an integer) in the array and eventually in the file is compared and check that is inside boundary

It is apparently that any comparison will tremendously slow down sorting process. Data Integrity Institute Inc. sorting algorithm does not perform either active (item) comparison or passive (position of the item) one. That allows Data Integrity Institute Inc. Copula Application Specific Enterprise ETL Appliances to process any, does no matter how big and complex data vault, within 3 hours.

Data Integrity Institute Inc. sorting algorithm requires least 512 MB of memory per CPU core in the 32 bit environment and least 128 GB of memory per CPU core in the 64 bit environment. If there is no such memory in the 64 bit environment, efficiency of 64 bit will be several times better than 32 bit, but not such significantly as it could be if there is enough memory available, when it really blasts.

I would like to discuss this, but I am not sure if it is appropriate here. I do not want distract anybody. Also, I can not disclose any secret detail about Data Integrity Institute Inc. sorting algorithm, because it is our most valuable asset and competitive advantage. I can tell that I had two major revelations, something like religious bliss, in ten years while I was obsessed with sorting problem. One was when I went behind quick sort and comparison, and another when I discover how to handle resources in an perfect arrange, which is major obstacle why is radix sort only an academic category.

To Nenad from Croatia:

Puno pozdrava Nenade.

Drago Pejic, M. Sc., F.L.M.I.

<http://www.dataintegrityinstitute.com>

*Edited: 30 Aug 2007, 8:03 a.m.*

### **Re: HP35s Sorting Routine**

*Message #29 Posted by [Arne Halvorsen \(Norway\)](#) on 30 Aug 2007, 8:06 a.m.,  
in response to message #28 by Drago Pejic*

Sound cool... What are the complexities; average case and worst case? As for quick sort but with less overhead?

*Edited: 30 Aug 2007, 8:12 a.m.*

### **Re: HP35s Sorting Routine**

*Message #30 Posted by [Drago Pejic](#) on 30 Aug 2007, 8:48 a.m.,  
in response to message #29 by Arne Halvorsen (Norway)*

Data Integrity Institute Inc. Copula Application Specific Enterprise ETL Appliance processes data record that is composed from one or more fields of any type of data, usually previously almost ordered, but not every time, of course, so it always performs as worst case.

The advantage of the algorithm is that ignores any scenario and processes what is there, as is.

Source data records are stored in the file, or part of file. The one sort task can handle  $2^{31}$  files (or described part of file, ignoring rest), each file size of  $2^{63}$ , simultaneously.

Target data are stored in the specified file or array of files.

The sort process takes a chunk of the file into memory, process that and store in the target file structure. It is not in place sort so source data will be preserved.

All SQL engines (DB2, Oracle, etc.) utilize a comparison sort (quick sort, heap sort, merge sort) that are similarly efficient. They are designed for transactional processing (account update, flight reservation, etc.) that handles one record at time. Now, everybody wants to use an SQL engine for analytical processing (data warehouse, business intelligence, data mining) where millions or records need to be

handled simultaneously. It is hard to explain that SQL, designed for transactional processing, can not efficiently do that. Mayor problem is comparison sort (you compare each item to others plus you check the item position in the array every time) and so called B tree indexing where in order to locate the item in the index you have to travel for each item along many tree branches. B tree is great concept to locate a single item, but not for massive simultaneous processing.

Drago Pejic, M. Sc., F.L.M.I.

<http://www.dataintegrityinstitute.com>

### **Re: HP35s Sorting Routine**

*Message #31 Posted by [Arne Halvorsen \(Norway\)](#) on 30 Aug 2007, 9:01 a.m.,  
in response to message #30 by Drago Pejic*

Pretty interesting... slightly related to what you address, just installed latest mysql for a data analysis app and performance just dropped! Thing is ofcourse now default installation uses a database engine that implements transaction. Reconfigured to use good old non transact engine and performance back.

Real force of mysql is that you can choose!

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## HP Forum Archive 17

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### 35s -- I know this is "piling on", but . . .

Message #1 Posted by [Paul Brogger](#) on 28 Aug 2007, 1:43 p.m.

. . . I can't resist.

I was just now daydreaming -- looking at the 35s in my office, admiring its overall elegance; feeling grateful for the return of an acceptable (if still buggy) RPN (non-RPL) programmable; reminding myself that this *particular* unit's display is nicely aligned; smiling wryly at the recollection of its mis-aligned serial # label . . . I close the case and - hey, wait a second! What's *this*?

The "HP" logo on the front of the case is mis-aligned. Listing a bit to starboard (as I look at it). It's not an optical illusion caused by the slanted letters in the logo -- I carefully placed a ruler along the top edge of the logo and there's definitely a right-side-down slant -- maybe 5 degrees or so.

Has anyone else noticed that? On top of the other mis-alignments, it's amusing, at least. (All of the positive aspects mentioned above are still true, as far as I'm concerned.)

*Edited: 28 Aug 2007, 3:55 p.m. after one or more responses were posted*

### Re: 35s -- I know this is "piling on", but . . .

Message #2 Posted by [Dave Johnson](#) on 28 Aug 2007, 1:49 p.m.,  
in response to message #1 by Paul Brogger

I think your beginning to list yourself, not sure if it is left or right though....

### Re: 35s -- I know this is "piling on", but . . .

Message #3 Posted by [Paul Brogger](#) on 28 Aug 2007, 1:50 p.m.,  
in response to message #2 by Dave Johnson

I've been leaning to the left for a *long* time, now.

;-)

AND, it just now occurs to me what great "wisdom" there was in the 33s' keyboard design. (It would sure be hard to detect any misalignment on *that* thing!)

Which reminds me of Henry Petroski's observation (in, I think, his book "Small things considered: why there is no perfect design") on the design of a glass tumbler, into the thick base of which a rather large bubble had been deliberately introduced. (You've probably at some point seen and held an example of this style of drinking glass.) The bubble's purpose: to distract the eye from what otherwise would be glaring imperfections in each tumbler's realization.

So, what do you do to a calculator to distract the eye from otherwise glaring defects ("acceptable variances") in manufacture? I'll bet the highly regular layout of the 35s (and virtually every other H-P model) is much harder to consistently produce without noticeable variation than is a design with

deliberately-introduced curves or angles.

*Edited: 28 Aug 2007, 2:22 p.m.*

**Re: 35s -- I know this is "piling on", but . . .**

*Message #4 Posted by [Vincze](#) on 28 Aug 2007, 1:50 p.m.,  
in response to message #1 by Paul Brogger*

I think you have too much time on your hands if you can admire your 35s in your office and notice how nicely it look. But thank you for chuckle. My logo look just fine. :)

**Re: 35s -- I know this is "piling on", but . . .**

*Message #5 Posted by [Frank Knight](#) on 29 Aug 2007, 7:09 p.m.,  
in response to message #1 by Paul Brogger*

Well, it is built in China. Let's check that paint too! ;+}

**Re: 35s -- I know this is "piling on", but . . .**

*Message #6 Posted by [Paul Brogger](#) on 29 Aug 2007, 7:15 p.m.,  
in response to message #5 by Frank Knight*

Just don't chew on it, and you should be fine.

: -)

**Re: 35s -- I know this is "piling on", but . . .**

*Message #7 Posted by [DLF](#) on 29 Aug 2007, 8:45 p.m.,  
in response to message #1 by Paul Brogger*

You're absolutely correct. It was the first thing I noticed -- \*AFTER\* all the positive attributes you mentioned, of course.

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**32sII keyboard key noise**

Message #1 Posted by [Michael Barry](#) on 28 Aug 2007, 10:49 a.m.

My calculator has been used heavily. Over the course of time, the 'C' and blue shift key have developed a clicking or snapping sound when pressed. I believe it's due to the keys no longer being held under tension and when depressed, they travel a little until they come in contact with something which causes this audible noise. I'm sure some folks here have run across this problem. Does anyone have any suggestions for fixing this? I can live with it, but I find it irritating.

**Re: 32sII keyboard key noise**

Message #2 Posted by [Bruce Bergman](#) on 28 Aug 2007, 10:55 a.m.,  
in response to message #1 by Michael Barry

I have the same thing on my old Woodstock HP-25c occasionally (granted, a different keyboard...). It's like a brief hesitation, followed by a firm click. Makes the key noticeably louder, but otherwise functions the same. I'm more prone to accidentally not pressing it fully if I'm not paying attention.

I'm assuming something just got in between the key and the board, but I'd love to hear if others have solved this problem.

thanks, bruce

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## HP Forum Archive 17

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### Permutation Typo?

Message #1 Posted by [Vincze](#) on 28 Aug 2007, 9:40 a.m.

I do search and not see this before, so I am looking for clarification. I have to do a permutation this morning and when I look on page 4-15 of 35s manual, it is my understanding that to find a permutation, I must type N (number of items) first, then press nPr and then r (number of items at a time). If I follow this instruction, I get INVALID DATA message.

Am I correct in thinking that I must enter n into calculator and hit ENTER, then enter r and press nPr? This seem to give correct result. Did I misread manual?

*Edited: 28 Aug 2007, 10:16 a.m.*

### Re: Permutation Typo?

Message #2 Posted by [Gene Wright](#) on 28 Aug 2007, 10:21 a.m.,  
in response to message #1 by Vincze

Check the "Note" in the box on page 1-10 of the manual.

The go back to page 4-15.

While I'm not a big fan of this approach, it is what it is.

### Re: Permutation Typo?

Message #3 Posted by [Vincze](#) on 28 Aug 2007, 10:44 a.m.,  
in response to message #2 by Gene Wright

That would seem to indicate that when the check is seen, they are showing it in RPN. That still does not make sense as my calculator in RPN.

### Re: Permutation Typo?

Message #4 Posted by [Chuck](#) on 28 Aug 2007, 10:57 a.m.,  
in response to message #3 by Vincze

Quote:

That would seem to indicate that when the check is seen, they are showing it in RPN. That still does not make sense as my calculator in RPN.

A minor typo possibly; they gave the ALG instructions. But as always with RPN, two arguments THEN the operation, ie., 15 nPr 5 should be entered 15 ENTER 5 nPr. I've seen the blue check in various places it shouldn't be.

**Re: Permutation Typo?**

*Message #5 Posted by **Vincze** on 28 Aug 2007, 11:02 a.m.,  
in response to message #4 by Chuck*

Thank you my friend for the clarification.

Mt friend Gene, did you write this page? ;)

**Re: Permutation Typo?**

*Message #6 Posted by **Gene Wright** on 28 Aug 2007, 11:41 a.m.,  
in response to message #5 by Vincze*

No, I did not.

I'm not a big fan of the check mark approach.

I would rather see instructions given in both logic systems all the time.

**Re: Permutation Typo?**

*Message #7 Posted by **Thomas Radtke** on 28 Aug 2007, 12:30 p.m.,  
in response to message #4 by Chuck*

It would be wrong even if ALG was meant. It just does not work this way.

**Re: Permutation Typo?**

*Message #8 Posted by **Don Shepherd** on 28 Aug 2007, 1:43 p.m.,  
in response to message #1 by Vincze*

Good find, Vincze. Seems an update to the manual is in order.

**Re: Permutation Typo?**

*Message #9 Posted by **Vincze** on 28 Aug 2007, 1:48 p.m.,  
in response to message #8 by Don Shepherd*

I going to assume Combinations on same page wrong too. It has same input format.

I wonder why HP decide to use check mark approach on this? I wonder if other check mark examples flawed too. I also wonder if just certain technical writer ones who do check mark examples, and other do other way?

It sure be nice to have PDF of manual.

**Re: Permutation Typo?**

*Message #10 Posted by **Gene Wright** on 28 Aug 2007, 1:59 p.m.,  
in response to message #9 by Vincze*

Oh my! Too close to things - my only defense.

Yes, this language looks like a portion where the original description for the HP33s was kept by mistake.



The HP35s uses a more Equation Operating System style flavor of algebraic compared to the HP33s.

As such, algebraic functions are prefix functions now (except for factorial, which still doesn't make sense to me).

But, the manual appears to be based upon the 33s manual and this was missed.

FYI, I don't know why the PDF of the manual is not up yet.

**Re: Permutation Typo?**

*Message #11 Posted by [Vincze](#) on 28 Aug 2007, 2:06 p.m.,  
in response to message #10 by Gene Wright*

I take it you get in trouble if you shared PDF version?

**Re: Permutation Typo?**

*Message #12 Posted by [Gene Wright](#) on 28 Aug 2007, 3:16 p.m.,  
in response to message #11 by Vincze*

What PDF version? Don't know what you are talking about.

**Re: Permutation Typo?**

*Message #13 Posted by [Vincze](#) on 28 Aug 2007, 3:30 p.m.,  
in response to message #12 by Gene Wright*

PDF version of 35s manual. From your message it seem to indicate that there is one.

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## HP Forum Archive 17

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### Coin flip program

Message #1 Posted by [Vincze](#) on 28 Aug 2007, 8:45 a.m.

Last night, I get funny idea to make program to simulate coin flip on 35s. This because wife and son say I not flipping coin right to see who win something.

Anyhow, I figure if I make program, it should be fair and not influence by human and odds should be 50/50. I also tell my son that on true false test, there is a 50/50 chance on getting answer correct, but there is a 90% chance you will pick the wrong answer (that was joke in Hungary).

```
F001 LBL F
F002 0.5
F003 RANDOM
F004 X>Y?
F005 GTO F008
F006 EQN HEADS
F007 GTO F001           // I DO THIS SO IT KEEP RECYCLING IF NEEDED
F008 EQN TAILS
F009 GTO F001
F010 RTN               // NOT SURE IF THIS NEEDED, BUT IT HERE JUST IN CASE
```

I put RTN at F010, even though program should never get there. I just think it better programing practice to always end program formally.

I would be interested to hear what others say about that though.

### RPL version

Message #2 Posted by [Vincze](#) on 28 Aug 2007, 2:53 p.m.,  
in response to message #1 by Vincze

My friends, I thought I try this simple program and convert to RPL, but I have hard time with. Here is what I have.

```
<< IF RAND > .5 THEN
      'HEADS'
    ELSE 'TAILS'
    END
>>
```

When I run it always head. Do I need store the random number to a variable?

Also, it display this is stack

```
'HEADS' > .5624896409...
```

That seem strange if you ask me.

### Re: RPL version

Message #3 Posted by [Raymond Del Tondo](#) on 28 Aug 2007, 3:16 p.m.,  
in response to message #2 by Vincze

Hello,

please don't forget it's RPL;-)

The syntax of your IF clause should be as follows:

```
<<
IF RAND .5 >
THEN 'HEADS'
ELSE 'TAILS'
END
>>
```

HTH

Raymond

### Re: RPL version

*Message #4 Posted by [Vincze](#) on 28 Aug 2007, 3:32 p.m.,  
in response to message #3 by Raymond Del Tondo*

Okay, so THEN and 'HEADS' must be on same line. I look at example I have in RPL guide and it have it differently. I will give this a try.

Thank you.

**\*\*EDIT\*\*** no, still always HEADS. I will look into assigning to variable first and see if that issue.

**\*\*Edit 2\*\*** I see what I do wrong. I not read your message properly and see that .5 come before greater than sign. Yes, Vincze, Reverse Polish Lisp. Think reverse.

Okay, now it work nicely. Thank you my friend.

*Edited: 28 Aug 2007, 3:37 p.m.*

### Re: RPL version

*Message #5 Posted by [James M. Prange \(Michigan\)](#) on 28 Aug 2007, 9:25 p.m.,  
in response to message #4 by Vincze*

It would be better to return character strings than global names, so I'd use "HEADS" and "TAILS" instead of 'HEADS' and 'TAILS'.

Assuming that the AUR manual is correct, RAND returns a value in the range  $0 \leq x < 1$ , so for true 50/50 probabilities, use something like:

```
%%HP: T(3)A(R)F(.);
\<< IF RAND .5 \>= THEN "HEADS" ELSE "TAILS" END \>>
```

or:

```
%%HP: T(3)A(R)F(.);
\<< IF RAND .5 < THEN "TAILS" ELSE "HEADS" END \>>
```

In the above, "%HP: T(3)A(R)F(.);" is an "ASCII transfer header" that would allow you to copy and paste the source code to a file for transferring to a calculator. It tells the calculator, first off, that it is an ASCII transfer, then which translation mode (0 through 3) to use, then which angular

mode (DEG, RAD, or GRAD) to use, and which of period or comma is the "fraction mark". For small programs such as these, one would likely just key in the program, but the transfer header tells just how to key it in, although the angular mode doesn't matter for these particular cases.

"\<<" and "\>>" represent the UserRPL program delimiters, and "\>=" represents the "greater than or equal to" symbol.

In RPL source code, a "line" is pretty much meaningless, except that a LineFeed code always ends any comment. You could put everything on a single line, use one line for each "word", indent some lines, or whatever you choose. If a source code delimiter doesn't already do so, then "separators", such as spaces, ASCII control codes, semicolon, or whichever of period or comma isn't the fraction mark, tell the compiler where one "word" ends and the next begins. Such source code "formatting" is up to the programmer, and each tends to use his own particular formatting "style"; for example, with a longer program, I'd use something like:

```
%%HP: T(3)A(R)F(.);
\<<
  IF
    RAND
    .5 \>=
  THEN
    "HEADS"
  ELSE
    "TAILS"
  END
\>>
```

Getting back to RAND, it would be possible to cheat with your program by setting the seed with the RDZ command. With any given seed, the numbers returned by a series of RAND commands is repeatable, although rather difficult to "predict" without actually trying it, thus you could "preview" the sequence of "HEADS" and "TAILS" returned after "initializing" the seed with the RDZ command.

Regards,  
James

### Re: RPL version

Message #6 Posted by **Paul Dale** on 28 Aug 2007, 9:56 p.m.,  
in response to message #5 by James M. Prange (Michigan)

If we're going to dig in and alter the code, I'd do it this way:

```
<< "HEADS" "TAILS" RAND .5 < IFTE >>
```

Smaller, faster and less easy to understand :-)

- Pauli

### Re: RPL version

Message #7 Posted by **James M. Prange (Michigan)** on 28 Aug 2007, 10:12 p.m.,  
in response to message #6 by Paul Dale

Quote:

If we're going to dig in and alter the code, I'd do it this way:

```
<< "HEADS" "TAILS" RAND .5 < IFTE >>
```

Smaller, faster and less easy to understand :-)

---

But to make it actually work:

```
%%HP: F(.);  
\<< RAND .5 < "HEADS" "TAILS" IFTE \>>
```

Regards,  
James

**Re: RPL version**

*Message #8 Posted by [Paul Dale](#) on 28 Aug 2007, 10:59 p.m.,  
in response to message #7 by James M. Prange (Michigan)*

oops :-)

Teach me to not try out the code before posting.

- Pauli

**Re: RPL version**

*Message #9 Posted by [Vincze](#) on 29 Aug 2007, 9:00 a.m.,  
in response to message #6 by Paul Dale*

Quote:

---

If we're going to dig in and alter the code, I'd do it this way:

```
<< "HEADS" "TAILS" RAND .5 < IFTE >>
```

Smaller, faster and less easy to understand :-)

- Pauli

---

IFTE?? IF Than Else?

Yes, much smaller and very not easy to understand, but yes efficient (I think).

**Re: RPL version**

*Message #10 Posted by [Vincze](#) on 29 Aug 2007, 8:57 a.m.,  
in response to message #5 by James M. Prange (Michigan)*

Quote:

---

It would be better to return character strings than global names, so I'd use  
"HEADS" and "TAILS" instead of 'HEADS' and 'TAILS'.

---

Yes, I actually did that, but did not update my code online

Quote:

---

Assuming that the AUR manual is correct, RAND returns a value in the range  $0 \leq x < 1$ , so for true 50/50 probabilities, use something like:

```
%%HP: T(3)A(R)F(.);
\<< IF RAND .5 \>= THEN "HEADS" ELSE "TAILS" END \>>
```

or:

```
%%HP: T(3)A(R)F(.);
\<< IF RAND .5 < THEN "TAILS" ELSE "HEADS" END \>>
```

---

Yes, I realize this after I post. I make same change.

Quote:

---

In the above, "%HP: T(3)A(R)F(.);" is an "ASCII transfer header" that would allow you to copy and paste the source code to a file for transferring to a calculator. It tells the calculator, first off, that it is an ASCII transfer, then which translation mode (0 through 3) to use, then which angular mode (DEG, RAD, or GRAD) to use, and which of period or comma is the "fraction mark". For small programs such as these, one would likely just key in the program, but the transfer header tells just how to key it in, although the angular mode doesn't matter for these particular cases.

"\<<" and "\>>" represent the UserRPL program delimiters, and "\>=" represents the "greater than or equal to" symbol.

In RPL source code, a "line" is pretty much meaningless, except that a LineFeed code always end any comment. You could put everything on a single line, use one line for each "word", indent some lines, or whatever you choose. If a source code delimiter doesn't already do so, then "separators", such as spaces, ASCII control codes, semicolon, or whichever of period or comma isn't the fraction mark, tell the compiler where one "word" ends and the next begins. Such source code "formatting" is up to the programmer, and each tends to use his own particular formatting "style"; for example, with a longer program, I'd use something like:

```
%%HP: T(3)A(R)F(.);
\<<
  IF
    RAND
    .5 \>=
  THEN
    "HEADS"
  ELSE
    "TAILS"
  END
\>>
```

Getting back to RAND, it would be possible to cheat with your program by setting the seed with the RDZ command. With any given seed, the numbers returned by a series of RAND commands is repeatable, although rather difficult to "predict" without actually trying it, thus you could "preview" the sequence of "HEADS" and "TAILS" returned after "initializing" the seed with the RDZ command.

Regards,  
James

---

This all good information, and thank you my friend for sharing with me. It always good to learn from someone who know more and I appreciate your help.

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## HP Forum Archive 17

[ [Return to Index](#) | [Top of Index](#) ]**Surveying program for the HP-71B**Message #1 Posted by [Gerson W. Barbosa](#) on 27 Aug 2007, 10:32 p.m.

The following program computes the area of an n-side irregular polygon, given the side-lengths and the internal angles. The coordinates are also calculated. An automatic misclose adjustment is provided.

Actually, I know nothing of surveying. I just turned a surveying sheet into a CASIO PB-700 BASIC program, from which this version came from.

Messages are in the original Portuguese but the examples might be easy to follow. Just for an idea, for an equal-sided triangle enter 3, 10, 60, 10, 60, 10, 60, 90 as requested (side = 10 length units). The result should be 43.301 area units and the coordinates for plotting it on a Cartesian plane would be (0.000, 0.000), (10.000, 0.000) and (5.000, 8.666).

```

10 DESTROY ALL @ INPUT "No. de Estacoes? ";N @ IF N>370 THEN 10 ELSE IF N>2 THEN 20 ELSE 10
20 DEGREES @ DELAY 0,0 @ OPTION BASE 1 @ K=180*(N-2) @ DIM A(N),D(N),X(N),Y(N),Z(N)
30 FOR I=1 TO N @ DISP "DIST(";STR$(I); @ INPUT "): ";D(I) @ L=L+D(I) @ DISP "ANGL(";STR$(I);
40 INPUT "): ";B @ GOSUB 310 @ A(I)=B @ W=W+1/D(I) @ G=G+A(I) @ NEXT I
70 E=ABS(G-K)*60/N @ IF E>2 THEN GOSUB 330 @ DISP "Ang.:";INT(E);"/vt" @ WAIT 1 @ GOTO 335
80 INPUT "Azimute: ";B @ GOSUB 310 @ Z(1)=B
90 GOSUB 350 @ H=G-K @ T=H/W @ FOR I=2 TO N @ A(I)=A(I)-T/D(I) @ Z(I)=Z(I-1)+A(I)
100 IF Z(I)>180 THEN Z(I)=Z(I)-180 ELSE Z(I)=Z(I)+180
120 NEXT I @ U=0 @ V=0 @ FOR I=1 TO N @ X(I)=D(I)*SIN(Z(I)) @ Y(I)=D(I)*COS(Z(I))
130 U=U+X(I) @ V=V+Y(I) @ NEXT I @ F=SQR(U^2+V^2)/L*1000
140 IF F>2 THEN GOSUB 330 @ DISP "Lin.:";INT(F);"m/km" @ WAIT 1 @ GOTO 345
150 GOSUB 350 @ A(1)=A(1)-T/D(1) @ P=U/L @ Q=V/L @ FOR I=1 TO N @ T=X(I)-D(I)*P @ X(I)=T+2*C
160 C=C+T @ Y(I)=Y(I)-D(I)*Q @ R=R+X(I)*Y(I) @ D(I)=T @ NEXT I @ BEEP
170 DELAY 9,0 @ DISP "Area:"; @ DISP USING 430;R/2
180 DISP "Erro Lin.:"; @ DISP USING 440;F
190 DISP "Erro Ang.:"; @ DISP USING 450;E @ U=0 @ V=0
200 FOR I=1 TO N @ Z(I)=FP(Z(I))+MOD(INT(Z(I)),360) @ IF Z(I)<90 THEN X$="NE" @ GOTO 260
210 IF Z(I)<180 THEN Z(I)=180-Z(I) @ X$="SE" @ GOTO 260
220 IF Z(I)<270 THEN Z(I)=Z(I)-180 @ X$="SO" @ GOTO 260
230 Z(I)=360-Z(I) @ X$="NO"
260 B=Z(I) @ GOSUB 320
270 DISP "X(";STR$(I);""); @ DISP TAB(9); @ DISP USING 460;U @ DISP "Y(";STR$(I);"");
275 DISP TAB(9); @ DISP USING 460;V @ D$=STR$(INT(Z(I)))
280 M$=CHR$(48*(2-LEN(STR$(M))))&STR$(M) @ S$=CHR$(48*(2-LEN(STR$(S))))&STR$(S)
285 DISP "R(";STR$(I);"");TAB(10-LEN(D$));D$;CHR$(167);" ";M$;" ";S$;CHR$(34);" ";X$
290 U=U+D(I) @ V=V+Y(I) @ NEXT I @ END
300 X$=UPRC$(KEY$) @ IF X$="" OR X$#"S" AND X$#"N" THEN 300 ELSE RETURN
310 M=INT(100*FP(B)) @ S=100*FP(100*FP(B)) @ B=INT(B)+M/60+S/3600 @ RETURN
320 T=FP(B)+.000000005 @ M=INT(60*T) @ S=INT(MOD(3600*T,60)) @ RETURN
330 BEEP @ PRINT "Erro "; @ RETURN
335 GOSUB 340 @ IF X$="S" THEN 360 ELSE 80
340 DISP "Reentrar? <S,N>" @ GOSUB 300 @ RETURN
345 GOSUB 340 @ IF X$="S" THEN 400 ELSE GOTO 150
350 DISP "Aguarde..." @ RETURN
360 G=0 @ FOR I=1 TO N @ B=A(I) @ GOSUB 320 @ B=(S+100*M)*.0001+INT(B)
365 A(I)=B @ DISP "ANGL(";STR$(I);"");
380 INPUT " ",STR$(A(I));X1$ @ IF X1$="" THEN B=A(I) ELSE B=VAL(X1$)
390 GOSUB 310 @ A(I)=B @ G=G+A(I) @ NEXT I @ GOTO 70
400 L=0 @ W=0 @ FOR I=1 TO N @ IF I>1 THEN A(I)=A(I)+T/D(I)
410 DISP "DIST(";STR$(I);""); @ INPUT " ",STR$(D(I));X1$ @ IF X1$<>"" THEN D(I)=VAL(X1$)
420 L=L+D(I) @ W=W+1/D(I) @ NEXT I @ GOTO 90
430 IMAGE 9D.DDD," m2"
440 IMAGE Z.DD," m/km"
450 IMAGE Z.DD," '/vt"
460 IMAGE 5D.DDD

```



```

=====
>RUN
No. de Estacoes? 7
DIST(1): 439.20
ANGL(1): 59.1930
DIST(2): 219.80
ANGL(2): 211.4900
DIST(3): 351.10
ANGL(3): 74.4245
DIST(4): 192.75
ANGL(4): 198.1115
DIST(5): 303.80
ANGL(5): 60.5000
DIST(6): 305.90
ANGL(6): 169.4930
DIST(7): 446.80
ANGL(7): 125.1915
Azimute: 81
Aguarde...
Aguarde...
Area: 256500.544 m2
Erro Lin.: 0.28 m/km
Erro Ang.: 0.18 '/vt
X(1) 0.000
Y(1) 0.000
R(1) 81° 00' 00" NE
X(2) 433.711
Y(2) 68.797
R(2) 67° 11' 14" SE
X(3) 636.277
Y(3) -16.378
R(3) 7° 31' 21" NE
X(4) 682.178
Y(4) 331.773
R(4) 25° 42' 20" NE
X(5) 765.747
Y(5) 505.487
R(5) 86° 32' 09" SO
X(6) 462.446
Y(6) 487.194
R(6) 76° 21' 29" SO
X(7) 165.119
Y(7) 415.110
R(7) 21° 40' 37" SO

```

```

=====
>RUN
No. de Estacoes? 9
DIST(1): 5.1
ANGL(1): 213
DIST(2): 5.0
ANGL(2): 138
DIST(3): 9.5
ANGL(3): 342.20
DIST(4): 11.4
ANGL(4): 34
DIST(5): 10
ANGL(5): 91
DIST(6): 7.3
ANGL(6): 53
DIST(7): 6.2
ANGL(7): 266
DIST(8): 9
ANGL(8): 77.3
DIST(9): 4.2
ANGL(9): 45
Azimute: 0
Aguarde...
Erro Lin.: 43 m/km
Reentrar? <S,N>
DIST( 1 ): 5.1
DIST( 2 ): 5
DIST( 3 ): 9.5
DIST( 4 ): 11.4
DIST( 5 ): 10

```

```

DIST( 6 ): 7.3
DIST( 7 ): 9.2
DIST( 8 ): 9
DIST( 9 ): 4.2
Aguarde...
Aguarde...
Area:      101.203 m2
Erro Lin.: 1.01 m/km
Erro Ang.: 1.11 '/vt
X(1)      0.000
Y(1)      0.000
R(1)      0° 00' 00" NE
X(2)      .003
Y(2)      5.104
R(2)      41° 58' 27" NO
X(3)      -3.339
Y(3)      8.826
R(3)      59° 37' 37" SE
X(4)      4.862
Y(4)      4.031
R(4)      25° 36' 56" NO
X(5)      -.060
Y(5)      14.320
R(5)      65° 23' 50" SO
X(6)      -9.147
Y(6)      10.166
R(6)      61° 35' 06" SE
X(7)      -2.723
Y(7)      6.698
R(7)      24° 25' 45" SO
X(8)      -6.523
Y(8)      -1.670
R(8)      78° 03' 23" SE
X(9)      2.287
Y(9)      -3.525
R(9)      33° 01' 32" NO
    
```

=====

```

>RUN
No. de Estacoes? 21
DIST(1): 296.78
ANGL(1): 199.44
DIST(2): 384.09
ANGL(2): 133.3143
DIST(3): 215.99
ANGL(3): 49.5308
DIST(4): 58.43
ANGL(4): 186.1700
DIST(5): 268.00
ANGL(5): 248.3000
DIST(6): 180.53
ANGL(6): 144.4304
DIST(7): 34.03
ANGL(7): 182.2620
DIST(8): 114.03
ANGL(8): 135.5100
DIST(9): 68.75
ANGL(9): 183.1600
DIST(10): 28.13
ANGL(10): 161.5518
DIST(11): 63.62
ANGL(11): 196.0440
DIST(12): 313.65
ANGL(12): 177.1000
DIST(13): 530.60
ANGL(13): 190.0730
DIST(14): 691.69
ANGL(14): 180.0727
DIST(15): 1043.90
ANGL(15): 68.3100
DIST(16): 183.37
ANGL(16): 129.4007
DIST(17): 134.44
ANGL(17): 180.1500
DIST(18): 59.05
ANGL(18): 177.5940
DIST(19): 360.99
    
```

```

ANGL(19): 142.5300
DIST(20): 522.42
ANGL(20): 179.4830
DIST(21): 322.80
ANGL(21): 171.1340
Azimute: 40.2500
Aguarde...
Aguarde...
Area: 1729019.963 m2
Erro Lin.: 0.22 m/km
Erro Ang.: 0.09 '/vt
X(1) 0.000
Y(1) 0.000
R(1) 40° 25' 00" NE
X(2) 192.378
Y(2) 226.009
R(2) 6° 03' 15" NO
X(3) 151.820
Y(3) 608.028
R(3) 43° 49' 55" SO
X(4) 2.210
Y(4) 452.259
R(4) 50° 07' 06" SO
X(5) -42.635
Y(5) 414.804
R(5) 61° 22' 52" NO
X(6) -277.925
Y(6) 543.221
R(6) 83° 20' 15" SO
X(7) -457.259
Y(7) 522.310
R(7) 85° 46' 53" SO
X(8) -491.201
Y(8) 519.813
R(8) 41° 37' 59" SO
X(9) -566.972
Y(9) 434.606
R(9) 44° 54' 07" SO
X(10) -615.511
Y(10) 385.923
R(10) 26° 49' 47" SO
X(11) -628.210
Y(11) 360.826
R(11) 42° 54' 37" SO
X(12) -671.534
Y(12) 314.241
R(12) 40° 04' 39" SO
X(13) -873.508
Y(13) 74.302
R(13) 50° 12' 10" SO
X(14) -1281.241
Y(14) -265.222
R(14) 50° 19' 38" SO
X(15) -1813.722
Y(15) -706.671
R(15) 61° 09' 22" SE
X(16) -899.461
Y(16) -1210.080
R(16) 68° 30' 48" NE
X(17) -728.857
Y(17) -1142.881
R(17) 68° 45' 53" NE
X(18) -603.562
Y(18) -1094.162
R(18) 66° 45' 43" NE
X(19) -549.310
Y(19) -1070.852
R(19) 29° 38' 45" NE
X(20) -370.796
Y(20) -757.049
R(20) 29° 27' 16" NE
X(21) -113.971
Y(21) -302.056
R(21) 20° 40' 58" NE

```

=====  
 Edited: 27 Aug 2007, 10:46 p.m.

**Re: Surveying program for the HP-71B**

Message #2 Posted by [db\(martinez,ca\)](#) on 28 Aug 2007, 5:02 p.m.,

in response to message #1 by Gerson W. Barbosa

gerson- fortunately; english and portugese both got their words for mathematical concepts from latin, so they abbreviate about the same. thanks for the post.

**Re: Surveying program for the HP-71B**

Message #3 Posted by [Gerson W. Barbosa](#) on 28 Aug 2007, 8:46 p.m.,

in response to message #2 by [db\(martinez,ca\)](#)

The QBASIC version gives the same results, except for occasional differences of one second.

I'd like to check them upon an authoritative software, but I don't have any.

Gerson.

```

3 DEFDBL A-H, J-Z: DEFINT I
5 DEF FNFRAC (NN) = NN + 1E-12 - INT(NN + 1E-12)
10 CLS : CLEAR : INPUT "No. de Estacoes? ", N: IF N > 999 THEN 10 ELSE IF N > 2 THEN 20 ELSE 10
20 GR = ATN(1) / 45: K = 180 * (N - 2): N = N - 1: DIM A(N), D(N), X(N), Y(N), Z(N): FOR I = 0 TO N:
CLS
30 PRINT "DIST("; : PRINT USING "###"; I + 1; : PRINT "):"; : LOCATE 3, 1: PRINT "ANGL("; : PRINT
USING "###"; I + 1; : PRINT "):"; : LOCATE 1, 12
40 INPUT "", D(I): SL = SL + D(I): LOCATE 3, 12: INPUT "", AN: GOSUB 310: A(I) = AN
50 SI = SI + 1 / D(I): SA = SA + A(I): NEXT I
60 CLS : EA = ABS(SA - K) * 60 / (N + 1)
70 IF EA > 2 THEN GOSUB 330: PRINT "Ang.:"; INT(EA); CHR$(39); "/vt": GOSUB 340: IF X$ = "S" OR X$ =
"s" THEN 360
80 CLS : INPUT "Azimute: ", AN: GOSUB 310: Z(0) = AN
90 GOSUB 350: DA = SA - K: T = DA / SI: FOR I = 1 TO N: A(I) = A(I) - T / D(I)
100 Z(I) = Z(I - 1) + A(I): IF Z(I) > 180 THEN Z(I) = Z(I) - 180 ELSE Z(I) = Z(I) + 180
110 NEXT I: SX = 0: SY = 0
120 FOR I = 0 TO N: X(I) = D(I) * SIN(GR * Z(I)): Y(I) = D(I) * COS(GR * Z(I)): SX = SX + X(I): SY =
SY + Y(I): NEXT I
130 EL = SQR(SX ^ 2 + SY ^ 2) / SL * 1000!
140 IF EL > 2 THEN CLS : GOSUB 330: PRINT "Lin.:"; INT(EL); "m/km": GOSUB 340: IF X$ = "S" OR X$ = "s"
THEN 400
150 GOSUB 350: A(0) = A(0) - T / D(0): KX = SX / SL: KY = SY / SL: FOR I = 0 TO N: T = X(I) - D(I) *
KX: X(I) = T + 2 * SC
160 SC = SC + T: Y(I) = Y(I) - D(I) * KY: AR = AR + X(I) * Y(I): D(I) = T: NEXT I: CLS : BEEP
170 PRINT "AREA:"; USING "#####.###"; AR / 2; : PRINT "m2": PRINT
180 PRINT "Erro Lin.:"; USING "###.##"; EL; : PRINT "m/km"
190 PRINT "Erro Ang.:"; USING "###.##"; EA; : PRINT CHR$(39); "/vt": : GOSUB 300: SX = 0: SY = 0
200 FOR I = 0 TO N: CLS : Z(I) = FNFRAC(Z(I)) + INT(Z(I)) MOD 360: IF Z(I) < 90 THEN X$ = "NE": GOTO
260
210 IF Z(I) < 180 THEN Z(I) = 180 - Z(I): X$ = "SE ": GOTO 260
220 IF Z(I) < 270 THEN Z(I) = Z(I) - 180: X$ = "SO ": GOTO 260
230 Z(I) = 360 - Z(I): X$ = "NO"
260 AN = Z(I): GOSUB 320
270 PRINT "X("; : PRINT USING "###"; I + 1; : PRINT "):"; USING "#####.###"; SX: PRINT "Y("; : PRINT
USING "###"; I + 1; : PRINT "):"; USING "#####.###"; SY
280 PRINT : PRINT "R("; : PRINT USING "###"; I + 1; : PRINT "): "; : PRINT USING "###"; INT(AN); :
PRINT "o"; : PRINT USING "###"; M; : PRINT "": : PRINT USING "##"; S; : PRINT CHR$(34); " "; X$;
290 SX = SX + D(I): SY = SY + Y(I): GOSUB 300: NEXT I: CLS : END
300 X$ = INKEY$: IF X$ = "" THEN 300 ELSE RETURN
310 M = INT(100 * FNFRAC(AN)): S = 100 * FNFRAC(100 * FNFRAC(AN)): AN = INT(AN) + M / 60 + S / 3600:
RETURN
320 T = FNFRAC(AN): M = INT(60 * T): S = FNFRAC(((3600 * T) / 60)) * 60
323 IF INT(S + .5) = 60 THEN S = 0: M = M + 1
325 IF M = 60 THEN M = 0: AN = AN + 1
328 RETURN
330 BEEP: PRINT "Erro "; : RETURN
340 LOCATE 3, 1: PRINT "Reentrar? <S,N>": GOSUB 300: RETURN
350 CLS : PRINT "Aguarde...; ": RETURN
360 SA = 0: FOR I = 0 TO N: CLS : AN = A(I): GOSUB 320: AN = (S + 100 * M) * .0001 + INT(AN): A(I) =
AN: PRINT "ANGL(";
370 PRINT USING "###"; I + 1; : PRINT "): "; USING "#####.###"; A(I); : LOCATE 1, 14 + LEN(STR$(I)) -
LEN(STR$(INT(A(I))))
380 INPUT "", X1$: IF X1$ = "" THEN AN = A(I) ELSE AN = VAL(X1$)
390 GOSUB 310: A(I) = AN: SA = SA + A(I): NEXT I: GOTO 60
400 SL = 0: SI = 0: FOR I = 0 TO N: IF I > 0 THEN A(I) = A(I) + T / D(I)
410 CLS : PRINT "DIST("; : PRINT USING "###"; I + 1; : PRINT "):"; : PRINT USING "#####.###"; D(I)
420 LOCATE 1, 14 + LEN(STR$(I)) - LEN(STR$(INT(D(I))))
430 INPUT "", X1$: IF X1$ <> "" THEN D(I) = VAL(X1$)
440 SL = SL + D(I): SI = SI + 1 / D(I): NEXT I: GOTO 90

```

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## HP Forum Archive 17

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### Stats programs for the HP-35s sold on eBay

Message #1 Posted by [Bruce Bergman](#) on 27 Aug 2007, 8:50 p.m.

Take a look at this link:

[Stat Pac for HP-35s](#)

Someone is making some bucks off selling a port of the StatPac for the HP-35s platform.

Interesting...

thanks, bruce

### Re: Stats programs for the HP-35s sold on eBay

Message #2 Posted by [Don Shepherd](#) on 27 Aug 2007, 9:13 p.m.,  
in response to message #1 by Bruce Bergman

Some poor soul buys this for \$45 then finds out he has to key in 7,550 lines of code! Why do I see some irate buyers?

### Re: Stats programs for the HP-35s sold on eBay

Message #3 Posted by [Stefan Vorkoetter](#) on 27 Aug 2007, 9:22 p.m.,  
in response to message #2 by Don Shepherd

Not only that, but did you notice the section that says all the programs have a consistent interface, and then lists the XEQ labels needed for common operations? This of course implies that the programs are designed so that only one of them resides in the calculator at a time, which means you need to re-key these programs whenever you need one.

Of course, anyone buying this has got to realize they need to key in the code, since there's no other way to get it into the calculator.

Stefan

### Re: Stats programs for the HP-35s sold on eBay

Message #4 Posted by [Bruce Bergman](#) on 27 Aug 2007, 9:39 p.m.,  
in response to message #3 by Stefan Vorkoetter

Now, if you could send him your 35s and HE types them in for you, THEN maybe it would be worth \$45. ;-)

### Re: Stats programs for the HP-35s sold on eBay

Message #5 Posted by [Paul Dale](#) on 27 Aug 2007, 10:14 p.m.,

*in response to message #1 by Bruce Bergman*

I'm guessing but I suspect Namir is the seller. See this MoHPC [advertisement](#)

- Pauli

**Re: Stats programs for the HP-35s sold on eBay**

*Message #6 Posted by [Hugh Evans](#) on 27 Aug 2007, 10:19 p.m.,  
in response to message #5 by Paul Dale*

The item number matches. I'd say you guessed right.

**Re: Stats programs for the HP-35s sold on eBay**

*Message #7 Posted by [Allen](#) on 27 Aug 2007, 10:20 p.m.,  
in response to message #1 by Bruce Bergman*

Quote:

Someone is making some bucks off selling a port of the StatPac for the HP-35s platform.

OK. Namir is free to do so, and probably more qualified than most.. what is the issue?

**Re: Stats programs for the HP-35s sold on eBay**

*Message #8 Posted by [Howard Owen](#) on 27 Aug 2007, 10:49 p.m.,  
in response to message #7 by Allen*

That's unlikely to be a rip-off of any another "stat-pac." Given that Namir is an expert statistician and an HP calculator enthusiast, I'd say odds are good you would get reasonable value out of the purchase.

You still might end up with sore fingers, however. 8)

Regards,  
Howard

**Re: Stats programs for the HP-35s sold on eBay**

*Message #9 Posted by [Bruce Bergman](#) on 27 Aug 2007, 11:40 p.m.,  
in response to message #7 by Allen*

No issue. I didn't say anyone was ripping anything off -- I said someone was making some bucks off a port of the Stats Pac.

It is what it is. I know \*I'm\* not typing in all those programs, especially when there is a magnificent collection of stats programs for the 50g! :-)

thanks, bruce

**Re: Stats programs for the HP-35s sold on eBay**

*Message #10 Posted by [Les Wright](#) on 29 Aug 2007, 7:41 a.m.,  
in response to message #7 by Allen*

Looking at the eBay listing, it seems our good friend has essentially written a book. I know that he is scrupulous about notions of copyright and intellectual property issues, so I would expect the work is original and thus he is free to give or sell it away as he sees fit. I also fully expect that anyone who purchases this document knows full well that the code goes into the calc by fingers.

I think Namir has a great deal of credibility in this regard. Some of you may remember that about 1985 he was the single most prolific contributor to the HP41 Users' Library. He is a highly skilled RPN programmer, and if he wants to seek a little remuneration for his work, good for him. He has the credentials to back this up. I also expect he will fully support his work and make adjustments and respond promptly to feedback and bug reports.

Les

*Edited: 29 Aug 2007, 7:52 a.m.*

### **Re: Stats programs for the HP-35s sold on eBay**

*Message #11 Posted by [Arne Halvorsen \(Norway\)](#) on 29 Aug 2007, 8:08 a.m.,  
in response to message #10 by Les Wright*

Yes, but there where one criticism raised earlier in this thread about the user interface indicates that only one program can be in the machine by the design.

After implementor found to be one of 'us' no more discussion on this topic has been (granted, it may not been discussed either way).

Statistic is not my field but I guess anyone in need of these functions of a calculator need first to find out if HP-35s is the right machine for her.

Does this indicate for example that the memory of the machine is to limited for this type of work?

Is this genuine design flaw in the code?

Are we misreading the implication of the software's description?

### **Re: Stats programs for the HP-35s sold on eBay**

*Message #12 Posted by [Seth Morabito](#) on 28 Aug 2007, 1:08 a.m.,  
in response to message #1 by Bruce Bergman*

I think this is excellent news. More applications means more utility for more users, and that means more sales for HP, and that means more money for calculator development. It's capitalism at its finest!

### **Re: Stats programs for the HP-35s sold on eBay**

*Message #13 Posted by [Pal G.](#) on 28 Aug 2007, 1:54 a.m.,  
in response to message #12 by Seth Morabito*

Well, there is nothing wrong with capitalism. However, if HP is smart they pay the author a couple thousand bucks and make the statistics programs open source, or should I say free, to the public. As mentioned, there is quite a bit of key pressing to do for those would be statisticians. If HP were to make all those statistics apps public many more people would buy hp 35ses and load 'em up. Otherwise, I am afraid all of Namir's work is for a stark few who are "looking for statistics applications for their new 35s on ebay"??

I would have never known those apps existed if I hadn't read it here, and I imagine not too many present



and future hp 35s owners know about this forum or search ebay for statistics applications.

Cheers, Pal

### **Re: Stats programs for the HP-35s sold on eBay**

*Message #14 Posted by [Vincze](#) on 28 Aug 2007, 9:17 a.m.,  
in response to message #13 by Pal G.*

I not familiar with Stats pack, but I do have one question. Is/was this copyrighted material for different calculator? If so, there may be issue with copyright holder (or was Namir author of programs?)

### **Stravinsky said....**

*Message #15 Posted by [Les Wright](#) on 29 Aug 2007, 7:50 a.m.,  
in response to message #14 by Vincze*

A professor of mine likes to quote Stravinsky, who basically said that great composers steal from each other all the time.

I expect that Namir drew inspiration from the original HP41 Stat Pac as well as various Users' Library Solutions in the statistics realm. Still, I suspect he had a lot of work to do to adapt algorithms to the 35s. Also, it seems that he uses the 35s 3D vector type to maximize matrix storage capacity. This is an entity unique to the 35s and it would take some clever and innovative porting to get things to work.

I think in our own programs we borrow others' tricks, techniques, and motifs all the time. Is this plagiarism, or is it simply benefitting communally from the shared expertise of the group?

Les

*Edited: 29 Aug 2007, 7:51 a.m.*

### **Re: Stravinsky said....**

*Message #16 Posted by [Ren](#) on 30 Aug 2007, 10:52 a.m.,  
in response to message #15 by Les Wright*

It might be...

"standing on the shoulders of giants".

or

"Imitation is the sincerest form of flattery"

Ren

dona nobis pacem

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## HP Forum Archive 17

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### HP cancelling #82240B printer, what does double-width enter key 17bii+ print to?

Message #1 Posted by [Mike Oferrell](#) on 27 Aug 2007, 6:08 p.m.

The picture that was posted about a week ago of the yet to be released 17bii++ has prt and printer as keys on the keyboard but HP is discontinuing the #82240B. Anyone know anything else this maybe able to print to?

### Print to LaserJet maybe with IR??

Message #2 Posted by [Vincze](#) on 27 Aug 2007, 7:25 p.m.,  
in response to message #1 by Mike Oferrell

I thought I see printer that not HP model that it can print to on ebay once. I forget who make it, but I would think HP would still offer some printer. Maybe new model.

One other thing, I sorry I not research this first, but I know HP make IR port for laser jet printers. Can calculator print to these? I have HP IR thingy for my printer and that would be nice with 48gx.

**\*\*EDIT\*\*** Okay, I find link to compatible printer [here](#)

*Edited: 27 Aug 2007, 7:42 p.m.*

### Re: Print to LaserJet maybe with IR??

Message #3 Posted by [Vincze](#) on 28 Aug 2007, 9:03 a.m.,  
in response to message #2 by Vincze

I talk to co-worker yesterday, and he tell me that he was able to get HP calculator with IR port to print to HP Laserjet printer with FIR port on it. He said he had to do something with calculator to get it to work, and he was not sure off top of his head. If this true, I think it wonderful.

I wonder how this would handle trace printing though.

*Edited: 28 Aug 2007, 9:03 a.m.*

### Re: Print to LaserJet maybe with IR??

Message #4 Posted by [James M. Prange \(Michigan\)](#) on 28 Aug 2007, 10:59 p.m.,  
in response to message #2 by Vincze

Quote:

**\*\*EDIT\*\*** Okay, I find link to compatible printer [here](#)

That's a Martel Instruments printer. For some other models that should be compatible, see <http://www.martelinstruments.com/>.

Also see [http://groups.google.com/group/comp.sys.hp48/browse\\_frm/thread/85808516a658eba5/](http://groups.google.com/group/comp.sys.hp48/browse_frm/thread/85808516a658eba5/), starting

with post 17, about Hydrix's H120 printer.

Regards,  
James

*Edited: 28 Aug 2007, 11:07 p.m.*

**Re: HP cancelling #82240B printer, what does double-width enter key 17bii+ print to?**

*Message #5 Posted by [Howard Owen](#) on 27 Aug 2007, 10:00 p.m.,  
in response to message #1 by [Mike Oferrell](#)*

Perhaps there is a new I/R printer in the works?

Regards,  
Howard

**Re: HP cancelling #82240B printer, what does double-width enter key 17bii+ print to?**

*Message #6 Posted by [Mike Oferrell](#) on 27 Aug 2007, 10:10 p.m.,  
in response to message #5 by [Howard Owen](#)*

I guess as I follow on I would then ask how does HP test there new models of calculators? If this model is so near to being released that a retail store had a picture you would think someone has handled one specifically the printing.

**Re: HP cancelling #82240B printer, what does double-width enter key 17bii+ print to?**

*Message #7 Posted by [Howard Owen](#) on 27 Aug 2007, 10:43 p.m.,  
in response to message #6 by [Mike Oferrell](#)*

A picture of the 35s appeared three months before the calculator was available. I don't know if that time line will apply to the new 17bii+. If so, it begs the question: if there is a new printer in the works, where are the pictures of *it*?

On the other hand, perhaps the calculator has USB host capability, and can therefore use any USB printer. Or maybe it's standard USB, but you can print through a PC host application.

Wild speculation is my specialty. 8)

Regards,  
Howard

**Re: HP cancelling #82240B printer, what does double-width enter key 17bii+ print to?**

*Message #8 Posted by [Chan Tran](#) on 28 Aug 2007, 8:33 a.m.,  
in response to message #7 by [Howard Owen](#)*

May be an IR to USB to print on any HP PCL printer?

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## HP Forum Archive 17

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**Repair of 82002A Classic Series Charger**

Message #1 Posted by [Gerry Schultz](#) on 27 Aug 2007, 4:03 p.m.

To All:

Okay, I really need some help here. I own an old HP-55 calculator that I just spent a lot of money on refurbishing and buying a new battery for it. The unit looks and works great due to Richard Anthony's efforts.

My problem is that it that I can't recharge the battery. Being an electronics guy, I know I could figure out what's going on with the charger since the battery ran the 55 just fine when I first got it about 2 months ago. I found some old schematics for the classic charger in 65 notes (V2N9P24) and the PPC Journal (V7N2P25) but they are not the same. As it turns out, my charger matches the schematic in the PPC Journal and I determined the transformer strapping for 120 VAC and I checked for continuity between the 3-pin connector and the circuit board and it's good. Also, the calculator runs fine on the charger. Also, as a precaution, I replaced the original 400uF filter cap given it was some 30 years old. Afterward, I checked its value and it was over 420uF, so it was still in good shape.

**WARNING:** With the charger out of its case, there are open circuits that have 120VAC exposed so if you don't know what you are doing, please don't try this.

I did a circuit board layout and matched it to the PPC Journal schematic. Q1, which feeds about 4 vdc to the calculator works fine. In testing the charger circuit, I found my problem. The calculator battery was dead, it measured about 1.1v. I hooked it up to the charger and the collector of Q3 showed about 2.2 vdc and it started to charge the battery. But, when the battery reaches around 2.2 vdc, the collector doesn't go any higher so the battery stops charging. Now, I know that Q2 and Q3 make up a constant current source of 50 mA to trickle charge the battery. Since Q3's collector voltage isn't climbing higher than the battery voltage to maintain the 50 mA current, one or both of those transistors is bad.

Okay, now the transistors are marked as follows (that these old eyes could read):

Q2 M924 2-274

Q3 M952 3-338

Both transistors are PNP and the "M" specs a Motorola transistor. Is this a 2N924 or is it something else? Given the age of the charger, I would not be surprised if these transistors were no longer available. So, what would be good substitutes for these two transistors that are available?

I hope someone knows since I've been googling for these numbers without success. I'm 9/10 of the way to fixing this and I hope someone can identify these parts so I can order replacements.

Thank you all for your help,

Gerry

**Re: Repair of 82002A Classic Series Charger**

Message #2 Posted by [Vincze](#) on 27 Aug 2007, 4:21 p.m.,

*in response to message #1 by Gerry Schultz*

I sure you already think of this, but why not just get new charger?

### **Re: Repair of 82002A Classic Series Charger**

*Message #3 Posted by [Gerry Schultz](#) on 27 Aug 2007, 6:37 p.m.,  
in response to message #2 by Vincze*

Vincze:

The HP-55 has a very sentimental place in my heart as it is the 2nd HP calculator I have owned and I bought it when it was new. I sold my HP-45 to get the 55 and I couldn't afford the HP-65 at the time. So, instead of discarding the charger I've had for over 30 years, I would like to fix it. If I can't figure out where to get the parts and no one knows here, I may have no choice but to replace it. International Calculators and Computers want \$60 for a charger and they don't have any in stock right now.

It's a simple matter to repair the charger if I can get the right parts. I've had a lot of my calculators refurbished lately (including the 55) because I want to keep these things around for a long time. I would rather repair than replace as it means there is one less HP calculator in the world.

Thanks,

Gerry

### **Re: Repair of 82002A Classic Series Charger**

*Message #4 Posted by [Vincze](#) on 27 Aug 2007, 7:23 p.m.,  
in response to message #3 by Gerry Schultz*

is there not a calculator repair site that I see on site some time ago? Maybe they have parts to fix charger.

### **Re: Repair of 82002A Classic Series Charger**

*Message #5 Posted by [Katie Wasserman](#) on 27 Aug 2007, 9:18 p.m.,  
in response to message #1 by Gerry Schultz*

Tony's schematics of this charger are [here](#). Although he doesn't note the part number of any of the transistors, none of them look critical. Given the minimal voltages and currents involved I'd probably just try some general purpose silicon ones like use a 2N2222 and a couple of 2N2907's.

### **Re: Repair of 82002A Classic Series Charger**

*Message #6 Posted by [Dave Colver](#) on 27 Aug 2007, 9:41 p.m.,  
in response to message #5 by Katie Wasserman*

The car charger uses an MJE800 and an 1853-0393...if i'm reading the diagram right...

### **Re: Repair of 82002A Classic Series Charger**

*Message #7 Posted by [Katie Wasserman](#) on 27 Aug 2007, 11:35 p.m.,  
in response to message #6 by Dave Colver*

Here's a link to a gigantic [HP part number XREF](#). Sometimes HP abbreviated their part numbers on devices so the "3-338" might be something like a 1853-0338 (not sure if that's a real part number or

not, but you get the idea).

## Re: Repair of 82002A Classic Series Charger - the Results

Message #8 Posted by [Gerry Schultz](#) on 28 Aug 2007, 2:04 p.m.,  
in response to message #7 by [Katie Wasserman](#)

To All:

Thank you for your responses. Katie, thanks for the HP parts listing. I did some searching through it but I found nothing conclusive. I should note that that part numbers were on the transistors themselves, so I'm sure their manufacturer part numbers, in this case, Motorola. Also, when I formatted my original posting, Q2 was on the first line just as a label for me, M924 was on the second and 2-274 was on the third line, which is how it is typed on the face of the transistors, but they all got put onto one line when it was posted. In my experience, the M924 is Motorola's shortened part number and the 2-274 represents the manufacturing date code. The layout for Q3 was the same. I didn't notice until later the formatting change.

Given Katie's good suggestion that there's not much being demanded of these transistors substituting generic PNPs should work out fine. My concern was that the case is sealed so there is no air flow and I didn't want either one to overheat. Also, not knowing the Hfe or other specs for those transistors, I wasn't sure if it would deliver the same current as the original parts.

So, I decided to throw caution to the wind and I went down to Radio Shack and bought some 2N3906 and a TIP42 transistors. The TIP42 is overkill for what I needed and it's larger size makes it a careful fit in the plastic case and not having its heatsink on top touch the AC transformer core, but it should stay cool. Also, the TIP42's pinout is different that the original transistor so I had to be careful.

I replaced both transistors early this morning, (my wife pointed out the tail end of the total Lunar eclipse this morning, it was beautiful!) and I found out that the original Q3 had an open base-to-collector. After installing the parts, my charger is now charging my batteries. I did some calculating and the current looks close to 50 mA, which is good. After letting it charge my old, old battery pack for a while, neither of the transistors or the battery pack are getting warm, it looks good and the battery is now properly powering the calculator by itself. It appears to be fixed!

Thank you all for your help. I hope this post will help someone else who is trying to fix their classic charger.

Thanks,

Gerry

## Re: Repair of 82002A Classic Series Charger

Message #9 Posted by [Maximilian Hohmann](#) on 28 Aug 2007, 8:34 a.m.,  
in response to message #1 by [Gerry Schultz](#)

Hello!

Quote:

... make up a constant current source of 50 mA to trickle charge the battery.

50mA for a typical 500mAh classic NiCd battery pack is the nominal charging current (1/10 of the capacity for

14 hours), so be careful not to exceed the 14 hours otherwise the batteries get damaged!

If you can't find the replacement transistors, there are two easy solutions I can think of:

1. Buy a ready-made miniature 50mA constant current source like the one in this example:

[http://www.dotlight.de/shop/product\\_info.php/cPath/100\\_106/products\\_id/304](http://www.dotlight.de/shop/product_info.php/cPath/100_106/products_id/304)

2. A 'quick&dirty' solution would do it the same way as it is done in cheap chargers: Use an LED as pseudo constant current source (or rather 'current limiter'). You have to look for an LED that draws approximately 50mA, this can either be a vintage red LED or a modern blue or white one. To limit the voltage drop over the LED, a series resistor will be required: The fully charged battery pack has a voltage of  $3 \times 1.4V = 4.2V$ , the drop over the LED is around 2V, so difference between these 6V and the unregulated supply voltage (16V according to the schematic posted above) results in a 200 Ohm resistor that will be required. Not elegant, but it works. And it is safe, because in case something goes wrong, it will be the LED that fails and not your batteries.

Greetings, Max

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## HP Forum Archive 17

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**HHC2007 HP Handhelds Conference News Update**

Message #1 Posted by [Jake Schwartz](#) on 26 Aug 2007, 10:38 p.m.

Hi,

For those on the fence regarding the HHC2007 conference in San Diego on September 29-30th, things are looking really good with 4 HP calculator-division people scheduled to speak, along with our 15 others who have expressed their desire to give presentations. We are still expecting also to show Steve Liebson's new video interview with Dave Cochran, one of those who were instrumental in bringing the HP9100 desktop and HP35 pocket calculators to life. There are currently over 60 people registered to be in attendance.

\*\*\*Also, if you haven't yet made hotel reservations, the special \$99.-per-night conference discounted rate is only available if you register with the Holiday Inn before September 1st, so hurry. \*\*\*

In the "HP and HHC News" section, a new announcement has been posted regarding the HP Calculator Division's new GM. In addition, on the main page check out version 4 of the door-prize list, which has now grown to allow for at least one prize for every currently-registered attendee.

Also check out the section called "British HPCC Users Conference", covering some aspects of the upcoming HPCC 25th-Anniversary conference at the Imperial College in London on October 13-14th.

Consult <http://holyjoe.net/hhc2007/> on the web for all the details.

See you at the end of September,

Jake Schwartz

**Re: HHC2007 HP Handhelds Conference News Update**

Message #2 Posted by [Eddie W. Shore](#) on 27 Aug 2007, 10:18 a.m.,  
in response to message #1 by Jake Schwartz

This is turning out well. Looking forward to the conference, 35S/50G/49G+/ and all fo the HP calcs and all.

**Re: HHC2007 HP Handhelds Conference News Update**

Message #3 Posted by [Matt Kernal](#) on 27 Aug 2007, 1:59 p.m.,  
in response to message #1 by Jake Schwartz

Jake,

Thanks for the update.. only a month to go!

Regarding the new [General Manager](#) of HP's calculator Division, it appears that [Mr. Wing Cheung](#) went to the University of Oregon (Eugene, OR), which is only [a hop, skip, and a jump](#) from Oregon State University (Corvallis, OR), where HP designed all the great calculators in the late-70's to mid-90's (I'll bet Mr. Cheung is probably too young to have been there during that era - see bottom right [photo](#)).

Matt  
Beaverton, OR

**Re: HHC2007 HP Handhelds Conference News Update**

*Message #4 Posted by [sjthomas](#) on 27 Aug 2007, 3:50 p.m.,  
in response to message #1 by Jake Schwartz*

Quote:

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In the "HP and HHC News" section, a new announcement has been posted regarding the HP  
Calculator Division's new GM.  
-----

Cool! An announcement from the future!! [edit: fixed]

See you there, Jake -- it's been a few years!

*Edited: 27 Aug 2007, 8:36 p.m.*

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## HP Forum Archive 17

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### Calculator Keyboard standards?

Message #1 Posted by [Vincze](#) on 27 Aug 2007, 2:21 p.m.

I apologize if this asked before, as I did check but did not see anything talking about this.

I have older HP45 calculator, and one thing I notice with the 45 is the operator keys in different order than on all/most modern calculators. I have two questions. 1) Why was old format (- + x /) changed to current one (/ x - +)? 2) Was some guideline set that spell out how current operator layout should be or was it just industry adopting all the same standard?

### Re: Calculator Keyboard standards?

Message #2 Posted by [Eric Smith](#) on 27 Aug 2007, 2:32 p.m.,  
in response to message #1 by Vincze

The original layout was based on research and recognized that addition and multiplication were typically more commonly used than subtraction and division, and thus placed them nearer to the center of the numeric pad.

At some point in the early 1980s, they apparently either forgot about that, or decided that it was unimportant.

AFAIK, there are no official standards for calculator keyboard layout.

### Re: Calculator Keyboard standards?

Message #3 Posted by [Karl Schneider](#) on 27 Aug 2007, 11:46 p.m.,  
in response to message #2 by Eric Smith

Quote:

The original layout was based on research and recognized that addition and multiplication were typically more commonly used than subtraction and division, and thus placed them nearer to the center of the numeric pad.

At some point in the early 1980s, they apparently either forgot about that, or decided that it was unimportant.

Hi, Eric --

I can't agree with either statement. I'd say that HP made a deliberate decision to adopt the arrangement that TI already used. I, for one, find the present arrangement much more logical than the original one. Maybe HP "saw the light", too.

The present arrangement debuted with the horizontal-layout Voyager series in 1981, and was carried over to the HP-71B and the vertical-layout HP-28C and Pioneer series later in the 1980's.

Original                      Present

|   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|
| - | 7 | 8 | 9 | 7 | 8 | 9 | / |
| + | 4 | 5 | 6 | 4 | 5 | 6 | * |
| * | 1 | 2 | 3 | 1 | 2 | 3 | - |
| / | 0 | . |   | 0 | . |   | + |

"One-handing" a calculator is (certainly to me) an awkward way to use it, and a good way to drop it.

90% of users are right-handed. If a user places an "original-arrangement" calc on a desktop or holds it in the left hand, and presses keys with the dominant right hand, the number keys can be concealed by the right hand when an arithmetic key is pressed. This makes it difficult to immediately enter the next number.

With the present arrangement, the right hand does not obscure or conceal the number keys when an arithmetic key is pressed with that hand.

Note also that the present arrangement groups the functions consistently: '/' above '\*', and '-' above '+'. The most common, '+', is conspicuous in the lower-right corner, just like adding machines. No similar-looking arithmetic symbols are adjacent to each other.

Of course, for absolute *perfection* in thoughtful keyboard arrangement, consider [the HP-15C... :-\)](#)

-- KS

*Edited: 28 Aug 2007, 4:48 a.m.*

## Re: Calculator Keyboard standards?

Message #4 Posted by [Eric Smith](#) on 28 Aug 2007, 12:36 p.m.,  
in response to message #3 by Karl Schneider

I wrote:

Quote:

\_\_\_\_\_

The original layout was based on research and recognized that addition and multiplication were typically more commonly used than subtraction and division, and thus placed them nearer to the center of the numeric pad.

At some point in the early 1980s, they apparently either forgot about that, or decided that it was unimportant.

\_\_\_\_\_

Karl wrote:

Quote:

\_\_\_\_\_

I can't agree with either statement.

\_\_\_\_\_

You can disagree all you like, but nothing you have written gives any evidence that either of my statements were incorrect. At best you have given a few possible justifications for the eventual change in key layout, but those justifications do not contradict my statements.

With regard to my first statement, it is a FACT that when HP introduced the FIRST handheld scientific calculator in 1972, they were NOT copying the key layout of any existing (non-scientific) TI calculator. In their early calculators, TI put addition and subtraction to the right of the numeric pad, and multiplication and division above the numeric pad.

With regard to my second statement, no matter how many other justifications you can come up with for moving the arithmetic keys around, they wouldn't have done it unless either they had forgotten why the original layout was chosen, or they decided that the reason for the original layout was (relatively) unimportant.

Quote:

\_\_\_\_\_

"One-handing" a calculator is (certainly to me) an awkward way to use it, and a good way to drop it.

\_\_\_\_\_

Almost every engineer I've ever seen use a Woodstock, Spice, or HP-41C/CV/CX routinely used it one-handed. I've done that for over 30 years, and never dropped one in the process. (I've dropped them at other times, but never in the midst of a one-handed calculation.)

Quote:

\_\_\_\_\_

the number keys can be concealed by the right hand when an arithmetic key is pressed. This makes it difficult to immediately enter the next number.

\_\_\_\_\_

I don't understand how it makes anything difficult. Are you unable to retain a mental image of where you saw the numeric keys a fraction of a second previously? Are you really making a conscious effort to search for the specific numeric key you want to press? "Hmmm... where did that four key go?"

Quote:

\_\_\_\_\_

Note also that the present arrangement groups the functions consistently

\_\_\_\_\_

As Emmerson said, a foolish consistency is the hobgoblin of small minds, but the arrangement you prefer is no more 'consistent' than the way HP did it earlier on. In the early HP calculators, '+' and '\*' were nearer the center, and '-' and '/' were adjacent to (and farther from the center) than those. Neither arrangement is "inconsistent" with any mathematical principle, though one might be more consistent with someone's preconceived notions after using another brand of calculator.

Quote:

\_\_\_\_\_

The most common, '+', is conspicuous in the lower-right corner, just like adding machines.

\_\_\_\_\_

That argument might make some sense for a financial calculator, but not for a scientific. Many engineers would have moved from an earlier HP to a newer HP, but few would have moved directly from an adding machine to a newer HP.

Quote:

\_\_\_\_\_

No similar-looking arithmetic symbols are adjacent to each other.

\_\_\_\_\_

Um, who cares? Any confusion over which arithmetic function is which might last all of two minutes from first use of the calculator. I've never heard anyone claim that the symbols for the arithmetic functions are difficult to visually distinguish. Those with visual impairments might have trouble initially, but will quickly learn which function is where, regardless of what the symbols look like.

Quote:

\_\_\_\_\_

for absolute perfection in thoughtful keyboard arrangement, consider the HP-15C

For a horizontal form factor, it's a good keyboard layout. I won't claim that I could do better, but I certainly wouldn't go so far as to claim that it had achieved perfection. You're far too quick to throw that word around.

## Re: Calculator Keyboard standards?

Message #5 Posted by [Karl Schneider](#) on 30 Aug 2007, 1:48 a.m.,  
in response to message #4 by Eric Smith

Eric --

Hmm, your responses seemed a tad argumentative. That's OK; I've been known to be the same...

We had a [debate about the HP-10C more than three years ago](#).

Eric said:

Quote:

*"At some point in the early 1980s, they apparently either forgot about that, or decided that it was unimportant."*

*"You can disagree all you like, but nothing you have written gives any evidence that either of my statements were incorrect."*

It's quite difficult to refute or disprove any statement that includes the word "apparently". My view is that HP reconsidered the design, deciding that the arrangement used by TI perhaps made more sense for most users and adopted it -- not specifically to be consistent with TI, which, needless to say, would be clearly unimportant.

Quote:

*Almost every engineer I've ever seen use a Woodstock, Spice, or HP-41C/CV/CX routinely used it one-handed.*

Are you guys burly field engineers with huge hands? I can't span the keyboard comfortably even on an HP-34C. That divide key is almost impossible to reach. Good thing it isn't needed all that often, or else it would have been centered within that region of the keypad. :-)

Quote:

*Are you unable to retain a mental image of where you saw the numeric keys a fraction of a second previously?*

No, but why visualize when you could actually see?

But you might have a point: Visualization, or "eyes on the display, not on the keypad" was expected, as with typing in era prior to word processors or even IBM Correcting Selectric typewriters. That's why there was a raised dot on the HP-35's "5" key.

Quote:

---

*As Emmerson said, a foolish consistency is the hobgoblin of small minds*

---

Ralph Waldo Emerson's famous quote, "A foolish consistency is the hobgoblin of little minds" is a *non sequitur* here. Division is to multiplication as subtraction is to addition -- both are pairs of inverse functions. There's nothing foolish about keeping a consistent positional relationship between them.

Quote:

---

*That argument ("The most common, '+', is conspicuous in the lower-right corner, just like adding machines.") might make some sense for a financial calculator, but not for a scientific. Many engineers would have moved from an earlier HP to a newer HP, but few would have moved directly from an adding machine to a newer HP.*

---

That's another *non sequitur*. '+' (on a large key) was placed in the lower right corner for conspicuity and less-encumbered access because addition is the most commonly used arithmetic function for adding machines. That's probably also true to a lesser extent for scientifics.

Quote:

---

*For a horizontal form factor, (the HP-15C has) a good keyboard layout. I won't claim that I could do better, but I certainly wouldn't go so far as to claim that it had achieved perfection. You're far (too) quick to throw that word around.*

---

"Far too quick"? The HP-15C has been out for 25 years, and I've had one for 24 of those. During that time, numerous models of calculators that just don't measure up as well in certain fundamental aspects have been introduced by HP and other manufacturers. Er, how much longer should I have waited?

Of course, anything can be judged only within the context of what it actually is or was, not whatever else might be subsequently developed. The HP-15C is a horizontal-layout, compact and affordable advanced scientific calculator with a 10-digit, 7-segment display and modest processing speed, ROM, and RAM space. There was hardly any room for improvement of any kind in the execution of its functional specification.

At least you must admit that I offered plenty of evidence in the archived post for the "perfect keyboard arrangement" argument... :-)

-- KS

*Edited: 31 Aug 2007, 12:16 a.m.*

## Re: Calculator Keyboard standards?

Message #6 Posted by **Richard Ottosen** on 27 Aug 2007, 2:40 p.m.,  
in response to message #1 by Vincze

Vincze asked:

Quote:

---

I have older HP45 calculator, and one thing I notice with the 45 is the operator keys in different order than on all/most modern calculators. I have two questions. 1) Why was old format (- + x /)

changed to current one (/ x - +)? 2) Was some guideline set that spell out how current operator layout should be or was it just industry adopting all the same standard?

I have a similar question. Why did the same keys (- + X /) move from being on the left of the digit keys to being to the right of those keys?

-- Richard

### Re: Calculator Keyboard standards?

Message #7 Posted by [Gene Wright](#) on 27 Aug 2007, 2:58 p.m.,  
in response to message #6 by [Richard Ottosen](#)

Short answer?

TI (and all the other makers) won the wars by having more calculators sold.

HP was the about only manufacturer who put their function keys in that order and on that side of the machine.

Eventually, someone at HP (edit: had to have) decided to avoid being that different from the 95%+ market share of everyone else. (I'm guessing on the market share # but if I'm wrong, I'd guess HP's share was smaller than 5% of the total).

Might be the same someone who seemed to think it was a good idea to either a) downplay or b) eliminate RPN on some models.

Thankfully, things seem to be different today...but I'm not sure the functions will ever move back to the other side or change order.

Too much water under the bridge. Gene

*Edited: 27 Aug 2007, 3:18 p.m.*

### Re: Calculator Keyboard standards?

Message #8 Posted by [Vincze](#) on 27 Aug 2007, 3:10 p.m.,  
in response to message #6 by [Richard Ottosen](#)

Quote:

I have a similar question. Why did the same keys (- + X /) move from being on the left of the digit keys to being to the right of those keys?

Good question. I would think that one could do math easier with on left because one hand could input number and other could enter operator.

### Re: Calculator Keyboard standards?

Message #9 Posted by [Eric Smith](#) on 27 Aug 2007, 3:23 p.m.,  
in response to message #8 by [Vincze](#)

Quote:



I would think that one could do math easier with on left because one hand could input number and other could enter operator.

I don't understand your point. Why can't you do that with the arithmetic function keys on either the left or the right?

Personally, I prefer to operate a calculator one-handed. The Woodstock series and 41C were great for that.

### **Re: Calculator Keyboard standards?**

*Message #10 Posted by [Vincze](#) on 27 Aug 2007, 3:32 p.m.,  
in response to message #9 by [Eric Smith](#)*

With math function keys on left, you would use left hand to do operators and right to do numbers (more quickly). With math function keys on right, you could use left hand for numbers and right for functions, but with most right handed people this may seem awkward as you may be slower with number keys and or less accurate since you using your left hand.

If doing one handed mode, it make more sense to have on right side so thumb not have to travel as far. If using finger, I guess it does not make difference.

### **Re: Calculator Keyboard standards?**

*Message #11 Posted by [Eric Smith](#) on 27 Aug 2007, 3:47 p.m.,  
in response to message #10 by [Vincze](#)*

Thanks for the clarification.

I'm right handed, but I've used calculators for so many years one-handed in my left hand that I don't even recall ever having had any trouble doing so.

The purpose of one-handed use is to leave the other hand (ideally, the dominant hand) free for typing, writing, drawing, etc. I do NOT want to pick up the calculator, do a few calculations, set it down, pick up a pen, do some writing or drawing, set down the pen, and repeat.

As I mentioned previously, the Woodstock series and 41C were great for that. While I liked the Voyagers (especially the 15C and 16C), they were generally unsuited for one-handed use due to the horizontal layout.

### **Re: Calculator Keyboard standards?**

*Message #12 Posted by [Howard Owen](#) on 27 Aug 2007, 4:22 p.m.,  
in response to message #11 by [Eric Smith](#)*

Quote:

While I liked the Voyagers (especially the 15C and 16C), they were generally unsuited for one-handed use due to the horizontal layout.

And, conversely, particularly well suited for two handed use with the thumbs doing all the typing.

Regards,

Howard

### **Re: Calculator Keyboard standards?**

*Message #13 Posted by [Eric Smith](#) on 27 Aug 2007, 4:35 p.m.,  
in response to message #12 by Howard Owen*

Quote:

And, conversely, particularly well suited for two handed use with the thumbs doing all the typing.

Well, sure, but I don't see any particular advantage to that. It doesn't help me accomplish anything more easily or quickly. And it certainly doesn't help me avoid the need to set down the calculator to type/write/draw.

### **Re: Calculator Keyboard standards?**

*Message #14 Posted by [Howard Owen](#) on 27 Aug 2007, 5:49 p.m.,  
in response to message #13 by Eric Smith*

Quote:

Well, sure, but I don't see any particular advantage to that. It doesn't help me accomplish anything more easily or quickly.

It's just one more style. Arguing whether one style is more efficient than another sort of misses the point. Individuals adapt their tools in individual ways.

For example, I was coding on my 42S yesterday on the plane. I held the calculator in my left hand, with my glasses (whose reading lenses don't work for really close viewing) wedged between my left index and middle fingers. In my right hand I held the program listing stretched between index and middle fingers at the top, and thumb and ring finger at the bottom. To "scroll" the listing, I would slip the top or bottom of the listing under my left thumb, wedge it between that thumb and the calculator, and then pull the listing in the desired direction. To compare the calculator screen and the listing, I would either scroll with my left thumb on the up and down arrow keys, or use my right index finger (with the listing loose at the top briefly) to key the arrows. To make changes I would mainly use my right index finger in that mode. As long-winded as this explanation is, I actually adopted this usage style without thinking about it. It felt quite natural and useful to me. I only took conscious note after I had completed a fairly complicated series of moves, and it struck me that I was doing quite a lot with my hands with very little effort.

So that was very efficient for me. Would it be for you? Maybe not. It's not just a matter of how the calculator is placed in your hands and how you manipulate it there. It's also, perhaps principally, a matter of how that all works with your individual human *brain*. And how that guy is wired is still a scientific mystery, but surely differs from individual to individual.

Regards,  
Howard

## Re: Calculator Keyboard standards?

Message #15 Posted by **Richard Ottosen** on 27 Aug 2007, 5:43 p.m.,  
in response to message #11 by Eric Smith

Quote:

---

The purpose of one-handed use is to leave the other hand (ideally, the dominant hand) free for typing, writing, drawing, etc. I do NOT want to pick up the calculator, do a few calculations, set it down, pick up a pen, do some writing or drawing, set down the pen, and repeat.

As I mentioned previously, the Woodstock series and 41C were great for that. While I liked the Voyagers (especially the 15C and 16C), they were generally unsuited for one-handed use due to the horizontal layout.

---

I operate my HP41C the same way and for the same reasons. I got started doing this with an HP25. Its case fits the hand much better than any of the others I have used. The HP41C is just barely usable this way. It is a stretch for some keys.

The HP32S and HP32SII are too wide and have the function keys too far from my thumb to be comfortable, even for my large hands.

-- Richard

## Re: Calculator Keyboard standards?

Message #16 Posted by **Richard Ottosen** on 27 Aug 2007, 6:02 p.m.,  
in response to message #6 by Richard Ottosen

Quote:

---

Why did the same keys (- + X /) move from being on the left of the digit keys to being to the right of those keys?

---

To further confuse things I think it is worth noting that most 10-key adding machines have the number keys the same layout as the early HP calculators. But, 10-key adding machines tended to have the function keys to the right of the number keys.

So, HP kept the number layout but moved the function keys to the left of the number keys. Interesting.

-- Richard

## Re: Calculator Keyboard standards?

Message #17 Posted by **Doctor Bubu** on 27 Aug 2007, 3:40 p.m.,  
in response to message #1 by Vincze

Hallo Vince!

I think that it is more ergonomical.

If you type with one hand the numbers than, in a natural move back right (ok it works only for right-handed people), you pass the operation-keys and the last down right is the most used +.

Not only the newer calculators and TI used this arrangement. If you look at older calculators f.e. out of the 50's or 60', you'll find this keyboard layouts.

Greetings Juergen

I also love the old HP arrangement, even when it is not so comfortable.

*Edited: 27 Aug 2007, 3:42 p.m.*

## Proposal for the future HP45s

*Message #18 Posted by **Nenad (Croatia)** on 27 Aug 2007, 4:25 p.m.,  
in response to message #1 by Vincze*

Vincze,

There is also another interesting issue with calculator keyboards layout, compared to mobile phone keyboards. This was discussed a few years ago in the Forum. A typical calculator keyboard layout is:

```
7 8 9
4 5 6
1 2 3
0 .
```

Whereas a typical mobile phone keyboard layout is:

```
1 2 3
4 5 6
7 8 9
* 0 #
```

On the basis of HP35s experience (its positive side), we may be pretty sure that design engineers in HP read this forum, at least sometimes. Many of us certainly got used to classic mobile phone SMS typing and can type SMS messages very fast.

One day the new HP45s, manufactured in China, Vietnam, North Korea, or somewhere in Africa, as the successor of the "best of the bests" (HP42s) will see its dawn and enlighten this world. It will have wonderful I/O capabilities, such as wireless USB 5.0 connection, 10 TB memory card to save/restore programs/data, voice data/commands input, etc. etc. Variables and labels in HP45s will certainly not be restricted to a single letter only.

For those old-fashioned ones like myself, I would like to propose its keyboard layout now (at least, the alphanumerical part of it):

```
7      8      9
      abc    def

4      5      6
ghi    jkl    mno

1      2      3
pqrs   tuv    wxyz

0      .
```

This would be some mixture between old calc and classic mobile.

Yes, I know that the qwerty layout would be better (at least there is one on my SHARP PC-1262, sized about the same as HP 11C/12C/15C, meaning fits into a shirt pocket easily), but it is a boredom when you have to

type e.g. SIN letter by letter.

On the other hand, in the present (or past) HP42s it is not easy to accept its keyboard layout nowadays anymore, though number of keystrokes needed to input a single letter is certainly lower than in a mobile phone.

### **Re: Proposal for the future HP45s**

*Message #19 Posted by [Frank Knight](#) on 27 Aug 2007, 5:57 p.m.,  
in response to message #18 by Nenad (Croatia)*

Interesting thoughts for the series, how about the HP65 or 67S with actual card slots and I/O

### **Re: Calculator Keyboard standards?**

*Message #20 Posted by [htom trites jr](#) on 28 Aug 2007, 11:24 a.m.,  
in response to message #1 by Vincze*

If you're old enough, you learned to "touch type" a numeric keyboard, leaving your middle finger on the "5" key. The reach to the left with the index finger or thumb (this is a right-hand centric world, after all) is easier than the reach to the right with the ring finger or pinky finger. Arithmetic operators are keyed more often than functions, so they go to the left.

Your other hand was used for manipulating the paper.

### **Re: Calculator Keyboard standards?**

*Message #21 Posted by [Walter B](#) on 28 Aug 2007, 5:02 p.m.,  
in response to message #20 by htom trites jr*

Uhhh, therefore all the numeric keypads have the arithmetic operators to the left ;)

### **Re: Calculator Keyboard standards?**

*Message #22 Posted by [Trent Moseley](#) on 28 Aug 2007, 8:57 p.m.,  
in response to message #21 by Walter B*

My 2¢, the wife's Canon adding machine has the + and - on the right side (large keys), and / and \* on the left (small keys).

tm

### **Re: Calculator Keyboard standards?**

*Message #23 Posted by [Vincze](#) on 28 Aug 2007, 9:11 p.m.,  
in response to message #22 by Trent Moseley*

Just curious, what year was adding machine that wife has made (approx).

### **Re: Calculator Keyboard standards?**

*Message #24 Posted by [Trent Moseley](#) on 28 Aug 2007, 10:22 p.m.,  
in response to message #23 by Vincze*

Probably it was made sometime in the mid 90s. The model is P200-DH. BTW it has an equal button (=) on the left side also.

tm

## **Re: Calculator Keyboard standards?**

*Message #25 Posted by [htom trites jr](#) on 28 Aug 2007, 10:59 p.m.,  
in response to message #24 by Trent Moseley*

My 19c has

```
- 7 8 9 sum  
+ 4 5 6 sto  
* 1 2 3 rcl  
/ 0 . r/s prx
```

I wonder when the shift was, and why?

---

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## HP Forum Archive 17

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### HHC2007 HP Handhelds Conference News Update

Message #1 Posted by [Jake Schwartz](#) on 26 Aug 2007, 10:38 p.m.

Hi,

For those on the fence regarding the HHC2007 conference in San Diego on September 29-30th, things are looking really good with 4 HP calculator-division people scheduled to speak, along with our 15 others who have expressed their desire to give presentations. We are still expecting also to show Steve Liebson's new video interview with Dave Cochran, one of those who were instrumental in bringing the HP9100 desktop and HP35 pocket calculators to life. There are currently over 60 people registered to be in attendance.

\*\*\*Also, if you haven't yet made hotel reservations, the special \$99.-per-night conference discounted rate is only available if you register with the Holiday Inn before September 1st, so hurry. \*\*\*

In the "HP and HHC News" section, a new announcement has been posted regarding the HP Calculator Division's new GM. In addition, on the main page check out version 4 of the door-prize list, which has now grown to allow for at least one prize for every currently-registered attendee.

Also check out the section called "British HPCC Users Conference", covering some aspects of the upcoming HPCC 25th-Anniversary conference at the Imperial College in London on October 13-14th.

Consult <http://holyjoe.net/hhc2007/> on the web for all the details.

See you at the end of September,

Jake Schwartz

### Re: HHC2007 HP Handhelds Conference News Update

Message #2 Posted by [Eddie W. Shore](#) on 27 Aug 2007, 10:18 a.m.,  
in response to message #1 by Jake Schwartz

This is turning out well. Looking forward to the conference, 35S/50G/49G+/ and all fo the HP calcs and all.

### Re: HHC2007 HP Handhelds Conference News Update

Message #3 Posted by [Matt Kernal](#) on 27 Aug 2007, 1:59 p.m.,  
in response to message #1 by Jake Schwartz

Jake,

Thanks for the update.. only a month to go!

Regarding the new [General Manager](#) of HP's calculator Division, it appears that [Mr. Wing Cheung](#) went to the University of Oregon (Eugene, OR), which is only [a hop, skip, and a jump](#) from Oregon State University (Corvallis, OR), where HP designed all the great calculators in the late-70's to mid-90's (I'll bet Mr. Cheung is probably too young to have been there during that era - see bottom right [photo](#)).

Matt  
Beaverton, OR

**Re: HHC2007 HP Handhelds Conference News Update**

*Message #4 Posted by [sjthomas](#) on 27 Aug 2007, 3:50 p.m.,  
in response to message #1 by Jake Schwartz*

Quote:

\_\_\_\_\_

In the "HP and HHC News" section, a new announcement has been posted regarding the HP  
Calculator Division's new GM.

\_\_\_\_\_

Cool! An announcement from the future!! [edit: fixed]

See you there, Jake -- it's been a few years!

*Edited: 27 Aug 2007, 8:36 p.m.*

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## HP Forum Archive 17

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### HP calculator in the comic strips?

Message #1 Posted by [Bruce Bergman](#) on 27 Aug 2007, 1:52 p.m.

Did anyone read "FoxTrot" in Sunday's comic section? I love that strip; the kids are so...familiar. ;-)

Anyhow, in the strip, Jason introduces his new calculator. One with two other keys and an "ENTER" key. Sound familiar?

Check it out. At least for today, it's located here: <http://www.foxtrot.com/>

;-)

thanks, bruce

### Re: HP calculator in the comic strips?

Message #2 Posted by [Vincze](#) on 27 Aug 2007, 2:06 p.m.,  
in response to message #1 by Bruce Bergman

Ha Ha, boy in hat sound like my son saying Dad "I thought you said calculators are for wimps."

### Re: HP calculator in the comic strips?

Message #3 Posted by [Ren](#) on 27 Aug 2007, 2:22 p.m.,  
in response to message #1 by Bruce Bergman

Thanks for the link!

I think the cartoonist (Bill Amend) probably violated his NDA (Non-Disclosure Agreement) with HP by releasing this information on the HP-16Cs before HP's official announcement. Perhaps he isn't going into "semi-retirement", maybe HP has muzzled him!

Ren

dona nobis pacem

### Re: HP calculator in the comic strips?

Message #4 Posted by [Don Shepherd](#) on 27 Aug 2007, 2:46 p.m.,  
in response to message #1 by Bruce Bergman

And I'll bet they don't have to put a \*b\* after the binary zeroes and ones to let the calc know it is binary!!

### Re: HP calculator in the comic strips?

Message #5 Posted by [Walter B](#) on 27 Aug 2007, 4:10 p.m.,  
in response to message #1 by Bruce Bergman

Thanks, Bruce! The calc even features a WIDE enter :) And there is another German word merging into American: "über", just without the 2 dots because American typist don't have them, became part of "uber-cool" ;)

### **Re: HP calculator in the comic strips?**

*Message #6 Posted by [Karl Schneider](#) on 28 Aug 2007, 4:22 a.m.,  
in response to message #1 by Bruce Bergman*

Thanks for providing the link, Bruce. I read the Sunday strip and thought about posting a link, but didn't look it up.

Presumably, Peter will press the two number keys on the three-button binary calc to display "10", not "01"...

Bill Amend has regularly featured modest math and calculation tasks in his Sunday "Fox Trot" comic strips -- none that would challenge us, but are probably unfamiliar to most Americans, alas.

-- KS

*Edited: 28 Aug 2007, 4:54 a.m.*

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## HP Forum Archive 17

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### NOP Revisited

Message #1 Posted by [Jeff O.](#) on 27 Aug 2007, 1:09 p.m.

Has anyone suggested using RPN as a NOP instruction? Seems like that ought to be pretty benign, among this crowd at least. (My apologies if someone has already suggested this. I did search for all of the NOP discussions and did not find it, but I certainly could have missed it.)

### Re: NOP Revisited

Message #2 Posted by [Bruce Bergman](#) on 27 Aug 2007, 1:15 p.m.,  
in response to message #1 by Jeff O.

I thought of that too, but I can't take credit for thinking of it first. Someone else in a discussion a couple weeks back came up with it before me. It's a bit of an issue for AOS types, but \*I\* personally think it's great. ;-)

thanks, bruce

### Re: NOP Revisited

Message #3 Posted by [Jeff O.](#) on 27 Aug 2007, 10:10 p.m.,  
in response to message #2 by Bruce Bergman

Quote:

Someone else in a discussion a couple weeks back came up with it before me.

Yes, I also thought I'd seen it before, but like I said, my search did not reveal it. Actually, it seems like I dimly recall it being mentioned some years back (maybe by Paul Brogger?) in reference to the 33s.

### Re: NOP Revisited

Message #4 Posted by [Paul Brogger](#) on 28 Aug 2007, 11:04 a.m.,  
in response to message #3 by Jeff O.

Not I.

It's a fine choice, though. For my use, it's the instruction *least* likely to alter the state of the machine.

### Re: NOP Revisited

Message #5 Posted by [Katie Wasserman](#) on 28 Aug 2007, 7:48 p.m.,  
in response to message #4 by Paul Brogger

I previously suggested "RADIX." or "RADIX," as the perfect NOP. This should work well for all but the most internationally traveled among us :)

### **Re: NOP Revisited**

*Message #6 Posted by **Jeff O.** on 29 Aug 2007, 8:57 a.m.,  
in response to message #5 by Katie Wasserman*

"RADIX." is fine choice, except for the somewhat schizophrenic display of the programmed instruction. Of course, if the user is in a position to use RADIX as a NOP, then this should not matter.

### **Re: NOP Revisited**

*Message #7 Posted by **Giancarlo (Italy)** on 28 Aug 2007, 2:23 a.m.,  
in response to message #1 by Jeff O.*

Hi Jeff.

May you please explain a little bit to a non-english native (i.e. myself ;-) what "NOP" stands for? I also read it in some past threads, and could not get to understand what it referred to.... Thanks in advance.  
Best regards.  
Giancarlo

### **Re: NOP Revisited**

*Message #8 Posted by **Garth Wilson** on 28 Aug 2007, 2:34 a.m.,  
in response to message #7 by Giancarlo (Italy)*

Quote:

May you please explain a little bit to a non-english native (i.e. myself ;-) what "NOP" stands for?

"No operation," a do-nothing instruction that holds a place in program memory and takes a minimal amount of execution time.

### **Re: NOP Revisited**

*Message #9 Posted by **Trent Moseley** on 28 Aug 2007, 2:54 p.m.,  
in response to message #8 by Garth Wilson*

Everone should remember: the HP-25 has such a key.

tm

### **Re: NOP Revisited**

*Message #10 Posted by **Bruce Bergman** on 28 Aug 2007, 4:03 p.m.,  
in response to message #9 by Trent Moseley*

It did, and I love it for that. ;-)

Does anyone remember the old Burroughs mainframe computers? You had to execute the HALT assembly instruction three times in a row to actually stop the processor. HALT HALT HALT. I'm pretty sure it was the Burroughs, but now I'm starting to get fuzzy on the ancient details. Well, anyhow, we always used to joke that you had to do three NOP instructions in a row to do nothing. ;-)

thanks, bruce

**Re: NOP Revisited**

*Message #11 Posted by [Trent Moseley](#) on 28 Aug 2007, 10:52 p.m.,  
in response to message #10 by Bruce Bergman*

Bruce-

I must digress here regarding the NOP key. My first HP calc was the HP-25C which I purchased through a mail-order house's magazine ad in the "Scientific American" in 1978. I waited in anticipation as I poured over the picture in the ad of the calc for all the various functions. I had a fairly good idea about all of them but what the heck was NOP!

tm

**Re: HP-25 NOP -- What purpose?**

*Message #12 Posted by [Paul Brogger](#) on 29 Aug 2007, 12:18 p.m.,  
in response to message #9 by Trent Moseley*

Well, yes, I know: No OPeration.

But why was it deemed necessary to have a NOP on the HP-25? Did it serve as a placeholder for GTO destinations? (Was the program editor primitive enough that the NOP was especially useful?)

I don't remember a NOP on my HP-29C. (My 2nd H-P and overall favorite -- Geez I had fun with that thing!)

**Re: HP-25 NOP -- What purpose?**

*Message #13 Posted by [Trent Moseley](#) on 29 Aug 2007, 2:34 p.m.,  
in response to message #12 by Paul Brogger*

The NOP has to do with changing a line in a program without retyping the subsequent instructions. You can't insert a line in a HP-25 program, you can only write over.

tm

**Re: HP-25 NOP -- What purpose?**

*Message #14 Posted by [Giancarlo \(Italy\)](#) on 30 Aug 2007, 2:36 a.m.,  
in response to message #13 by Trent Moseley*

Now I see what it was all about!  
Thank you Trent for your spark of light :-)  
Best regards.  
Giancarlo

**Re: NOP Revisited**

*Message #15 Posted by [Don Shepherd](#) on 28 Aug 2007, 4:31 p.m.,  
in response to message #1 by Jeff O.*

Why is a NOP needed on the 35S? On the HP65 (any maybe 28, I don't know), after a conditional test it skipped 2 lines (because a GOTO required 2 lines), so I can see the need there. Why on the 35S (except for holding your place if you delete/insert lines that are the objects of GOTO's.

**Re: NOP Revisited**

Message #16 Posted by [Jeff O.](#) on 28 Aug 2007, 6:34 p.m.,  
in response to message #15 by Don Shepherd

Quote:

Why on the 35S (except for holding your place if you delete/insert lines that are the objects of GOTO's

That is the context in which the need for a NOP was brought up recently, and I was just proposing a non-destructive or passive option that I had not seen suggested. There may be other reasons of which I am unaware.

**Re: NOP Revisited**

Message #17 Posted by [Andrés C. Rodríguez \(Argentina\)](#) on 28 Aug 2007, 10:14 p.m.,  
in response to message #16 by Jeff O.

One use of NOP is as a placeholder for a "to be entered" routine, because the HP25 had absolute addressing (GTO stepnumber), no labels, and no automatic renumbering of steps via insertion/deletion. For instance, in the Newton's Method program to solve for  $f(x)=0$  (a very primitive solver program), there were some steps where  $f(x)$  was to be coded, the remaining steps (if any) were filled with NOPs. Also NOP may be a replacement for a debugging-time PAUSE: after testing your program, you replace the PAUSE with NOP to obtain faster execution, albeit without the intermediate results display. And NOP also may be used to "fine tune" the execution speed of a program. For instance, the program

```
00
01  NOP
02  NOP
03  NOP
04  NOP
05  NOP
06  +
07  GTO 01
```

ran after filling the stack with "1"s, worked as a timer on my HP25. Certainly not quartz-based, but the display showed the elapsed time (in seconds) between two R/S presses.

In more modern machines NOP was not needed, but sometimes you may want to use a ISG or DSE function to increment a register without testing and branching upon the result. Since NOP was no longer an option  $X\langle\rangle ST X$  was a good substitute, as close to neutral as possible.

*Edited: 28 Aug 2007, 10:15 p.m.*

**Re: NOP Revisited**

Message #18 Posted by [Don Shepherd](#) on 29 Aug 2007, 12:10 a.m.,  
in response to message #17 by Andrés C. Rodríguez (Argentina)

Now I recall, another poster used it for that purpose on the 35S (ISG 4, NOP) to increment a register. Of course, 1 STO+4 uses the same amount of storage, but does alter the stack.

**Re: NOP Revisited**

*Message #19 Posted by [Paul Dale](#) on 29 Aug 2007, 4:27 p.m.,  
in response to message #18 by Don Shepherd*

On the 35s the '1 STO+' equence uses quite a bit more memory than 'ISG NOP'. Same number of steps though. Check the free memory from the MEM menu. Don't trust the LN= values for programs, they are bogus.

- Pauli

### **Re: NOP Revisited**

*Message #20 Posted by [Don Shepherd](#) on 29 Aug 2007, 5:31 p.m.,  
in response to message #19 by Paul Dale*

Thanks, Pauli. So, one program step uses a different number of bytes than another? I guess I'm used to the Voyagers where each step used the same number of bytes, AFAI remember.

---

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## HP Forum Archive 17

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### **Cash Flow Analysis for the HP 35s \*UPDATED\***

Message #1 Posted by **Miguel Toro** on 27 Aug 2007, 12:21 p.m.

Hello,

I added a routine that allows review the cash flows already entered. Follow the [link](#) to see the updated program.

Regards,

Miguel

---

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## HP Forum Archive 17

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### HP35s - problematic INPUT(I) and INPUT(J)

Message #1 Posted by [Nenad \(Croatia\)](#) on 27 Aug 2007, 11:58 a.m.

Trying to port a simple (cannot be simpler) BASIC program to "the buggy little beast", such as:

```
INPUT N
DIM A(N)
FOR I=1 TO N
  INPUT A(I)
NEXT I
END
```

I have faced the situation that the INPUT(I) does not work correctly in a HP35s program. It gives INVALID (I) regardless of the fact that the I points to an existing indirect variable.

The following example describes this situation:

```
LBL Z
10
STO I
STO (I)
VIEW I
PSE
VIEW (I)          // Survives this step, showing (37) 10
PSE
INPUT (I)         // Message: INVALID(I)
RTN
```

When I execute VIEW (I) directly from the keyboard after the program crashes, the program responds with:

```
(10) 10
```

which seems to be correct.

Maybe, I missing something here. If not, this may be very serious. Why (37) instead of (10)? Why INVALID(I) and crash for INPUT(I), when VIEW(I) does not cause crash.

The same happens if I is replaced by J in the routine-the response changes into INVALID(J).

Within the Forum I could not trace out if this situation has already been described elsewhere, simply because since HP35s arrived the amount of the posts in the Forum became enormous for me to follow properly as I used to.

To Katie: If this proves to be another bug (though I remember a similar problem with INPUT(I) already described), I feel that I will be ready to teach the beast how to dive in the Adriatic (I am beginning to hate the BLB). Yet another proof that I am not a better person than you.

*Edited: 27 Aug 2007, 2:40 p.m. after one or more responses were posted*

### Re: HP35s - problematic INPUT(I) and INPUT(J)

Message #2 Posted by [Don Shepherd](#) on 27 Aug 2007, 12:13 p.m.,  
in response to message #1 by [Nenad \(Croatia\)](#)

Nenad, you cannot INPUT (I) to positive values for I, only negative 1 through negative 26 (registers A-Z). The documentation in the manual is in error. INPUT (I) if I=-4 is fine.

### Re: HP35s - problematic INPUT(I) and INPUT(J)

Message #3 Posted by [Gene Wright](#) on 27 Aug 2007, 1:11 p.m.,  
in response to message #1 by Nenad (Croatia)

Replace INPUT (I) with something like this:

```
RCL I R/S STO(I)
```

within your loop. This will prompt with the value of I into which the next keyed number will be stored.

The (37) being displayed instead of (10) is a quirk of the remapping of the indirect registers from starting at 0 and the A through Z going to negative numbers. Relatively harmless, but a quirk nonetheless.

INPUT (I) does not work with the numbered indirect registers. Only -1 through -26.

Gene

### Re: HP35s - problematic INPUT(I) and INPUT(J)

Message #4 Posted by [Nenad \(Croatia\)](#) on 27 Aug 2007, 2:47 p.m.,  
in response to message #3 by Gene Wright

Replacing the INPUT(I) with something similar to that what Gene suggested was my first thought, but I was rather disappointed that such a simple request cannot be done in a straightforward way. I also couldn't figure out the easiest way to keep the prompt stating "which I" is to be input.

Thank you both, Don and Gene.

### Re: HP35s - problematic INPUT(I) and INPUT(J)

Message #5 Posted by [Paul Dale](#) on 27 Aug 2007, 4:41 p.m.,  
in response to message #1 by Nenad (Croatia)

I've added this to the bug list.

Even more interesting is that the error only appears if the PSE instruction is included. Leave it out and the program stops and works properly. I.e.

```
LBL Z
10
STO I
STO (I)
VIEW I
```

- Pauli

### Re: HP35s - problematic INPUT(I) and INPUT(J)

Message #6 Posted by [Miguel Toro](#) on 28 Aug 2007, 3:07 p.m.,  
in response to message #5 by Paul Dale

Pauli,

I do not have this behavior in my '2361. Both versions, with and without PSE, work just fine. Maybe a

Reset is necessary :-)

Miguel

**Re: HP35s - problematic INPUT(I) and INPUT(J)**

*Message #7 Posted by [Miguel Toro](#) on 28 Aug 2007, 4:03 p.m.,  
in response to message #6 by Miguel Toro*

Now I see: It is VIEW (I), not VIEW I in Pauli's example.

Sorry.

**Re: HP35s - problematic INPUT(I) and INPUT(J)**

*Message #8 Posted by [Don Shepherd](#) on 28 Aug 2007, 3:25 p.m.,  
in response to message #5 by Paul Dale*

Maybe I am misunderstanding the problem, but I think the problem is in the INPUT (I). Your code does not have that.

**Re: HP35s - problematic INPUT(I) and INPUT(J)**

*Message #9 Posted by [Gene Wright](#) on 28 Aug 2007, 3:56 p.m.,  
in response to message #8 by Don Shepherd*

Two issues here, one is with the INPUT (I) itself, the other with the VIEW (I).

When you do a VIEW (I) in a program followed by a pause, the prompt shown by VIEW is off by 27 units.

Where it should show "(10)=", it actually shows "(37)=".

It is off by 27.

**Re: HP35s - problematic INPUT(I) and INPUT(J)**

*Message #10 Posted by [Gene Wright](#) on 28 Aug 2007, 3:59 p.m.,  
in response to message #9 by Gene Wright*

Not having a good day.

That snip of code now does appear to work correctly, but I have seen the value for (I) be off by 27 units.

As I say, I'm having a bad day.

**Re: HP35s - problematic INPUT(I) and INPUT(J)**

*Message #11 Posted by [Paul Dale](#) on 28 Aug 2007, 4:15 p.m.,  
in response to message #5 by Paul Dale*

Sorry guys, I got the program wrong:

```
LBL Z
10
STO I
```

```
STO ( I )  
VIEW ( I )
```

That is the last line has brackets around the I.

- Pauli

---

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## HP Forum Archive 17

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### HP 35s, keyboard buffer, bug, feature or what?

Message #1 Posted by [Patrick Rendulic](#) on 27 Aug 2007, 11:07 a.m.

I just made the following interesting discovery. I used my 35s to add the following numbers:

$$2 + 3 + 2 + 2 + 1 + 2 + 2 + 1 + 2 + 2 + 0.5 + 1 = 20.5$$

When doing such an operation, I use my left thumb for keying in the numbers and my right thumb for pushing the "+" key. I can do that really fast without looking at the keyboard. My 32sii gives the correct answer, always, regardless how fast I am. But on the 35s it is pure luck to get the right answer. Here are some answers: 4323.04; 38.5; 4937.04; 20.5; 20.5; 39; 20.5; 57

It seems that there is a problem with the key buffer, or the machine responds too slow. When operating the keys too fast, the "+" operation is not executed.

Am I the only one with this problem ?

### Re: HP 35s, keyboard buffer, bug, feature or what?

Message #2 Posted by [chris Dean](#) on 27 Aug 2007, 11:17 a.m.,  
in response to message #1 by Patrick Rendulic

I had no problem with this. I repeated the calculation three times and constantly got the correct answer.

### Re: HP 35s, keyboard buffer, bug, feature or what?

Message #3 Posted by [Thomas Radtke](#) on 27 Aug 2007, 11:57 a.m.,  
in response to message #1 by Patrick Rendulic

Quote:

It seems that there is a problem with the key buffer, or the machine responds too slow. When operating the keys too fast, the "+" operation is not executed.

Am I the only one with this problem ?

Nope. Pressing and releasing the binary operator keys real fast results in missed strokes. The numeric keys don't seem to have that problem. I noticed this some days ago.

However, that was just a test, the speed necessary to miss the operator is beyond what I actually use.

### Re: HP 35s, keyboard buffer, bug, feature or what?

Message #4 Posted by [Bruce Bergman](#) on 27 Aug 2007, 12:16 p.m.,  
in response to message #1 by Patrick Rendulic

I tried that sequence on my 35s (and a 17bii+ I had nearby) with no problems other than the occasional fat-fingering it on my part. I did the run several times so that I could get it pretty fast, and even after multiple attempts, I got the correct result.

Are you REALLY REALLY REALLY fast?? :-) Just too fast for any modern calc?

thanks, bruce

---

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## HP Forum Archive 17

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### OT: Card Reader Repairs for TI-59

Message #1 Posted by [Kostas Kritsilas](#) on 27 Aug 2007, 10:26 a.m.

Hi,

Sorry if this post offends. I am looking to find a source of repairs for a TI-59 card reader, similar to the wonderful folks at Fix That Calc, but for a TI-59 (and even better if they also could handle an SR-52. Does anybody know of such a source?

Kostas

### Re: OT: Card Reader Repairs for TI-59 - ebay source

Message #2 Posted by [Gene Wright](#) on 27 Aug 2007, 5:49 p.m.,  
in response to message #1 by [Kostas Kritsilas](#)

I have not purchased this kit and have no knowledge of the seller, good or bad!

But, take a look here:

[ebay ti-59 card reader repair kit](#)

### Re: OT: Card Reader Repairs for TI-59 - ebay source

Message #3 Posted by [Kostas Kritsilas](#) on 27 Aug 2007, 8:25 p.m.,  
in response to message #2 by [Gene Wright](#)

Gene:

Thanks for the link, but the parts are not the issue, it is eyesight and dexterity. My eyes are pretty bad (severe astigmatism, so severe that I have to wear hard contacts as glasses will not provide the correct amount of correction), and my dexterity is not great either, but I can solder real well. This is why I would prefer to find somebody that provides a Fix That Calc type repair service for the older TI units. Appreciate your efforts, though; thank you.

Kostas

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## HP Forum Archive 17

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### HHC2007 HP Handhelds Conference News Update

Message #1 Posted by [Jake Schwartz](#) on 26 Aug 2007, 10:38 p.m.

Hi,

For those on the fence regarding the HHC2007 conference in San Diego on September 29-30th, things are looking really good with 4 HP calculator-division people scheduled to speak, along with our 15 others who have expressed their desire to give presentations. We are still expecting also to show Steve Liebson's new video interview with Dave Cochran, one of those who were instrumental in bringing the HP9100 desktop and HP35 pocket calculators to life. There are currently over 60 people registered to be in attendance.

\*\*\*Also, if you haven't yet made hotel reservations, the special \$99.-per-night conference discounted rate is only available if you register with the Holiday Inn before September 1st, so hurry. \*\*\*

In the "HP and HHC News" section, a new announcement has been posted regarding the HP Calculator Division's new GM. In addition, on the main page check out version 4 of the door-prize list, which has now grown to allow for at least one prize for every currently-registered attendee.

Also check out the section called "British HPCC Users Conference", covering some aspects of the upcoming HPCC 25th-Anniversary conference at the Imperial College in London on October 13-14th.

Consult <http://holyjoe.net/hhc2007/> on the web for all the details.

See you at the end of September,

Jake Schwartz

### Re: HHC2007 HP Handhelds Conference News Update

Message #2 Posted by [Eddie W. Shore](#) on 27 Aug 2007, 10:18 a.m.,  
in response to message #1 by Jake Schwartz

This is turning out well. Looking forward to the conference, 35S/50G/49G+/ and all fo the HP calcs and all.

### Re: HHC2007 HP Handhelds Conference News Update

Message #3 Posted by [Matt Kernal](#) on 27 Aug 2007, 1:59 p.m.,  
in response to message #1 by Jake Schwartz

Jake,

Thanks for the update.. only a month to go!

Regarding the new [General Manager](#) of HP's calculator Division, it appears that [Mr. Wing Cheung](#) went to the University of Oregon (Eugene, OR), which is only [a hop, skip, and a jump](#) from Oregon State University (Corvallis, OR), where HP designed all the great calculators in the late-70's to mid-90's (I'll bet Mr. Cheung is probably too young to have been there during that era - see bottom right [photo](#)).



Matt  
Beaverton, OR

**Re: HHC2007 HP Handhelds Conference News Update**

*Message #4 Posted by [sjthomas](#) on 27 Aug 2007, 3:50 p.m.,  
in response to message #1 by Jake Schwartz*

Quote:

\_\_\_\_\_

In the "HP and HHC News" section, a new announcement has been posted regarding the HP  
Calculator Division's new GM.

\_\_\_\_\_

Cool! An announcement from the future!! [edit: fixed]

See you there, Jake -- it's been a few years!

*Edited: 27 Aug 2007, 8:36 p.m.*

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## HP Forum Archive 17

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### OpenRPN Development Update

Message #1 Posted by [Hugh Evans](#) on 26 Aug 2007, 9:40 p.m.

OpenRPN is back online under a new host, so unlike the past it will be there when you go looking for it. The big difference that you'll notice is that, at least for now, it's just a wiki (formerly known as "the documentation site"). It's a good medium for development reference, project status, and general news.

To any software developers who have worked on OpenRPN in the past, I would love to have you back. Additionally, if you are interested in contributing your programming skills please take a look through the wiki and [SourceForge](#). Feel free to contact me via e-mail with any questions, comments, and/or feedback.

Best Regards, Hugh

### Re: OpenRPN Development Update

Message #2 Posted by [Jeff Kearns](#) on 26 Aug 2007, 9:53 p.m.,  
in response to message #1 by Hugh Evans

Hugh,

My antivirus program alerts me to shut down my browser when I visit your site as it is a "phishing" website. What gives?

Jeff

### Re: OpenRPN Development Update

Message #3 Posted by [Frank Boehm \(Germany\)](#) on 27 Aug 2007, 10:00 a.m.,  
in response to message #2 by Jeff Kearns

That is certainly false alarm. I checked the HTML source, no creepy bugs in there.

### Re: OpenRPN Development Update

Message #4 Posted by [Walter B](#) on 27 Aug 2007, 2:44 a.m.,  
in response to message #1 by Hugh Evans

Hugh,

1 - So OpenRPN is still alive after all. Fine! :)

2 - May the participants of HHC 2007 expect to see some physical, touchable proof for the existence of OpenRPN as announced many months ago? (Don't be afraid, I will not attend).

2 - Many (most?) links of level 2 of your site seem to be not connected. IMHO this is one of the necessary points to check before (re-)starting a website :( But maybe this is just a problem I experience. Any more observations?

Good luck, Walter

## Re: OpenRPN Development Update

Message #5 Posted by **Vincze** on 27 Aug 2007, 1:52 p.m.,  
in response to message #4 by Walter B

Quote:

2 - Many (most?) links of level 2 of your site seem to be not connected. IMHO this is one of the necessary points to check before (re-)starting a website :( But maybe this is just a problem I experience. Any more observations?

Güten tag, my friend Walter. Maybe it just too much sauerkraut in your network because links work for me. I using Firefox 2.0.0.6 with XP.

## Re: OpenRPN Development Update

Message #6 Posted by **Hugh Evans** on 27 Aug 2007, 2:23 p.m.,  
in response to message #4 by Walter B

Quote:

May the participants of HHC 2007 expect to see some physical, touchable proof for the existence of OpenRPN as announced many months ago? (Don't be afraid, I will not attend).

Not this year, but next year looks more hopeful to me. When there's hardware you'll be one of the first to know... I want you to test your keyboard layouts.

Quote:

Many (most?) links of level 2 of your site seem to be not connected. IMHO this is one of the necessary points to check before (re-)starting a website :( But maybe this is just a problem I experience. Any more observations?

I haven't encountered any problems along those lines. There are quite a few dead image links I need to clean up, but that's nothing emergent.

---

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## HP Forum Archive 17

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### Is it safe to buy the 35s now?

Message #1 Posted by [Luke Hoffmann](#) on 26 Aug 2007, 6:00 p.m.

Hi all. I've finally done all the research I possibly can and have decided between the TI-89, HP-50g, and the HP 35s. I am going to go with...drum roll please...the Hp 35s and 50g. 50g seems relatively easy to find in store, but I can not find the 35s in any store. Is it only available on line? If so, what is the best place to order one. (Will I get the "fixed" calculator from the HP site?). Any comments on any of this, especially whether I should wait on the 50g in the hope of a 35s restyling of the it would be appreciated. Thanks.

Luke Hoffmann

### Re: Is it safe to buy the 35s now?

Message #2 Posted by [Vincze](#) on 26 Aug 2007, 7:51 p.m.,  
in response to message #1 by Luke Hoffmann

My friend Luke, I not know what fixed with fixed model, but I sure you find good 35s where ever you go. I not know where best to buy. I bought mine from Walmart.com, I know some buy from Samson Cable, and some from HP. I sure where ever you go, you be okay.

### Re: Is it safe to buy the 35s now?

Message #3 Posted by [Dan Greil](#) on 26 Aug 2007, 8:17 p.m.,  
in response to message #1 by Luke Hoffmann

Luke,

I purchased my 35s from the *HP Home and Office* web site a couple of weeks ago and am perfectly happy with it (no liters to liters misprint, no mis-aligned display).

HP shipped quickly - had it in three days. I bought a 50G at the same time as it was discounted to \$119.95 shipping included. Unfortunately that sale ended.

-Dan

### Re: Is it safe to buy the 35s now?

Message #4 Posted by [gteague](#) on 26 Aug 2007, 8:19 p.m.,  
in response to message #1 by Luke Hoffmann

well, the perennial whingers can carp all they want about the 35s and its many faults and bugs, but this is the first hp calculator i've owned in 15-20 years that i could pull out in front of someone else knowledgeable about calculators and not have to apologize for some egregious quality flaw.

i remember when the first singapore calculators came out and everyone said hp had gone completely down the hill--hit rock bottom quality-wise. little did we know then that we would soon be paying premium ebay prices for these very calculators while hp found unplumbed depths to their quality trough.

now if hp will only bring something like the 35s from the stone age into modern times with more internal and flash card (sd, mine- or micro-) memory, a usb port and a win/mac/unix connection utility.

/guy

**Re: Is it safe to buy the 35s now?**

*Message #5 Posted by **Bruce Bergman** on 27 Aug 2007, 12:19 p.m.,  
in response to message #4 by gteague*

/guy, I wanted to say that you hit one nail right on the head. Even with all the issues with this unit right now, this is the first HP calc in at least 10 years (with the exception of the high end HP-50g) that I am really proud to show to anyone who is curious, even old HP calc users at my company.

It shows great, it works great, and it's back to that "oooh" factor that HP models have always had.

Good characterization there...

thanks, bruce

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## HP Forum Archive 17

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**HP-35s LCD Discoloration**

Message #1 Posted by [revertTS](#) on 26 Aug 2007, 5:33 p.m.

Is it common for the LCD screens on calculators (in this case the HP-35s) to have discoloration? Mine has a yellowish area; is there a known fix for this? Anyone know the causes?

**Re: HP-35s LCD Discoloration**

Message #2 Posted by [Robissimo](#) on 26 Aug 2007, 10:23 p.m.,  
in response to message #1 by revertTS

I've read here of at least two other people complaining of yellowing lcds, and I noticed three days after purchase that mine was yellowed as well.

But that is all I know and I don't think that it's been discussed enough for a consensus to have formed.

**Re: HP-35s LCD Discoloration**

Message #3 Posted by [bill platt](#) on 27 Aug 2007, 7:42 a.m.,  
in response to message #1 by revertTS

My 35S is (and was at purchase) green everywhere except along the lower edge, where it is yellowish.

One of my 48GX calculators is more blue in one area where the LCD was "bruised".

**Re: HP-35s LCD Discoloration**

Message #4 Posted by [Howard Boardman](#) on 27 Aug 2007, 9:51 a.m.,  
in response to message #1 by revertTS

One thing I noticed last night... when comparing a 35s to a 33s is that the 33s has a better display (noticeably clearer when compared side by side). The 35s display has never bothered me though.

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## HP Forum Archive 17

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### Incomplete gamma function et al. for 35s

Message #1 Posted by [Les Wright](#) on 26 Aug 2007, 4:00 p.m.

Here is a long promised contribution. It is sort of long, and perhaps should eventually be reworked as an article or software library submission.

The gamma function for real numbers is, as we all know, an extension of the factorial function.  $\Gamma(a)$  is the integral of  $\exp(-t)*t^{(a-1)}$  as  $t$  goes from 0 to infinity. If we split this interval of integration at some point  $x$ , we get two incomplete gamma functions, where the left-sided  $\gamma(a,x)$  takes the integral from 0 to  $x$  and the right sided  $\Gamma(a,x)$  takes it from  $x$  to infinity. Obviously,  $\Gamma(a) = \gamma(a,x) + \Gamma(a,x)$ .

The incomplete gamma functions may not be of great interest to most here, but certain of their familiar special cases--the error functions and the normal and chi-square probability functions--possibly are.

The following listing computes the incomplete gamma functions  $\gamma(a,x)$  and  $\Gamma(a,x)$ . The code is adapted from the series and continued fraction routines given in Chapter 6 of Numerical Recipes. I just give the listing here and describe use below:

```
G001 LBL G
G002 STO X
G003 x<>y
G004 STO A
G005 STO B
G006 1/x
G007 STO C
G008 STO D
G009 STO E
G010 1
G011 STO+ B
G012 RCL X
G013 STO* C
G014 RCL B
G015 STO/ C
G016 RCL C
G017 STO+ D
G018 STO E
G019 RCL D
G020 x#y?
G021 GTO G009
G022 GTO G067
```

```
G023 STO X
G024 x<>y
G025 STO A
G026 -
G027 1
G028 =
G029 STO B
G030 1e250
G031 STO E
G032 1/x
G033 +
G034 1/x
G035 STO C
G036 STO D
G037 CLx
G038 STO I
G039 1
G040 STO+ I
```

G041 STO+ B  
 G042 STO+ B  
 G043 RCL A  
 G044 RCL- I  
 G045 RCL\* I  
 G046 STO G  
 G047 RCL\* C  
 G048 RCL+ B  
 G049 1e-250  
 G050 +  
 G051 STO C  
 G052 RCL G  
 G053 RCL/ E  
 G054 RCL+ B  
 G055 1e-250  
 G056 +  
 G057 STO E  
 G058 RCL C  
 G059 1/x  
 G060 x<> C  
 G061 /  
 G062 STO\* D  
 G063 1  
 G064 x#y?  
 G065 GTO G039  
 G066 RCL D  
 G067 RCL X  
 G068 RCL A  
 G069 y^x  
 G070 \*  
 G071 RCL X  
 G072 +/-  
 G073 e^x  
 G074 \*  
 G075 RTN

G076 x^2  
 G077 0.5  
 G078 x<>y  
 G079 XEQ G002  
 G080 GTO G085

G081 x^2  
 G082 0.5  
 G083 x<>y  
 G084 XEQ G023  
 G085 PI  
 G086 SQRT  
 G087 /  
 G088 RTN

G089 x^2  
 G090 2  
 G091 /  
 G092 0.5  
 G093 x<>y  
 G094 XEQ G002  
 G095 2  
 G096 /  
 G097 PI  
 G098 SQRT  
 G099 /  
 G100 0.5  
 G101 +  
 G102 RTN

G103 x^2  
 G104 2  
 G105 /  
 G106 0.5  
 G107 x<>y  
 G108 XEQ G023  
 G109 2  
 G110 /  
 G111 PI  
 G112 SQRT



```
G113 /
G114RTN

G115 XEQ G122
G116 XEQ G002
G117 GTO G120

G118 XEQ G122
G119 XEQ G023
G120 RCL/ F
G121 RTN
```

```
G122 x<>y
G123 2
G124 /
G125 ENTER
G126 ENTER
G127 1
G128 -
G129 !
G130 STO F
G131 Rv
G132 x<>y
G133 2
G134 /
G135 RTN
```

a ENTER x XEQ G002 gives  $\gamma(a,x)$ . Best used when  $a < x$ . For  $a > x$ , compute  $\gamma(a,x) = (a-1)! - \Gamma(a,x)$ .

a ENTER x XEQ G023 gives  $\Gamma(a,x)$ . Use for  $a > x$  usually. For  $a < x$ , use  $\Gamma(a,x) = (a-1)! - \gamma(a,x)$ .

x XEQ G076 gives  $\text{erf}(x)$ . I use for  $x < 1.8$ , and prefer for  $x > 1.8$   $\text{erf}(x) = 1 - \text{erfc}(x)$ .

x XEQ G081 gives  $\text{erfc}(x)$ . I use it for  $x > 1.8$ , and prefer  $\text{erfc}(x) = 1 - \text{erf}(x)$  for smaller values.

z XEQ G089 gives the lower tailed normal probability associated with a standard normal variate z--i.e., the probability that a normal variate takes on a value less z. I use it for  $z < 2.3$ . For larger values, I prefer to compute 1 - the upper tailed probability.

z XEQ G103 gives the upper tailed probability associated with a standard normal variate z--i.e., the probability that variate takes on a value exceeding z. I use it for  $z > 2.3$ , and for smaller values compute 1 - lower-tailed probability.

nu ENTER x XEQ G115 gives the lower tailed probability associated with a chi-squared variate x at nu degrees of freedom. Works best for  $\text{nu} < x$ . For  $\text{nu} > x$ , compute 1 - upper-tailed probability.

nu ENTER x XEQ G118 gives the upper tailed probability associated with a chi-squared variate x at nu degrees of freedom. Use for  $\text{nu} > x$ . For  $\text{nu} < x$  compute 1 - lower-tailed probability.

Here are some examples:

5 ENTER 4 XEQ G002 gives  $\gamma(5,4)$  as 8.90791255566. The last digit should be an 8.

5 ENTER 6 XEQ G023 gives  $\Gamma(5,6)$  as 6.84135600761. The last digit should be a 0.

1 XEQ G076 gives  $\text{erf}(1) = 8.42700792945\text{e-}1$ . The last two digits should be 50.

2 XEQ G081 gives  $\text{erfc}(2) = 4.67773498102\text{e-}3$ . The last digit should be a 5.

1.5 XEQ G089 gives  $9.33192798730\text{e-}1$  as the probability that a standard normal variate will be less than 1.5. The

last digit should be a 1.

2.5 XEQ G103 gives  $6.20966532587e-3$  as the probability that a standard normal variate will exceed 2.5. The last two digits should be 77.

4 ENTER 3 XEQ G115 gives  $4.42174599629e-1$  as the probability that a chisquare variate at 4 df is less than 3. All digits are correct here.

2 ENTER 7 XEQ G118 gives  $3.01973834223e-2$  as the probability that a chisquare variate at 2 df exceeds 7. All digits are correct here.

A few caveats are in order. First of all, I don't do sign checking, so make sure that input for all functions is positive and meaningful. I am assuming that anyone with an interest in these functions is going to be aware of the usual reflection and complementary formulae. Second, the user needs to know about the basics of the computation to judge whether one launches a routine that enters a series computation or a continued fraction computation. This is very much a matter of judgement and personal taste--I give only rough guidelines. Finally, keep in mind that due to rounding and digit loss due to subtraction in some cases it is uncommon to expect all twelve digits to be correct. Indeed, I find that in general the twelfth digit is usually off a bit, and occasionally even the eleventh. In general, I think at least 10 digits are good the vast majority of the time, at least within 1 or 2 ULP.

Sadly, these routines, while pretty fast, and certainly much faster than equivalents I have for the 41CX and 42S, are slower than on the 33S. Regrettably, they don't fit the 33S paradigm as neatly, since they would gobble up oodles of those precious labels with the various entry points and GTOs etc.

Enjoy this work, and let me know what you think.

Les

*Edited: 26 Aug 2007, 4:00 p.m.*

### **Re: Incomplete gamma function et al. for 35s**

*Message #2 Posted by **Peter A. Gebhardt** on 26 Aug 2007, 5:25 p.m.,  
in response to message #1 by Les Wright*

Les,

Many Thanks! or as we say in Germany "Ein herzliches Dankeschön!" for bringing back online the work you spent so much time on.

As another saying goes: "There are no Monuments for Critics!" - people like you set their own monuments with their contributions for and to an ever interested community of still learning readers!

Respectfully,

Peter A. Gebhardt

### **Re: Incomplete gamma function et al. for 35s**

*Message #3 Posted by **Egan Ford** on 26 Aug 2007, 6:28 p.m.,  
in response to message #1 by Les Wright*

Quote:

\_\_\_\_\_  
Sadly, these routines, while pretty fast.  
\_\_\_\_\_

How fast, do you have any timings?

Using the native INTEG/EQN support I get the following answers from your examples (FIX ALL):

Quote:

5 ENTER 4 XEQ G002 gives  $\gamma(5,4)$  as 8.90791255566. The last digit should be an 8.

```
0
4
EQN T^(Z-1)/EXP(T)
INTEGRATE
INTEGRATE FN dT
Z? 5
=8.90791255568 (38 sec) (FIX 9: 8.907912556 (19 sec), FIX 4: 8.9079 (5 sec))
```

Quote:

5 ENTER 6 XEQ G023 gives  $\Gamma(5,6)$  as 6.84135600761. The last digit should be a 0.

```
0
6
EQN T^(Z-1)/EXP(T)
INTEGRATE
INTEGRATE FN dT
Z? 5
=17.1586439924 (38 sec)
RCL Z
1
-
!
X<>Y
-
=6.8413560076
```

*Edited: 26 Aug 2007, 6:33 p.m.*

### Re: Incomplete gamma function et al. for 35s

Message #4 Posted by [Les Wright](#) on 27 Aug 2007, 4:00 a.m.,  
in response to message #3 by Egan Ford

A couple, three seconds tops in most cases, as far as I can tell.

Computing these functions by their series or CF expansions is typically much faster than integrating under the curve.

Les

### Re: Incomplete gamma function et al. for 35s

Message #5 Posted by [Egan Ford](#) on 27 Aug 2007, 5:14 a.m.,  
in response to message #4 by Les Wright

Quote:

Computing these functions by their series or CF expansions is typically much faster than integrating under the curve.

True. Its all about cost-benefit. Given how infrequent I would use the incomplete gamma function on

my 35s, 38 seconds is not too bad. If I used it frequently I would invest the time to key in your wonderful routine. Its a pity that the 35s has no I/O, imagine all the code we could all share.

### **Re: Incomplete gamma function et al. for 35s**

Message #6 Posted by [Gerson W. Barbosa](#) on 27 Aug 2007, 7:31 a.m.,  
in response to message #5 by Egan Ford

Quote:

Its a pity that the 35s has no I/O, imagine all the code we could all share.

Yet there were some cheap SHARP organizers that used to come with a simple serial interface. The cable was optional, but it was easy to build: one 9-pin RS-232 plug in one end and one stereo plug in the other. I wonder adding a mini-USB port to the 35s would not cost so much. Also, I don't think this could be a reason for banning the calculator during tests. Who is willing to fill up the 32KB RAM with programs and data just to have to enter them again in case of a crash?

### **Re: Incomplete gamma function et al. for 35s**

Message #7 Posted by [Arne Halvorsen \(Norway\)](#) on 27 Aug 2007, 7:42 a.m.,  
in response to message #6 by Gerson W. Barbosa

They propably thought that this only would sell to hardcore oldtimers that aint even using cellphones :-) Worked on me... (got a phone but its a ancient nokia)

Edited: 27 Aug 2007, 7:43 a.m.

### **Re: Incomplete gamma function et al. for 35s**

Message #8 Posted by [Gerson W. Barbosa](#) on 27 Aug 2007, 8:49 p.m.,  
in response to message #7 by Arne Halvorsen (Norway)

Hei, Arne!

Even older cell phones offered optional data cables. Well, at least the HP-35s has *Continuous Memory* :-)

Regards,

Gerson.

### **Re: Incomplete gamma function et al. for 35s**

Message #9 Posted by [Karl Schneider](#) on 27 Aug 2007, 10:21 p.m.,  
in response to message #7 by Arne Halvorsen (Norway)

Quote:

(edited for grammar and spelling)

They probably thought that this would sell only to hardcore old-timers who ain't even using cell phones :-)

Worked on me... (got a phone, but it's an ancient Nokia)

---

Several years ago, I got an "ancient" Nokia (model with documentation copyrighted 2002) pay-as-you-go cell phone for infrequent use. The youngsters at a recent family gathering remarked how it brought back memories...

Recently, network upgrades soon to be implemented have compelled its replacement, so now I must learn a new one and transfer the stored numbers.

This wasn't a problem with our HP calc's...

-- KS

*Edited: 27 Aug 2007, 10:23 p.m.*

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## HP Forum Archive 17

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### Cash Flow Analysis for the HP 35s

Message #1 Posted by [Miguel Toro](#) on 26 Aug 2007, 3:26 p.m.

This has been a great learning experience. With this program you can make Net Present Value and internal rate of return analysis and it is very simple to use. I made a lot of learning of how the HP 35s solver works and I'll talk about that in an article I am preparing for Datafile. Of course I was able to develop it thanks to these two great features of the calculator: vectors and indirect addressing. The program is based on the NPV formula found in the "HP 15c advance functions handbook".

IRR analysis takes a little time but I think is quite acceptable. With this one and the TVM already published, we have already a little financial pack for our HP 35s. :-)

Please test it and give me your comments.

Regards,

Miguel

Comments:

```

XEQ C      -> enter CASH FLOWS
XEQ C024   -> Calculate NPV
XEQ C030   -> Calculate IRR
XEQ R052   -> Change values of a cash flow already entered
XEQ R068   -> Review the cash flows already entered. The routine is circular.

```

```

R001      -> IRR routine
R042      -> convert content of x,y stack registers into a vector [y,x]
R049      -> extract content of a vector [y,x] into registers x,y

```

- To finish entering cash flows enter 0 and then R/S.
- Interest is always by period, so if for exemple, you have monthly cash flows and a annual interest rate, divide this by 12 to enter the monthly rate.
- You can enter any number of cash flow: the limit is the memory available.
- You can change or correct any of the cash flows entered with routine R052.
- To enter a cash flow: write the amount, press ENTER, write the number of occurences and press R/S.

Program:

```

C001 LBL C
C002 SF 10
C003 (EQN) AMOUNT, OCCUR
C004 PSE
C005 CF 10
C006 STO J
C007 R/S
C008 x=0?
C009 GTO C015
C010 XEQ R042
C011 STO(J)
C012 1
C013 RCL+ J
C014 GTO C006
C015 RCL J

```

```
C016 x>0?
C017 GTO C020
C018 CLSTK
C019 RTN
C020 1
C021 -
C022 STO T
C023 RTN
C024 INPUT I
C025 100
C026 /
C027 STO B
C028 XEQ R001
C029 RTN
C030 0
C031 STO N
C032 1E-3
C033 STO B
C034 FN= R
C035 SOLVE B
C036 GTO C038
C037 GTO C043
C038 100
C039 *
C040 STO I
C041 VIEW I
C042 RTN
C043 SF 10
C044 (EQN) NO SOLUTION
C045 CF 10
C046 RTN
```

LN= 174

```
R001 LBL R
R002 RCL B
R003 1
R004 STO D
R005 +
R006 STO C
R007 0
R008 STO E
R009 STO J
R010 RCL T
R011 x<y?
R012 GTO R039
R013 RCL(J)
R014 XEQ R049
R015 RCL B
R016 x=0?
R017 GTO R030
R018 1
R019 +
R020 x<>y
R021 +/-
R022 y^x
R023 STO D
R024 1
R025 x<>y
R026 -
R027 RCL/ B
R028 RCL* C
R029 GTO R031
R030 RDN
R031 *
R032 STO+ E
R033 RCL D
R034 STO* C
R035 1
R036 STO+ J
R037 RCL J
R038 GTO R010
R039 RCL E
R040 RCL-N
R041 RTN
R042 [0,1]
R043 *
R044 x<>Y
```

```
R045 [1,0]
R046 *
R047 +
R048 RTN
R049 [1,0]
R050 x<>y
R051 *
R052 [0,1]
R053 LASTx
R054 *
R055 RTN
R056 SF 10
R057 (EQN) FLOW
R058 PSE
R059 R/S
R060 STO J
R061 (EQN) AMOUNT, OCCUR
R062 PSE
R063 R/S
R064 XEQ R042
R065 STO(J)
R066 CF 10
R067 RTN
R068 1E-3
R069 RCL* T
R070 STO J
R071 CLSTK
R072 RCL J
R073 IP
R074 PSE
R075 RCL (J)
R076 XEQ R049
R077 R/S
R078 ISG J
R079 GTO R071
R080 GTO R068
```

LN= 285

*Edited: 27 Aug 2007, 12:27 p.m.*

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## HP Forum Archive 17

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**35s: Crash and weird behavior**

Message #1 Posted by [Mike Mander](#) on 25 Aug 2007, 9:22 p.m.

Since posting my photo gallery and noting the unreliable nature of R/S (and ON/C) when interrupting a loop, I have had a few interesting things happen.

I was programming the 35s and testing some routines and goto-ing between differing labels when suddenly the calculator froze with only the "RPN" and "PRGM" annunciators lit - I had just done an XEQ label to start running my test program. No amount of R/S, ON/C or ON/C-GTO keypresses would make it responsive again. I looked in the manual for further keystrokes but it was basically locked up. Nothing I could do would bring it back to life. After leaving it for 10 minutes and trying again in vain to reset it from the keyboard, a paperclip reset finally rebooted it, but also cleared memory. Not 100% sure if it was supposed to clear memory but it did.

After that incident, I was doing some looping speed tests to compare it to some other HP calculators and suddenly noted that the R/S and ON/C \*did\* work reliably now after the reboot/reset. No more flaky behavior - every push of the R/S key or ON/C would instantly interrupt the program, just as it had on all my previous HP's. Suddenly, totally different behavior from before! Very interesting...

Then, a little later, I was trying to mess around with vectors and for the life of me, could not get the 35s to accept vector input (the first time I had tried). If I typed, for example, [12,35] and pressed ENTER, the calc would come back with SYNTAX ERROR with the curser placed on the 3 after the comma. Didn't matter what display mode, angle mode anything... it would never accept any sort of vector I tried to input. If I recall (not 100% sure), it maybe would accept a single element vector, but for sure never 2 or 3 element vectors.

I then tried to enter a vector ([12,35] for example) as an equation. The editor happily accepted the vector but then gave the same syntax error when I pressed ENTER to evaluate the equation. I also tried [REGY,REGX] as an equation, to build a vector from the stack, but got the same SYNTAX ERROR.

In frustration, I then wrote a quick program which would generate a vector (just [12,35]) and, lo and behold, that worked and placed the desired vector in the X register! Without really looking further at the manual, I thought maybe vectors could only be used in programs (silly, I know) and wrote a trivial program to generate a vector from the X and Y registers - basically just the same [REGY,REGX] equation I had tried in the equation list before. This worked so I happily played with vectors for a few minutes and then tried keying one in directly again. This time it worked!!!

So from that point onward, the calculator has always accepted vector entry as it should, both directly keyed and in the equation list. Very strange. Almost as though something was corrupted in the calculators OS, both initially after installing the batteries for the first time and then again after a reset. Somehow running the vector equation program "fixed" the glitch and it has behaved as expected since then.

Since the calculator was so flaky right after installing the batteries (weird R/S and ON/C behavior) and then giving me the hard crash, it might be wise for any new user installing the batteries for the first time, to do a paper-clip reset immediately before something glitches and causes a loss of calculator memory. Obviously I can't really be sure if an initial reset would have helped in my case...

Just thought you all would be interested in hearing about this.

Regards, Mike Mander

### Re: 35s: Crash and weird behavior

Message #2 Posted by **Raymond Del Tondo** on 25 Aug 2007, 9:42 p.m.,  
in response to message #1 by Mike Mander

Let's hope this flaky behaviour was only a side effect...

Do the R/S and ON/C keys still work as expected?

Any difference regarding the other bugs, like checksum?

I haven't done testing of the 35s that intensive as you,  
since I still don't like the programming model;-)

However I did some calculations by hand,  
and surprisingly had not a single missed key stroke so far!  
This is totally different to my 33s,  
which has a very unreliable and bouncing keyboard.  
No wonder, the orthodox HP RPN addicts would say,  
since the 33s doesn't have a keyboard, and no ENTER bar...

Regards

Raymond

### Re: 35s: Crash and weird behavior

Message #3 Posted by **Mike Mander** on 25 Aug 2007, 10:19 p.m.,  
in response to message #2 by Raymond Del Tondo

Yes, since the hard reset, the R/S and ON/C keys have worked as expected. I have not looked at the whole checksum issue. Some very long threads I have to digest first and then key in some programs I suppose.

It does have the COS bug (angles close to 90 degrees) but have not really looked for any others.

I did some looping speed tests and "NOP" speed tests. Takes a little getting used to the programming model and although gotos get renumbered as one adds and deletes lines, if one deletes a line that is a target of a goto, things get messed up as noted elsewhere. I tested a few commands that might be used as a "NOP" target for a goto. I believe using DEG was suggested somewhere but that might be problematic if a program uses trigs. I tried using the "RADIX." command (LS DISPLAY 5) as a NOP, and it seems benign as it will never cause any unexpected program behavior like DEG could. Of course if you are in a different part of the world and use "RADIX," ... then use that as a NOP!

Speed tests:

```
A001 LBL A
A002 RCL+ C
A003 GTO A002
```

Store 1 in C, CLx XEQ A001: this gives a count of 5096 after 1 minute of execution.

```
A001 LBL A
A002 RADIX.
A003 RCL+ C
A004 GTO A002
```

Same 1 minute run, this time counts to 4934. Not too much of a "NOP" penalty. The same program with DEG in place of RADIX. counts to 4363 after a minute - definitely slower.

Simple loop-speed counting comparisons (1 minute execution):

```
-----
A001 LBL A
A002 RCL+ C
A003 GTO A002
```

Loop-count: HP-15C (278), HP-32SII (5,004), HP-33s (10,688), HP-35s (5,096)

```
-----
B001 LBL B
B002 RCL C
B003 +
B004 GTO B002
```

Loop-count: HP-15C (216), HP-32SII (3,919), HP-33s (7,379), HP-35s (2,913)

```
-----
C001 LBL C
C002 1
C003 +
C004 GTO C002
```

Loop-count: HP-15C (219), HP-32SII (3,620), HP-33s (7,081), HP-35s (1,443)

Very interesting speed differences. On LBL B and C, the old 32SII trounces the 35s, let alone the 33s which just annihilates it on all tests!

Yep, excellent keyboard and all, a slightly faster 35s would have been kind of nice...

Regards, Mike Mander

### **Re: 35s: Crash and weird behavior**

*Message #4 Posted by [Mike Mander](#) on 26 Aug 2007, 1:30 a.m.,  
in response to message #3 by Mike Mander*

I just searched some older 35s postings in the archives and came across a mention of the vector bug and Katie's suggestion at using RADIX. as a NOP. I was trying to think of a way to use a non-destructive programmable operation as a NOP and came up with RADIX... but maybe I only thought of it subconsciously because I had read the earlier posts at some point? In any case, I have not been able to come up with a better NOP suggestion...

I didn't bother benchmarking the DISPLAY 7 and 8 functions (1,000 and 1000) for NOP use, since their appearance in a program listing can be very deceiving. In fact the DISPLAY 8 function (1000) looks exactly like the number 1000 in a program listing!

In any case, next time I'll have to search some older postings before bothering to repeat information. Sorry...

Regards, Mike Mander

### **Re: 35s: Crash and weird behavior**

*Message #5 Posted by [Katie Wasserman](#) on 26 Aug 2007, 10:28 a.m.,  
in response to message #4 by Mike Mander*

Mike,

I've had the same vector entry syntax bug several times on my 35S. It seems to happen after a Memory Full error message but I haven't been able to pin down the circumstances. In any event, clearing the memory array seems to fix it.

The major program speed issue with the 35s compared with the 32sII is that constants cause the 35s to go into its line parsing routine -- which is very slow. Avoid all constants inside loops and it's reasonably fast.

The 35s doesn't parse any program line that starts with a number or a vector until run time. So you can type many-dimensional vectors and crazy looking numbers into programs without syntax errors. I don't see much use for this and the cost is having to invoke the line parser at run time. This seems to have been a bad engineering decision like many HP made on this calculator.

### **Re: 35s: Crash and weird behavior**

*Message #6 Posted by [Mike Mander](#) on 26 Aug 2007, 2:27 p.m.,  
in response to message #5 by [Katie Wasserman](#)*

Katie,

Thanks. Yes many bad design decisions. I had read about the base-conversion entry quirk and didn't think it would be too bad. But what a pain actually! Can't believe the 35s forces you to append an 'h' to a number entered when you are in HEX mode, for example. Sheesh. It should assume any number entered is already in the current base mode unless specified otherwise. Luckily I don't use non-DEC bases too often.

I guess the only advantage in have the line-parser invoked at runtime is maybe, just maybe, someone will stumble across something that might glitch the 35s and allow some form of synthetic programming - probably very unlikely though!

I'm kind of glad I was able to get out of the vector entry bug without clearing memory as I would have been rather upset at that - twice in a day would have been too frustrating! If it happens again, I'll see if my trick of putting a vector in a program helps again. I presume you must have tried that too though, so I was probably just lucky...

Mike

### **Re: 35s: Crash and weird behavior**

*Message #7 Posted by [JoseL](#) on 27 Aug 2007, 10:54 a.m.,  
in response to message #3 by [Mike Mander](#)*

Hi,

Yesterday I tested the java RPN programmable calculator - software "Calc" in my K610i phone.

Running the program:

```
> LBL1 > 1 > + > GTO1
```

Loop-count for 60 sg execution = 693938 loops (480x faster than 35s) :-)

Why is Hp35s so slow?????. We are in XXI century (I ask it myself)

Best regards

---

**Re: 35s: Crash and weird behavior**

*Message #8 Posted by [Bruce Bergman](#) on 27 Aug 2007, 12:23 p.m.,  
in response to message #7 by [JoseL](#)*

Yeah, we all (painfully) know. ;-)

There was a posting a couple weeks back that talked about the slow CPU and compared the HP-35s to other calcs. I think it was in relation to Casio, but you might search for "timing", "speed" or "casio" and see what you can find. There was a very interesting link to a site that has timing numbers for every calculator imaginable. It was good reading.

thanks, bruce

---

**Re: 35s: Crash and weird behavior**

*Message #9 Posted by [Raymond Del Tondo](#) on 27 Aug 2007, 7:25 p.m.,  
in response to message #7 by [JoseL](#)*

Hi,

> Loop-count for 60 sg execution = 693938 loops (480x faster than 35s) :-(

>

Yes, but then you should consider how often  
you have to recharge the batteries of your phone;-)

HTH

Raymond

---

**Re: 35s: Crash and weird behavior**

*Message #10 Posted by [JoseL](#) on 28 Aug 2007, 5:34 a.m.,  
in response to message #9 by [Raymond Del Tondo](#)*

Hi

You are right Raymond.

I really do not need to execute the programs quite often.

And when I use them, I prefer that they are quick. Its consumption of battery is not a problem for me.

Jose

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## HP Forum Archive 17

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### RPN versus ALG in programs

Message #1 Posted by [Thomas Klemm](#) on 25 Aug 2007, 9:07 p.m.

Just recently I stumbled across Katie Wasserman's fine article [99 Digits of Pi on an HP 32SII](#) which I appreciated a lot. It made me have a look again at the different algorithms to calculate Pi. After implementing a RPN-version of the Gauss AGM algorithm for the 35s I was curious on how to do the ALG-version. Here's the result of both:

| RPN           | ALG                  |
|---------------|----------------------|
| G001 LBL G    | H001 LBL H           |
| G002 1        | H002 1>A             |
| G003 STO A    | H003 3>I             |
| G004 3        | H004 SQRT(0.5>P>S)>B |
| G005 STO I    | H005 S-SQ(A-B)*P>S   |
| G006 0.5      | H006 2*P>P           |
| G007 STO P    | H007 (A+B)/2         |
| G008 STO S    | H008 SQRT(A*B)>B     |
| G009 SQRT     | H009 REGY>A          |
| G010 STO B    | H010 DSE I           |
| G011 RCL- A   | H011 GTO H005        |
| G012 $x^2$    | H012 SQ(A+B)/(2*S)   |
| G013 RCL* P   | H013 RTN             |
| G014 STO- S   |                      |
| G015 RCL A    | LN=115               |
| G016 RCL+ B   |                      |
| G017 2        |                      |
| G018 STO* P   |                      |
| G019 /        |                      |
| G020 x<> A    |                      |
| G021 RCL* B   |                      |
| G022 SQRT     |                      |
| G023 STO B    |                      |
| G024 DSE I    |                      |
| G025 GTO G011 |                      |
| G026 RCL+ A   |                      |
| G027 $x^2$    |                      |
| G028 RCL/ S   |                      |
| G029 2        |                      |
| G030 /        |                      |
| G031 RTN      |                      |

LN=100

*(inspired by algorithm 7.5 from Arndt & Haenel, Pi-unleashed)*

Now if you run both variants you will find that H is about 4 times slower than G. Also H seems to use more memory than G. On the other hand H might be easier to read. But you have to scroll to be able to read the whole lines.

What I don't understand is why is H so slow? I mean both are kind of slow but H is really bad. Hey, there are only 3 iterations and it takes about 4 seconds!

Being curious about the performance I implemented the same algorithm for my 11c as well:

|          |         |
|----------|---------|
| 01 LBL A | 21 SQRT |
| 02 3     | 22 x<>y |
| 03 STO I | 23 R^   |
|          | 2       |

```

04 2          24 x
05 1/x       25 RCL 1
06 STO 0     26 *
07 STO 1     27 STO- 0
08 SQRT      28 RDN
09 ENTER     29 2
10 ENTER     30 STO* 1
11 ENTER     31 /
12 1         32 DSE
13 LBL 0     33 GTO 0
14 -         34 +
15 R^        35 x2
16 LSTx      36 RCL 0
17 +         37 /
18 R^        38 2
19 LSTx      39 /
20 *         40 RTN

```

Not to my surprise it's considerably slower taking about twice the time of H. But when I ran the same program on a 42s I was amazed: Though it's slower than G it beats H by far.

Twenty years later and not much improvement concerning the speed! Does anybody know why? Is it so difficult to construct a fast calculator?

I must admit that I'm quiet happy with the 35s in spite of the issues already mentioned in this forum. But I'd really like to have a calculator that is fast, e.g. counts to a million in less than a second.

In other interpreted languages it's possible:

```
> time perl -e 'for ($i=0; $i<1e6; $i++) {}'
```

```

real    0m0.219s
user    0m0.199s
sys     0m0.003s

```

So why can't we have that in a calculator as well?

Thomas

## Re: RPN versus ALG in programs

*Message #2 Posted by [Jeff Kearns](#) on 25 Aug 2007, 9:31 p.m.,  
in response to message #1 by Thomas Klemm*

Agreed. Calculators are still too slow for many 'routine' operations considering the fact that we are in 2007. I tried your interesting 11C program out on my 15C and have the following comment regarding step 32.

Quote:

---

Being curious about the performance I implemented the same algorithm for my 11c as well:

```

01 LBL A          21 SQRT
02 3              22 x<>y
03 STO I          23 R^
04 2              24 x2
05 1/x           25 RCL 1
06 STO 0         26 *
07 STO 1         27 STO- 0
08 SQRT          28 RDN
09 ENTER         29 2
10 ENTER         30 STO* 1
11 ENTER         31 /
12 1             32 DSE
13 LBL 0         33 GTO 0
14 -             34 +
15 R^            35 x2

```

|         |          |
|---------|----------|
| 16 LSTx | 36 RCL 0 |
| 17 +    | 37 /     |
| 18 R^   | 38 2     |
| 19 LSTx | 39 /     |
| 20 *    | 40 RTN   |

---

Step 32, above should read

032 - 42, 5,25 DSE I - at least in order to work on my 15C. Regards,

JeffK I

### Re: RPN versus ALG in programs

Message #3 Posted by [Dave Shaffer \(Arizona\)](#) on 26 Aug 2007, 12:00 a.m.,  
in response to message #1 by Thomas Klemm

Speed costs you in power.

Every time one of those CMOS gates changes state, a bit of your battery charge disappears. I guess you could have a faster machine, but you might have to change the battery more often than you'd appreciate. All those 11Cs and 15Cs that lasted for 15-20 years on the same battery weren't just dumb luck!

### Re: RPN versus ALG in programs

Message #4 Posted by [DaveJ](#) on 26 Aug 2007, 2:54 a.m.,  
in response to message #1 by Thomas Klemm

Quote:

---

Twenty years later and not much improvement concerning the speed! Does anybody know why?  
Is it so difficult to construct a fast calculator?

---

Power consumption is roughly proportional to processing speed, the tradeoff has to be made somewhere. And on top of that, the 35S is no doubt written in C, probably with a deal of thought toward code portability and re-use (that usually means bigger code), so that costs you in performance in two ways alone. Whereas the older machines were most likely hand coded in assembler and hence gave better bang-per-bucks on each clock cycle.

Dave.

### Re: RPN versus ALG in programs

Message #5 Posted by [Vieira, Luiz C. \(Brazil\)](#) on 27 Aug 2007, 4:16 a.m.,  
in response to message #1 by Thomas Klemm

Hi, Thomas;

(here I am at 4:50 AM feeling insomnia...)

many of us who not only use and deal with HP calculators but also try to go further to their 'guts' have probably read that RPN structures were achieved mostly in search of a resident 'proto', portable operating system that could fit in less ROM, OR could offer the most in the same available ROM space. So, RPN offers many interesting features BUT math precedence. I like to say that math precedence in RPN calculators must be provided by the user, who must master math prior to use an RPN calculator. That is why I think RPN is



educative, but I'd rather not going ahead with that in order to avoid setting fire in extinguished fireplaces...

To achieve algebraic operation, it is mandatory to have at least a few registers to store the first keyed-in number and the code of the operation to be performed (for two-number sequences) so you can key in the second value and press [=] key. Keep in mind that there is no way to count on system 'memory' to hold necessary data if this memory has not yet been provided, meaning that, in any digital device, data must reside somewhere, and this 'somewhere' needs a very well defined address and physical circuits... Sorry if you already know about this.

RPN calculators demand no structure for precedence operators because whenever the operation key is pressed, the number(s) over which such operations will be performed must exist in the stack (in programs it happens the same). So they are already stored in X and Y registers and the system only needs to retrieve a copy of them and go ahead with the operations.

Consider line H008 `SQRT(A*B)>B` in your listing. You see, prior to get the resulting value from `SQRT(A*B)`, the system must store the codes for:

```
SQRT( (a code for calling it, not the routine itself)
A
*
B (in RPN/ALG HP calculators, shares X-register address)
```

A total of four registers taken from somewhere in RAM, meaning that it actually uses more memory as you noticed, indeed. When the ')' is found, the whole sequence is 'unloaded' and the result is found.

The system uses some cycles (clock) to store the intermediate codes, some others to 'unload' them and the actually necessary cycles to perform them. It may take almost three to four times more time when compared to the RPN version.

I may have left some considerations behind, but I guess the most important facts are described here already.

Hope this helps.

My 2¢.

Luiz (Brazil)

*Edited: 27 Aug 2007, 4:39 a.m.*

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## HP Forum Archive 17

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### Deciphering a HP 48G Serial Number

Message #1 Posted by [Jeff Kearns](#) on 25 Aug 2007, 6:06 p.m.

I recently came across an immaculate second-hand 48G on Craigslist and bought it (without manuals) for \$40CDN. A nice addition to my modest collection! The serial number however, is non-standard: SG72704563. Beyond being made in Singapore, can anyone tell me when this unit was manufactured? Many thanks,

Jeff Kearns

### Re: Deciphering a HP 48G Serial Number

Message #2 Posted by [Seth Morabito](#) on 25 Aug 2007, 6:12 p.m.,  
in response to message #1 by [Jeff Kearns](#)

Hi Jeff,

This serial number follows the post-1996 standard.

SG = Singapore.

7 = one-digit year code, 1997

27 = two-digit week code, 27th week of 1997

04563 = 4,563rd unit manufactured that week.

Interestingly, I thought that all manufacturing had moved to Indonesia by 1997. I guess not!

HTH,

Seth

*Edited: 25 Aug 2007, 6:13 p.m.*

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## HP Forum Archive 17

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### 35s storage

Message #1 Posted by [Howard Lazerson](#) on 25 Aug 2007, 4:35 p.m.

I was wondering if there was anyway to store and recall a series of numbers which represent coordinates of objects commonly observed thru a telescope. I wrote the alt/az pgm on this forum 8/20/07 and would like to put a list of about 100 objects numbered 1 thru 100 in memory. Since the pgm already uses up several alpha registers, I'm not sure how to do this. Each object notation will look like so; 1, 87.5, 56.2 ; The one [1]=object #1, 87.5= right ascension, and 56.2= declination. This saves time having to refer to a list while observing. Any help would be appreciated, Thanks, Howard

### Re: 35s storage

Message #2 Posted by [dbatiz](#) on 25 Aug 2007, 6:12 p.m.,  
in response to message #1 by Howard Lazerson

Have you considered saving the list in the following format:

NNN.RRRDDD

It would take a small subroutine to decode the object and make the components available to your program, but it shouldn't be too tricky.

Depending on the indexing available, the index number could be the object number then you'd only have to decode RRR.DDD.

Good luck Howard, I'd be interested to see your solution,

Very respectfully,

David

### Re: 35s storage

Message #3 Posted by [Howard Lazerson](#) on 25 Aug 2007, 10:43 p.m.,  
in response to message #2 by dbatiz

sounds reasonable, I will give it a try, thanks for the help, Howard

### Re: 35s storage

Message #4 Posted by [Alain Mellan](#) on 25 Aug 2007, 7:45 p.m.,  
in response to message #1 by Howard Lazerson

Quote:

Each object notation will look like so; 1, 87.5, 56.2

How about storing the data in 3D vectors? E.g. for the set above, use the sequence:

```
100 STO I
[]
1
(yellow) ,      (the "0" key)
87.5
(yellow) ,
56.2
STO (i)
```

will store a 3D vector in register 100. Then 1 STO+ I, and repeat...

Hope that helps.

*Edited: 25 Aug 2007, 7:46 p.m.*

### Re: 35s storage

*Message #5 Posted by [Howard Lazerson](#) on 25 Aug 2007, 10:46 p.m.,  
in response to message #4 by Alain Mellan*

I never would have thought of that, will try that option also, thanks for your suggestion, Howard

### Re: 35s storage

*Message #6 Posted by [Earl Kubaskie](#) on 25 Aug 2007, 10:55 p.m.,  
in response to message #4 by Alain Mellan*

If you have a list with Item 2, Item 5, Item 203, Item 1425, etc. then Alain is right on the money. The vector method he advised especially allows you to use higher accuracy in your ascension/declination values than 1 decimal place.

But are your item numbers a continuous 1, 2, 3, ... etc. series? If so, your program could encode the item number into the register number, allowing the 3rd portion of the 3D vector to be used or reserved for additional data.

### Re: 35s storage

*Message #7 Posted by [Howard Lazerson](#) on 25 Aug 2007, 11:24 p.m.,  
in response to message #6 by Earl Kubaskie*

The item #s- 1 thru 100 each represent an object, the additional numbers following that number represent its coordinates so when running the pgm if one wants to locate say object #39, there should be an easy to rcl 39 , observe the values and then input these values either manually or with a subroutine into the pgm. Also n.n accuracy is sufficient for the coordinates. Thanks, Howard p.s. I have been using HP calculators for several years TO CALCULATE , programming them is new for me!

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## HP Forum Archive 17

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**HP 94 Battery Pack**

Message #1 Posted by [Donald Williams](#) on 25 Aug 2007, 3:35 p.m.

I suspect that my HP 94 battery pack has some dead cells. I wonder if anyone else has opened one of these packs before? I would rather not do any more damage than is necessary. The case may split easily, but I am going to hold off, in hopes that someone else may have more information.

Katie, have you had to deal with this problem yet?

**Re: HP 94 Battery Pack**

Message #2 Posted by [Katie Wasserman](#) on 25 Aug 2007, 9:52 p.m.,  
in response to message #1 by Donald Williams

I've rebuilt a couple of 94 battery packs, they take some time.

The way I did it was to peel off the rubber grip, cut out a large section of the housing where the grip was using a tiny Dremel circular saw. Then I replaced the cells with 4 AA ni-cads because it was too hard to fit the original 2/3 C cells into place within the opening that I cut. Finished by gluing the removed section back into place and put the rubber grip back on. I used carpet tape to put the grip on with, it's a really sticky double-sided tape and exactly the right thickness.

The packs look untouched when completed because the rubber grip hides all the ugliness.

**Re: HP 94 Battery Pack**

Message #3 Posted by [Donald Williams](#) on 25 Aug 2007, 10:31 p.m.,  
in response to message #2 by Katie Wasserman

Quote:

The way I did it was to peel off the rubber grip, cut out a large section of the housing where the grip was using a tiny Dremel circular saw. Then I replaced the cells with 4 AA ni-cads because it was too hard to fit the original 2/3 C cells into place within the opening that I cut. Finished by gluing the removed section back into place and put the rubber grip back on. I used carpet tape to put the grip on with, it's a really sticky double-sided tape and exactly the right thickness.

I guess you are telling me the case is somehow heat staked or heat sealed, so cutting is the only option? My preliminary inspection led me to this conclusion but I was hoping for a miraculous cure.

Thanks for the information. It will be a back burner project. I can power it up with a lab supply for the time being if necessary.

**Re: HP 94 Battery Pack**

*Message #4 Posted by [Katie Wasserman](#) on 26 Aug 2007, 10:35 a.m.,  
in response to message #3 by Donald Williams*

Yes, cutting seems to be the only option in the 4 battery packs that I've seen. Clearly they were assembled in two halves with a longitudinal seam, but I have been unable to open them along this seam.

**Re: HP 94 Battery Pack**

*Message #5 Posted by [Donald Williams](#) on 26 Aug 2007, 11:34 a.m.,  
in response to message #4 by Katie Wasserman*

Did you cut the front face, back face, right side, or all of the above?

**Re: HP 94 Battery Pack**

*Message #6 Posted by [Katie Wasserman](#) on 26 Aug 2007, 5:25 p.m.,  
in response to message #5 by Donald Williams*

I cut out pretty much the entire area underneath the rubber grip as just one large u-shaped piece.

**Re: HP 94 Battery Pack**

*Message #7 Posted by [Donald Williams](#) on 26 Aug 2007, 5:57 p.m.,  
in response to message #6 by Katie Wasserman*

That was my plan.

Once again, thanks for the information.

**Re: HP 94 Battery Pack**

*Message #8 Posted by [gileo](#) on 26 Aug 2007, 6:02 p.m.,  
in response to message #1 by Donald Williams*

HP 94 ?  
I don't know. Some site on her?

**Re: HP 94 Battery Pack**

*Message #9 Posted by [Massimo Gnerucci \(Italy\)](#) on 26 Aug 2007, 6:15 p.m.,  
in response to message #8 by gileo*

What about [this](#)?

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## HP Forum Archive 17

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**Poll**

Message #1 Posted by [Thor Lansen](#) on 25 Aug 2007, 2:36 p.m.

I propose a ban on math related topics. This forum is for discussion of HP calculators including usage, repairs, sources of replacement parts, general information. The way I see it math is not part of the forum discussion topics listed. In any case, there is no need to discuss math, you can find math related information in zillions of references materials, everything is somewhere for one to find it (if you are asking a math related question you are just being lazy). Bottom line, I have a heart condition and it stresses me greatly to look through the treads trying to avoid math related topics and I do not like it.

Regards, Thor

**Re: Poll**

Message #2 Posted by [Valentin Albillo](#) on 25 Aug 2007, 2:47 p.m.,  
in response to message #1 by Thor Lansen

Agreed.

Best regards from V.

**Re: Poll**

Message #3 Posted by [Thor Lansen](#) on 25 Aug 2007, 3:06 p.m.,  
in response to message #2 by Valentin Albillo

Gracias Valentin, love your website!

**Re: Poll**

Message #4 Posted by [Valentin Albillo](#) on 25 Aug 2007, 3:14 p.m.,  
in response to message #3 by Thor Lansen

Hi, Thor:

Thank you very much, very kind of you !

I also love your insightful posts and I'm doing the best I can to avoid indulging in the trait you explicitly state in other well-populated thread below, with encouraging results so far.

Best regards from V.

**Re: Poll**

Message #5 Posted by [Walter B](#) on 25 Aug 2007, 3:08 p.m.,  
in response to message #1 by Thor Lansen

No problem, Thor.

P.S.: I don't know, just a feeling: is your post to be taken seriously? Or is it just "tit for tat" because of the poll I proposed earlier today?

### **I Disagree!!!!**

*Message #6 Posted by **Namir** on 25 Aug 2007, 3:14 p.m.,  
in response to message #1 by Thor Larsen*

Thor,

Nobody is forcing you to read math-related threads. So why are you forcing your interests on others? Math topics are important for me and I look forward to threads that are related to math, statistics, and numerical algorithms in general.

I don't read every thread. I pick and choose those threads that appeal to me. Consequently I don't impose on others what they should and should not write about. Sounds logical to me!

Namir

*Edited: 25 Aug 2007, 3:23 p.m.*

### **Re: I Disagree!!!!**

*Message #7 Posted by **Geir Isene** on 25 Aug 2007, 3:58 p.m.,  
in response to message #6 by Namir*

I fully agree.

And one of the reasons I (and possible many others) use calculators is because of maths. So, it seems logical to discuss what feeds the use of calculators in this forum.

### **Re: I Disagree!!!!**

*Message #8 Posted by **David Smith** on 25 Aug 2007, 4:55 p.m.,  
in response to message #7 by Geir Isene*

I agree as well. The most immediate purpose in buying a calculator for most is the need to do math. This site is prominent among those dealing with HP calcs. Certainly, as shown by this site, there are many who are interested in collecting, but for most the need to do at least some math is paramount.

It would perhaps be better to offer a forum strictly tied to a collectors needs and others that encompass the needs of new/returning users, such as myself, for information tied to the functional use of our calculator(s).

### **Re: I Disagree!!!!**

*Message #9 Posted by **Hugh Evans** on 25 Aug 2007, 4:15 p.m.,  
in response to message #6 by Namir*

Agreed. In addition, the vast majority of math related questions around here directly involve the use and operation of a calculator.

### **Re: Poll**



Message #10 Posted by [Donald Williams](#) on 25 Aug 2007, 4:27 p.m.,  
in response to message #1 by Thor Lansen

Thor, with all due respect I think you need to read the " General Terms of Use" for this forum as stipulated by the owner and moderator Dave Hicks listed below

"Users of this site will conduct themselves with responsibility and decorum, and will discuss topics of interest to our community. This should be a fun place to visit and all community members should feel welcome. The topics of these forums, include just about anything listed in the Museum pages. These include HP calculators, early HP computers, **general math** , calculating machines, computer history, tips on buying, finding, repairing, or using old HPs etc. Off-topic items may be deleted (or not) at the sole discretion of MoHPC."

Edited: 25 Aug 2007, 4:30 p.m.

## Re: Poll

Message #11 Posted by [Maximilian Hohmann](#) on 25 Aug 2007, 4:40 p.m.,  
in response to message #10 by Donald Williams

Hello!

Quote:

... you need to read the " General Terms of Use" for this forum...

Yes, but maybe the outcome of this poll will lead to a change of these terms? I hate maths too and the first thing I always do with every new (old to be precise) calculator that I buy, is to remove the '+', '-', 'x' and '/' keys because they remind me of it :-)

Greetings, Max

NB: I have a heart condition too - it won't stop beating - even removing the battery and shorting the battery terminals does not help...

Edited: 25 Aug 2007, 4:42 p.m.

## Enlightening... d8^)

Message #12 Posted by [Vieira, Luiz C. \(Brazil\)](#) on 25 Aug 2007, 4:50 p.m.,  
in response to message #11 by Maximilian Hohmann

N.T.

## Re: Poll

Message #13 Posted by [Howard Owen](#) on 25 Aug 2007, 5:05 p.m.,  
in response to message #11 by Maximilian Hohmann

Quote:

Yes, but maybe the outcome of this poll will lead to a change of these terms?

Maybe, but also in the terms of service:

Quote:

Forum rules are not up for debate. This is not a democracy, but rather a private forum.

So then again, maybe not.

I propose that we stop talking about calculator programming. These old machines are too obsolete, and talking about programming them just rots your brain.

I think we should restrict ourselves to nice, non-controversial topics like the weather. Oh.. wait..

Regards,  
Howard

### **Very well noted, Donald.**

*Message #14 Posted by [Vieira, Luiz C. \(Brazil\)](#) on 25 Aug 2007, 4:47 p.m.,  
in response to message #10 by Donald Williams*

Hi, Thor;

If we discuss calculator usage, what else but math (and any other related science, like physics, statistics, engineering and so...) and programming (if applicable) should be discussed? In many other discussions related to ban this or that subject, the majority (AFAIR) voted not to ban anything, instead to count on contributors and visitors ability on dealing with such liberty.

My thoughts, though.

Best regards.

Luiz

*Edited: 25 Aug 2007, 4:52 p.m.*

### **Re: Poll**

*Message #15 Posted by [Juergen Rodenkirchen](#) on 25 Aug 2007, 5:35 p.m.,  
in response to message #1 by Thor Larsen*

Fully agreed! I'm Mathematician, PhD, and I do deeply love the Queen of science ;-). But, it's clearly not Mathematics what I'm looking for when visiting the forum.

### **Re: Poll - don't ban math discussions**

*Message #16 Posted by [Dave Shaffer \(Arizona\)](#) on 25 Aug 2007, 7:37 p.m.,  
in response to message #1 by Thor Larsen*

I enjoy the math discussions, along with just about everything else here.

I usually learn something, especially from Valentin's challenges.

### **Re: Poll - don't ban math discussions**

*Message #17 Posted by [Jeff Kearns](#) on 25 Aug 2007, 9:15 p.m.,  
in response to message #16 by Dave Shaffer (Arizona)*

Interestingly, Valentin seems to agree with the ban on math related topics.

I also support the open forum discussions that include technical issues regarding calculator usage and math problems with creative solutions. Great poll!

JeffK.

### Re: Poll

Message #18 Posted by [Eric Smith](#) on 25 Aug 2007, 7:54 p.m.,  
in response to message #1 by Thor Lansen

Furthermore, it is very easy to get information on common HP models, such as the 12c, 17bii+, 28S, 33s, 35s, 41C, 49g+, 50g, etc., so there is really no reason to discuss them here. The rules should be amended to exclude discussion of such models. Only HP's lesser-known calculator models such as the 46, 81, 94D/E/F, 95C, and 9805A should be discussed in this forum, and then only with regard to using them for non-mathematical purposes.

For example, the 46, 81, and 9805A make fantastic paperweights. They can hold down an enormous amount of paper. And unlike that rare Klingon Christmas snow globe [\*], it's unlikely that one of your coworkers will steal an HP-81. For one thing, it's far too big to fit in a coat pocket.

Eric

[\*] The works of Charles Dickens are **so** much better in the [original Klingon](#)

*Edited: 25 Aug 2007, 7:58 p.m.*

### Re: Poll

Message #19 Posted by [Hal Bitton in Boise](#) on 25 Aug 2007, 8:01 p.m.,  
in response to message #1 by Thor Lansen

I'm sorry thor, I disagree...

Math and HP calc's go hand in hand. You don't use these wonderful devices to solve crossword puzzles, you use them to solve math problems. Math is part and parcel of their operation.

Best regards, Hal

### Re: Poll

Message #20 Posted by [Chuck](#) on 25 Aug 2007, 9:02 p.m.,  
in response to message #1 by Thor Lansen

I have yet to see an auto forum which bans the talk of engines. Without an engine, a car is useless; without math, a calculator is useless.

### Re: Poll

Message #21 Posted by [Vincze](#) on 25 Aug 2007, 9:24 p.m.,  
in response to message #1 by Thor Lansen

I know I not allowed to comment, but this really bother me. It seem that this group starting to develop socialist tendencies. It almost if some of you saying "sit down, be quiet, and don't say or ask anything unless we say it okay." You all need grow up.

I so tied of reading all the crying on group. About how I not do research first, or how I no do this, or how

someone should not do this. I do research, sometime I no have manual with me, but I yearn for answer. I like child who look at life with amazement. I have many question and I basically told to sit down and be quiet. That is scary as it remind me of old Hungary when soviets there. I see too much death in that regime. Too many smart people not allowed to ask question and when they do, they get banished or worse yet. I ashamed of this group over behavior of last two day. Beside that, I very hurt.

That is all I have to say. I sorry for commenting, but I felt it important.

### Re: Poll

Message #22 Posted by [Donald Williams](#) on 25 Aug 2007, 9:39 p.m.,  
in response to message #21 by Vincze

I am very happy to hear your voice again Vincze. This is America. We get it done better, only after we have free and open discussion and disagreement. You better get a thick skin if you are going to survive.

### Re: Poll

Message #23 Posted by [Howard Owen](#) on 25 Aug 2007, 11:00 p.m.,  
in response to message #22 by Donald Williams

Quote:

\_\_\_\_\_

This is America.

\_\_\_\_\_

Well, lots of us are posting from America, the site is hosted on American servers, the curator is American and we speak American English, mainly.

But there are a *few* participants from other places, so discussions here sometimes have an un-American flavor. I propose we ban discussion of anything not clearly American in cultural origin. That would include not only mathematics but language itself, of course. So I'll shut up now.

Regards,  
Howard

### Re: Poll

Message #24 Posted by [Jeff Kearns](#) on 25 Aug 2007, 9:52 p.m.,  
in response to message #21 by Vincze

Hi Vincze,

I am also a relative newcomer to this site - but I have been lurking for some time... My take on the matter is that no one asked you leave and only one private message to you suggested that your posts were not always up to snuff so to speak; rather someone simply suggested (in what was supposed to be a helpful email) a more tempered approach to certain strings in the forum - instead of participating in every single string. So what? If you read the replies, most folks really appreciated your questions and found the ensuing discussions enlightening. I agree. You are a delight to read. Keep posting.

Forums have a certain etiquette that people follow and adopt over time. This one is no exception, but it is a very nice forum with a lot of interesting contributors. Everyone has the right to an opinion and as long as that opinion is expressed respectfully, there should be no problem. This particular discussion is just a poll. Good to see you back!!

JeffK

**Re: Poll**

Message #25 Posted by [Brian Healy](#) on 25 Aug 2007, 9:55 p.m.,  
in response to message #21 by Vincze

Vicze, I totally agree with you, and disagree with the proposal to ban math topics.

Those who don't like a certain topic don't have to read it. Let's allow free speech to happen here.

**Re: Poll**

Message #26 Posted by [Thomas Okken](#) on 25 Aug 2007, 10:19 p.m.,  
in response to message #21 by Vincze

Wow, socialism and death in Hungary? Where did that come from? For what it's worth, I'm from Western Europe, (The Netherlands, to be exact), and I have seen socialist and capitalist governments come and go more times than I can count, and they both have their good and bad sides. I can't help noticing that, while Europeans tend to take home smaller paychecks than Americans, they do seem happier overall. Oh, well.

Sorry if that seems OT, but I do have a point. Between asking someone to do their homework, and encouraging someone to ask questions, both of which I think are legitimate viewpoints, somewhere there is a balance, and some people may feel that we move too far away from that balance sometimes. So be it! We're all entitled to our opinions. As for you personally, Vincze, you complain about all the "crying" in this group, but you appear not to have noticed that for every posting that was critical of you, there were many times more that were supportive.

- Thomas

**Re: Poll**

Message #27 Posted by [Howard Owen](#) on 26 Aug 2007, 12:16 a.m.,  
in response to message #21 by Vincze

Hi, Vincze,

One of the hardest things to translate between cultures is *humor*, since it often depends of specific cultural references. Take the proposal to ban discussion of mathematical topics. That is *probably* a humorous suggestion because:

1. Mathematics is one of the three main topics you will see discussed around here, often at length and with great enjoyment
2. The subject is pretty well inseparable from the discussions of the calculators themselves, since they are tools to do numeric and symbolic math.
3. The curator's Terms of Use specifically call out math as a topic that is appropriate for discussion in this forum.

If the suggestion wasn't intended to be humorous, it is funny anyway because of the reasons above. So some of the discussion you are reacting to is probably intended to be funny.

Second, this community, like every other voluntary community I've ever participated in or am aware of, periodically goes through spasms of debate about what really defines the community. For an online discussion group this usually, as here, takes the form of complaints about recent content of posts. Debates like this were apparently (before my time here) responsible for the ad section being split off from the main discussion threads, and in the ad forum being presented in two forms, one with auctions, and one without.

More recently, we engaged in a long discussion over the topic of eBay. There is a large minority that dislike discussions of eBay and who would prefer to see them split off. We took an informal poll, and it turned out that the majority felt that these discussions were often relevant to collecting, so the curator did not create a separate area for those. These were both good, appropriate outcomes, that took into account the majority view on matters, despite what Dave Hicks says about this not being democracy. (I suspect he says that so that he can reserve his right, as the presenter of the museum content *and* this forum, to take actions he believes are right despite what a majority might feel at any given time.)

Unfortunately, this time around, you were the "lightning rod" for a particular complaint many people have had here over the years. Forum members are encouraged to do research before asking questions. Somehow, some folks apparently got the idea that you weren't doing enough of that kind of research. Personally, as I said in the original thread where you reported getting an email telling you to stop "dumbing down" the forum, I think that simple questions benefit me because I get to revisit stuff I learned a long time ago. At a minimum, this refreshes the knowledge, and since it's knowledge about topics I love, that's a pleasure. But sometimes I learn something unexpected in the process, or even find out that something I thought I knew was mistaken. I *really* value those sorts of experiences.

I also think that your questions weren't all that simple, most of the time. In fact, I suspect that it may be the way that they are conveyed that annoys some people. That is, your command of written English isn't up to the usual standard around here. That's not a problem for me - I can understand you just fine - but it may be for others. (Apologies if I'm misreading anyone's state of mind on this.)

In any case, I wouldn't worry too much about the opposition this has stirred up. As someone pointed out, you have quite a bit of support here. I think your best course would be to try to adopt some of the more helpful suggestions, and do as much research as you can. And then ignore the stuff that seems hateful or unfair to you. See how that works out. Perhaps that will be all it takes to mollify some of your critics.

As to the "socialist" nature of the discussions, that is a very loaded term coming from a Hungarian, of course. It has a different connotation in Western Europe, where quite a few democracies adopted socialist economic and social policies. In the US, the term is fraught with years of cold war rhetoric, and full of echoes from recent and ongoing political struggles. In all three cases, the term is likely to ring different bells in the minds of the reader. Exactly because of that, the term "socialist" in your second sentence tends to push buttons you probably didn't intend to. So let me offer my interpretation of what you meant. You think that some of the comments sound like they are coming from (soviet style) political commissars who want to control your behavior for the "good of the community?" Is that right?

If so, I have a couple of suggestions. First, given who you are and where you grew up, you may be more sensitive to that sort of thing, especially when criticism is directed at you personally, as was so unfortunately done here. There may not actually be quite so much of this "socialist tendency" you are seeing. Second, none of the criticisms I have seen carry the weight of power that the old apparatchiki had. In other words, you don't have to follow any of this advice if you don't want to. Dave Hicks, our curator, is the only guy who could actually kick you off the board. He's actually a pretty benevolent dictator. If you stick to those terms of use, you are probably safe from any action he might take. Third, there's that Eastern/Western European split on the value of socialist thinking. Some folks actually *do* sign on to that sort of thinking. But they do so in a democratic context in their home countries. In other words, I believe that none of them expect to have their way unilaterally. They would all probably accept a consensus one way or the other, and that consensus would be shaped by your supporters as well as your detractors.

In conclusion, I'm glad you are still hanging out here. If I were you, I'd go back to posting your questions and engaging in discussions like you were before all this flared up. You can try to be more aware of sensibilities that say you should do more leg work before you post, but I wouldn't take that to extremes. For example, even without a manual, pushing buttons on your 35s or other HP is a great way to figure out how it works. What you are aiming at is something I heard you remark on in an earlier thread: the ability to conceptualize what is going on inside the calculator. That will come with practice, and discussions on this

board. It's worth trying for, in my opinion, and I support you in the effort.

Regards,  
Howard

### Re: Poll

Message #28 Posted by [Ed Look](#) on 27 Aug 2007, 11:32 a.m.,  
in response to message #21 by [Vincze](#)

This thread may no direct (or any) bearing on HP (or any) calculators, but is still valuable in itself.

We should let people post as they please, because just about everyone, if not exactly everyone, here is basically an educated, polite person interested in HP calculators. (Notice I left out "vintage" because, using myself as an example, I was drawn here because of my affection for my old Spice, I remained because of discussions pertaining to HP calculators I've recently bought and are still using!)

And, the discussions always swing back to topics that pertain to HP calculators.

Further, math, science, philosophy, language, even many other things, do tie into calculators and computers, even if not HP branded. And even if we ignore this, these things stimulate thought, the lack of which would retard use of and interest in (HP) calculators.

So, folks, POST ON! I trust the collective sense of propriety here; none of us are stupid, after all, not even the Hungarian guy! :D

### Re: Poll

Message #29 Posted by [Vincze](#) on 27 Aug 2007, 12:46 p.m.,  
in response to message #28 by [Ed Look](#)

Quote:

And, the discussions always swing back to topics that pertain to HP calculators.

Here one that I think will not trend back to HP calculators, but I may be wrong. I see a four foot long mummified walrus penis is for sale at an auction. Now that strange. Let see if anyone can pull that back to HP topic. :)

Quote:

not even the Hungarian guy! :D

Thank you.... I think. ;)

*Edited: 27 Aug 2007, 1:43 p.m.*

### Re: Poll

Message #30 Posted by [Les Wright](#) on 26 Aug 2007, 5:21 a.m.,  
in response to message #1 by [Thor Larsen](#)

Took me a good hour and a half to put together my recent post on 35s code for the incomplete gamma function.

Took me about two seconds to kill it.

Sorry for the mathematical intrusion.

Les

???

*Message #31 Posted by [Maximilian Hohmann](#) on 26 Aug 2007, 5:43 a.m.,  
in response to message #30 by Les Wright*

Hello!

Quote:

\_\_\_\_\_  
Took me about two seconds to kill it.  
\_\_\_\_\_

Why on Earth did you kill it? Only because somebody came up with this joke of a 'poll'?

Greetings, Max

**Re: ???**

*Message #32 Posted by [Arne Halvorsen \(Norway\)](#) on 26 Aug 2007, 6:11 a.m.,  
in response to message #31 by Maximilian Hohmann*

Hi,

Sorry if I am going to offend someone and may be out of place being newbie here, but my advice is for us not to get all this silliness out of hands.

One observation: Suspect the creation of the HP-35s brings new people to this community (how I got here), something thats a good thing.

Propably not a good thing then to scare new ones away by the forum found flooded with all this. My guess is you will loose the best ones...

Regards, Aha

*Edited: 26 Aug 2007, 6:16 a.m.*

**Re: ???**

*Message #33 Posted by [Maximilian Hohmann](#) on 26 Aug 2007, 6:40 a.m.,  
in response to message #32 by Arne Halvorsen (Norway)*

Hello!

Quote:

\_\_\_\_\_  
...but my advice is for us not to get all this silliness out of hands.  
\_\_\_\_\_

You are probably right with this statement. For me - and obviously for many others as well - the original post is clearly intended as a joke (\*). Not even a bad one. But somehow, maybe due to cultural differences? not everybody can see it this way.



Quote:

---

My guess is you will loose the best ones...

---

Firstly, I don't believe that (as some of the best ones have already reacted in a humourous way) and secondly: Who are those 'best ones' anyway?

Greetings, Max

(\* ) A 'no maths' demand in a calculator forum is like someone walking into a Chinese restaurant, telling the staff that he is allergic to rice and asking to have all rice dishes removed from the menu :-)

*Edited: 26 Aug 2007, 6:43 a.m.*

### Re: ???

*Message #34 Posted by [Arne Halvorsen \(Norway\)](#) on 26 Aug 2007, 7:16 a.m.,  
in response to message #33 by Maximilian Hohmann*

When I read the orginal post I had a small laugh and belived it was right on the spot.

But when people say they are leaving and someone removes content rich post (oh, was that a joke to? or...)...

Sorry if offended with 'the best one' remark, may sounded more elitic than meant, heaven knows I don't counted myself in that set.

I think MoHPC is a great site and the forum is I guess \*the\* HP calc forum and I am sure that it will continue to be that.

Regards, Aha

*Edited: 26 Aug 2007, 7:22 a.m.*

### Re: ???

*Message #35 Posted by [Maximilian Hohmann](#) on 26 Aug 2007, 7:49 a.m.,  
in response to message #34 by Arne Halvorsen (Norway)*

Hello!

Quote:

---

... and someone removes content rich post (oh, was that a joke to? or...)...

---

I really hope so!

Quote:

---

Sorry if offended with 'the best one' remark, may sounded more elitic than meant, heaven knows I don't counted myself in that set.

---

Don't worry, I am (almost) impossible to offend (went through the hard school of growing

up as a german kid in a foreign country 40 years ago when the war memories were still fresh - no internet discussion is ever going to offend me!). Anyway, I am rather a lurker here myself posting a stupid question every now and then.

I was rather curious which regular posters on this forum are regarded as 'the best' by newbies and for what reason? You must not answer, of course, as I will not answer this question myself :-)

Quote:

---

I think MoHPC is a great site and the forum is I guess \*the\* HP calc forum and I am sure that it will continue to be that.

---

It certainly is and it certainly will. Mathematics included :-)

Greetings, Max

### Re: ???

*Message #36 Posted by [Arne Halvorsen \(Norway\)](#) on 26 Aug 2007, 9:20 a.m., in response to message #35 by Maximilian Hohmann*

One contributor that is rather inspiring is Valentin Albillo and the way he does it; organizing his material on his own website and inform on updates with posts here.

Think this pattern is something other also could consider in these times when starting a blog is done 1,2,3. I don't mean that you have to match Valentin's effort!

Personal I have started a project where I will try develop HP-35s code using java and then to use this framework to implement a geometric library for the calculator. I will not flood the forum with details, code and progress but do that in my java blog and make short post here when something new in my blog.

Another poster here that has helped me is Jim Creybohm who pointed me to the Samson shop.

*Edited: 26 Aug 2007, 9:21 a.m.*

### Re: ???

*Message #37 Posted by [Thomas Radtke](#) on 26 Aug 2007, 10:19 a.m., in response to message #35 by Maximilian Hohmann*

Quote:

---

I really hope so!

---

Well, Les' interesting Thread about the incomplete gamma function and its applications is actually gone as it seems.

### Re: ???

*Message #38 Posted by [Arne Halvorsen \(Norway\)](#) on 26 Aug 2007, 12:01 p.m., in response to message #37 by Thomas Radtke*

Damage count so far after the 'friendly advice...' post:

People offended to the degree that stated will leave:

\*Vincze

\*Will Hartung (if I get his post right)

Content deleted:

\*One Incomplete gamma function

Personal I did not think Don's or Thor's posts were something to get that upset about. You got to be able to take some criticism sometimes and a joke.

Well, guess things calm down now, it all will slide over the '2 days forum view event horizon' soon... if we want to...

*Edited: 26 Aug 2007, 12:04 p.m.*

### Re: Poll

Message #39 Posted by [Thomas Okken](#) on 26 Aug 2007, 12:02 p.m.,  
in response to message #30 by Les Wright

Hi Les,

I hope you put your submission back!

I assume that Thor, and everyone who agreed with the No Math proposal, was joking. Even if they weren't, it's not up to them to make the rules around here.

- Thomas

### Re: Poll

Message #40 Posted by [Les Wright](#) on 26 Aug 2007, 2:04 p.m.,  
in response to message #39 by Thomas Okken

I believe Valentin has some utility that takes snapshots of the Forum and preserves posts that even are deleted. Maybe he has a copy of my post?

If not, I will retype the listing and commentary.

I had no idea the poll was a joke. I have been sick and my sense of humour is shot, I think!

Les

### LOL!! Thor, Valentin: you made my day!

Message #41 Posted by [Hans Brueggemann](#) on 26 Aug 2007, 8:57 a.m.,  
in response to message #1 by Thor Larsen

it is so funny to see how forum visitors behave like their calculators.

for example, try just a few keystrokes:

01 "BAN MATH"

02 [ASTO]forum

---> "CONTENANCE LOST"

cheers,  
hans

*Edited: 26 Aug 2007, 9:00 a.m.*

## Re: Poll

*Message #42 Posted by [Thor Lansen](#) on 26 Aug 2007, 1:18 p.m.,  
in response to message #1 by Thor Lansen*

Well, a day has gone by and I am glad my ban proposal has NOT passed. Thank you very much to all the participants.

Special thanks to Valentin Albillo, for his great math challenges, great restraint, and good sense of humor.

Vincze, welcome back, please stay.

Maximilian Hohmann, man, take care of that heart condition, ASAP!

Less, please, take it easy or you are going to have a heart attack! I like math, put your submission back!

Walter B, no hard feelings.

Regards, Thor

*Edited: 26 Aug 2007, 1:26 p.m.*

## Re: Poll

*Message #43 Posted by [Karl Schneider](#) on 26 Aug 2007, 5:19 p.m.,  
in response to message #42 by Thor Lansen*

The content of the above thread was practically dumbfounding.

Post something informative, and quite often there is minimal response. Post something silly, on the other hand, and a veritable beehive of ultimately insignificant discussion ensues.

We should remember that the Forum postings get archived by MoHPC, and are subsequently included in sales of CD/DVD sets. It's best to keep the Forum a *forum*, not a banal chatroom. Breezy statements such as these are not helpful toward that end:

*"If looks like a duck, walks like a duck, quacks like a duck ... "*

*"Some people just simply can't do that, I think it has something to do with having an anal retentive personality."*

I, for one, support those who advocate, publicly or even privately, in the interest of quality. The points of Don Shepherd and James Prange resonated with me.

-- KS

*Edited: 26 Aug 2007, 5:33 p.m.*

## Re: Poll

Message #44 Posted by **Thor Lansen** on 26 Aug 2007, 6:01 p.m.,  
in response to message #43 by Karl Schneider

lighten up!

## Re: Poll

Message #45 Posted by **Don Shepherd** on 26 Aug 2007, 7:07 p.m.,  
in response to message #43 by Karl Schneider

Thanks, Karl, and thanks to everyone who supports civility and common sense on the forum.

## CIVILITY?? Re: Poll

Message #46 Posted by **Vincze** on 26 Aug 2007, 7:31 p.m.,  
in response to message #45 by Don Shepherd

Quote:

thanks to everyone who supports civility ... on the forum.

I sorry, but I have to comment. Civility? So you have civility? You basically decided on your own that I do no research before I post? Sure, so of my posts my seem trivial to you, but you have no idea what I try to find out before I post. I come to forum looking for wisdom, because this group of wise people, and you decide that I should sit down, be quit and not ask question. You say I make unnecessary posts. You tell me not to post a response to every post. Who say you allowed to make this commandment? If someone think it worth making post, then I think it worth my post to answer or follow-up their post.

You tell me to pick up pencil and paper to work through program. You not even know what my problem is with program. It not with how program work, or what in x, y, z, t, but with what certain command mean. How is pencil and paper going to help me?

You an not one I have most issue with Mr Don. I think you were trying to be civil and helpful, and maybe just did not convey message properly. I know I guilty of that with some of my posts (not getting question across properly). I have clarified my question behind scene with person who respond, so you not priveledge to see, so I can forgive that.

What I most upset about is HATE mail I receive to my email. I have email from some of you who tell me very mean and vulgar things. I get people telling me to go back to Hungary and leave this group alone. I get people telling me Don say what I want to say but he not go far enough. I have someone say "Go to h\$ll you mother f\*c\*ing foreigner". How you think this make me feel? I sure this not intent of your post, and I understand. But it not easy being me. I get made fun of quite often because I not talk good English. I see people killed when they ask question and told to be quiet. I know this not what you want or wish. I know you want civility, but what I experience last two day not civil.

Here is what I propose. Let all of us drop this. I try with all I have to do what other wish and do more research before I post. I know some may think I never do enough, and I sorry I can please all, but I try. I ask all you to be more tolerant of me. I not wish to receive any more unlike me mail.

Mr Don, I sorry for being mad at you. I know you not know I was, but it wrong for me to me mad at you. I hope you can forgive me. For those of you who wish bad things of me, I hope you forgive me to for things I think of you.

Vincze

**Re: CIVILITY?? Re: Poll**

Message #47 Posted by [Don Shepherd](#) on 26 Aug 2007, 7:53 p.m.,  
in response to message #46 by Vincze

Vincze, I did not know that you were getting such vulgar emails privately. Anyone who uses that kind of language deserves to be removed from our community. I strongly urge you to report those people to Mr. Hicks, and I would hope that he would take whatever action he deems appropriate. Anyone who sends emails like those does not deserve the privilege of being in this community.

Your language is fine, I never have trouble understanding you. Your English is certainly better than my Hungarian (because I have no knowledge of that language).

Vincze, I want to publicly ask you to remain in this forum community. It was never my intent that you should go away, and I do not desire that. You do bring a perspective to the forum that I think we need.

your friend, Don Shepherd

**Re: CIVILITY?? Re: Poll**

Message #48 Posted by [Vincze](#) on 26 Aug 2007, 10:21 p.m.,  
in response to message #47 by Don Shepherd

My friend Don, Thank you for your post, it mean very much to me and I know it not you wish for that bad will. I learn much from reading all posts after yours and mine.

I not wish to "tell" on people as I know what happen to people who be told upon. I know that not happen in this world now, but still, I wish it not.

I know who they are, and they do as well. That all which is important now.

I have all you in my prayers.

Your friend, Vincze

**Re: CIVILITY?? Re: Poll**

Message #49 Posted by [John Noble](#) on 26 Aug 2007, 8:24 p.m.,  
in response to message #46 by Vincze

Quote:

---

What I most upset about is HATE mail I receive to my email. I have email from some of you who tell me very mean and vulgar things. I get people telling me to go back to Hungary and leave this group alone.

---

Americans are known for being provincial boors (and have been for a long time: see Mark Twain's rants on this subject in *The Innocents Abroad*), so don't take it too personally. At least you don't have to live under the government they elected like I do.

It used to be a source of pride to say I was an American when I travelled. These days, I think

I'd rather just speak Spanish and claim to be from Mexico. :-)

**Re: CIVILITY?? Re: Poll**

*Message #50 Posted by **Brian Healy** on 26 Aug 2007, 8:48 p.m.,  
in response to message #49 by John Noble*

Whatever happened to talking about HP calculators in this forum??

Mr. Noble, you don't have to live under the government the American people elected. You're free to leave anytime you want, or to stay and voice your opinions. That freedom is not found everywhere in the world.

**Re: CIVILITY?? Re: Poll**

*Message #51 Posted by **Vincze** on 26 Aug 2007, 10:31 p.m.,  
in response to message #50 by Brian Healy*

My friend, please do not talk this way.

Your friend, Víncze

**Re: CIVILITY?? Re: Poll**

*Message #52 Posted by **Vincze** on 26 Aug 2007, 10:29 p.m.,  
in response to message #49 by John Noble*

Mr John, I see you American like me now. I not ashamed of America, and you should not be too. You have no idea what it like in other country. Be thankful for what you have.

My father and mother were killed for saying thing that did not belong to soviet consensus, and it make many people mad. They were killed while I was very young. I had to watch, and I remember Papa saying "ÉN akarat nem mond átok ez!" which mean 'I will not tell!'

It is source of great pride, as it should be of yours, to say I am American! Say it proud!! I think you not know what it like to not be American.

your friend, Víncze

**Re: CIVILITY?? Re: Poll**

*Message #53 Posted by **John Noble** on 26 Aug 2007, 11:35 p.m.,  
in response to message #52 by Vincze*

Quote:

Mr John, I see you American like me now. I not ashamed of America, and you should not be too.

Ah, I misunderstood and thought you lived in Hungary. Yes, you are as American as I am, if not more so since this is your country of choice.

All the more reason to be disgusted with people telling you to go back to Hungary. You belong here more than they do. But I'm sure you know this.

Quote:

\_\_\_\_\_  
 You have no idea what it like in other country. Be thankful for what you have.  
 \_\_\_\_\_

I'm not one of the "provincial boors". :-) I have lived elsewhere, and I fully appreciate that things like running water, especially *hot* running water, should not be taken for granted, nor should free speech, freedom of/from religion, etc. Still, I'm embarrassed by my government (the past two administrations plus the clowns in Congress during that time) and I'm tired of having to explain that I had nothing to do with it.

Mostly I feel a lot less *safe*. I hope things take a turn for the better, but it looks like the Chekists are winning. Habeas corpus is dying, and we will soon be be hearing strong echoes of *Ihre Papieren, bitte!* at, of all places, national parks (yes, a passport will be required for travel to certain places *inside* the U.S. -- or a federally approved ID card which is the same thing).

Now, back to what I thought were some pretty interesting math questions, Vincze. The parts I understood, anyway. :-)

### **Re: CIVILITY?? Re: Poll**

*Message #54 Posted by **Walter B** on 27 Aug 2007, 2:25 a.m.,  
 in response to message #53 by John Noble*

Quote:

\_\_\_\_\_  
 ... we will soon be be hearing strong echoes of *Ihre Papieren, bitte!* at, of all places ...  
 \_\_\_\_\_

Hmmmh, this sounds like 62 years ago at least. According to my very personal experience this is not true anymore for quite some decades. IMHO you may have found less distant examples (in time AND space) easily instead.

Respectfully, Walter

### **Re: CIVILITY?? Re: Poll**

*Message #55 Posted by **Thor Lansen** on 27 Aug 2007, 1:00 p.m.,  
 in response to message #46 by Vincze*

Vincze, I think I understand the problem with the guy who sent you an anonymous e-mail. Coincidentally, the other day, I was reading Jerry Potter and he had a similar problem... he did not like the size of the ENTER key in his magic wand. Unfortunately, I do not know how to solve the problem, but it is his problem, so do not worry about it and let it be.

Regards, Thor

### **Re: CIVILITY?? Re: Poll**

*Message #56 Posted by **Vincze** on 27 Aug 2007, 2:03 p.m.,  
 in response to message #55 by Thor Lansen*

I not understand what you say. I think you say let him deal with his own issues and ignore



him? If so, that what I plan on doing. Sad part is, this person, is person who post here quite often. I shall not say who as that beneath me. I let him deal with his little itty bitty ENTER key issue by himself. In Hungary we call this "kicsi fasz tünetsoport". I let you figure out what that mean as I not wish to offend anyone. All I say is that in my country, we don't eat that part of the dog. ;)

**Re: CIVILITY?? Re: Poll**

*Message #57 Posted by [Arne Halvorsen \(Norway\)](#) on 27 Aug 2007, 2:24 p.m.,  
in response to message #56 by Vincze*

I think you are a [Troll](#), if not you are sure acting like one ;-)

**Re: CIVILITY?? Re: Poll**

*Message #58 Posted by [Vincze](#) on 27 Aug 2007, 3:20 p.m.,  
in response to message #57 by Arne Halvorsen (Norway)*

What does that mean? You say I like Romanian Gypsies who live under bridge and steal from people? Why would you say such a nasty thing like that, or is this too a joke of some sort that I not understand?

*Edited: 27 Aug 2007, 3:27 p.m.*

**Re: CIVILITY?? Re: Poll**

*Message #59 Posted by [Arne Halvorsen \(Norway\)](#) on 27 Aug 2007, 3:48 p.m.,  
in response to message #58 by Vincze*

Oh, that was not very nice towards the ethnic group gypsies, was it now?

Lets hope not any of \*them\* has any interest in good calculators..., th, th...

...and that from a guy who has been crying for how bad everyone has been against him the last few days...

From Wikipedia:

An Internet troll, or simply troll in Internet slang, has come to mean someone who intentionally posts messages about sensitive topics constructed to cause controversy in an online community such as an online discussion forum or USENET groups in order to bait users into responding.

**Re: CIVILITY?? Re: Poll**

*Message #60 Posted by [Vincze](#) on 27 Aug 2007, 3:52 p.m.,  
in response to message #59 by Arne Halvorsen (Norway)*

I not even going to waste my time with you.

**Re: CIVILITY?? Re: Poll**

*Message #61 Posted by [Arne Halvorsen \(Norway\)](#) on 27 Aug 2007, 3:59 p.m.,  
in response to message #60 by Vincze*

I have noticed your english improve sometimes...

Think I my silver bullit found it's mark.

### **Re: CIVILITY?? Re: Poll --> Troll**

*Message #62 Posted by **Walter B** on 27 Aug 2007, 3:53 p.m.,  
in response to message #58 by Vincze*

Nem, Vincze,

AFAIK a troll is called a person provoking other persons to argue in continued posting. At least it looks like this is the meaning here in this forum. Therefore, sometimes you'll find the request: "Do not feed the troll."

If you want to learn more about trolls, you may read J.R.R.Tolkien. Originally, trolls are from Norway. No relation to your

Quote:

\_\_\_\_\_

Romanian Gypsies

\_\_\_\_\_

, wherever you took them from.

Hope this helps, Walter

P.S.: Just saw Arne was typing faster :)

*Edited: 27 Aug 2007, 3:54 p.m.*

### **Re: CIVILITY?? Re: Poll --> Troll**

*Message #63 Posted by **Vincze** on 27 Aug 2007, 4:03 p.m.,  
in response to message #62 by Walter B*

Real trolls from Norway? Interesting, I not know that. So person accusing me of being troll might be one. I just kidding. :)

As far as Romanian comment, in Hungary we associate gypsy with Romania. We tend to look down on them as a lower class. In fact as child, parents tell child that gypsies from Romania come and kidnap them is they do not do what they are told. Sort of like 'boogie man' in USA. That was not nice of me to say and I apologize.

---

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## HP Forum Archive 17

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### HP 35s available in NYC retail stores?

Message #1 Posted by [Nick L](#) on 25 Aug 2007, 12:53 p.m.

Does anybody know of any walk in retail stores where the HP-35s might be available? Perhaps in the Tri-State area? Thanks.

### Re: HP 35s available in NYC retail stores?

Message #2 Posted by [Katie Wasserman](#) on 25 Aug 2007, 1:16 p.m.,  
in response to message #1 by [Nick L](#)

Usually J&R has HP calculators in stock as soon as they're released, but for some reason they didn't do that with the 35s. They're probably waiting for a bug-fixed version :)

### Re: HP 35s available in NYC retail stores?

Message #3 Posted by [Nick L](#) on 25 Aug 2007, 1:17 p.m.,  
in response to message #2 by [Katie Wasserman](#)

Thank you. I suppose Samson Cables has the latest blemish free versions?

### Re: HP 35s available in NYC retail stores?

Message #4 Posted by [Namir](#) on 25 Aug 2007, 3:17 p.m.,  
in response to message #3 by [Nick L](#)

Nick,

Might be a good idea to contact Samson Cables and ask them about which version of the 35s they have. I learned in life that assumption is the mother of disasters.

Namir

### Re: HP 35s available in NYC retail stores?

Message #5 Posted by [John Ioannidis](#) on 25 Aug 2007, 8:04 p.m.,  
in response to message #1 by [Nick L](#)

i haven't seen any at Staples.

Why bother with the stores? Just mail order it!

/ji

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HP 35s available in NYC retail stores?

## HP Forum Archive 17

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### HP 32Sii Troubleshooting - Does not turn ON

Message #1 Posted by [recnadniar](#) on 25 Aug 2007, 10:35 a.m.

I've had my 32Sii for nearly 10 years now, and it has worked without fail until just a few days ago.

when I pressed the ON button the screen was very dim. I tried to adjust the contrast,I put in a set of fresh batteries, tinkered with it, all to no avail.

Anyways, I found a simple fix to the problem. I used a fine grit sandpaper to scour the battery terminals. the terminals looked clean, and shiny so I did not think it would actually work, but miracle, my trusted HP32Sii came back to life.

Hope this will help somebody with a similar problem.

### Re: HP 32Sii Troubleshooting - Does not turn ON

Message #2 Posted by [Chris Foley](#) on 28 Aug 2007, 7:54 a.m.,  
in response to message #1 by [recnadniar](#)

Quote:

Hope this will help somebody with a similar problem.

It did.

I warmly thank you, my HP 22S wasn't working anymore until I used a rubber to *clean* the battery terminals.

It turned out to be working perfectly afterwards!

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## HP Forum Archive 17

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### **Time Value Money program for HP 42s**

Message #1 Posted by [John Dagis](#) on 25 Aug 2007, 6:51 a.m.

I've restored my old programs back on my HP 42s, after they were erased when it malfunctioned recently.

I also decided I would like to program in the Time Value Money program from pages 192/193 of the HP 42s user manual, but it doesn't work. I've checked out my configuration to the manual's example, and can find no errors on my part.

Maybe this particular program was one of the ones that I have read about as being erroneous on HP's part in their user manuals?

If somebody knows of any corrections, would they be kind enough to post them.

Thanks in advance —John D

### **Re: Time Value Money program for HP 42s**

Message #2 Posted by [Bill \(Smithville, NJ\)](#) on 25 Aug 2007, 8:16 a.m.,  
in response to message #1 by John Dagis

Hi John,

Quote:

I also decided I would like to program in the Time Value Money program from pages 192/193 of the HP 42s user manual, but it doesn't work. I've checked out my configuration to the manual's example, and can find no errors on my part.

I just entered it and it seems to work fine with the example given. When you say it doesn't work, could you give me an example of data you're entering and I'll enter it here to see if it works.

I used the Edition 4 March 1990 manual.

Bill

### **Re: Time Value Money program for HP 42s**

Message #3 Posted by [John Dagis](#) on 25 Aug 2007, 9:03 p.m.,  
in response to message #2 by Bill (Smithville, NJ)

Thanks for the responses, My manual is the 7th edition 1992. The TVM program is on page 193, and I think the problem may be with line 14 STO ST T

The HP 42s catalog has no ST T, and if I type the letters in, they appear as “ST T” with quotation marks around them, whereas the manual shows no quotation marks.

Doing the problem at the end of the program, the PV and PMT come up with the same result of 5750, in the case of PMT it is -5750. As the ST T doesn't appear in the catalog, I figure that's where the problem lies.

I am not an academic, and use the calc for construction and office work, so I'd appreciate any help given. :)

### **Re: Time Value Money program for HP 42s**

*Message #4 Posted by [Jeff O.](#) on 25 Aug 2007, 11:11 p.m.,  
in response to message #3 by John Dagis*

To enter a STO ST T instruction, press STO, then the decimal point. That brings up a menu which allows indirect storage as well as storage into the stack and the Last X registers. Stack T is the last one on the right.

### **Re: Time Value Money program for HP 42s**

*Message #5 Posted by [John Dagis](#) on 26 Aug 2007, 8:48 a.m.,  
in response to message #4 by Jeff O.*

Thanks Jeff for clarifying that, The program now gets the same answer as the example given in the manual. Also, many thanks to all the others who responded—John D

### **Re: Time Value Money program for HP 42s**

*Message #6 Posted by [Jim Creybohm](#) on 25 Aug 2007, 10:38 a.m.,  
in response to message #1 by John Dagis*

Hi John. I did the same thing on my 42 a while ago, and I found that while the example from the manual worked, when I tried to solve for some FV and time values, the answers were all over the map.

I did double check the data entry, and it is entered correctly. Having said that, the program is very fussy when it comes to input data.

I have not yet gotten good agreement between the program and my 12C. I haven't looked at the problem for a while, but perhaps tonight I'll dig my 42 out and go through it again.

### **Re: Time Value Money program for HP 42s**

*Message #7 Posted by [Miguel Toro](#) on 25 Aug 2007, 2:05 p.m.,  
in response to message #1 by John Dagis*

Please, let me recommend [this version](#). It is almost as accurated as a HP 12c. And if you want to know what is going on there, read [this version for the HP35s](#).

Regards,

Miguel

*Edited: 25 Aug 2007, 4:17 p.m.*

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### New update of my calc website

Message #1 Posted by [Valentin Albillo](#) on 24 Aug 2007, 9:27 p.m.

Hi, all:

I've just updated (well, Laura did it) [my calc website](#) with some new items freely available for download should you feel interested, namely:

1. *A new PDF article: "Know Thy Foe: A New Contender"*

This is a 12-page article in PDF format which confronts two great contemporary, ground-breaking machines of the early 80's: The **HP-41C** versus the **SHAP PC-1211** !

The article includes six excellent side-to-side pictures comparing specific key design features of both models, and a thorough description of their differences, as well as two test-case programs, *each* of them written for *both* models, to better see them in action while attacking the very same task using their unique programming paradigms.

Finally, no less than *four* additional sample programs for the SHARP PC-1211 are featured, all of them less than 10 lines long, yet successfully dealing with fairly complex tasks with ease.

2. *A new image for the Gallery: HP-16C*

A great 1024 x 768 image of one of the **HP-16C** in my collection, in splendid frontal view. It's really mint and it shows !

3. *Mystery Extra Goodies: !?*

You'll have to see by yourself, please don't ask (and I mean it).

Hope you'll like them. Thanks for your interest and

Best regards from V.

### Re: New update of my calc website

Message #2 Posted by [Miguel Toro](#) on 25 Aug 2007, 12:16 a.m.,  
in response to message #1 by Valentin Albillo

Wow! What can I say?

¡Muchas gracias Valentín!

(From a real fan :-))

### Re: New update of my calc website

Message #3 Posted by [Valentin Albillo](#) on 25 Aug 2007, 12:21 a.m.,



*in response to message #2 by Miguel Toro*

¡ De nada, Miguel ! :-) { i.e.: "you're welcome !" }

Thanks for your kind appreciation, I'm glad you find them interesting/useful.

Best regards from V.

## **Re: New update of my calc website**

*Message #4 Posted by [Will Hartung](#) on 25 Aug 2007, 2:28 a.m.,  
in response to message #1 by Valentin Albillo*

I think the observation about being able to see the entire equation on the screen versus what you last typed in regards to an AOS is spot on.

In an involved calculation, an AOS style calculation was almost guess work, especially when the key being hit doesn't change the display (like a open perentheses on a TI-58/9).

But when you can type out the entire equation "just like in the book", the dynamic changes completely, and the ease of straightfoward translation makes the machine very intuitive and easy to use.

Another thing you sort of mention regarding the SHARP was the fact that it was sold by Radio Shack. You really can't discount the effect Radio Shack had on the computer market of the day, and the visibility of having something like the SHARP in their catalog, or at a neighborhood store is quite important vs the smaller market and distribution of HP. (And personally, their Model 100 is simply one of the finest machines of its type ever made.)

My father had I think all 3 of the "Pocket Computer" models from Radio Shack. I had to snicker when I saw expresions like "AA" and "AAA" in your SHARP examples. It reminded me of one of the frustrations my father had with normal BASIC. In normal MS-BASIC, obviously AA doesn't mean "A\*A", rather it's the variable AA.

But my father commented on how he had problems with his programs because he'd "run out of variables" in MS-BASIC. He'd use A, then AA, then AAA. In MS-BASIC, only the first two letters mattered -- so AA == AAA.

But you can imagine what the code looked like (especially by todays standards) being scattered with essentially meaningles variable names like A AA B BB CC Q XX etc.

## **Re: New update of my calc website**

*Message #5 Posted by [gileno](#) on 25 Aug 2007, 7:50 a.m.,  
in response to message #4 by Will Hartung*

A new PDF article: "Know Thy Foe: A New Contender"  
Fantastic. Great comparison

## **Re: New update of my calc website**

*Message #6 Posted by [Valentin Albillo](#) on 25 Aug 2007, 10:18 a.m.,  
in response to message #5 by gileno*

Hi, Gileno:

Thanks a lot for your kind feedback, much appreciated.

I'm glad you like it, stay tuned for more 'historical' articles like this as well as 'cutting-edge' ones dealing with the new, awesome HP35s.

Best regards from V.

### **Re: New update of my calc website**

*Message #7 Posted by [gileno](#) on 25 Aug 2007, 10:37 a.m.,  
in response to message #6 by Valentin Albillo*

Which the difference between PC1211 and PC1212. I have them but I don't have the manuals

### **Re: New update of my calc website**

*Message #8 Posted by [Valentin Albillo](#) on 25 Aug 2007, 12:02 p.m.,  
in response to message #7 by gileno*

Hi, Gileno:

Gileno posted:

*"Which the difference between PC1211 and PC1212. I have them but I don't have the manuals"*

There's no difference at all as far as their capabilities are concerned, both have the same RAM, ROM, and most of their specifications are exactly the same. The only difference is the dot-matrix LCD display technology: the pioneering PC-1211 has a yellow-type LCD display, which is less durable and has a tendency to permanently blacken-out, most specially if exposed to sunlight.

So, when the technology improved, SHARP issued a new version, the PC-1212, this time featuring a new grey-type LCD display, which is less sensitive to sunlight and to blackening. This kind of display was then used for all subsequent models and the yellow-type one was abandoned for good.

However, I find the yellow display very pleasing aesthetically, and if properly stored and kept away from sunlight, it will last for decades without noticeable blackening.

Best regards from V.

### **Re: New update of my calc website**

*Message #9 Posted by [Eric Smith](#) on 25 Aug 2007, 9:21 a.m.,  
in response to message #4 by Will Hartung*

Quote:

My father had I think all 3 of the "Pocket Computer" models from Radio Shack

All three of the eight models, PC-1 through PC-8? <http://www.trs-80.com/trs80-models-pocket.htm>

### **Re: New update of my calc website**

*Message #10 Posted by [Valentin Albillo](#) on 25 Aug 2007, 1:24 p.m.,*

*in response to message #4 by Will Hartung*

Hi, Will:

Will posted:

*"My father had I think all 3 of the "Pocket Computer" models from Radio Shack."*

First of all, thanks for your appreciation of my article and your comments, they're most welcome.

Radio Shack actually produced 8 "Pocket Computer" models, but only 3 of them were exact SHAP clones, the rest being Casio's.

*"In MS-BASIC, only the first two letters mattered -- so AA == AAA."*

That's the case with SHARP's subsequent BASIC dialects, they did allow for long name variables (say PRICE) but only the first two characters were 'significant' (so PRICE and PRICE2 would be considered the same variable). Further, the name should not coincide with or include as part of it any of the BASIC reserved words and identifiers, which forced you to carefully select your names and be aware of this limitation, lest you would then afterwards be very puzzled as to why some seemingly correct program line was resulting in a wholly unexpected syntax error at execution time.

*"But you can imagine what the code looked like (especially by today's standards) being scattered with essentially meaningless variable names like A AA B BB CC Q XX etc."*

Yes, I can imagine it and I've actually *seen* it at the time, but you have to consider the expectations back then. I mean, if you're used to 2007's high-level languages which all of them allow identifiers such as "Article.Cost\_of\_production.Pounds", you're bound to find "AA", "QX", and "C7" quite unacceptable.

But if you were in the late 70's and early 80's, having to program your variables as registers 00, 08, 23, 14, 87, etc., then the ability of *mnemonically* calling them I for index and P for Price, say, or even PRICE and TOTALPRICE later, was a *real godsend* which made source code immensely more readable as compared to the numeric-only register addresses, not the nuisance it seems now.

Everything's relative and oftentimes seemingly preposterous practices come to be much more understandable when put in context.

Best regards from V.

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**Mystery HP41 CX**

Message #1 Posted by [Dave Colver](#) on 24 Aug 2007, 8:20 p.m.

Hi All

One of the nice things about being a collector is occasionally coming across a mystery custom machine. Its a 41CX with a double DIP switch on the opposite side to the charger port, it has been double speeded (determined by the BEEP tone). The DIP switch appears to make either the Navigation Rom or ZenRom change visible in CAT 2 (or both).

So the questions

- (1) Whose mod might this be
- (2) Is there a way of uploading new software ROM's to it?

Thanks in advance

Dave

**Re: Mystery HP41 CX**

Message #2 Posted by [Winfried Maschke](#) on 29 Aug 2007, 7:03 a.m.,  
in response to message #1 by [Dave Colver](#)

Most likely the PCBs of the two modules are build inside the 41. The switch connects the ISA-line of the modules to the calculator.

If the switch is turned on, the build in module is hardwired to one of the HP41 ports and you cannot use this port for another ROM module.

Beside some others I did such kind of mods for many people in europe. You could even buy a PCB to build in 4 modules. [Here is a picture..](#)

There ist no way to upload other software as it is a hardware mod with ROM modules.

**Re: Mystery HP41 CX**

Message #3 Posted by [Dave Colver](#) on 29 Aug 2007, 8:39 p.m.,  
in response to message #2 by [Winfried Maschke](#)

Hello Winfried

Thank you for your informative reply, I \*may\* open the machine up to see whats going on now...and which ports it overlays (though i could of course test that with a module too)

Dave

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**35s - Simple Complex Quadratic Root Finder (1st try)**

Message #1 Posted by [Dallas Osborne](#) on 24 Aug 2007, 7:43 p.m.

If I am doubling someone else's work, I apologize. Before tinkering with this, I briefly searched the forums for a simple quadratic root finder with complex compatibility and didn't find much; my search techniques may be seriously lacking, though. I have need for a rapid fire quad finder with complex and didn't want to work my finder tips raw getting that massive version in. So, enough said. Clearly this is limited to quadratics:

Q001 LBL Q

Q002 INPUT A

Q003 INPUT B

Q004 INPUT C

Q005 SQ(B)-4XAXC (AS EQN)

Q006 ROLLUP

Q007 2

Q008 X

Q009 STO D

Q010 X<>Y

Q011 X<0?

Q012 GTO Q016

Q013 SQRT

Q014 STO S

Q015 GTO Q021

Q016 +/-

Q017 SQRT

Q018 i

Q019 X

Q020 STO S

Q021 (-B+S) / D (AS EQN)

Q022 (-B-S) / D (AS EQN)

Q023 RTN

CK = E46A (for what it's worth) LN = 98

So... let the tomatoes fly; my skin is thick.

;)

*Edited: 24 Aug 2007, 7:44 p.m.*

## Re: 35s - Simple Complex Quadratic Root Finder (1st try)

Message #2 Posted by **Gerson W. Barbosa** on 24 Aug 2007, 8:45 p.m.,  
in response to message #1 by Dallas Osborne

Quote:

my search techniques may be seriously lacking, though.

Using *site:www.hpmuseum.org quadratic-solver* as the search-key in Google returns 21 results. On the other hand, not having found them has proved useful, as you had the chance to come up with your own solution, which is good.

Program-size is not so important nowadays, as you see can see in Palmer's article (1st result). However, a shorter program is possible, based on a 15C program by Thomas Klemm (3rd result) :

```
Q001- LBL E
Q002- ENTER
Q003- R^
Q004- /
Q005- R^
Q006- LSTx
Q007- /
Q008- -2
Q009- /
Q010- ENTER
Q011- ENTER
Q012- x^2
Q013- R^
Q014- -
Q015- 0.5i0
Q016- y^x
Q017- -
Q018- x<>y
Q019- LSTx
Q020- +
Q021- RTN
```

<http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv017.cgi?read=114345>

Quote:

So... let the tomatoes fly; my skin is thick.

;)

Quite the contrary. Congratulations!

Gerson.

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### PC application HPCALC.EXE

Message #1 Posted by [Donald Williams](#) on 24 Aug 2007, 3:39 p.m.

Another thread about solvers and the 200LX prompted me to ask this question which may be a little too off topic for that thread.

I have an old application called HPcalc.exe that I have faithfully migrated to every PC I have dealt with for the past 15 years or so, and I cannot remember where it originally came from. It is obviously an old Win 3.1 era application but amazingly it still works on every MS OS down through the years. If you use Help, About you get the message

HP Financial Calculator V 1.02 8/31/93 Copyright Hewlett-Packard 1993

The name is misleading since this is a full scientific application with a great solver. It has options for RPN or Algebraic. It actually has 6 applications Arithmetic, TVM, Business, Solver, Conversion, and Math. Actually now that I think of it, this is probably the "Calculator" that I use the most. Old habits are hard to break.

Could it be that this was the 200LX emulator and I have just forgotten that is where I aquired it?

Anyone else still use it?

It just bothers me that I cannot remember where I originally got the application. It is antiquated compared to modern emulators but quite simple and very useful. And get this! It uses a whole 250 KB of disk space.

### Re: PC application HPCALC.EXE

Message #2 Posted by [Bruce Bergman](#) on 24 Aug 2007, 4:06 p.m.,  
in response to message #1 by [Donald Williams](#)

Yeah, that's part of the 100lx/200lx sync pack. I had the same thing with the 100lx I bought years ago. I used it to access some old custom databases I built with the db app.

Funny, I didn't even THINK of going back and finding that to have it running on my desktop! I should go find my disk and mess around with it, if only for nostalgia. ;-)

thanks, bruce

### Re: PC application HPCALC.EXE

Message #3 Posted by [Donald Williams](#) on 24 Aug 2007, 4:53 p.m.,  
in response to message #2 by [Bruce Bergman](#)

I wrote many equations for radar and antenna problems intended to be used on the 200LX. Unfortunately MS decided to wrap some mystery layers in the OS so syncing the 200LX device eventually became impossible. Surprisingly the PC application still works and the equations are all still there. I just continue to copy from PC to PC.

If you cannot locate your disks and but still remain interested let me know, and I can send you a copy.



( Is this the perfect oppurtunity for me to once again start my rant about calculator I/O? About how HP-IL was the only I/O conceived for calculators and the only I/O that could talk to computers but still provided mass storage independent of a computer, so your investment of time and money was not hostage to the capriciousness of an OS provider or a vendor who wasn't interested in updating their software. No! I will stifle myself.)

Thanks for the info.

EDIT: Actually posted this message before I read Bills response. So I don't know if CPACK 200 would still run or not. I once owned an omnibook so I guess thats how I obtained it. Glad I did. Now I wonder if the CPACK 200 would also run.

*Edited: 24 Aug 2007, 5:01 p.m.*

## **Re: PC application HPCALC.EXE**

*Message #4 Posted by **Bill (Smithville, NJ)** on 24 Aug 2007, 9:37 p.m.,  
in response to message #3 by Donald Williams*

Hi Donald,

Quote:

EDIT: Actually posted this message before I read Bills response. So I don't know if CPACK 200 would still run or not. I once owned an omnibook so I guess thats how I obtained it. Glad I did. Now I wonder if the CPACK 200 would also run.

Yep, CPACK200 runs in a dos window. On my system it always goes to full screen and refuses to run in a smaller window. Don't know if it can can actoolly access the com ports that way, but you can have all the features of the HP-200LX on your WIN XP machine.

I have a shortcut on my desktop to CPACK200 so I can run it whenever I need to.

Bill

## **Re: PC application HPCALC.EXE**

*Message #5 Posted by **Bill (Smithville, NJ)** on 24 Aug 2007, 4:14 p.m.,  
in response to message #1 by Donald Williams*

Hi Donald,

Quote:

I have an old application called HPcalc.exe that I have faithfully migrated to every PC I have delt with for the past 15 years or so

I have done the same. It's on all my PC's.

It originally came installed on the HP Omnibook OB-300, 425, 430, 530, 600c and 600CT. It may have also come with some other Omnibook models. Those systems also came with HPPIM.exe which was compatible with the Phone Book and Address Book of the HP-200LX.

Quote:

Could it be that this was the 200LX emulator and I have just forgotten that is where I aquired it?

Nope - they are not the 200LX emulator. The LX emulatotrs are CPACK95, CPACK100 and CPACK200.

While HPCALC does include a solver, it's not as complete or as full featured, as the solver in the HP-200LX. Not exactly sure what it lacks, but I know some test equations that I entered would not run on it - while they ran fine on the 200LX and the 19BII.

Bill

---

**Re: PC application HPCALC.EXE**

*Message #6 Posted by **Peter A. Gebhardt** on 25 Aug 2007, 1:48 p.m.,  
in response to message #1 by Donald Williams*

Donald, Bill & Bruce,

It does run in VirtualPC (5.3.582.32)in a small Window on XP2 on my Notebook PC just as I'm typing this ...

The version data of CPACK200 (which is in turn part of the already mentioned Sync-Package) are as follows:

HP 200LX Connectivity Pack

Version 1.02

(c) 1990, 1994 HP

(c) 1991, 1993 Lotus

(c) 1993, 1994 Intuit

Best regards & a sunny weekend for all of you!

Peter A. Gebhardt

PS: My Desktop-Shortcut points to the stored session of Virtual-PC, which contains the last session of HPCALC - of course ...

*Edited: 25 Aug 2007, 6:31 p.m.*

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### HP-65 or 67 Spaceflight Program

Message #1 Posted by [Stefan Vorkoetter](#) on 24 Aug 2007, 2:18 p.m.

When I was a kid, I remember perusing an issue of Popular Electronics magazine (I think) in which was presented a program for an HP programmable (65 or 67 if I remember correctly). Unlike the typical "Lunar Lander" program, this one would simulate an entire flight from Earth launch to Moon landing (in two dimensions). The user would enter a fuel burn vector (strength and direction) and the program would calculate the spacecraft's next position and velocity. It was up to the user to plot his/her flight on a sheet of graph paper.

Does anyone else remember seeing this program? Does anyone have a copy of it?

Thanks, Stefan Vorkoetter

### Re: HP-65 or 67 Spaceflight Program

Message #2 Posted by [Eric Smith](#) on 24 Aug 2007, 5:33 p.m.,  
in response to message #1 by [Stefan Vorkoetter](#)

I haven't heard of that one. If I recall correctly, In 1979 Byte published a program for the HP-67 to do a 3D simulation of a trip to Mars.

### Re: HP-65 or 67 Spaceflight Program

Message #3 Posted by [Andrés C. Rodríguez](#) on 25 Aug 2007, 12:57 p.m.,  
in response to message #1 by [Stefan Vorkoetter](#)

I think I have it, it was oriented to the HP25.

### Re: HP-65 or 67 Spaceflight Program

Message #4 Posted by [Stefan Vorkoetter](#) on 25 Aug 2007, 10:07 p.m.,  
in response to message #3 by [Andrés C. Rodríguez](#)

That may be. At the time, I was too young to notice exactly which calculator it was. Is there a way I can get a copy of the article from you? If so, I'd be glad to transcribe it and put it on my web site to share with all.

Now that you mentioned that it was for the HP25, I did a Google search and found a reference to the program. In fact, I found a huge list of calculator programs published in magazines. Has anyone else seen this list: <http://nleindex.com/index.php?pID=HTDI&sID=BrowseIndex&tID=E/255>

Stefan

*Edited: 25 Aug 2007, 10:11 p.m.*

### Re: HP-65 or 67 Spaceflight Program

Message #5 Posted by **Chris McCormack** on 26 Aug 2007, 8:15 a.m.,  
in response to message #1 by Stefan Vorkoetter

Quote:

---

When I was a kid, I remember perusing an issue of Popular Electronics magazine (I think) in which was presented a program for an HP programmable (65 or 67 if I remember correctly). Unlike the typical "Lunar Lander" program, this one would simulate an entire flight from Earth launch to Moon landing (in two dimensions). The user would enter a fuel burn vector (strength and direction) and the program would calculate the spacecraft's next position and velocity. It was up to the user to plot his/her flight on a sheet of graph paper.

Does anyone else remember seeing this program? Does anyone have a copy of it?

Thanks, Stefan Vorkoetter

---

Here's the reference:

**"Six programs written especially for the HP-25 programmable calculator. They are (1) Battle the dive bomber, (2) football, (3) blackjack, (4) space flight, (5) biorhythm forecast and (6) test your ESP." POPULAR ELECTRONICS [1] Jun 1977 (v.11#6) pg. 39.**

I have a photocopy of that article around here somewhere. I'll try to dig it up for you.

"Space Flight" involves two planetary bodies and a rocket ship. The calculator gives you position (which you graph) and velocity. By giving thrust commands (magnitude and direction) you try to establish a stable orbit around the two planets, or if you are daring, try to de-orbit and land.

I remember trying these programs on my friends HP25C when they were published. Out of the six, I found "Battle the Dive Bomber" the most interesting. I used to run that on my HP29C, and ported it for later models.

### **Re: HP-65 or 67 Spaceflight Program**

Message #6 Posted by **Stefan Vorkoetter** on 26 Aug 2007, 9:40 a.m.,  
in response to message #5 by Chris McCormack

That's exactly it! It'd be great if you could dig it up! Failing that, I'll try to find a copy of the issue on eBay (just missed one that went for \$.01).

Stefan

### **Re: HP-65 or 67 Spaceflight Program**

Message #7 Posted by **Vincze** on 27 Aug 2007, 4:39 p.m.,  
in response to message #5 by Chris McCormack

My friend Chris, were you able to find a copy of that? I would like to see too.

### **Re: HP-65 or 67 Spaceflight Program**

Message #8 Posted by **Bruce Bergman** on 27 Aug 2007, 5:03 p.m.,  
in response to message #5 by Chris McCormack

Agreed -- I'd love to see that too. A post of the PDF or something would be awesome.

thanks! bruce

**Re: HP-65 or 67 Spaceflight Program**

*Message #9 Posted by [Geir Isene](#) on 27 Aug 2007, 5:24 p.m.,  
in response to message #8 by Bruce Bergman*

/me too.

**Re: HP-65 or 67 Spaceflight Program**

*Message #10 Posted by [Pal G.](#) on 29 Aug 2007, 10:10 a.m.,  
in response to message #5 by Chris McCormack*

Quote:

\_\_\_\_\_

I have a photocopy of that article around here somewhere. I'll try to dig it up for you.

\_\_\_\_\_

Is there a way to "bump" threads on this board so they don't fall over the horizon? Otherwise I may never get a chance to test my daring, by attempting to de-orbit and land.

Funny that my mind is wanting to read the article even though I have MS Flight Simulator, Celestia, and a entire lineup of "expensive" applications on my laptop.

<http://www.shatters.net/celestia/>

Thanks, Pal

**OT: Re: HP-65 or 67 Spaceflight Program**

*Message #11 Posted by [Vincze](#) on 29 Aug 2007, 4:12 p.m.,  
in response to message #10 by Pal G.*

Celestia is a nice program, I stumble upon a little while back.

I wish someone would make space shuttle simulator. That would be nice.

**Re: OT: Re: HP-65 or 67 Spaceflight Program**

*Message #12 Posted by [Rick Kaumeier](#) on 29 Aug 2007, 4:27 p.m.,  
in response to message #11 by Vincze*

An excellent freeware shuttle simulator (and more): [Orbiter](#)

**Re: OT: Re: HP-65 or 67 Spaceflight Program**

*Message #13 Posted by [Vincze](#) on 29 Aug 2007, 5:37 p.m.,  
in response to message #12 by Rick Kaumeier*

Thank you my friend. I will have to try this.

**Re: OT: Re: HP-65 or 67 Spaceflight Program**

Message #14 Posted by **Vincze** on 31 Aug 2007, 2:42 p.m.,  
in response to message #12 by Rick Kaumeier

My friend, I try Orbiter last night. It quite interesting program. Take a few tries to stay in orbit, and not have ballistic orbit path, but it very doable with Atlantis shuttle. Now I just have to figure out how to get back to Earth in one piece. :)

**Re: OT: Re: HP-65 or 67 Spaceflight Program**

Message #15 Posted by **Maximilian Hohmann** on 29 Aug 2007, 5:46 p.m.,  
in response to message #11 by Vincze

Hello!

Quote:

\_\_\_\_\_

I wish someone would make space shuttle simulator. That would be nice.

\_\_\_\_\_

Try this one here: <http://www.x-plane.com/>

You can chose different stages from the full re-entry (about 20 minutes) to the final approach (about one minute). Apart from the shuttle, X-Plane is the most realistic (in terms of aeroplane behaviour) flight simulator for the PC, and the only one for the Macintosh. There are hundreds of very good aeroplanes available for free from an excellent internet community: <http://www.x-plane.org/>

Greetings, Max

**Re: HP-65 or 67 Spaceflight Program**

Message #16 Posted by **Chris McCormack** on 29 Aug 2007, 7:05 p.m.,  
in response to message #1 by Stefan Vorkoetter

I found my copy of the June 1977 **Popular Electronics** article "How to Program Calculators for Fun and Games" and fed them through the scanner.

Now I'm trying to figure out how to pass on the PDF scans (8 pages, about 1.5 MB). The scans aren't perfect, but most of it is decipherable.

**Re: HP-65 or 67 Spaceflight Program**

Message #17 Posted by **Vincze** on 29 Aug 2007, 7:18 p.m.,  
in response to message #16 by Chris McCormack

And my sweet wife call me pack rat. You have 30 year old magazine. I guess we should be thankful for the fact you save them. Thank you my friend.

**Re: HP-65 or 67 Spaceflight Program**

Message #18 Posted by **Pal G.** on 30 Aug 2007, 12:00 a.m.,  
in response to message #16 by Chris McCormack

Perhaps you can use this:

<http://www.yousendit.com/>

No sign up is required. It works like a charm. You can upload files up to 100 meg. The file sits on a server for 7 days. The recipient receives a link in an email from which to download the file. I used a yahoo account with not problem.

If you do not wish to collect email addresses from everyone I would be happy to host the pdf for you on the internet if you send it to me. Then I'll just put a link here for anyone to download the file at their leisure..

Cheers, Pal

green chile 505 at yahoo dot com

### **Re: HP-65 or 67 Spaceflight Program**

*Message #19 Posted by [Chris McCormack](#) on 30 Aug 2007, 6:09 a.m.,  
in response to message #18 by Pal G.*

Quote:

\_\_\_\_\_

If you do not wish to collect email addresses from everyone I would be happy to host the pdf for you on the internet if you send it to me. Then I'll just put a link here for anyone to download the file at their leisure..

\_\_\_\_\_

Thank you very much for the information and the offer to host the file. Tony has already done that for me at:

<http://www.hutchins.co.nz/scan.htm>

### **Re: HP-65 or 67 Spaceflight Program**

*Message #20 Posted by [tony \(nz\)](#) on 30 Aug 2007, 2:50 a.m.,  
in response to message #16 by Chris McCormack*

[Here we go Chris](#)

Cheers, Tony

### **Re: HP-65 or 67 Spaceflight Program**

*Message #21 Posted by [Pal G.](#) on 30 Aug 2007, 9:12 a.m.,  
in response to message #20 by tony (nz)*

Thank you Chris and Tony. Stefan for remembering his past...

Cheers, Pal

### **Re: HP-65 or 67 Spaceflight Program**

*Message #22 Posted by [Bruce Bergman](#) on 30 Aug 2007, 9:37 a.m.,  
in response to message #20 by tony (nz)*

THANK YOU!!

bruce

**Re: HP-65 or 67 Spaceflight Program**

*Message #23 Posted by [Stefan Vorkoetter](#) on 30 Aug 2007, 2:08 p.m.,  
in response to message #20 by tony (nz)*

Thank you, for confirming that this wasn't something I dreamt. :-)

Stefan

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## HP Forum Archive 17

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### **Solver question -- versions -- which is the "best"?**

Message #1 Posted by [Bruce Bergman](#) on 24 Aug 2007, 2:09 p.m.

I'm moving this question out of being buried in the other discussion below, because I don't think anyone will answer otherwise. ;-)

What version of the solver application do folks think is the, for lack of a better word, pinnacle of that tool?

There seems to be a lot of differing opinions on this subject. I am pretty happy with the 17bii+ solver (I know, that's heretical to some of you, what with its bugs), while others say that the 19bii or 17bii was the best. However, lately I've been seeing posts that seem to imply that the 200lx solver was clearly the best, most powerful, most accurate solver.

I'd be interested in hearing opinions, and where possible, examples of why you think that one is the best. Maybe in descending order of "bestness" too?

thanks! bruce

### **Re: Solver question -- versions -- which is the "best"?**

Message #2 Posted by [Bill \(Smithville, NJ\)](#) on 24 Aug 2007, 2:43 p.m.,  
in response to message #1 by [Bruce Bergman](#)

Hi Bruce,

I guess the question is "best" for what - speed, power, correctness, ease of use, etc.

For power and ease of use, I'd have to say the HP-200LX. It has a full, if small, keyboard for entering the equations. Multiline screen for editing. Can save/load equations. Easy to transfer to a pc for editing large complicated equation. Full L() and G() implication. Can do graphs. Can be used in a 1-2-3 worksheet.

In the calculator realm, I'd have to go with the HP-19BII. Multiline display, the full keyboard helps on entering equations.

Second on the calculator side would be the HP-17BII. Mainly for the pocket size.

The above is order I would develop a complicated formula - I'd start with the HP-200LX or the PC emulator of it. Debug it there. Then type into the HP-19BII. Ensure it works there. And, if I need smaller form factor, enter the final debugged complicated equation into the HP-17BII.

As far as I know the solver is the same on all three of these. The HP-200LX, of course, has some additional features.

I can't comment on any of the newer calculator, since I don't have any of them.

Bill

*Edited: 24 Aug 2007, 2:43 p.m.*

## **Re: Solver question -- versions -- which is the "best"?**

*Message #3 Posted by **Peter A. Gebhardt** on 25 Aug 2007, 2:11 p.m.,  
in response to message #1 by Bruce Bergman*

Bruce,

I second Bill's comments very much, but like to add another wrinkle on the "Quest for the Best Solver in Town" - that is the one about the "whole package".

As you know from my last postings, I'm mostly a 200LX convert already. In this process what made me a "convert" was not so much the already known compatibility problems of the 17bII+ "package" compared with the others, but mainly the lack of being able to "save & restore" my development work!

I think you eventually would agree, once you spent hours on development and the "battery exchange demon" shows up his ugly face ...

Add to this the integration with Lotus 123 & the 200LX Application Manager's Macro capabilities - and you have very unique & tremendous capable solution for anything but eventually complex math & calculus.

So my recommendations for the "Finals" ranking are:

1. 200LX
2. 19BII (with a strong battery door ;-))
3. 17bII (tie with 17BII+ once it's software has been fixed)
4. 27s (Edited as of Karl Schneider's posting below - sorry, my fault!)
5. 18c (battery door ...)

Best regards

Peter A. Gebhardt

PS: Availability of N-Cells might be an issue too, which is in favour off the NIMH 2700 mA Rechargeable powered 200LX ...

*Edited: 25 Aug 2007, 4:00 p.m. after one or more responses were posted*

## **Re: Solver question -- versions -- which is the "best"?**

*Message #4 Posted by **Karl Schneider** on 25 Aug 2007, 3:35 p.m.,  
in response to message #3 by Peter A. Gebhardt*

There's nothing wrong with the HP-27S battery door; it's a Pioneer-series model, just like the HP-17B/BII and HP-42S.

I'd rate the HP-27S solver above that of the HP-17BII, because the HP-27S has more mathematical functions available. RPN, of course, is not an issue.

The HP-35s may deserve a mention, because it now has in-line editing and limited implicit multiplication.

-- KS

*Edited: 25 Aug 2007, 3:36 p.m.*

## **Re: Solver question -- versions -- which is the "best"?**

*Message #5 Posted by **Peter A. Gebhardt** on 25 Aug 2007, 4:09 p.m.,  
in response to message #4 by Karl Schneider*

Karl,

the only reason I've put down the 27s, was what Finseth's Solver Chart said here on the 27s (and as far as I remember - reading that in the 27S Owner's Manual):

Quote:

... The solvers on the -17B, 17BII, -18C, 19B, and 19BII do algebraic simplification: this feature was removed from the -27S in order to save space. ...

Which (as I must assume, because I don't possess an 27S) means iterative solution search each and every time ...

Best regards

Peter A. Gebhardt

PS: The 27S lacks IRR, NPV, NFV & NUS too!

*Edited: 25 Aug 2007, 6:25 p.m.*

## **HP-27S Solver**

*Message #6 Posted by **Karl Schneider** on 25 Aug 2007, 6:27 p.m.,  
in response to message #5 by Peter A. Gebhardt*

Hi, Peter --

Quote:

*The solvers on the -17B, 17BII, -18C, 19B, and 19BII do algebraic simplification: this feature was removed from the -27S in order to save space....*

Which (as I must assume, because I don't possess an 27S) means iterative solution search each and every time ...

I have the HP-17B, HP-17BII, and HP-27S. I'm not sure offhand how or whether those models performed symbolic algebraic simplification as the HP-48 series did.

However, I verified that the HP-27S solver does indeed use direct-solution methods. This capability was ported to the HP-33s and HP-35s solvers. I am not entirely pleased with the logic as implemented:

[HP-33s solver direct methods](#)

At the time of that post, I believed that direct solution was a new capability, not one that was borrowed from earlier models.

-- KS

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## HP Forum Archive 17

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**friendly advice for Vincze**

Message #1 Posted by [Don Shepherd](#) on 24 Aug 2007, 9:55 a.m.

Vincze, please accept this advice in the interest of making this forum of maximum interest and enjoyment to the most number of people.

I am not the forum police, gosh knows, and I am reluctant to make this post, but frankly the quality of this forum has markedly decreased recently, due in large part to the number and types of posts you are making. This used to be a great place for exchanging information for HP fanatics, but when I see 20 new threads and one person making unnecessary posts to ALL of them, it makes me want to visit here less. It is not necessary to post a response to every thread. If you will notice, no-one else does that. We post when we have something to add or have a legitimate question that we have researched already but need help with. Most of your posts requesting information would not have been necessary had you done your research. Use Google or other search engines, they will answer a large portion of your questions.

Do what most all of us did at first: lurk awhile. Just read what is posted and learn from it. Most posters will go out of their way to help those with legitimate questions; I do too. But we all expect folks to try to find the answer themselves first. Another poster recently told you, when you asked how a program worked, sit down with paper and pencil, list the stack registers X, Y, Z, T, and registers, and step through the program line by line and update the register contents, and see what happens. It is called desk checking, and no-one should be asking questions about how programs work until they have done that critical step.

I think you will find this is a great place to be, and there are people in this forum who are absolutely amazing (I'm not one of them). But we would all be served better if you did not post so many messages each day.

Please accept this advice in the manner I intended, to make this forum even better for all of us.

Don Shepherd

**Re: friendly advice for Vincze**

Message #2 Posted by [Vincze](#) on 24 Aug 2007, 10:16 a.m.,  
in response to message #1 by [Don Shepherd](#)

I apologize, and I sorry for replying to this.

I go now. You second person who tell me to stop making stupid posts, so I can tell I am no longer welcome here.

Thank you my friends for all your help. I apologize I dumb down this group.

**Re: friendly advice for Vincze**

Message #3 Posted by [James M. Prange \(Michigan\)](#) on 24 Aug 2007, 10:58 a.m.,  
in response to message #2 by [Vincze](#)

Vincze, I don't believe that there's any reason for you to leave, but do some research on your own before

asking a question. Things like "Read The Fine Manual", look over the resources right here on the MoHPC site (including, but not limited to, this forum), read through any "Training modules" from HP's site that seem as if they might be relevant, and so on. Use Google to search for an answer, and note that the search can be restricted to this site only. Experiment a bit for yourself. You may well want to invest in the MoHPC DVD set.

Many of us do like to help, but posting an accurate and useful reply sometimes takes considerable thought, sometimes some research, and time, so frequently asked questions, or other questions that it seems that little or no research was done on before asking, might not be appreciated.

Of course, keep it clean; treat this as a forum that you wouldn't mind having children read. Abide by the forum's "Terms of Use".

Regards,  
James

### **Re: friendly advice for Vincze**

*Message #4 Posted by **James M. Prange (Michigan)** on 24 Aug 2007, 11:42 a.m.,  
in response to message #3 by James M. Prange (Michigan)*

I wrote:

Quote:

---

Many of us do like to help, but posting an accurate and useful reply sometimes takes considerable thought, sometimes some research, and time, so frequently asked questions, or other questions that it seems that little or no research was done on before asking, might not be appreciated.

---

Of course, nothing forces me or anyone else to respond to any post. If I feel that a question isn't worth the bother of answering, then I generally just ignore it or else try to point out how or where the answer can be found.

Regards,  
James

### **Re: friendly advice for Vincze**

*Message #5 Posted by **Thomas Radtke** on 24 Aug 2007, 11:07 a.m.,  
in response to message #2 by Vincze*

Your conclusion is certainly not right. I surely speak for most of us when I say we're always glad to have new members and you'll find rarely any RTFM comment on even the most basic on-topic FAQs.

Don has just stated his point about smalltalk and very basic questions that are more or less off-topic here (programming, math). I'd recommend to give his post a second read and stay with the finest people you can find ;-).

### **Don't go!**

*Message #6 Posted by **Maximilian Hohmann** on 24 Aug 2007, 11:57 a.m.,  
in response to message #2 by Vincze*

Hello Vincze,

Quote:

I go now.

please don't! I think your contributions have given a lot of life to this forum recently, that has been very quiet and "dry" for a long time. During the last weeks, it has grown from an average of two postings per day to something like 100, I wish the same would happen to my bank account...

Some of your very basic or low-level questions - naive or not - have made me rethink a lot of things that I took for granted until now. Just yesterday, your question about symbolic differentiation on the programmable calculator made me remember my first encounter with 'Macsyma' in the early 80ies and the incredulous 'ahhhs' and 'oohhs' of me and my fellow students when we were shown its capabilities. How far we have come since then! Last night I played with my Ti Voyage 200 and let it do some real difficult differentiations and integrations (BTW Valentin, if you listen: It can also do matrix square roots :- ) ).

So just keep asking 'silly' questions about things that we need to be reminded of now and then anyway.

Greetings, Max

NB: In the beginning, I thought that you were one of the regular contributors 'in disguise' who posed as the 'stupid Hungarian' just to wake up everybody else. I am still not fully convinced that this is not the case ;-)

*Edited: 24 Aug 2007, 11:59 a.m.*

### **Re: friendly advice for Vincze**

*Message #7 Posted by [Thor Lansen](#) on 24 Aug 2007, 4:21 p.m.,  
in response to message #2 by Vincze*

Do not leave, keep on posting, your enthusiasm reminds me of when I got 30 years ago my first (HP) love, an HP25C!

Regards, Thor

### **Re: friendly advice for Vincze**

*Message #8 Posted by [Giancarlo \(Italy\)](#) on 24 Aug 2007, 10:28 a.m.,  
in response to message #1 by Don Shepherd*

Why? Why? Why?

Now some "whys" are needed, definitely!

We do we lack that minimum amount of tolerance, sympathy, altruism?

In summary: why do we like so much to hurt ourselves and to spoil the friendly feeling that used to be there in this Forum?

Why?

Vincze, \*OUR\* friend, please revert your decision to leave!

Saddened regards.

Giancarlo

### **Re: friendly advice for Vincze**

*Message #9 Posted by [Bruce Bergman](#) on 24 Aug 2007, 11:18 a.m.,  
in response to message #8 by Giancarlo (Italy)*

G, I think we're still the same friendly forum as always... We welcome new folks and we try to help out almost everyone. New posters arrive all the time, and discussions are good, even when they're bad. ;-)

I've seen a lot of forums (not calc forums, mind you) that are very hostile places to exist, and which tend to be run by a bunch of power-hungry types. I don't see that here. Yes, there is the usual amount of techie ego at work, much to my dismay, but even that isn't as bad as other places on the net. I think we have a nice community here.

I have to agree, however, with some of the comments posted. One learns the ins-and-outs of every community by time spent listening and observing. Little mistakes and breeches of etiquette are common, but should serve as learning moments. Our intrepid newbie has a tendency to respond to almost every post, which can kind of wear some of us out. :-) And as someone else pointed out, hasn't searched through the archives to see if a question was already answered, or if someone else had the same comment, before posting.

I suspect the motivation for this thread was a "hey, here's a friendly tip" type of comment. The kind two adults can share while they are casually talking. No offense intended.

Certainly, no one is suggesting that Vincze leave the forums or anything like that. Some of his stuff is good food for thought and brings up useful discussion. If friendly words are offending in his culture, then there's not much we can do except ask him to reconsider. I would be glad to see Vincze stay and contribute meaningfully, and hopefully he'll take this to heart.

My \$0.02 anyhow.

thanks, bruce

## **Re: friendly advice for Vincze**

*Message #10 Posted by **Massimo Gnerucci (Italy)** on 24 Aug 2007, 11:18 a.m.,  
in response to message #8 by Giancarlo (Italy)*

Giancarlo, my friend ;)

I think that a considerable *amount of tolerance, sympathy, altruism* has been shown in the past weeks and don't see anything detracting from the usual *friendly feeling* in Don's post.

As Don and James have already pointed out some among us think that you should do a little homework before asking for help; their advices sound acceptable to me...

Vincze could have been bitten, and excited, by the *neophyte* bug: finding a place where our interests are shared. I don't think he should leave, of course, just read a little more refraining from replying each and every time... as we all did and many still do.

So please, Vincze, stay with us and enjoy the forum and the many different, funny, interesting people who make it what it is.

Greetings,  
Massimo

Edited for spelling errors

*Edited: 24 Aug 2007, 11:42 a.m. after one or more responses were posted*

## **Re: friendly advice for Vincze**



*Message #11 Posted by [bill platt](#) on 24 Aug 2007, 11:37 a.m.,  
in response to message #10 by Massimo Gnerucci (Italy)*

I have fond memories of my neophyte period here on this forum.

Looking back I am very grateful for the personal attention given me by many luminaries--Luiz, Raul Lion, Raymond D.T., Randy, Christoph, Hrastprogrammer, James Prange, and the list goes on...(whatever happened to VPN anyway...)

In time, Vincze will have the same sort of memories, like,'geez, that guy did even \*more\* than I ever knew, and he took the time to help little old \*me\*.' It is all part of the "pay forward" ethic of the old days of computing :-)

### **Re: friendly advice for Vincze**

*Message #12 Posted by [James M. Prange \(Michigan\)](#) on 24 Aug 2007, 11:56 a.m.,  
in response to message #11 by bill platt*

Quote:

\_\_\_\_\_  
(whatever happened to VPN anyway...)  
\_\_\_\_\_

I've wondered that too. He also seems to be absent from comp.sys.hp48 lately. I know that he's used various "handles" over the years, but I expect that I'd usually recognize his posts regardless of what name he used.

I hope that all is well with him.

Regards,  
James

### **Re: friendly advice for Vincze**

*Message #13 Posted by [Giancarlo \(Italy\)](#) on 24 Aug 2007, 11:50 a.m.,  
in response to message #10 by Massimo Gnerucci (Italy)*

Bruce, Massimo, my friends ;-)

of course I don't wanna act as the counsellor of anybody...

I must admit I reacted a bit too quick to Don's post - I apologise with him and with all of you for that. I just felt like some sentences stated something well beyond the helping attitude that is usual in our Forum.

Next time I'll be better off counting up to 100 before replying ;-)

However, I'd like to remark my attitude, that is proner to repeat things already repeated if there's even a possibility to help somebody to understand.

Maybe that was the major bias that drove my reply...

Sorry, and let's look forward :-)

Best regards.  
Giancarlo

### **Re: friendly advice for Vincze**

*Message #14 Posted by [bill platt](#) on 24 Aug 2007, 11:11 a.m.,  
in response to message #1 by Don Shepherd*

I think it is worth noting that some of the threads that V. started that may have seemed un-researched, lead to

very interesting results. Look for example at the derivation on 35s thread. Sure, if Vincze had had a manual, he might have known it to be impossible, but then there would have been no post, and no thread!

### **Re: friendly advice for Vincze**

*Message #15 Posted by **Walter B** on 24 Aug 2007, 11:44 a.m.,  
in response to message #14 by bill platt*

There are companies paying people to ask them dumb questions in regular intervals. The dumb questions shall bring the company to THINK again, also about some seemingly basic stuff everybody thinks (s)he knows by heart.

Of course, the questions must not be too dumb, or these people will be expelled. To assess their questions may need a lot of intelligence and research. Nevertheless, the best effect is reached if they sound really simple. Vincze, I wish you all the best to select the right questions for this forum, based on the necessary homework.

BTW: To ask such questions can become a profession. Those people are called auditors ;-)

### **Re: friendly advice for Vincze**

*Message #16 Posted by **Bruce Bergman** on 24 Aug 2007, 12:32 p.m.,  
in response to message #15 by Walter B*

Honestly, I don't think Vincze's questions were dumb in any way, shape or form. We've almost ALL asked the same questions. The difference is that we all asked them *previously*. :-) No, in fact, his questions are pertinent and useful.

I would not have even followed the derivative discussion, nor would have thought of it, unless someone started the discussion.

So in that regard, the result has been positive.

thanks, bruce

*Edited: 24 Aug 2007, 12:43 p.m.*

### **Re: friendly advice for Vincze**

*Message #17 Posted by **Walter B** on 24 Aug 2007, 4:47 p.m.,  
in response to message #16 by Bruce Bergman*

Bruce,

nor do I think Vincze asked stupid questions. However, I learned in this very forum some months ago that our (German?) sign for relativized "sayings" (you get it? Yes, the "!"!) is read as an amplification here by many members. So I had no other way but to trust in the intelligence of the readers ... ;-)

### **Re: friendly advice for Vincze**

*Message #18 Posted by **Thor Lansen** on 24 Aug 2007, 11:27 a.m.,  
in response to message #1 by Don Shepherd*

Quote:

\_\_\_\_\_

I am not the forum police

If looks like a duck, walks like a duck, quacks like a duck ...

### Re: friendly advice for Vincze

Message #19 Posted by **Howard Owen** on 24 Aug 2007, 12:58 p.m.,  
in response to message #1 by Don Shepherd

Given that there is a simpler remedy than trying to stifle a newcomer's enthusiasm - namely ignoring the posts you don't like - I think that this advice is off-base. I recognize that large number of forum members don't agree. I just wanted to register my opinion.

Some of us actually enjoy watching a newbie learn stuff we already know. I find that I often learn something new looking at old information through new eyes.

Regards,  
Howard

### Bits of knowledge... (was: friendly advice for Vincze)

Message #20 Posted by **Massimo Gnerucci (Italy)** on 24 Aug 2007, 1:09 p.m.,  
in response to message #19 by Howard Owen

Quote:

Given that there is a simpler remedy than trying to stifle a newcomer's enthusiasm - namely ignoring the posts you don't like (...)

True, but not so easy, since seldom the subject gets changed at all, and I often find useful bits of knowledge interspersed among unrelated threads... So I read everything gets posted here.  
Given this I do repeat: Vincze, please stay!

Greetings,  
Massimo

### Re: friendly advice for Vincze

Message #21 Posted by **Thor Lansen** on 24 Aug 2007, 1:16 p.m.,  
in response to message #19 by Howard Owen

Quote:

namely ignoring the posts you don't like

Some people just simply can't do that, I think it has something to do with having an anal retentive personality.

*Edited: 24 Aug 2007, 1:22 p.m.*

### Agree with Don: Vincze should follow his own advice

Message #22 Posted by **allen** on 24 Aug 2007, 8:05 p.m.,  
in response to message #1 by Don Shepherd

None of Vincze questions have been dumb- I have read and learned from the posts and hope they continue. Several days ago in [this](#) thread Vincze said he wanted his son to learn Math *before* learning calculators because:

Quote:

lazines brings struggle

The principle behind Vincze's lesson (with which I agree) is to learn the basics before learning the shortcuts. That takes time and hard work.

I think Don is suggesting that Vincze is more than welcome here, but he should follow his own advice to learn the basics from the manuals before taking shortcuts by posting questions here.

*Edited: 24 Aug 2007, 8:25 p.m.*

### **Re: friendly advice for Vincze**

*Message #23 Posted by [Will Hartung](#) on 25 Aug 2007, 3:07 a.m.,  
in response to message #1 by Don Shepherd*

I'm just gob smacked.

I was under the impression that folks here actually liked to talk about using these things, rather than just basking in how shiny and scratch free their latest ebay purchase was.

Vincze asked some very good questions, provided some nice content (his aviation stuff for example), and prompted very interesting discussion (The deg/rad discussion with H.MS thrown in is actually quite subtle, IMHO).

This forum gets pretty much zero traffic, at least compared to most every other place I visit. I'm curious how busy it was before the 35s came out, but I wasn't around then.

Things like email and web forums are fine for presenting information, but LOUSY for "communication". It's the lowest bandwidth mechanism we know. Then you throw in a language barrier, and it's just a disaster. People take written text very literally even though more times than most, it's not written that way. A phrase typed in a web forum can be interpreted completely different from the exact same phrase spoken to someone. But most folks "speak" to themselves when they type and think that "speech" gets mixed in with the text. And then they get confused why the other person doesn't "get it" when it's "obvious".

Vincze isn't spamming, he's on topic (best as I can tell, but then, apparently, he's not, is he?), and produces good content.

But I guess he rained on someones parade. Walked in to a room and the murmur just hushes to silence.

I'll take my leave. Now I know where not to go to ask a question regarding these things less I spoil the mood.

I can't abide a quiet room.

### **Re: friendly advice for Vincze**

*Message #24 Posted by [Reth](#) on 25 Aug 2007, 5:05 a.m.,  
in response to message #23 by Will Hartung*

I back up Don. There are such things like "common courtesy" and "common sense" which must be obeyed.  
reth

### **Re: friendly advice for Vincze (poll)**

*Message #25 Posted by **Walter B** on 25 Aug 2007, 9:36 a.m.,  
in response to message #23 by Will Hartung*

Hi, we're not in kindergarten anymore, so we ought to behave like grown ups. If I got the message correctly, there was some request here

**anyone shall ask questions in this forum only after this person has checked all other sources of information at hand.**

So this forum is meant to be the last exit before despair. Regardless of me sharing this opinion or not, can we agree on this as a preliminary rule? Since nothing else seems to help, I propose a poll. Everyone who is in favor of this tentative rule, please vote. Dave will then know whether this was the majority of the community or not.

HTH, Walter

*Edited: 25 Aug 2007, 9:36 a.m.*

### **Don't be an extremist...**

*Message #26 Posted by **Allen** on 25 Aug 2007, 10:10 a.m.,  
in response to message #25 by Walter B*

Quote:

\_\_\_\_\_

anyone shall ask questions in this forum only after this person has checked all other sources of information at hand.

\_\_\_\_\_

This isn't the point at all!! After resources are provided, It is reasonable to expect those seeking information to do **SOME** effort to find the answer by self-study.. it need not be an exhaustive search, nor a last-ditch effort, nor something regulated by policy.

It is not a common problem anyway in this forum, but I do think it is **very** clear, such as in these threads from PhysicsNerd: (1 ,2 ,3 and especially 4) when someone is making **ABSOLUTELY NO** effort to learn on their own given any reasonable amount of help/encouragement/hand-holding/spoon-feeding.

It is dissappointing, knowing that they have some of the best product manuals available and choose not to use them.

### **Re: friendly advice for Vincze (poll)**

*Message #27 Posted by **Thor Lansen** on 25 Aug 2007, 10:50 a.m.,  
in response to message #25 by Walter B*

Nay

### **Re: friendly advice for Vincze (poll)**

*Message #28 Posted by **Thomas Okken** on 25 Aug 2007, 11:51 a.m.,*

*in response to message #25 by Walter B*

What, a new rule? Just because one newcomer rubbed a few people the wrong way, got criticized, and then decided to leave?

Note that nobody **made** him leave. (Anything that drastic would be up to Dave Hicks, anyway.)

I don't see how there is any kind of problem here. My vote: **no**. If it ain't broke, don't fix it.

- Thomas

### **Re: friendly advice for Vincze (poll)**

*Message #29 Posted by **Walter B** on 26 Aug 2007, 6:03 p.m.,*

*in response to message #28 by Thomas Okken*

Well, the weekend is over now (at least in Europe), the poll stations were closed an hour ago, and I want to express my thanks to all voters. After careful counting under strict observation of some 40 HP calcs, here is the official result:

The community has unanimously rejected the "limiting questions" act.

I'm happy we do not need any complicated regulations for this forum, but can continue to run it as we know and appreciate it, some for years, some for weeks. Thanks, Dave!

*Edited: 26 Aug 2007, 6:04 p.m.*

### **Igen Nem több ezen téma!**

*Message #30 Posted by **Vincze** on 26 Aug 2007, 10:44 p.m.,*

*in response to message #29 by Walter B*

Igen Nem több ezen téma!

Yes, I say no more on this!

### **Nem tudok magyarul Vinze!**

*Message #31 Posted by **Doctor Bubu** on 27 Aug 2007, 3:57 a.m.,*

*in response to message #30 by Vincze*

So stay and stay in english ;-)

Greetings Juergen

### **Re: Nem tudok magyarul Vinze!**

*Message #32 Posted by **Vincze** on 27 Aug 2007, 9:44 a.m.,*

*in response to message #31 by Doctor Bubu*

Ha ha, you Hungarian almost worse than my English my friend.

### **Re: friendly advice for Vincze (poll) an emphatic NO**

*Message #33 Posted by **Jim Creybohm** on 25 Aug 2007, 2:12 p.m.,*

*in response to message #25 by Walter B*

What is "at hand"? The internet? Manuals? Textbooks?

Sorry. No sale here. Too many variables.

**Re: friendly advice for Vincze (poll) an emphatic NO**

*Message #34 Posted by **Walter B** on 25 Aug 2007, 3:11 p.m.,  
in response to message #33 by Jim Creybohm*

;:-)

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## HP Forum Archive 17

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### **A couple of thoughts from the new 35s' bonus video**

Message #1 Posted by [Giancarlo \(Italy\)](#) on 24 Aug 2007, 9:45 a.m.

Hi all.

I have just received my brand new 35s from Samson (all went well after some initial concerns and with some patience on my side :-)

I was just watching the bonus video that comes with the calculator (nothing more than the video we already could download

from HP site some weeks ago, recorded on a DVD) when I noticed a couple of things I'd like to share with you and have your thoughts about:

1 - one of the testimonials is Mark Olsen (Director, Program Management, frog design).

I thought they could have contributed to the design choices of the new calc, so I went to their website

(<http://www.frogdesign.com/>)

but I could not definitely find any reference either to HP as a customer of theirs or to their participation to the celebrating video....

Kinda strange or am I that "conspiracy-biased" ;-) ?

2 - in a brief section of the video, a guy using a 3-D drawing software is showed; he's rotating what seems to be sort of "clamshell" device -

please see these pictures:

[Frame #1](#) [Frame #2](#) [Frame #3](#) [Frame #4](#)

Do you think it's one of those "fake performances" usually made when an institutional video is being shot or is it a clue to anything ?

Thank you in advance for your enduring patience with my "Sherlock Holmes' rants" ;-) and for any feedbacks.

Best regards.

Giancarlo

### **Re: A couple of thoughts from the new 35s' bonus video**

Message #2 Posted by [Walter B](#) on 24 Aug 2007, 10:40 a.m.,

in response to message #1 by [Giancarlo \(Italy\)](#)

Buona sera, Giancarlo,

my answers to your questions are:

1 - I know companies which do not want to be mentioned as a reference on a website. Maybe applies here, too. The bonus video is shipped to customers only (well, not really, because it was published here, but perhaps the marketing guys thought it for a somewhat limited audience?).

2 - Probability is almost 100% that's a dummy model.

HTH



**Re: A couple of thoughts from the new 35s' bonus video**

Message #3 Posted by [Dave Hicks](#) on 24 Aug 2007, 11:40 a.m.,  
in response to message #1 by [Giancarlo \(Italy\)](#)

#1 Frog lists HP on their clients page. That page isn't complete though. I can think of two companies they've worked for that aren't listed there.

#2 I made a similar comment before they filmed it and based on their reactions, I couldn't tell whether they were thinking "Uh oh!" or "Hah! They're all going to be fooled!" ;-)

**Re: A couple of thoughts from the new 35s' bonus video**

Message #4 Posted by [Giancarlo \(Italy\)](#) on 24 Aug 2007, 11:55 a.m.,  
in response to message #3 by [Dave Hicks](#)

Hi Dave.

Quote:

\_\_\_\_\_  
#1 Frog lists HP on their clients page  
\_\_\_\_\_

You're right, and even twice:

HP Strategic Design Relationship (Consumer Software category)  
HP Halo Video Conferencing User Interface (Communications category)

Do anyone of those two refers to the HP video? Thanks for pointing that out.

Best regards.

Giancarlo

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### 71B case question

Message #1 Posted by [Vincze](#) on 24 Aug 2007, 8:52 a.m.

The 71B that I purchased is on its way but it is minus a case for it. Will 48gx soft case fit it? I am not sure of true size of 71B, so if you are familiar with 71B and 48gx please let me know (or of any other case that may fit it).

### Re: 71B case question

Message #2 Posted by [Dave Johnson](#) on 24 Aug 2007, 9:33 a.m.,  
in response to message #1 by Vincze

No, the 71B had its own case, a large version of the style used in the Woodstock series

### Re: 71B case question

Message #3 Posted by [James M. Prange \(Michigan\)](#) on 24 Aug 2007, 11:27 a.m.,  
in response to message #1 by Vincze

Note that <http://www.hpmuseum.org/hp71.htm> lists the 71B dimensions as 7.8" x 3.9" x 1", and <http://www.hpmuseum.org/dim48.htm> lists the 48 series dimensions as 7.1" x 3.2" x 1.1", so it seems that a 48 series case would be too narrow for a 71B.

For at least the current models, the dimensions can be found on HP's own site.

If you can find a model with all dimensions the same or slightly larger than the 71B's, then its case ought to work.

### Re: 71B case question

Message #4 Posted by [Maximilian Hohmann](#) on 24 Aug 2007, 12:42 p.m.,  
in response to message #3 by James M. Prange (Michigan)

Hello!

Quote:

\_\_\_\_\_

If you can find a model with all dimensions the same or slightly larger than the 71B's, then its case ought to work.

\_\_\_\_\_

I don't think that there is an hp calcaultor that resembles the 71B in size even closely... The unusually sized 19C is still smaller (and harder to find than the 71 anyway), even the 200 LX is smaller!, and the 75 and 91/92/97 are much larger.

The only calculator that I can think about now that is about the size of the 71 is the Psion Series V palmtop. There are quite a few third-party pouches for Psions to chose from, but I would try it first in the shop.

Greetings, Max

BTW: I have the same problem with my 75C - no case and a very, very unusual size!

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### I don't believe. :-)

Message #1 Posted by [gileno](#) on 24 Aug 2007, 7:16 a.m.

Exists people with a lot of luck :-)

[Link Ebay](#)

### Re: I don't believe. :-)

Message #2 Posted by [Howard Owen](#) on 24 Aug 2007, 7:39 a.m.,  
in response to message #1 by gileno

Wow!

Regards,  
Howard

### Re: I don't believe. :-)

Message #3 Posted by [Thomas Radtke](#) on 24 Aug 2007, 8:58 a.m.,  
in response to message #1 by gileno

Never saw something like that on german ebay. OTOH, I got an Heathkit OC-1401 for 20EUR some time ago, like new...and that was a real auction! :-).

### Re: I don't believe. :-)

Message #4 Posted by [Stefan Vorkoetter](#) on 24 Aug 2007, 9:16 a.m.,  
in response to message #1 by gileno

I bet it was a mistake and that the buy-it-now price should have been \$99.00, not \$0.99.

Stefan

### Re: I don't believe. :-)

Message #5 Posted by [Vincze](#) on 24 Aug 2007, 9:18 a.m.,  
in response to message #1 by gileno

Oh geez... why can't I have that kind of luck.

I have feeling buyer going to have hard time getting the calc for that price even though they win it.

### Re: I don't believe. :-)

Message #6 Posted by [Robissimo](#) on 24 Aug 2007, 11:40 a.m.,  
in response to message #5 by Vincze

Hi, yes I did feel very lucky until I received an email this morning:

"I respectfully ask you release me from my obligation to complete this auction. It was supposed to be listed as an auction and I mistakenly listed as a Fixed Price. I am selling this for a friend and he is expecting a lot more than 99 cents. "

Oh well easy come, easy go...

**Re: I don't believe. :-)**

Message #7 Posted by **Gerson W. Barbosa** on 24 Aug 2007, 10:46 p.m.,  
in response to message #6 by Robissimo

Quote:

Oh well easy come, easy go...

You did the right thing. I wish you are lucky again, although all this publicity may have spoiled it all. So far, still 99 cents:

[link to that item in TAS \(That Auction Site\)](#)

Regards,

Gerson.

*Edited: 24 Aug 2007, 10:48 p.m.*

**Re: I don't believe. :-)**

Message #8 Posted by **Hal Bitton in Boise** on 24 Aug 2007, 9:47 a.m.,  
in response to message #1 by gileno

Quote:

I Plugged in converter (without batteries) and the calculator did not turn on.

Where, pray tell, on a 41CX, did he manage to connect the AC adapter with no battery pack installed? (I'm almost afraid to ask).

Hal :/

**Re: I don't believe. :-)**

Message #9 Posted by **Wayne Brown** on 24 Aug 2007, 10:11 p.m.,  
in response to message #8 by Hal Bitton in Boise

If he plugged it into the charger port without a battery pack, there would have been nothing to make an electrical connection. So it's not surprising that the calculator did not turn on.

**Re: I don't believe. :-)**

Message #10 Posted by **Thor Lansen** on 24 Aug 2007, 11:40 a.m.,  
in response to message #1 by gileno

I am surprised Coburlin did not see it first

**Re: I don't believe. :-)**

*Message #11 Posted by [Bruce Bergman](#) on 24 Aug 2007, 12:39 p.m.,  
in response to message #10 by Thor Lansen*

I was thinking the same thing. I saw an auction he had last week for a ridiculous amount for one calc. It was shocking.

You know, what amazes me most about his auctions is not that he's bold, or that he privately contacts sellers to consummate a deal before anyone else can get it (low balling it in the process). What bugs me about his auctions is that he jacks up the selling prices **SO HIGH** that they are almost, literally, unbelievable.

He probably reasons (maybe even rightly so) that if he waits long enough, some poor shmuck will come by and pay it, but that's really preying on those who don't know any better. It's what scam artists do to other people, but I don't know that we could quite classify him as a scam artist just yet. He's CLOSE, though. :-)

thanks, bruce

**Re: I don't believe. :-)**

*Message #12 Posted by [Bruce Bergman](#) on 24 Aug 2007, 12:41 p.m.,  
in response to message #10 by Thor Lansen*

Ethical debate:

If this exact item was up originally, under the same conditions, would a "Couburlin" buyer let the seller out of the transaction once the seller realized their mistake? Or would a "Couburlin" buyer take advantage of the situation and make the seller complete it under the terms specified?

thanks, bruce

**Re: I don't believe. :-)**

*Message #13 Posted by [Robissimo](#) on 24 Aug 2007, 12:44 p.m.,  
in response to message #12 by Bruce Bergman*

By definition a "couburlin" buyer would take advantage of the situation and hold the seller to the terms of the auction!

**Re: I don't believe. :-)**

*Message #14 Posted by [Howard Owen](#) on 24 Aug 2007, 1:07 p.m.,  
in response to message #13 by Robissimo*

Good on you for not acting like that, Robissimo, though I know it must have been painful!

Regards,  
Howard

**Re: I don't believe. :-)**

*Message #15 Posted by [Howard Owen](#) on 24 Aug 2007, 1:05 p.m.,  
in response to message #12 by Bruce Bergman*

Practically, the seller could return the funds and refuse to sell. Negative feedback could be appealed to eBay with a fair chance of being reversed. Even if it stood, an explanation of the circumstances in reply would likely satisfy anyone looking at the feedback later.

Regards,  
Howard

**Re: I don't believe. :-)**

*Message #16 Posted by **Wayne Brown** on 24 Aug 2007, 10:15 p.m.,  
in response to message #15 by Howard Owen*

Regardless of how it might have turned out, I think it was very gentlemanly of Robissimo to accede to the seller's wishes gracefully.

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### **A couple of neat sites...**

Message #1 Posted by [Anthony L. Mach](#) on 24 Aug 2007, 2:56 a.m.

Hello all,

I found a couple of sites in my search to find out more about my "Jimmy the Greek" calculator and blackjack machine (Unisonic 21 desktop). Don't know if anyone posted these in the past, but here goes:

<http://www.vintage-technology.info/index.html> Click on calculators

<http://www.handheldmuseum.com/>

I'm doing this "tongue in cheek" here so I don't get too off topic.

Tony

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## HP Forum Archive 17

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**HP 42s resurrection—so simple!**

Message #1 Posted by [John Dagis](#) on 23 Aug 2007, 9:46 p.m.

My 42s had two keys die recently—the number 2 key and the exit key. I had to remove the batteries and short out the terminals to get it going, but the two dead keys still didn't work. I also lost all the data I'd programmed in when I shorted out the terminals.

After numerous attempts to revive my old faithful of fifteen years, I sent an email to fixthatcalc to see if it could be repaired. They replied that it couldn't be fixed because of the keys not operating.

I bought the latest HP50G calculator to replace it, but was not impressed with the extra keystrokes I had to do for simple operations, compared to the 42s. I really wanted my old 42s back, so bought a HP17BII (pioneer body) on ebay, to swap the keypad mechanisms over.

While waiting for the 17BII to arrive, I bought a spray can of solvent based cleaner/lubricant for switches, and sprayed in the gap around the faulty keys of the 42s, and voila!! it started up straight away, passed the self test and is still operating nicely today. If I had have known this, I wouldn't have shorted out the terminals and lost all my data.

Hopefully some of you who have faulty 42s calcs can revive them by this method—I'm still grinning, and quite happy to spray some more lubricant in if it stops again.

john dagis Australia

**Re: HP 42s resurrection—so simple!**

Message #2 Posted by [Dave Colver](#) on 24 Aug 2007, 7:10 a.m.,  
in response to message #1 by John Dagis

I used isopropanol alcohol (probably similar to your switch cleaner) on an unreliable ON key on a 41C a little wiggling of the button and it worked.

I suspect this wouldnt work for keyboards with a plastic sheet under the keys though.

Well done! :)

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## HP Forum Archive 17

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**Did it...**

Message #1 Posted by [Arne Halvorsen \(Norway\)](#) on 23 Aug 2007, 5:51 p.m.

That big enter key, the good US\$ exchange rate, not in local shops until next year... Did my credit card stand a chance? Nop... Just ordered the hp35s from these Samson guys...

Well with any luck in the near future I will be a live one, not only one with a couple of dead hps somewhere...

*Edited: 23 Aug 2007, 5:53 p.m.*

**Re: Did it...**

Message #2 Posted by [Giancarlo \(Italy\)](#) on 24 Aug 2007, 3:03 a.m.,  
in response to message #1 by [Arne Halvorsen \(Norway\)](#)

Hi Arne.

I think you did the right thing.

I myself received my 35S just yesterday (well, the packet was waiting on my office desk for me to come back from my summer holidays :-)

Don't wanna repeat things already said and repeated, but the first sight of the calc was enough to be fully satisfied with the purchase from Samson Cables.

On my side it took some patience (easy one: I was in no particular hurry as my 50G and my emulator(s) are running great :-); on their side there was enough assistance and feedback not to be worried, so...

All in all,

Quote:

\_\_\_\_\_

the good US\$ exchange rate

\_\_\_\_\_

allowed me to play with the 35S for less than 60 EUR - quite a good bargain, IMO.

Hope you'll enjoy your new "jewel" ASAP.

Best regards.

Giancarlo

**Re: Did it...**

Message #3 Posted by [Arne Halvorsen \(Norway\)](#) on 24 Aug 2007, 4:03 a.m.,  
in response to message #2 by [Giancarlo \(Italy\)](#)

Thanks, good to hear from some that had good experience with company I now have trusted with my credit card ...:-)

One reasons I decided to place order with them was I asked them some questions on email, and got fast and good answers back, so gave good impression...

**Re: Did it...**

*Message #4 Posted by [Walter B](#) on 24 Aug 2007, 4:21 a.m.,  
in response to message #3 by Arne Halvorsen (Norway)*

I'd like to second Giancarlo. After all, [they delivered a cute HP35s to me for a very reasonable amount of money:](#))

**Re: Did it...**

*Message #5 Posted by [Vincze](#) on 24 Aug 2007, 8:35 a.m.,  
in response to message #2 by Giancarlo (Italy)*

My friend Giancarlo, you say 50G emulator. Where does one find link for this as I would like to see how it work.

**Re: Did it...**

*Message #6 Posted by [James M. Prange \(Michigan\)](#) on 24 Aug 2007, 9:04 a.m.,  
in response to message #5 by Vincze*

Hi Vincze,

I'm not Giancarlo, but emulators for, if I recall correctly, the 48G, 49G, 48gII, 49g+, and 50g are included with Debug4x. Well, properly speaking, perhaps only one emulator, but with ROMs and .KML files (which define the keyboard and appearance) for all of them.

A limitation for the emulators for the 48gII, 49g+, and 50g is that it's the hardware Saturn processor that's emulated, not the underlying ARM processor, so they can't use the new assembly language instructions, or invoke any ARM processor operations. But as long as you stick to UserRPL, SysRPL, or legacy hardware Saturn code, they should give you a good idea of how the actual calculators work.

See <http://www.debug4x.com/>.

Regards,  
James

**Re: Did it...**

*Message #7 Posted by [Vincze](#) on 24 Aug 2007, 9:20 a.m.,  
in response to message #6 by James M. Prange (Michigan)*

Thank you my friend!

**Re: Did it...**

*Message #8 Posted by [Giancarlo \(Italy\)](#) on 24 Aug 2007, 9:50 a.m.,  
in response to message #6 by James M. Prange (Michigan)*

Hi Vincze.

In addition to what James already suggested, you may want to try these Educalc resources:

[HP All-in-1 Graphing Calculator Emulator: HP 38G, HP 48G and HP 39G, HP 49G, HP 50G](#)

[HP 3-in-1 Graphing Calculator Emulator: HP 39GS, HP 40gs and HP 50G](#)

Hope this helps.  
Best regards.  
Giancarlo

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## HP Forum Archive 17

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**50g keyboard oddity**

Message #1 Posted by [joan cardenas](#) on 23 Aug 2007, 5:35 p.m.

Hello,

Probably is a well known behaviour but i've notice a couple of things about the "improved" 50g's keyboard:

1. Very easy to slowly depress a key and miss the register. 2. While the key is down, if you keep pressing it you get multiple registers.

Saddly enough I've been testing this in all the rest Hp's and any of them behaves in that way. Even that blue thing can do it better, and the bloody 33s much better!

Probably is a boring question..but any theories ?

NaCIU2.

**Re: 50g keyboard oddity**

Message #2 Posted by [Bruce Bergman](#) on 23 Aug 2007, 5:45 p.m.,  
in response to message #1 by joan cardenas

I don't have my HP-50g here at work to try it out, but I don't ever remember having this problem. The default KEYTIME value is pretty high, and I've always set it lower (about 2000), so that might help.

Honestly, sounds like maybe you just got a bad unit.

I'll try mine when I get home tonight.

thanks, bruce

**Re: 50g keyboard oddity**

Message #3 Posted by [Tim Wessman](#) on 23 Aug 2007, 9:43 p.m.,  
in response to message #2 by Bruce Bergman

2000? That is very high. If i remember right the default is like 1260 or something.

I have hundred of people using my surveying device which sets it to 360 (convenient built in sysRPL number) and nobody's ever complained.

TW

**Re: 50g keyboard oddity**

Message #4 Posted by [Bruce Bergman](#) on 23 Aug 2007, 9:54 p.m.,  
in response to message #3 by Tim Wessman

Hey Tim --

Yeah, I think you're right. It sounded right when I didn't have it at hand, but I could be wrong. I'll check in a bit.

thanks, bruce

**Re: 50g keyboard oddity**

*Message #5 Posted by [dbatiz](#) on 23 Aug 2007, 6:38 p.m.,  
in response to message #1 by joan cardenas*

You are absolutely right. Mine does the same. And my backspace key feels dull and needs a little extra push.

If I have it sitting flat on a desk, I get reliable results. If I'm holding it in my hand, I need to be mindful and check my entries often,

Very respectfully,

David

**Re: 50g keyboard oddity**

*Message #6 Posted by [papaknush](#) on 23 Aug 2007, 7:03 p.m.,  
in response to message #5 by dbatiz*

I have my keytime set at 500 and haven't had a problem in using the 50g normally.

**Re: 50g keyboard oddity**

*Message #7 Posted by [Jeff Kearns](#) on 23 Aug 2007, 9:10 p.m.,  
in response to message #1 by joan cardenas*

What is your current KEYTIME? Try setting it to 512 TICKS or 1/16th of a second and see if you still have the problem. If you need help for KEYTIME, let us know.

**Re: 50g keyboard oddity**

*Message #8 Posted by [Bruce Bergman](#) on 23 Aug 2007, 10:15 p.m.,  
in response to message #1 by joan cardenas*

Okay, my KEYTIME is 400. Shows you what I remember. ;-)

Interestingly enough, I don't see the problems you mentioned. If I go as slow as I can, I still get the key pressed. Granted, in a couple of the cases, it seemed like there was a bit of a delay, but it showed up nonetheless. I tried number keys and function keys.

Which key(s) did you get this behavior on? And exactly how slow WERE you pushing it? ;-)

Also, I didn't get the multiple keypress problem either...

thanks, bruce

**Re: 50g keyboard oddity**

*Message #9 Posted by [joan cardenas](#) on 24 Aug 2007, 4:16 a.m.,*

*in response to message #8 by Bruce Bergman*

My Keytime is 250, but I think this has nothing to do with the problem. When I say I can get multiple registers I mean that leaving the key down and pressing it harder and without releasing it pressing harder again you can get the many registers you want. That doesn't happen in any other hp's I've test.

And what I want to mean when I say slow is when trying to feel when the dome is down very carefully, apparently in some cases the dome or something else need an extra pressure to reach the "contact", you know what I mean.

I've been using the unit for a while and in normal use the keyboard is reliable and it doesn't miss any keystroke, but I find the mentioned behaviour a bit odd.

Best regards.

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## HP Forum Archive 17

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### Derivative on 35s

Message #1 Posted by [Vincze](#) on 23 Aug 2007, 2:16 p.m.

I know on HP 48gx, it fairly easy to find derivative of an equation where the slope equal 0 and determine if it the low point of curve or high point of curve. I know how to do manually, with chain rule, set to zero and solve, but is there easy way to have 35s do this?

### Re: Derivative on 35s

Message #2 Posted by [Peter Niessen](#) on 23 Aug 2007, 2:56 p.m.,  
in response to message #1 by Vincze

Doesn't the SOLVE set a flag when it hits a minimum/maximum instead of a root?

### Re: Derivative on 35s

Message #3 Posted by [Vincze](#) on 23 Aug 2007, 3:11 p.m.,  
in response to message #2 by Peter Niessen

I don't know. Are you saying, let it iterate until it hit zero?

### Re: Derivative on 35s

Message #4 Posted by [Peter Niessen](#) on 23 Aug 2007, 5:23 p.m.,  
in response to message #2 by Peter Niessen

Try solving for the root of, e.g.  $(x-2)^2+1$ :

```
LBL F
RCL X
2
-
x^2
1+
RTN
```

then

```
FN=F
SOLVE X
```

will give you "NO ROOT FOUND", but a 2 in the display.

Of course, as soon as your function has a root, this method will not work.

You probably could do (limited) symbolic derivatives using RPN, using the indirect array, since differentiating in RPN is easier than in ALG:

e.g.  $x^2$

```
X x^2
```



can be diff'd by replacing  $x^2$  by  $2 *$ .

Addition and subtraction just stays the same (+ and -).

Product rule is a bit more advanced: You have to replace

$X Y *$

by

$X Y' * X' Y * +$

and have to evaluate  $X'$ ,  $Y'$  by recursion.

All what's left is to find a suitable representation of the symbols as numbers in the indirect registers, but that's a triviality :-)

Cheers, Peter.

*Edited: 23 Aug 2007, 5:24 p.m.*

### Re: Derivative on 35s

Message #5 Posted by [Gene Wright](#) on 23 Aug 2007, 3:15 p.m.,  
in response to message #1 by Vincze

Yes, but unfortunately, you have to put the derivative formula in the solver and solve for zero. :-)

### Re: Derivative on 35s

Message #6 Posted by [Vincze](#) on 23 Aug 2007, 3:40 p.m.,  
in response to message #5 by Gene Wright

So if  $dy/dx = 3x^3 + 4.2x^2 - 15$ , find  $9x^2 + 8.4x$  and then set to 0 or  $9x^2 + 8.4x = 0$ , and just enter that in solver? That easy enough...duh :) Been long week I guess.

What if you had a complex equation that not as simple as one above though, is there easy way to differentiate it and solve? Something like:

$$dy/dx = (\sqrt{(43x^3/52x+5)} * 654.2^2 - 54/458) / \sqrt{(675^2+98)}$$

### Re: Derivative on 35s

Message #7 Posted by [Gene Wright](#) on 23 Aug 2007, 3:54 p.m.,  
in response to message #6 by Vincze

If you can express the derivative as an equation on the 35s, then you can solve for a zero.

### Re: Derivative on 35s

Message #8 Posted by [Vincze](#) on 23 Aug 2007, 4:26 p.m.,  
in response to message #7 by Gene Wright

No, I think you nem understand what I asking. Let me think about how to explain this better.

Only reason that we set to zero, is to find out if it minimum point or maximum point on curve. We must find 1st derivative first. Solving for zero is very easy, and I understand, but sometime finding first derivative is not so easy. Is there way that 35s can do that? Such as if I type in  $3x^3+4.2x^2 - 15$  it find  $9x^2+8.4x$  is first derivative. Or if I type in  $(\sqrt{43x^3/52x+5}) * 654.2^2 - 54/458 / \sqrt{675^2+98}$  it tell me what 1st derivative is. It should return a formula, not a value. I guess I asking if it can differentiate.

### Re: Derivative on 35s

Message #9 Posted by [Gene Wright](#) on 23 Aug 2007, 4:28 p.m.,  
in response to message #8 by Vincze

It cannot symbolically differentiate like you suggest. The graphing models with a CAS can, but not the 35s.

### Re: Derivative on 35s

Message #10 Posted by [Vincze](#) on 23 Aug 2007, 4:37 p.m.,  
in response to message #9 by Gene Wright

That not answer I was wish for my friend. :( Well, I have 48gx that can do it I guess, but I rather leave that calculator at home. I wonder how hard it would be to write program to differentiate? It would have to ask for variable you wish to differentiate. Hmmm, I must think about. I have feeling though it would not be easy to symbolically manipulate equation.

I wonder if our friend Valentin could do? He probably say I eat too much paprika and it going to my head and rusting brain cells.

### Re: Derivative on 35s

Message #11 Posted by [Dave Shaffer \(Arizona\)](#) on 23 Aug 2007, 4:41 p.m.,  
in response to message #10 by Vincze

You can always calculate the derivative numerically:

evaluate  $[f(x+dx) - f(x)]/dx$

You may have to play with the size of dx, and there may be unstable regions, of course - just as we learned in Calc I .

### Re: Derivative on 35s

Message #12 Posted by [Vincze](#) on 23 Aug 2007, 4:51 p.m.,  
in response to message #11 by Dave Shaffer (Arizona)

Yes, but how would you do that on the 35s? I do not have my manual with me (Gene, when we going to have PDF of manual?) Honestly though, I prefer symbolic result as it show me more.

### Re: Derivative on 35s

Message #13 Posted by [Stefan Vorkoetter](#) on 23 Aug 2007, 5:18 p.m.,  
in response to message #12 by Vincze

Quote:

---

Yes, but how would you do that on the 35s? I do not have my manual with me (Gene, when we going to have PDF of manual?) Honestly though, I prefer symbolic result as it show me more.

Then the HP 35s isn't the calculator you want. The 35s is purely numeric.

Stefan

## Re: Derivative on 35s

Message #14 Posted by [Stefan Vorkoetter](#) on 23 Aug 2007, 5:16 p.m.,  
in response to message #11 by [Dave Shaffer](#) (Arizona)

You can use this in conjunction with the solver then, solving a program instead of an equation. For example, to find the minimum/maximum of  $3*x^2+2*x+1$ .

```
F001 LBL F
F002 EQN 3*X^2+2*X+1
F003 RTN
```

```
D001 LBL D
D002 RCL D
D003 STO+ X
D004 XEQ F001
D005 x<>y
D006 STO- X
D007 x<>y
D008 XEQ F
D009 -
D010 RCL/ D
D011 RTN
```

Program F implements the function you want to find the minimum/maximum of.

Program D computes  $F'(x)$  using the approximation  $(F(x+dx)-F(x))/dx$ , where you pre-specify  $dx$  in register D.

Now use SOLVE:

```
FN= D
0.001
STO D
SOLVE X
```

This yields  $X=-0.3338$ .

You can now easily determine  $F(X)$  by just pressing:

```
XEQ F
```

Which yields  $F(X)$  is 0.6667.

Checking this symbolically, the derivative is  $6x + 2$ , which is 0 for  $x=-1/3$ .

The difference in the answer is due to the approximation to the derivative. Using a smaller value in D will result in a more precise answer.

Stefan

## Re: Derivative on 35s

Message #15 Posted by **Dave Shaffer (Arizona)** on 23 Aug 2007, 6:25 p.m.,  
in response to message #14 by Stefan Vorkoetter

Very slick. Thanks for implementing my suggestion!

### Re: Derivative on 35s

Message #16 Posted by **Vincze** on 24 Aug 2007, 8:30 a.m.,  
in response to message #14 by Stefan Vorkoetter

That work to show you values, but in business you need to see the curve (or understand it). This used many time to solve for profit maximization of cost minimization curve. Your example yes tell me where point is (0.3338), and it also tell me that it is cost minimization curve from value 0.6667 which positive which mean that curve is increasing after zero.

I guess that could work if you need value. Okay, I was just hoping it could show symbolically some how too.

What I don't understand though is your formula. Any you can explain steps in D program.

### Re: Derivative on 35s

Message #17 Posted by **Peter Niessen** on 24 Aug 2007, 9:18 a.m.,  
in response to message #16 by Vincze

Hi Vincze,

in the good old days, one would take a piece of paper, write down the registers

```
T
-----
Z
-----
Y
-----
X
-----
```

and the variables

```
D
-----
X
```

and fill in the values they assume after each program step. I hope you will find this instructive. Best of all, you can do it yourself immediately and don't have to wait for a reply from some forum.

Cheers, Peter.

*Edited: 24 Aug 2007, 9:18 a.m.*

### Re: Derivative on 35s

Message #18 Posted by **Vincze** on 24 Aug 2007, 9:45 a.m.,  
in response to message #17 by Peter Niessen

That very good tip, thank you my friend. I have question about two steps though. What is difference between D004 and D008? Do they not do same thing? If I understand correctly, after you hit SOLVE X, it go to line D001, which run through D program and call F program on line D004 and line D008?

*Edited: 24 Aug 2007, 9:47 a.m.*

### Re: Derivative on 35s

*Message #19 Posted by [Howard Owen](#) on 24 Aug 2007, 1:47 p.m., in response to message #18 by Vincze*

If you key that into an HP35s, the D008 line will become 'XEQ F001' so yes, they are identical.

Regards,  
Howard

### Re: Derivative on 35s

*Message #20 Posted by [Stefan Vorkoetter](#) on 24 Aug 2007, 9:35 a.m., in response to message #16 by Vincze*

The fact that  $F(x) > 0$  where  $F'(x) = 0$  doesn't mean that  $F(x)$  is increasing after zero.

Consider the curve,  $G(x) = -3x^2 - 2x + 1$ .  $G'(x) = 0$  at  $x = -1/3$ ,  $G(-1/3) = 4/3$ . Here too  $G(x) > 0$  where  $G'(x) = 0$ , yet  $G(x)$  decreases to either side of this point.

As far as the D program goes, here it is with comments:

```
D001 LBL D
D002 RCL D
D003 STO+ X                // add value of D to value in X
D004 XEQ F001             // compute F(x+D)
D005 x<>y                 // bring D back into the x stack
register
D006 STO- X              // subtract from value in X to restore x
D007 x<>y                 // bring F(x+D) back into x stack
register
D008 XEQ F               // compute F(x)
D009 -                   // compute F(x+D) - F(x)
D010 RCL/ D              // compute (F(x+D) - F(x)) / D
D011 RTN
```

This could probably be made shorter, but I didn't want to make it too unclear.

Stefan

### Re: Derivative on 35s

*Message #21 Posted by [Vincze](#) on 24 Aug 2007, 9:52 a.m., in response to message #20 by Stefan Vorkoetter*

Thank you my friend, this very interesting. I find it fascinating how effortlessly you conceptualize what calculator need to do and how calculator work. I still struggle with that.

Quote:

---

The fact that  $F(x) > 0$  where  $F'(x) = 0$  doesn't mean that  $F(x)$  is increasing after zero.

---

I beg to differ my friend. When you set to zero and solve if you get positive, it mean you find minimum point on curve, and if you find negative, it mean maximum point on curve. At least that how we learn in Hungary, but result is still the same

In your examples if you plot out you will see. In first example, we get positive result when we solve for  $x$  when set to zero and the plot show curve going up after point where  $x=0$ . In second example, when we set to zero and solve for  $x$ , we get negative number. When we plot, you see that curve going down after point where  $x=0$ .

Regardless of this minor error in analyzing result, your program is very good and I kindly thank you!

*Edited: 24 Aug 2007, 10:04 a.m.*

### Re: Derivative on 35s

*Message #22 Posted by [Alain Mellan](#) on 24 Aug 2007, 10:06 a.m., in response to message #21 by Vincze*

As a good exercise: modify the program above to compute  $(F(x+d)-F(x-d))/2d$

Numerical Recipes says it has better accuracy than  $(F(x+d)-F(x))/d$

*Edited: 24 Aug 2007, 10:06 a.m.*

### Re: Derivative on 35s

*Message #23 Posted by [Stefan Vorkoetter](#) on 24 Aug 2007, 10:54 a.m., in response to message #22 by Alain Mellan*

Tried that, and you're right, it works better. Intuitively this makes sense, because you're estimating the derivative based on two points on either side of  $x$ , instead of  $x$  and a point further along.

I had to add a fair bit of extra code to D to make it work though. Unfortunately, the routine one passes to SOLVE isn't allowed to mess up the value of the register one is solving for, hence there's code that has to put it back the way it was. The revised D program is:

```
LBL D
RCL D
STO+ X
XEQ F           // compute F(x+D)
X<>Y
ENTER          // compute 2D
+
STO- X
X<>Y
```

```

XEQ F      // compute F(x-D)
-
x<>y      // setup to divide by 2D
+
RCL D      // restore X to original x value
STO+ X
x<>y      // leave (F(x+D)-F(x-D))/2D on stack
RTN

```

Stefan

*Edited: 24 Aug 2007, 11:00 a.m.*

## Re: Derivative on 35s

Message #24 Posted by [Stefan Vorkoetter](#) on 24 Aug 2007, 10:37 a.m.,

in response to message #21 by Vincze

Sorry, but you are mistaken. The following output is from the text version of Maple:

```

> g := -3*x^2-2*x+1;
           2
      g := -3 x  - 2 x + 1

> g1 := diff(g,x);
      g1 := -6 x - 2

> solve(g1=0,x);
      -1/3

> subs(x=-1/3,g);
      4/3

> plot(g,x=-1..0.4);

```

```

          AAAA      +
         AAA      AAA +
        AA        AA +1.2
       AA         A +
      A           A+
     AA          *
    A            +1
   AA           +AA
  A             + AA
 AA            +0.8
 AA           + A
 A            + A
 AA           +0.6 A
 A            + A
 AA           + A
 A            +0.4 A
 A            + A
 A            + AA
 A            +0.2 A
 A            + A
 A            + A
*+++++*+-----+*+*+
+ AA
-1 -0.8 -0.6 -0.4 -0.2 + 0.2 0.4
+ A
+ -0.2 A
+ A

```

The sign of  $G(x)$  for the value of  $x$  at which  $G'(x) = 0$  has nothing to do with whether  $x$  is the location of a minimum or a maximum.

Stefan

**Re: Derivative on 35s**

*Message #25 Posted by **Pal G.** on 24 Aug 2007, 2:06 p.m.,  
in response to message #24 by Stefan Vorkoetter*

If I lean back and squint, it looks like the display on my hp 50g.

Cheers, Pal

**Re: Derivative on 35s**

*Message #26 Posted by **Dave Shaffer (Arizona)** on 24 Aug 2007,  
6:28 p.m.,  
in response to message #24 by Stefan Vorkoetter*

Quote:

\_\_\_\_\_

The sign of  $G(x)$  for the value of  $x$  at which  $G'(x) = 0$   
has nothing to do with whether  $x$  is the location of a  
minimum or a maximum

\_\_\_\_\_

That's right. You have to either look at the curve, or,  
mathematically equivalently, take the second derivative and look  
at its sign.

---

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## HP Forum Archive 17

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**UNDOing Program deletion**

Message #1 Posted by [Chuck](#) on 23 Aug 2007, 1:29 p.m.

I perused the manual but I don't think it specifically says this (although it may be in there somewhere). Experimenting with the UNDO key, I discovered that if you CLEAR a program label in MEM (ie. delete a program) the UNDO key will retrieve the program. The manual states it can UNDO a line of program, register, equation, or cleared value, but not specifically an entire program. FYI.

Chuck

**Re: UNDOing Program deletion**

Message #2 Posted by [Bruce Bergman](#) on 23 Aug 2007, 1:34 p.m.,  
in response to message #1 by Chuck

Whoa! If that's true, that's a big plus! Great find.

thanks, bruce

**Re: UNDOing Program deletion**

Message #3 Posted by [Stefan Vorkoetter](#) on 23 Aug 2007, 1:50 p.m.,  
in response to message #2 by Bruce Bergman

Seems to be true! Note that it can only do this if you haven't yet left the program list, and haven't deleted another program. I suspect that the program isn't actually deleted until you perform one of these other actions, and hence it's easy to undo.

Good feature!

I wonder if there's a way to UNDO the lack of R->P and P->R keys? :-)

Stefan

**Re: UNDOing Program deletion**

Message #4 Posted by [Vincze](#) on 23 Aug 2007, 2:18 p.m.,  
in response to message #3 by Stefan Vorkoetter

Now that would be nice trick. ;)

**Re: UNDOing Program deletion**

Message #5 Posted by [Katie Wasserman](#) on 24 Aug 2007, 11:01 a.m.,  
in response to message #1 by Chuck

You can UNDO \*anything\* immediately after a CLEAR. Even an UNDO after a CLEAR ALL works. All

programs, memories, equations the stack and the program pointer come back! The only thing that you can do between a CLEAR and a successful UNDO is turn off the calculator and turn it back on, anything else will void the UNDO.

## **Re: UNDOing Program deletion**

*Message #6 Posted by **Bruce Bergman** on 24 Aug 2007, 11:27 a.m.,  
in response to message #5 by Katie Wasserman*

Interesting. A virtual delete followed by a commit later, huh? ;-)

Thanks for experimenting and finding the limit, Katie. I have to say, this would seem to be a key feature that HP should highlight better in the manual. Maybe there's a resistance to become "liable" for mistakes, but wow, being able to UNDO a CLEAR ALL is a hugely important feature that shouldn't be glossed over.

Reason: I tend to memorize a lot of the 33s/35s style of choice menus such that I just hit the appropriate number key instead of navigating to the item and hitting ENTER. Let's say I'm not at the top of my game today, and I go to the CLEAR menu, planning on clearing all the stats registers, but then find that I've hit 2 instead of 4 -- clearing the variables instead of stats. It is a great feature to know that I can do an UNDO and get them back!

thanks, bruce

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## HP Forum Archive 17

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**variable question**

Message #1 Posted by [Vincze](#) on 23 Aug 2007, 8:48 a.m.

In recent Datafile, Joe Horn state that program run quicker on 35s if you store the number in a variable that if you just have it in the program. Anyone understand why? I would think it would be the other way around as you do not need to recall something.

**Re: variable question**

Message #2 Posted by [Dave Johnson](#) on 23 Aug 2007, 1:19 p.m.,  
in response to message #1 by Vincze

There is overhead associated with keystroke programming each digit is handled and processed into a storage register to come up with the final number. Recalling a number can be less overhead (may be equivalent if the # of digits input is low but is not for larger number of digits.

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## HP Forum Archive 17

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### Question about the hp35s

Message #1 Posted by [Arne Halvorsen \(Norway\)](#) on 23 Aug 2007, 8:27 a.m.

Sorry about asking this question, but my excuses are: HP has for some reason choose not to put out pdf of manual, Norway not getting any hp-35s soon, I am curious!:

One feature (aside from the BIG ENTER KEY) that makes the machine interesting for my purposes are the 2D and 3D vector types. Working with computer graphics I could make use of this feature I hope (do a lot of checking result from vector calculations while debugging).

Question: What are the operations for addressing, unpacking (say into x,y,z) vector's components?

Kind of asking I guess: 'How practical are these types': They seems handy for input/presentation, but how are them to program linear algebra with.?

Grateful for any info to one who is counting on his fingers to just order the thing from abroad :-)

*Edited: 23 Aug 2007, 8:28 a.m.*

### Re: Question about the hp35s

Message #2 Posted by [Valentin Albillo](#) on 23 Aug 2007, 8:35 a.m.,  
in response to message #1 by [Arne Halvorsen \(Norway\)](#)

Hi, Arne:

Arne asked:

*"Question: What are the operations for addressing, unpacking (say into x,y,z) vector's components?"*

None. There's no built-in operation to disassemble a vector into its 1,2, or 3 components nor to extract a component from a vector. You need some programming to do it and it's quite an slow and cumbersome procedure.

*'How practical are these types': They seems handy for input/presentation, but how are them to program linear algebra with.?.*

I would need to work with them a lot more to be able to give a qualified answer but judging from what I've seen up to now, they seem to be greatly unpractical for most uses, including linear algebra. There are very few instructions that work with them, mostly basic arithmetic, and accessing their components is quite tricky and involved, as mentioned above.

Also, it's been mentioned that they might be somewhat buggy.

Best regards from V.

**Re: Question about the hp35s**

Message #3 Posted by [Arne Halvorsen \(Norway\)](#) on 23 Aug 2007, 8:47 a.m.,  
in response to message #2 by Valentin Albillo

Thanks a lot!

Had a feeling this could be the case...

What it sounds like is that a program that would work on a problem would access vector components stored as individual values in normal registers.

At least the results can be presented in vector form since it is easy to make a vector(s) (training stuff shows that) after computations.

**Re: Question about the hp35s**

Message #4 Posted by [Valentin Albillo](#) on 23 Aug 2007, 9:04 a.m.,  
in response to message #3 by Arne Halvorsen (Norway)

Hi again, Arne:

Arne posted:

*"What it sounds like is that a program that would work on a problem would access vector components stored as individual values in normal registers."*

For maximum speed, that's the way to go indeed until someone comes up with a SYSEVAL call or some hidden function to extract the individual components.

"Maximum speed" here means up to 100 times faster than resorting to some packing/unpacking program to get at the components.

Best regards from V.

**Re: Question about the hp35s**

Message #5 Posted by [Arne Halvorsen \(Norway\)](#) on 23 Aug 2007, 9:14 a.m.,  
in response to message #4 by Valentin Albillo

Well, the good thing about this is that I got pretty much enough information to design and simulate my programs before get the machine...

**Re: Question about the hp35s**

Message #6 Posted by [bill platt](#) on 23 Aug 2007, 9:17 a.m.,  
in response to message #2 by Valentin Albillo

I think the tried and true for vectors is the 48 series and its descendants--the 50G.

**Re: Question about the hp35s**

Message #7 Posted by [Chris Dean](#) on 23 Aug 2007, 11:51 a.m.,  
in response to message #6 by bill platt

Arne

From my experience if you are working in graphics then get a graphical calculator i.e. HP50G. It is so much easier to develop algorithms and see/visualise the results.

### **Re: Question about the hp35s**

*Message #8 Posted by [Arne Halvorsen \(Norway\)](#) on 23 Aug 2007, 12:17 p.m.,  
in response to message #7 by Chris Dean*

Yea, well... I must say it has crossed my mind after been thinking about getting hp35s...

I had original NOT been planning to take up my youthfull passion for programming calculators (HP41CV, rip wherever you are now...), what I been missing (but I borrow a hp15c a lot) is a simple rpn to add, sqrt to check program output.

A thing I am worried about by getting something as powerfull as the 50g is that I may be absorbed by it..., propably enjoy every second of it though...

Maybe....

*Edited: 23 Aug 2007, 12:18 p.m.*

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## HP Forum Archive 17

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### Bugs- Bugs and Bugs!!

Message #1 Posted by [Diehl-Peshkur](#) on 23 Aug 2007, 6:48 a.m.

I've read the list of bugs in the 35s posted and discussed at length here; of course, one would expect a new HP to be free of bugs. But, I can't get really upset about it as nearly every complicated product will have them. I also suspect that the known bugs are not going to result in airplane crashes or world incidents either - only irritation perhaps :-)

But was DOES interest me, is how the 35s compares to its bretheren. I have never even owned a TI or Casio, after having been bitten by the RPN bug in the '80's and haven't a clue as to whether the 35s scores better or worse than the others.

So, do any of you have bug lists of other brands so that we can compared them to our beloved 35s in the meantime?

I think that would make quite interesting reading, either positive or negative!! All the best! T

### Re: Bugs- Bugs and Bugs!!

Message #2 Posted by [bill platt](#) on 23 Aug 2007, 7:40 a.m.,  
in response to message #1 by [Diehl-Peshkur](#)

Quote:

\_\_\_\_\_

of course, one would expect a new HP to be free of bugs

\_\_\_\_\_

Really? And why would one expect that?

How about the original HP-35 trig and exponential bugs? And the HP 32sii fraction bugs? Early HP-41C small-angle SIN bug, out of range indirection bug, CLP bug, and a host of others in the early 41C...67/97 ARCSIN & ARCCOS erroneous results for specific arguments, HP-75C file renaming lockup bug and other bugs.

Even the 42S (in early ones and in later ones but not middle of production) had a bug--Comb or Perm with backwards arguments that you then SWAP to correct order will not work.

If you started life on a HP-15c where there were no bugs, you can have hi expectations. But even the 11C had a bug--the "backspace over decimal and increment by one" bug!

So what was that about expectations?

### Re: Bugs- Bugs and Bugs!!

Message #3 Posted by [Valentin Albillo](#) on 23 Aug 2007, 8:13 a.m.,  
in response to message #2 by [bill platt](#)

Hi, Bill:

Bill wrote:

*"If you started life on a HP-15c where there were no bugs, you can have hi expectations. But even the 11C had a bug--the "backspace over decimal and increment by one" bug!"*

Actually, the HP-15C has at least \*one\* bug, which was discovered and posted in this forum a few months ago.

And the HP-71B, which is a most marvelous handheld model if there ever was one, had a bug list *several pages long* for its 1BBBB released version, and not precisely trivial ones. Even the 1CCCC release had to be quickly updated when a very serious, memory-corrupting bug was introduced *anew* which didn't exist in the previous 1BBBB model.

Best regards from V.

### **Re: Bugs- Bugs and Bugs!!**

*Message #4 Posted by [Diehl-Peshkur](#) on 23 Aug 2007, 9:06 a.m.,  
in response to message #3 by Valentin Albillo*

Seems impossible to get away from HP bugs :-0 :-) :-( Still wondering about the other brands....  
Cheers, T

### **Re: Bugs- Bugs and Bugs!!**

*Message #5 Posted by [Valentin Albillo](#) on 23 Aug 2007, 9:11 a.m.,  
in response to message #4 by Diehl-Peshkur*

Probably even buggier ... but they won't tell ! :-)

Best regards from V.

### **Re: Bugs- Bugs and Bugs!!**

*Message #6 Posted by [bill platt](#) on 23 Aug 2007, 9:49 a.m.,  
in response to message #5 by Valentin Albillo*

Any Sharp Bugs?

(Thanks for the additional bug tid-bits---and even the 15C!--I have to find that one).

### **Re: Bugs- Bugs and Bugs!!**

*Message #7 Posted by [Vincze](#) on 23 Aug 2007, 11:32 a.m.,  
in response to message #3 by Valentin Albillo*

My friend Valentin, would you post link to message that shows the 15C bug. I tried looking but could not find it and I would like to see what it is.

### **Re: Bugs- Bugs and Bugs!!**

*Message #8 Posted by [Massimo Gnerucci \(Italy\)](#) on 23 Aug 2007, 12:33 p.m.,  
in response to message #7 by Vincze*

Probably [this](#).

Greetings,



Massimo

**Re: Bugs- Bugs and Bugs!!**

*Message #9 Posted by [bill platt](#) on 23 Aug 2007, 1:01 p.m.,  
in response to message #8 by Massimo Gnerucci (Italy)*

Oh my god! I was in the \*thick\* of that discussion and I completely forgot!

I guess I swept that bug right under the rug, along with all other squirmy bad thoughts of HP bugs...

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## HP Forum Archive 17

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### HP-35s photo gallery

Message #1 Posted by [Mike Mander](#) on 23 Aug 2007, 2:51 a.m.

Hi all,

Just received my 35s here in Vancouver, Canada. Before getting the new machine all grungy (it is destined to be my day-to-day work calc), I thought I should take a few photos of it. Unfortunately I don't have my SLR (sold it in anticipation of a new Canon model coming in early September) but I managed some halfway decent shots with my point & shoot Canon Pro1.

#### [New HP-35s Gallery](#)

I will say that the 35s looks far more handsome in person that it did to me on the photos I had seen previously. I very much like the styling and am not too bothered by the cursor keys. I won't bother adding too much since this calculator has been reviewed "to death" already, however there are a couple of things I would like to mention...

- 1) No comma separators when keying in a number! Argh... one of the best features of the older "pure" RPN calculators and something I have always missed on my 49g+ and 50g. Now that's also missing from the 35s. Too bad...
- 2) No question, a vastly superior LCD when compared to my first-generation 33s. Better contrast and much more visible off-axis, as well as having comma separators that are clearly distinct from the decimal point. Compressed font is not as esthetically pleasing as the almost square-pixel one on the 33s, but it is readable so I can't/shouldn't really complain!
- 3) Excellent keyboard but I had an off-kilter 5 key. I grabbed and twisted it a little and now it is almost flat and level with the others. Love the big ENTER key of course!
- 4) Surprised to see that R/S doesn't interrupt a loop as reliably as older machines. Sometimes you can press it over and over before it responds. Not a hardware contact problem though. Pressing the ON/C key will interrupt and halt a program instantly though.
- 5) LCD is perfectly straight AFAICT and an almost straight s/n label is also nice to see.

Probably won't do too much programming on it since my 50g fulfills that need nicely. Don't think I can get used to a 4 level stack, no local vars, no non-GOTO based looping constructs, no proper I/O, no non-trivial labels or many of the other things I had been taking for granted on the RPL machines.

Still, I very much like the 35s and it will be a challenge to port over some of my astronomy programs and such - it does have some very interesting features to mess around with. It is also certainly far more svelte than my bulky 50g and thus easier to carry around.

Regards, Mike Mander

P.S. Now, bring on the 43s!!!

**Re: HP-35s photo gallery**

Message #2 Posted by [Arne Halvorsen \(Norway\)](#) on 23 Aug 2007, 4:35 a.m.,  
in response to message #1 by Mike Mander

Nice! Great work done for us that lives in country not getting any before next year...

Two pictures I liked the most: The practical case, look like it may be practical to work from it and the close up of the enter key (I was not dreaming, the BIG KEY is back!).

**Re: HP-35s photo gallery**

Message #3 Posted by [Jim Creybohm](#) on 23 Aug 2007, 10:19 a.m.,  
in response to message #2 by Arne Halvorsen (Norway)

Hi Arne.

Canada is not getting any 35's either, however I ordered mine from Samson Cables (and I assume a lot of other people did as well). I would think that you could obtain one a lot quicker than Christmas by going that route.

I have heard SOME negative comments, but the people at Samson were first class as far as I was concerned.

**Re: HP-35s photo gallery**

Message #4 Posted by [Arne Halvorsen \(Norway\)](#) on 23 Aug 2007, 10:34 a.m.,  
in response to message #3 by Jim Creybohm

Wow, they have em in Switzerland and UK but not in Canada (which last time I visited had USA borders...)!!!

Well, it is probably I may find a way to get one before end of year somehow. My company has coworkers working in the states and they visit, one being a math professor at Oak Ridge <- perfect guy to smuggle hp35s over borders :-), really like the USA price..., doubt the local price will be in the 60\$ neighbourhood... :-)

Thnks for shop tip, look nice!

*Edited: 23 Aug 2007, 10:36 a.m.*

**Re: HP-35s photo gallery**

Message #5 Posted by [Stefan Vorkoetter](#) on 23 Aug 2007, 10:37 a.m.,  
in response to message #3 by Jim Creybohm

I'm in Canada and ordered mine from the York University book store (which sells to anyone, not just York students).

<http://bookstore.yorku.ca/>

Their price is a bit higher than the US prices (\$85 Cdn), but shipping is only \$6. By the time you add shipping from a US source and do the exchange rate thing, it's about the same.

Stefan

*Edited: 23 Aug 2007, 10:37 a.m.*

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**Re: HP-35s photo gallery**

*Message #6 Posted by **Jeff Kearns** on 23 Aug 2007, 4:11 p.m.,  
in response to message #5 by Stefan Vorkoetter*

Was your display straight or did it have that wonky angle towards the upper right side, noticeable with all the annunciators lit. I have an opportunity to have mine inspected by them (York University Bookstore) before they ship. What specifically should I ask of them during their inspection? I couldn't care less about the serial number sticker, but I do care about the display and the keys, case etc. Thanks,

Jeff

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**Re: HP-35s photo gallery**

*Message #7 Posted by **Mike Mander** on 23 Aug 2007, 10:17 p.m.,  
in response to message #3 by Jim Creybohm*

Hi Jim,

Nothing wrong with Samson - I have bought from them myself and was very happy with the service...

However Canada does now have stock on the 35s! I work in a camera store but have also been known to sell HP calculators. My HP distributor currently has five in stock in Richmond, BC (just outside of Vancouver) and I can order in and resell them for \$69 CDN each. I do orders with this supplier on a fairly regular basis so there would be no extra charge if I can order a calculator along with one of my regular purchase orders. If I order below the prepaid \$1000 threshold with this supplier, there would be a \$15-\$20 extra shipping/handling fee roughly. We are not really set up for web/phone orders though, so it would have to be for walk-in customers only. Sorry...

If anyone in the Vancouver area wants to contact me, my work email is:

digital [AT] beaphoto [DOT] com

If you are elsewhere in Canada and have a preferred computer store, they can contact Synnex Canada and if they have an account with them, the store should be able to order any current model HP calculator in for you. The first batch of 35s calculators just came in a couple of days ago. At present Synnex's Toronto warehouse only has one unit available though. Note that Synnex is a distributor and will not sell directly to end users.

Hopefully no one takes offense at this note. If the moderator would like to delete this message, then please do so!

Regards, Mike Mander

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**Re: HP-35s photo gallery**

*Message #8 Posted by **Jim Creybohm** on 25 Aug 2007, 7:59 p.m.,  
in response to message #7 by Mike Mander*

Thanks Mike! Glad to hear that we frostbacks got the 35's. I based my comment on an internet search, and I couldn't find one anywhere. So, naturally, being an engineer - I gave up.

Er, no, actually I went to HP.ca, and they still have not listed the 35S on their website (at least as of yesterday).

I am very pleased to hear your store is stocking them, and I hope you don't mind if I keep your email address in my contact list. I have a few more to get for friends and family.

**Re: HP-35s photo gallery**

*Message #9 Posted by [Mike Mander](#) on 25 Aug 2007, 9:32 p.m.,  
in response to message #8 by Jim Creybohm*

Hi Jim,

I certainly don't mind you keeping my email in your contact list - please do!

Just to be totally clear, my store is not actually keeping them in stock (we are a pro camera shop), however a distributor we deal with on a regular basis is keeping small numbers of all current HP's calculators on hand, so we can generally bring one in for someone fairly quickly.

Regards, Mike Mander

**Re: HP-35s photo gallery**

*Message #10 Posted by [Jeff Kearns](#) on 25 Aug 2007, 9:37 p.m.,  
in response to message #8 by Jim Creybohm*

Hi Jim,

I have a friend who works at HP here in Ottawa and he can't even get his hands on one through the HP Employee shopping site. They are told by HP Canada to go through the York University Bookstore in Toronto just like everyone else. I gave up and ordered mine through York U a couple of days ago. I just hope the display isn't crooked...

Regards,

JeffK

**Re: HP-35s photo gallery**

*Message #11 Posted by [Stefan Vorkoetter](#) on 23 Aug 2007, 10:40 a.m.,  
in response to message #1 by Mike Mander*

Hi Mike:

When I try to look at your gallery, my browser just says "The server at mikemander.servehttp.com is taking too long to respond."

Stefan

**Re: HP-35s photo gallery**

*Message #12 Posted by [Stefan Vorkoetter](#) on 23 Aug 2007, 11:12 a.m.,  
in response to message #11 by Stefan Vorkoetter*

Never mind. My ISP is blocking that site for some reason.

**Re: HP-35s photo gallery**

*Message #13 Posted by **Bruce Bergman** on 23 Aug 2007, 11:39 a.m.,  
in response to message #11 by Stefan Vorkoetter*

Probably for the same reason mine is too: it's on a non-standard port (8008). I'll check it out when I get home...

thanks, bruce

### **Re: HP-35s photo gallery**

*Message #14 Posted by **Pal G.** on 23 Aug 2007, 10:42 a.m.,  
in response to message #1 by Mike Mander*

My wife caught me staring at those pictures for way too long.. I am so busted.

Nice photos by the way.. My 35s won't be far more handsome in person now thanks to your quality work. You've bridged the previous gap considerably.

Now, if I could have a 1440x900 of "\_MG\_0037.jpg" it would be my new desktop wallpaper ;)

Btw, looking forward to your astronomy programs. Please post if you are willing. Nice review.

Cheers, Pal

### **Re: HP-35s photo gallery**

*Message #15 Posted by **Mike Mander** on 23 Aug 2007, 9:36 p.m.,  
in response to message #14 by Pal G.*

Pal,

Here is your wish: [1440x900 HP-35s Wallpaper](#)

Enjoy!

Regards, Mike Mander

### **Re: HP-35s photo gallery**

*Message #16 Posted by **Pal G.** on 24 Aug 2007, 12:37 a.m.,  
in response to message #15 by Mike Mander*

Awesome, thanks. Great wallpaper for my MacBook Pro..

Now all I need is an hp 35s..

Cheers, Pal

### **Re: HP-35s photo gallery**

*Message #17 Posted by **Mike Mander** on 23 Aug 2007, 2:11 p.m.,  
in response to message #1 by Mike Mander*

A few more notes:

My server is on port 8008 since my ISP is blocking port 80. A humble little Apple iMac (swing-arm "iLamp"

model) is acting as my web-server and I only have a relatively slow DSL uplink speed. Also, within minutes of posting the message, my modem's activity light went nuts and looking at my server log, there a tons of people accessing the gallery! Sorry for any issues people are having seeing the images...

Regarding the R/S versus ON/C responsiveness, actually ON/C is not 100% reliable at stopping fast loops either - better than R/S though it seems.

To the person who wanted wallpaper, I will try to post a larger version of the requested file when I am home from work tonight.

Regards, Mike Mander

**Re: HP-35s photo gallery**

*Message #18 Posted by **Bruce Bergman** on 23 Aug 2007, 2:25 p.m.,  
in response to message #17 by Mike Mander*

You might want to think about 8080. That's considered the "second" tier port for web servers. A fair amount of blocked firewalls will still permit activity on 80 and 8080, in addition to https connections.

I wonder if I could run a web server on my Treo? ;-)

thanks, bruce

**Re: HP-35s photo gallery**

*Message #19 Posted by **Mike Mander** on 23 Aug 2007, 2:46 p.m.,  
in response to message #18 by Bruce Bergman*

Well I used to run it on 8080 but then had several complaints... so thought I'd try 8008, which is also listed as an alternative port for web-servers. Oh well... you can't win.

Thanks for the tip though... maybe I'll change it back to 8080.

**Re: HP-35s photo gallery**

*Message #20 Posted by **Bruce Bergman** on 23 Aug 2007, 4:59 p.m.,  
in response to message #19 by Mike Mander*

Naturally the moment you change it back to 8080, someone will recommend trying it on 8008. ;-)  
It's a no win situation when you aren't on 80...

thanks, bruce

**Re: HP-35s photo gallery**

*Message #21 Posted by **Ed Look** on 23 Aug 2007, 3:32 p.m.,  
in response to message #1 by Mike Mander*

Beautiful pictures! (Nice table... oh, er, ah, nice calculator, too.)

Your "5" key only looks the slightest bit out of line if I stared at it hard.

I had a slightly different problem when I got mine. It didn't have to do with the calculator itself; rather, the upper (righties') strap inside the case was attached on the left side only by, like, a few fibers! I had to stretch that end a little more and epoxy that stretched over quarter inch region to the side of the case. (I used 5 minute

epoxy.)

After about five minutes, it dried and hardened enough that I can now use it as if it was originally sewn (or glued) on properly.

I sort of wish my issue with it was just a slightly slanted key!

**Re: HP-35s photo gallery**

*Message #22 Posted by [Mike Mander](#) on 23 Aug 2007, 9:32 p.m.,  
in response to message #21 by Ed Look*

Thanks!

I tried my best to straighten out the 5 key before taking most of the photos. Here is a closeup of the crooked key before I straightened it out: [crooked\\_five.jpg](#)

When I first got it, I did not notice the five key being askew... only after closely looking at the first few photos did I see it!

Regards, Mike Mander

**Re: HP-35s photo gallery**

*Message #23 Posted by [Vincze](#) on 23 Aug 2007, 4:30 p.m.,  
in response to message #1 by Mike Mander*

In first picture. What kind of paperweight between the bottom two calculators? ;)

**Re: HP-35s photo gallery**

*Message #24 Posted by [Raymond Del Tondo](#) on 23 Aug 2007, 7:11 p.m.,  
in response to message #23 by Vincze*

You mean the silver doorstep?

I think it's a prototype made by a 'designer' on steroids, which was never meant to be released, but somehow escaped...

The key arrangement indicates the push direction, when used as a doorstep;-)

**Re: HP-35s photo gallery**

*Message #25 Posted by [Vincze](#) on 24 Aug 2007, 8:06 a.m.,  
in response to message #24 by Raymond Del Tondo*

My friend Raymond, thank you for correcting me. I thought it was paperweight, but now you enlighten me to the true use of said object. I will sleep better now knowing what I should use it for.

**Re: HP-35s photo gallery**

*Message #26 Posted by [Will Hartung](#) on 23 Aug 2007, 8:36 p.m.,  
in response to message #1 by Mike Mander*

I have to laugh. After seeing what folks comment and mention about their complaints and issues with the 35s,



there is a photo in the spread that sums up the history of the calculator so far in a single button.

"G" For "Gee whiz this is a nice calculator" but... "theta" noone likes the theta symbol "i" the messiness of the complex features of the calculator (including P->R, etc.) Finishing with...

"ARG!"

: -)

**Re: HP-35s photo gallery**

Message #27 Posted by [Mike Mander](#) on 23 Aug 2007, 9:34 p.m.,  
in response to message #26 by Will Hartung

ARG! Love it... thanks for the laugh!

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## HP Forum Archive 17

[ [Return to Index](#) | [Top of Index](#) ]**Symbols for scientific notation***Message #1 Posted by [JoelB](#) on 23 Aug 2007, 12:15 a.m.*

I am looking for a new calculator and I like what I see in the HP 35s, but I have two concerns.

My current calculator has scientific notation prefix symbols from atto to exa and I value these. Without these I would be entering many zeroes or exp, n, +/-, which is an extra keystroke I can do without. Does the 35s offer an easy way to do this?

Secondly, how is the screen's aspect ratio in practice? I am used to something closer to the 33s.

**Re: Symbols for scientific notation***Message #2 Posted by [Walter B](#) on 23 Aug 2007, 2:44 a.m.,  
in response to message #1 by JoelB*

1. No.

2. The LCD is identical with the one in the 33s.

HTH

**Re: Symbols for scientific notation***Message #3 Posted by [DaveJ](#) on 23 Aug 2007, 5:45 a.m.,  
in response to message #1 by JoelB*

That would be engineering notation. Not many calcs offer this, and all that I have seen are just standard scientific calc's, not programmables like the 35S. Come to think of it, has any HP calc ever offered it?

Some of the Casio's have it.

Dave.

**Re: Symbols for scientific notation***Message #4 Posted by [Thomas Radtke](#) on 23 Aug 2007, 6:32 a.m.,  
in response to message #3 by DaveJ*

Casio's fx-4500p had it, plus it was programmable. Of course, no match for the 35s which is far easier to use and likewise powerful.

**Re: Symbols for scientific notation***Message #5 Posted by [DaveJ](#) on 23 Aug 2007, 6:50 a.m.,  
in response to message #4 by Thomas Radtke*

Quote:

Casio's fx-4500p had it, plus it was programmable. Of course, no match for the 35s which is far easier to use and likewise powerful.

Actually, my old FX-61F has it and it is actually keystroke programmable.

Of the current casio programmable models available, only the FX4500PA has it: <http://edu.casio.com/products/program/fx4500pa/>

The FX-5500LA has "Engineering symbol calculations" but not engineering notation entry.  
<http://edu.casio.com/products/program/fx5500la/>

Dave.

**Re: Symbols for scientific notation**

*Message #6 Posted by **JoelB** on 23 Aug 2007, 8:52 a.m.,  
in response to message #5 by DaveJ*

I've been using the fx-580 [link](#) for more than 15 years now. (It's taken one too many coffee spills and now despite best efforts I've lost part of the display.)

My main use is in electronics/physics calculations.

I'm not sure I need it to be programmable but I like the idea of storing my most used formulas.

The things I like from reading about the 35s are the solid build, the sensible styling, and I have to admit I'm a little RPN curious. I have used RPN calculators before but not as an engineering tool.

### **Re: Symbols for scientific notation**

*Message #7 Posted by **DaveJ** on 23 Aug 2007, 10:07 p.m.,  
in response to message #6 by JoelB*

Quote:

I've been using the fx-580 [link](#) for more than 15 years now. (It's taken one too many coffee spills and now despite best efforts I've lost part of the display.)

My main use is in electronics/physics calculations.

I'm not sure I need it to be programmable but I like the idea of storing my most used formulas.

The things I like from reading about the 35s are the solid build, the sensible styling, and I have to admit I'm a little RPN curious. I have used RPN calculators before but not as an engineering tool.

Being used to a basic algebraic scientific like the FX-580 for so long, I suspect that you may find the 35S frustrating for everyday use. The 35S is optimised as a powerful programmable calculator, hence the keyboard is designed as such. That means less dedicated keys that you use in everyday calculations. If you think you'll miss the engineering notation entry, then the lack of basic primary keys like ENG and LOG might be enough to drive you up the wall.

Then of course there is the RPN hurdle.

By all means get a 35S to play with, but I would also get one of the new casio scientific's to replace your old faithful as your everyday calc.

If you are into electronics then you may like to check out the old Casio FX-61F which is optimised for electronics calcs. They still come up on eBay occasionally. It has engineering notation entry, impedance modes, and a very handy parallel key.

Dave.

### **Re: Symbols for scientific notation**

*Message #8 Posted by **JoelB** on 24 Aug 2007, 5:49 a.m.,  
in response to message #7 by DaveJ*

Quote:

the lack of basic primary keys like ENG and LOG might be enough to drive you up the wall.

Oh, I hadn't noticed...I think it would.

Quote:

I would also get one of the new casio scientific's to replace your old faithful as your everyday calc.

Sadly, they have nothing current that excites me. I thought my field was a common market target, but apparently not. This both concerns and saddens me.

Quote:

If you are into electronics then you may like to check out the old Casio FX-61F

I might do that, thanks.

**Re: Symbols for scientific notation**

Message #9 Posted by **DaveJ** on 24 Aug 2007, 6:57 a.m.,  
in response to message #8 by JoelB

Quote:

Sadly, they have nothing current that excites me. I thought my field was a common market target, but apparently not. This both concerns and saddens me.

What features would excite you?

The great thing about Casio's is that there are plenty of all the older models on eBay, and prices are very low compared with the ridiculous prices being had for the HP's.

Dave.

**Re: Symbols for scientific notation**

Message #10 Posted by **DaveJ** on 24 Aug 2007, 6:59 a.m.,  
in response to message #9 by DaveJ

There is an FX-580 going on eBay if you want a replacement: [http://cgi.ebay.com.au/Casio-fx-580-Scientific-Calculator-With-Case\\_W0QQitemZ230163138511QQihZ013QQcategoryZ11713QQssPageNameZWVWQQrdZ1QQcmdZViewItem](http://cgi.ebay.com.au/Casio-fx-580-Scientific-Calculator-With-Case_W0QQitemZ230163138511QQihZ013QQcategoryZ11713QQssPageNameZWVWQQrdZ1QQcmdZViewItem)

Dave.

**Re: Symbols for scientific notation**

Message #11 Posted by **JoelB** on 24 Aug 2007, 7:50 a.m.,  
in response to message #10 by DaveJ

Quote:

What features would excite you?

My needs are fairly simple, I think: log, indicies, eng notation, nested parentheses, rect/polar, trig, constants, screen editing facilities, and a formula store would be good.

Quote:

There is an FX-580 going on eBay if you want a replacement:

Tracking that, thank you. Even if I win it, though, I may keep looking for something new.

Edited: 24 Aug 2007, 7:51 a.m.

**Re: Symbols for scientific notation**

Message #12 Posted by **Bruce Bergman** on 23 Aug 2007, 11:43 a.m.,  
in response to message #5 by DaveJ

Interesting!

I've never seen that Casio model before. Casio seems to have a never ending supply of different calcs out there, even in current production. Every once in a while I spot a new one and am intrigued by the diversity (or similarity, in some cases) of their line.

Very interesting (read: strange) company, they are...

thanks, bruce

**Re: Symbols for scientific notation**

Message #13 Posted by **Alain Mellan** on 24 Aug 2007, 5:44 p.m.,  
in response to message #12 by Bruce Bergman

It may be a typical case of "process oriented" company (Casio) vs. "result oriented" company (HP).

Asian companies tend to have a refined process, that allows them to churn out incrementally improved models very quickly. Especially when it comes to consumer electronics it seems. Western companies usually tend to be more "result oriented", and come out with new models only in big steps, and not very often.

I wish HP would be a little bit more like Casio in some respects: fix the bugs quickly and ship a new version of the machine. Then add P->R, R->P, IMG, RE, etc, and ship yet a new version ...

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## HP Forum Archive 17

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### HP 9815A repair

Message #1 Posted by [frankabc](#) on 22 Aug 2007, 11:38 p.m.

We need assistance in diagnosing our HP 9815A calculator computer. If anyone can help us fix ours or locate a replacement HP 9815A, we will be VERY appreciative. Thank you. Frank Simpson, fbsimpson@pharmacy.wisc.edu , tel. 1-608-849-3382.

### Re: HP 9815A repair

Message #2 Posted by [Tony Duell](#) on 23 Aug 2007, 4:33 a.m.,  
in response to message #1 by frankabc

You can get 'my' schematics of the HP9815 from the Australian site. Somewhat strangely for an HP calculator, the 9815 is based on a standard microprocessor, a 6800. There are a few 'surprises' in the electronics, but nothing too strange.

You don't give us much to go on. What does the machine do? Do you get anything on the display? What experience of electronics troubleshooting do you have? What test gear do you have access to?

### Re: HP 9815A repair

Message #3 Posted by [frankabc](#) on 23 Aug 2007, 3:55 p.m.,  
in response to message #2 by Tony Duell

Thank you, Tom, Our misbehavin' HP 9815A does a few interesting things. Run Mode: First, when you key in 2, 2.00 enters automatically. When you try to key in 25, you cannot, because it will display 2.00, and then 5.00. Though the enter key DOES work, and can be used, it is not necessary to hit enter to do arithmetic. So you can now key 2, 5, +, and the result, 7, appears on the display. Normal RPN would be 2, ENTER, 5, +, display 7. Auto Start mode: When you flip the power-on switch, the 9815A will attempt to load a program from a DC100A tape cartridge. This seems to be working. Unfortunately our tapes are 20 years old, and we fear that they might not have readable programs any longer. The printer prints "file not found" or, on more encouraging attempts, "Checksum error". But we cannot tell if the tapes are good, or not, because we do not know if the computer is good, or not. The cartridge drive itself seems to be working. Program mode: One cannot simply enter the program mode with the switch. If I go through the following mindless steps, I can enter the program mode, every time.

Switch in run mode turn power on 1 Store 1 . rcl 1 . then switch to program mode.

Once in the program mode, the display reads 0000 on the left, and 0136 on the right. There should be 432 programmable steps, minimum, not 136. Furthermore, our machine has the 001 memory and 002 I/O options. The 001 option should increase memory to 2008 steps. Again, not 136. On good days, I can program a few steps. For example, I can key in steps to recall numbers stored in A -> J registers, multiply, end, etc. But when I switch back to run, she does not run. The printer prints "memory overflow", on almost every interaction. I have attempted to clear the memory by the protocol in the manual, and sometimes I can clear it. I have pressed the list button, and the printer prints the memory steps and contents, usually to 136 steps, but on one occasion, out to 216 steps. On that 216 day I was able to reallocate the 80 store

registers to programmable registers by the protocol in the manual. Note that  $80 + 136 = 216$ . I only have gotten 216 programmable steps once, and have never again been able to repeat it. I also have wondered why the printer prints "memory overflow" even after only turning power on in run mode. Isn't the memory supposed to clear when power is turned off, and then back on? Well, I decided to press list, immediately after turning the power on. The print out informed me that memory really was already full of all sorts of stuff. That is about as far as we have gotten. In answer to your questions. I have an electrical engineering friend who is going through the machine. Don used to repair electronics for our Biochem Department. We have a digital volt meter, and that is about it. Don has a logic probe at home. We have all of the manuals, including the service manual. We have found the Utilities and Test Cartridge Tape (09815-10004), but we are not sure if it is still readable. It yielded "no file found" when inserted into the tape drive. It would be nice to obtain a known-to-be-good copy of the Utilities and Test Tape from someone. We also cannot locate the 9815A Test ROM Assembly plug-in (98140-66501). It would be very beneficial for us to find these two troubleshooting aids. We are wondering if Digital Signature Analysis is possible with the 9815A. It looks like HP was developing Signature analysis around 1980. We also are wondering where your web site is with the schematics of the HP 9815A. We greatly appreciate any assistance and suggestions that you may offer. Thank you, Frank Simpson fbsimpson@pharmacy.wisc.edu 608-849-3382 (messages)

### Re: HP 9815A repair

Message #4 Posted by [marais](#) on 23 Aug 2007, 6:15 p.m.,  
in response to message #3 by frankabc

Does the machine exhibit the same behaviour if you pull the 001 RAM option?

Andreas

### Re: HP 9815A repair

Message #5 Posted by [frankabc](#) on 23 Aug 2007, 6:52 p.m.,  
in response to message #4 by marais

Many Thanks Marais for responding. This forum is great! And very Sorry Tony, for my mistakingly reading your name as Tom, Yes, Marais, we wondered the same thing a few days ago. The 9815A is showing the same, identical behavior since we pulled the 001 memory option. We still have the same 136 steps of memory displayed when in program mode, whether the 001 is present, or removed. Frank

### Re: HP 9815A repair

Message #6 Posted by [frankabc](#) on 23 Aug 2007, 7:31 p.m.,  
in response to message #5 by frankabc

Dear Mr. Duell, We have located your schematic drawings for the HP 9815 via google by typing, hp Australia museum, followed by searching the museum site for, Duell. Very nice! Thank you! Frank

### Re: HP 9815A repair

Message #7 Posted by [Tony Duell](#) on 24 Aug 2007, 1:22 p.m.,  
in response to message #6 by frankabc

Quote:

\_\_\_\_\_

Dear Mr. Duell,

\_\_\_\_\_

If you want to be formal, it's 'Dr Duell', but 'Tony' is fine :-)

Quote:

---

We have located your schematic drawings for the HP 9815 via google by typing, hp Australia museum, followed by searching the museum site for, Duell. Very nice! Thank you! Frank

---

That '136' steps left is clearly wrong. I suspect a RAM problem. Now, had it been a 9815S, I'd have immediately suspected the RAMs on the CPU board, as they're 2114s in that machine, and a more unreliable chip I've yet to see. But in the 9815A, they're 2111s I think (256 locations of 4 bits each).

Given that it's a 6800 system, it's likely that system variables are stored in page 0, since there's a shorter, faster way to access locations there. So I'd replace those RAMs first.

### **Re: HP 9815A repair**

*Message #8 Posted by [frankabc](#) on 25 Aug 2007, 2:26 a.m.,  
in response to message #7 by Tony Duell*

Dear Dr. Tony, Don understands what you have said. I don't. My degree is in biochemistry, not EE. Thank you VERY much for your considerate thoughts, and for your amazing schematic diagrams. We will let you know how it turns out. Dr. Frank

---

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## HP Forum Archive 17

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### Programming "AND" of two flags in the non RPL machines

Message #1 Posted by [Peter Niessen](#) on 22 Aug 2007, 11:06 p.m.

Hi,

how to program an "AND" of two flags? I can come up only with

```
0
FS? 0
1
FS? 1
1
*
X!=0?
```

Is there a better way?

Thanks, Peter.

### Re: Programming "AND" of two flags in the non RPL machines

Message #2 Posted by [Paul Dale](#) on 22 Aug 2007, 11:11 p.m.,  
in response to message #1 by Peter Niessen

Slightly smaller is:

```
PI
FS? 0
IP          ; Integer part
FS? 1
FP          ; Fractional part
x=0?
```

- Pauli

### Re: Programming "AND" of two flags in the non RPL machines

Message #3 Posted by [Valentin Albillo](#) on 23 Aug 2007, 8:59 a.m.,  
in response to message #1 by Peter Niessen

Hi, Peter:

Peter asked:

*"How to program an "AND" of two flags? I can come up only with [... (a 7-step solution) ...] Is there a better way?"*

If your program is intended to run in an HP-41C/CV/CX, an HP42S, or some suitably compatible model or emulation, and you don't care for the status of flag 00 (or 01) after the test, I can come up with a 3-step solution, namely:

```
FC? 01
```

```
CF 00
FS? 00
```

You can exchange flag 00 for flag 01 in the above solution if you can't afford clearing flag 00 but don't mind clearing flag 01 instead.

Also, not only is my solution shorter, but significantly faster as well and the cherry on top is that it also preserves the whole RPN stack, LASTX included.

Best regards from V.

*Edited: 23 Aug 2007, 9:10 a.m. after one or more responses were posted*

### **Re: Programming "AND" of two flags in the non RPL machines**

Message #4 Posted by [Vincze](#) on 23 Aug 2007, 9:05 a.m.,  
in response to message #3 by Valentin Albillo

I guess I not understand something. What is flag checking?

### **Re: Programming "AND" of two flags in the non RPL machines**

Message #5 Posted by [Giancarlo \(Italy\)](#) on 23 Aug 2007, 9:19 a.m.,  
in response to message #4 by Vincze

Hi Vincze.

If your question arises from the "FC" or "CF" acronyms, then they stand for "Flag Clear" and "Clear Flag" respectively.

"Clearing" a flag basically means "unsetting" it (i.e., setting its value to "0");

"Setting" a flag, obviously, means the opposite ;-)

"Flag checking" is just the checking for the flag status (set/clear).

If you mean "*what is this strange mess with flags?*", then very synthetically: many functions and settings of HP calcs

(at least of the most recent and powerful ones) are customizable by means of those "flag settings", which "set" the "operational environment" of the calc itself.

Hope my humble explanation was not more confusing to you ;-)

Best regards. Giancarlo

*Edited: 23 Aug 2007, 9:20 a.m.*

### **Re: Programming "AND" of two flags in the non RPL machines**

Message #6 Posted by [Vincze](#) on 23 Aug 2007, 9:30 a.m.,  
in response to message #5 by Giancarlo (Italy)

I guess I more interested in what is flag setting all about. I know of 15C, there is flag setting to enter complex mode. But on 35s, I not understand when book says flags 0 - 4 mean whatever you want them to mean. Is it like it store boolean value for later use?

### **Re: Programming "AND" of two flags in the non RPL machines**

Message #7 Posted by [Stefan Vorkoetter](#) on 23 Aug 2007, 9:49 a.m.,  
in response to message #6 by Vincze

Exactly. Flags are just boolean values. On the 35s, flags 0-4 happen to have their state

displayed in the annunciator area, which makes them useful to visually indicate some sort of status. Some flags are also used to control settings of the calculator, such as setting flag 10 to inhibit equation evaluation.

Stefan

## Re: Programming "AND" of two flags in the non RPL machines

Message #8 Posted by [Stefan Vorkoetter](#) on 23 Aug 2007, 9:56 a.m.,  
in response to message #3 by Valentin Albillo

Another solution that preserves the stack and LASTx uses a third flag. So if you're testing flags 0 and 1, the following will set flag 2 to the AND of flags 0 and 1, and then test the result:

```
SF 2
FC? 0
CF 2
FC? 1
CF 2
FS? 2
```

Likewise, the following does OR:

```
CF 2
FS? 0
SF 2
FS? 1
SF 2
FS? 2
```

Alternatively, if all you're interested in is branching somewhere if the AND is true, you could write:

```
FC? 0
GTO N
FC? 1
GTO N
LBL A
...stuff to do if flags 0 and 1 are set

LBL N
...stuff to do if one or both of flags 0 and 1 are not set
```

Stefan

## Re: Programming "AND" of two flags in the non RPL machines

Message #9 Posted by [Peter Niessen](#) on 23 Aug 2007, 2:54 p.m.,  
in response to message #3 by Valentin Albillo

Had one only FC? on the 3Xs machines... (where X=2,3,5).

Thanks for these answers! Learnt something for today and should go home.

Cheers, Peter.

---

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## HP Forum Archive 17

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### **HP-41CX printer prints characters with white streaks. Why?**

Message #1 Posted by [Clark H Lewis](#) on 22 Aug 2007, 7:54 p.m.

I just started using my HP-41CX with external printer after being set aside for a long time. When I began printing recently, the characters were faint even though the intensity was set on normal to dark. The paper was very old, but the characters were generally well formed. As I printer the Catalog 3 a few times, the characters began to have white streaks in them. And now, the more I print, even with 3 different rolls of paper, the streaks are getting worse. While the characters are somewhat faint, because of the old paper, it is getting difficult to read them because of the increase/intensity of the streaks.

What causes the streaks, and what can be done to remove the streaks and improve the characters??

Thanks.

### **Re: HP-41CX printer prints characters with white streaks. Why?**

Message #2 Posted by [Randy](#) on 22 Aug 2007, 9:07 p.m.,  
in response to message #1 by Clark H Lewis

Why? Because it probably has a twenty year old battery and paper in it for starters.

White streaks? As in not printing in those areas? Could be many things but most likely it's one of the two things already mentioned... or both.

The first thing you need is a known good battery. The printer will not work properly without one. If the battery that is currently in the unit is a 1980's original, it's very doubtful it will print properly. The normal problem is irregular width printed lines but anything is possible. The printer is a real current hog in a big way and a marginal battery will cause all manner of weirdness.

Once you know the battery is good, get some fresh paper. Any 2-1/4" wide X 85' rolls thermal paper rolls will fit.

Then see what comes out...

### **Re: HP-41CX printer prints characters with white streaks. Why?**

Message #3 Posted by [Clark H Lewis](#) on 23 Aug 2007, 9:44 a.m.,  
in response to message #2 by Randy

Thanks for your comments.

The battery is old but was fully charged before installing in the printer. The voltage measured just prior to installing was 5.49 v.

I tried some old blue (82045A) and black (82175A) paper AND a new roll of OfficeMax 2.25" x 85' (OM98105) paper. If anything, the printout on the old rolls was better than the new roll -- though as noted, the streaks existed in all 3 rolls.

The streaks appear not to have anything printed in them. They are small, but often 2 streaks across the characters.

Hope this clarifies what I used in the tests.

Thanks again.

### **Re: HP-41CX printer prints characters with white streaks. Why?**

*Message #4 Posted by [Wayne Brown](#) on 23 Aug 2007, 5:33 p.m.,  
in response to message #3 by Clark H Lewis*

Are the streaks consistent, that is, do they always appear in the same places on the characters? I've seen streaks like this caused by an old print head with "burnt out" spots on it that no longer could heat the thermal paper enough to form dots in certain positions. Since you had it put away for a long while I suppose it also could be caused by dust or other contaminants that stuck to the print head while you weren't using it. You might try blowing gently on it to see if that helps. Perhaps others here will know of a safe way to clean the delicate print head; personally, I'd be afraid of making things worse.

### **Re: HP-41CX printer prints characters with white streaks. Why?**

*Message #5 Posted by [Eric Smith](#) on 23 Aug 2007, 5:47 p.m.,  
in response to message #3 by Clark H Lewis*

Quote:

\_\_\_\_\_

The battery is old but was fully charged before installing in the printer. The voltage measured just prior to installing was 5.49 v.

\_\_\_\_\_

Unfortunately that doesn't really tell much about the state of the battery, other than that it isn't completely dead. But it can be in poor condition and still show a good voltage under no load.

I usually test the 82143A and 82162A printers by hooking up a lab power supply to the battery terminals, with the supply set to 5V. Just make sure you don't get the polarity reversed.

---

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## HP Forum Archive 17

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### HP 35s: Complex to Rectangular to Polar Revisited (long)

Message #1 Posted by **Jeff O.** on 22 Aug 2007, 7:25 p.m.

The absence of rectangular to polar, polar to rectangular and related functions on the HP 35s has already been discussed at length, and I believe that various routines are due to soon be included in the software library. Rather than wait, I attempted to go through the various threads to see if I could pull out the best routines for each function. However, I found it a bit tricky to follow the threads and various routines that were presented. To try to get a handle on things, I went back to the basics of the problem and tried to work my way forward. The following likely rehashes a lot of the previous discussion, and I make no claims of originality. So, at the risk of beating a dead horse (and exposing a blatant lack of understanding of some point or another), from the beginning.....

As I see things, there are seven basic functions related to the entry, display and conversion of complex numbers that the 35s lacks. For the sake of the following discussion, "Complex" means a complex number residing in a single stack level on the 35s, "Real Rectangular" means a complex number represented in rectangular form as two real values in two stack levels, and "Real Polar" means a complex number represented in polar form as two real values in two stack levels. The seven missing functions are:

1. Complex to Real Rectangular Form conversion - Decomposition of a complex number into its real and imaginary components, with those values placed in the stack x and stack y registers, respectively.
2. Complex to Real Polar Form conversion - Decomposition of a complex number into the magnitude and angle of its polar form, with those values placed in the stack x and stack y registers, respectively.
3. Real Rectangular Form to Complex conversion - Formation of a complex number in stack x from real and imaginary components initially in the stack x and stack y registers, respectively.
4. Real Polar Form to Complex conversion - Formation of a complex number in stack x from a magnitude and angle initially in the stack x and stack y registers, respectively.
5. Real Polar to Real Rectangular Conversion - Conversion of a polar representation of complex number in stack x (magnitude) and stack y (angle) to a rectangular representation in stack x (real) and stack y (imaginary).
6. Real Rectangular to Real Polar Conversion - Conversion of a rectangular representation of complex number in stack x (real) and stack y (imaginary) to a polar representation in stack x (magnitude) and stack y (angle).
7. Complex Conjugate - Conversion of a complex number in stack x to its complex conjugate in stack x.

Ideally, routines to perform the above functions would leave the stack (including Last x) exactly as if they were built in functions. Before discussion of how they should operate, a few definitions are in order:

```

Re      :a value representing the real component of a complex number
Im      :a value representing the imaginary component of a complex number
Mag     :a value representing the magnitude of a complex number when
        expressed in polar form
Ang     :a value representing the angle of a complex number when
        expressed in polar form

```

A, B, C :specific pre-existing values in the stack  
 Re i Im :a complex number held in a single stack level displayed in rectangular form  
 Mag  $\angle$  Ang :a complex number held in a single stack level displayed in polar form  
 -- :the most recent value in the Last x register, to be overwritten

With the above said, I believe that the previously described seven functions should perform as follows:

#### 1. Complex to Real Rectangular

| <u>Stack Before</u>            |    | <u>Stack After</u>                  |
|--------------------------------|----|-------------------------------------|
| t: C                           | -> | t: B                                |
| z: B                           | -> | z: A                                |
| y: A                           | -> | y: Im                               |
| x: Re i Im or Mag $\angle$ Ang | -> | x: Re                               |
| Last x: --                     | -> | Last x: Re i Im or Mag $\angle$ Ang |

#### 2. Complex to Real Polar

| <u>Stack Before</u>            |    | <u>Stack After</u>                  |
|--------------------------------|----|-------------------------------------|
| t: C                           | -> | t: B                                |
| z: B                           | -> | z: A                                |
| y: A                           | -> | y: Ang                              |
| x: Re i Im or Mag $\angle$ Ang | -> | x: Mag                              |
| Last x: --                     | -> | Last x: Re i Im or Mag $\angle$ Ang |

#### 3. Real Rectangular to Complex

| <u>Stack Before</u> |    | <u>Stack After</u>             |
|---------------------|----|--------------------------------|
| t: B                | -> | t: B                           |
| z: A                | -> | z: B                           |
| y: Im               | -> | y: A                           |
| x: Re               | -> | x: Re i Im or Mag $\angle$ Ang |
| Last x: --          | -> | Last x: Re                     |

#### 4. Real Polar to Complex

| <u>Stack Before</u> |    | <u>Stack After</u>             |
|---------------------|----|--------------------------------|
| t: B                | -> | t: B                           |
| z: A                | -> | z: B                           |
| y: Ang              | -> | y: A                           |
| x: Mag              | -> | x: Re i Im or Mag $\angle$ Ang |
| Last x: --          | -> | Last x: Mag                    |

#### 5. Real Polar to Real Rectangular

| <u>Stack Before</u> |    | <u>Stack After</u> |
|---------------------|----|--------------------|
| t: B                | -> | t: B               |
| z: A                | -> | z: A               |
| y: Ang              | -> | y: Im              |
| x: Mag              | -> | x: Re              |
| Last x: --          | -> | Last x: Mag        |

#### 6. Real Rectangular to Real Polar

| <u>Stack Before</u> |    | <u>Stack After</u> |
|---------------------|----|--------------------|
| t: B                | -> | t: B               |
| z: A                | -> | z: A               |
| y: Im               | -> | y: Ang             |
| x: Re               | -> | x: Mag             |
| Last x: --          | -> | Last x: Re         |

#### 7. Complex Conjugate

| <u>Stack Before</u>            |    | <u>Stack After</u>                  |
|--------------------------------|----|-------------------------------------|
| t: C                           | -> | t: C                                |
| z: B                           | -> | z: B                                |
| y: A                           | -> | y: A                                |
| x: Re i Im or Mag $\angle$ Ang | -> | x: Re i -Im or Mag $\angle$ -Ang    |
| Last x: --                     | -> | Last x: Re i Im or Mag $\angle$ Ang |

Having come this far, I went ahead and developed seven routines to accomplish the above functions. I used many ideas and techniques developed in the previous discussion, and I don't know if I exactly replicated any of the routines presented previously. If so, due credit is given to the original developer. I decided to place them all under one label, rather than having different labels for each. (In earlier threads, I found the labelling a bit confusing. Does Label P convert to Polar, from Polar, convert a complex number to real polar form, etc.?) I chose Label Z, for a couple of reasons. I intend for the program to be always resident on the calculator. Since Z is the last label alphabetically, I can easily remember that it is unavailable for general programming. Also, the letter Z is used to represent complex impedance in electric power engineering, which is my primary application for these functions, so it seemed natural to use it for this suite of functions. Each routine has an equation at the beginning that labels the function to be performed. It is set up to pause, display the function name, then execute the routine when each routine is called. It is **not** independent of flag 10, which is set to display the function label, then cleared in each routine. So flag 10 will be cleared after each routine, regardless of its setting prior to execution. The routines use only stack manipulation and equations, no general storage registers are used. With the above caveats, my program to implement the suite of Complex-Rectangular-Polar functions is as follows:

```

Z001   LBL Z
Z002   SF 10                               :Entry point for Complex to Rectangular
Z003   Eqn CPLX->RECT
Z004   PSE
Z005   CF 10
Z006   ABS
Z007   CLx
Z008   eqn ABS(LASTx)*SIN(ARG(LASTx))
Z009   eqn ABS(LASTx)*COS(ARG(LASTx))
Z010   RTN
Z011   SF 10                               :Entry point for Complex to Polar
Z012   Eqn CPLX->POLAR
Z013   PSE
Z014   CF 10
Z015   ARG
Z016   LASTx
Z017   ABS
Z018   RTN
Z019   SF 10                               :Entry point for Rectangular to Complex
Z020   Eqn RECT->CPLX
Z021   PSE
Z022   CF 10
Z023   ABS
Z024   Roll down
Z025   Roll down
Z026   Eqn LASTx+i*REGT
Z027   Eqn REGZ
Z028   Roll down
Z029   RTN
Z030   SF 10                               :Entry point for Polar to Complex
Z031   Eqn POLAR->CPLX
Z032   PSE
Z033   CF 10
Z034   ABS
Z035   Roll Down
Z036   Roll Down
Z037   Eqn LASTx*COS(REGT)+i*LASTx*SIN(REGT)
Z038   Eqn REGZ
Z039   Roll Down
Z040   RTN
Z041   SF 10                               :Entry point for Polar to Rectangular
Z042   Eqn POLAR->RECT
Z043   PSE
Z044   CF 10
Z045   ABS
Z046   Roll Down
Z047   Roll Down
Z048   Eqn LASTx*COS(REGT)+i*LASTx*SIN(REGT)
Z049   ENTER
Z050   Roll Down
Z051   Roll Down

```



```

Z052   Eqn  ABS(REGZ)*SIN(ARG(REGZ))
Z053   Eqn  ABS(REGT)*COS(ARG(REGT))
Z054   RTN
Z055   SF 10                               :Entry point for Rectangular to Polar
Z056   Eqn  RECT->POLAR
Z057   PSE
Z058   CF 10
Z059   ABS
Z060   CLx
Z061   LASTx
Z062   Roll Down
Z063   Roll Down
Z064   Eqn  REGZ+i*REGT
Z065   ENTER
Z066   Roll Down
Z067   Roll Down
Z068   Eqn  ARG(REGT)
Z069   Eqn  ABS(REGT)
Z070   RTN
Z071   SF 10                               :Entry point for Complex Conjugate
Z072   Eqn  CPLX CONJUGATE
Z073   PSE
Z074   CF 10
Z075   ABS
Z076   CLx
Z077   Eqn  SQ(ABS(LASTx))/LASTx
Z078   RTN

```

And, for what it's worth,

CK = F440

LN = 541

## Re: HP 35s: Complex to Rectangular to Polar Revisited (long)

Message #2 Posted by [Alain Mellan](#) on 22 Aug 2007, 8:48 p.m.,  
in response to message #1 by Jeff O.

Great work!

One minor comment though: I would add a jump table at the beginning:

```

Z001 LBL Z
Z002 GTO Z019
Z003 GTO Z028
...

```

This way, it's easier to remember what is what. XEQ Z002 for the first conversion, Z003 for the second, etc.

## Re: HP 35s: Complex to Rectangular to Polar Revisited (long)

Message #3 Posted by [Jeff O.](#) on 27 Aug 2007, 3:43 p.m.,  
in response to message #2 by Alain Mellan

In case anyone is interested, I took Alain's advice and added a jump table. I also changed the order of the routines to make it easier to remember. (I could have done that with the jump table with the original program, but I wanted the routines to be in the same order within the program as the order in which they appear in the jump table.) Unfortunately, I can't start the jump table with the jump to the first routine at Z001, as that's where the program label is. I have to start with the jump to routine 1 at label Z002. So remembering which jump goes to which routine would require a mental conversion to remember to add one to the number of the routine, which for me would be bound to result in errors when I subtract one instead of adding. With the reordering of routines, I find it easier to remember that those routines that are "rectangular-centric", i.e.  $C \Rightarrow R$ ,  $R \Rightarrow C$  and  $R \Rightarrow P$ , are the even numbered labels Z002, Z004 and Z006, and the "polar-centric" routines ( $C \Rightarrow P$ ,  $P \Rightarrow C$  and  $P \Rightarrow R$ ) are the odd labels Z003, Z005 and Z007. (Of course, the definitions of "rectangular-centric" and "polar-centric" are subject to debate, i.e., you might swap my definitions of  $R \Rightarrow P$  and  $P \Rightarrow R$ ). Complex Conjugate is the last routine, I'll just have to remember

that it's no. 8. To help picture things, the jump table is as follows:

|   |                |   |     |             |
|---|----------------|---|-----|-------------|
| <b>Complex to Real Rectangular Form</b> | <b>C=&gt;R</b> | : | XEQ | <b>Z002</b> |
| <i>Complex to Real Polar Form</i>       | <i>C=&gt;P</i> | : | XEQ | <i>Z003</i> |
| <b>Real Rectangular to Complex</b>      | <b>R=&gt;C</b> | : | XEQ | <b>Z004</b> |
| <i>Real Polar to Complex</i>            | <i>P=&gt;C</i> | : | XEQ | <i>Z005</i> |
| <b>Real Rectangular to Real Polar</b>   | <b>R=&gt;P</b> | : | XEQ | <b>Z006</b> |
| <i>Real Polar to Real Rectangular</i>   | <i>P=&gt;R</i> | : | XEQ | <i>Z007</i> |
| Complex Conjugate                       | C=>C*          | : | XEQ | Z008        |

**Rectangular-centric routines shown bold**

*Polar-centric routines shown in italics*

The new code listing is as follows:

```

Z001      LBL Z
Z002      GTO Z009           :jump to Complex to Rectangular
Z003      GTO Z018           :jump to Complex to Polar
Z004      GTO Z026           :jump to Rectangular to Complex
Z005      GTO Z037           :jump to Polar to Complex
Z006      GTO Z048           :jump to Rectangular to Polar
Z007      GTO Z064           :jump to Polar to Rectangular
Z008      GTO Z078           :jump to Complex Conjugate
Z009      SF 10              :Entry point for Complex to Rectangular
Z010      Eqn CPLX->RECT
Z011      PSE
Z012      CF 10
Z013      ABS
Z014      CLx
Z015      eqn ABS(LASTx)*SIN(ARG(LASTx))
Z016      eqn ABS(LASTx)*COS(ARG(LASTx))
Z017      RTN
Z018      SF 10              :Entry point for Complex to Polar
Z019      Eqn CPLX->POLAR
Z020      PSE
Z021      CF 10
Z022      ARG
Z023      LASTx
Z024      ABS
Z025      RTN
Z026      SF 10              :Entry point for Rectangular to Complex
Z027      Eqn RECT->CPLX
Z028      PSE
Z029      CF 10
Z030      ABS
Z031      Roll down
Z032      Roll down
Z033      Eqn LASTx+i*REGT
Z034      Eqn REGZ
Z035      Roll down
Z036      RTN
Z037      SF 10              :Entry point for Polar to Complex
Z038      Eqn POLAR->CPLX
Z039      PSE
Z040      CF 10
Z041      ABS
Z042      Roll Down
Z043      Roll Down
Z044      Eqn LASTx*COS(REGT)+i*LASTx*SIN(REGT)
Z045      Eqn REGZ
Z046      Roll Down
Z047      RTN
Z048      SF 10              :Entry point for Rectangular to Polar
Z049      Eqn RECT->POLAR
Z050      PSE
Z051      CF 10
Z052      ABS
Z053      CLx
Z054      LASTx
Z055      Roll Down
Z056      Roll Down
Z057      Eqn REGZ+i*REGT
Z058      ENTER
Z059      Roll Down
Z060      Roll Down
Z061      Eqn ARG(REGT)
Z062      Eqn ABS(REGT)
Z063      RTN

```

```

Z064      SF 10                :Entry point for Polar to Rectangular
Z065      Eqn POLAR->RECT
Z066      PSE
Z067      CF 10
Z068      ABS
Z069      Roll Down
Z070      Roll Down
Z071      Eqn LASTx*COS( REGT )+i *LASTx*SIN( REGT )
Z072      ENTER
Z073      Roll Down
Z074      Roll Down
Z075      Eqn ABS( REGZ ) *SIN( ARG( REGZ ) )
Z076      Eqn ABS( REGT ) *COS( ARG( REGT ) )
Z077      RTN
Z078      SF 10                :Entry point for Complex Conjugate
Z079      Eqn CPLX CONJUGATE
Z080      PSE
Z081      CF 10
Z082      ABS
Z083      CLx
Z084      Eqn SQ( ABS( LASTx ) ) /LASTx
Z085      RTN
    
```

LN=562

Edited to correct the error that Gene kindly pointed out :-)

*Edited: 27 Aug 2007, 10:04 p.m. after one or more responses were posted*

### Re: HP 35s: Complex to Rectangular to Polar Revisited (long)

Message #4 Posted by [Arne Halvorsen \(Norway\)](#) on 27 Aug 2007, 4:11 p.m.,  
in response to message #3 by Jeff O.

I really love to read these posts from people who are posting HP-35s code being one who's is in the mail (Samson just confirmed it on the way). I am programming it in my head and notebook, but last time I did keystroke programming where on a HP-41CV 20 years ago...

### Re: HP 35s: Complex to Rectangular to Polar Revisited (long)

Message #5 Posted by [Gene Wright](#) on 27 Aug 2007, 5:13 p.m.,  
in response to message #3 by Jeff O.

Of course, lines Z002 through Z008 are GTO Z009, GTO Z018, etc.

Just for any newbies who read this post and wonder how to put a GTO 9 into the program. :-)

### Re: HP 35s: Complex to Rectangular to Polar Revisited (long)

Message #6 Posted by [Karl Schneider](#) on 28 Aug 2007, 12:08 a.m.,  
in response to message #3 by Jeff O.

Hi, Jeff --

I haven't tested it yet, but it looks like fine work. Other functions to include might be:

- "Re" (complex number replaced with its real part)
- "Im" (complex number replaced with its imaginary part)
- "Neg" (negate both rectangular parts or shift the angle by a half-circle)

Let's all not forget, though: These are functions that should have been built-in. I aim to convince HP to rectify the matter with an HP-35sII or HP-45s.

-- KS

**Re: HP 35s: Complex to Rectangular to Polar Revisited (long)**

Message #7 Posted by [Jeff O.](#) on 28 Aug 2007, 12:29 p.m.,  
in response to message #6 by Karl Schneider

Hi Karl,

Yes, I considered the Re and Im functions, but then I would have to remember *nine* jump labels! Seriously, since those are easily obtainable after executing a C=>R conversion, I guess I did not feel a great need to create routines that would provide just the real or just the imaginary part while preserving the stack and Last x. However, if a group of conversions is included on a future model, by all means Re and Im should be included. As for a "Neg" function, doesn't the + / - key do as you suggest (negate both rectangular parts or shift the angle by a half-circle)? Do we need a "Neg Re" key to negate just the real part, i.e., do to the real component what complex conjugate does to the imaginary? I found that it can be accomplished using almost the same technique that you presented for complex conjugate, as follows:

```
ENTER
ABS
x2
+ / -          (new step)
x<>y
/
```

Regardless of how it is done, does the act of negating the real part of a complex number have a name or any utility in complex number operations?

Quote:

Let's all not forget, though: These are functions that should have been built-in. I aim to convince HP to rectify the matter with an HP-35sII or HP-45s

Yes, they certainly should have. As far as a 35sII, from what Gene says, the 35s absolutely maxed out the architecture (or whatever) of the original 32s platform, such that adding new functions would require deleting others. If we adopt "Re", "Im" and "Neg Re", that makes 10 functions, which can conveniently be grouped as 5 complementary functions that would make good yellow-shift/blue-shift combinations. Hmm, where can we find five keys with 10 functions that we don't need? Oh yeah, how about the mostly useless SI to English conversions that use up the yellow and blue shifted functions on 5 keys, plus the ROM space required to implement them? Implementation might look like this:



Feel free to use the above in your pitch to hp :-)

**Re: HP 35s: Complex to Rectangular to Polar Revisited (long)**

Message #8 Posted by **Trent Moseley** on 28 Aug 2007, 2:44 p.m.,  
in response to message #7 by Jeff O.

Hooray!

tm

## Re: HP 35s: Complex to Rectangular to Polar Revisited (long)

Message #9 Posted by **Karl Schneider** on 28 Aug 2007, 11:32 p.m.,  
in response to message #7 by Jeff O.

Hi, Jeff --

Quote:

As for a "Neg" function, doesn't the + / - key do as you suggest (negate both rectangular parts or shift the angle by a half-circle)?

Hmm, I guess it does. The HP-28C has a "NEG" function that negates both parts of a complex number, just as CHS does. Without checking the manual, I'm not sure why it was provided. "NEG" notwithstanding, the HP-28 offers a fine example of a utility-function menu for complex numbers.

Quote:

Do we need a "Neg Re" key to negate just the real part, i.e., do to the real component what complex conjugate does to the imaginary?

Nah, I doubt it. No practical application comes to mind.

-- KS

## Re: HP 35s: Complex to Rectangular to Polar Revisited

Message #10 Posted by **Karl Schneider** on 22 Aug 2007, 11:55 p.m.,  
in response to message #1 by Jeff O.

Hi, Jeff --

Pretty good work. I fundamentally agree with what you stated, but your functional specifications differ from what has been implemented previously.

Mostly, you are describing the complex-number composition/decomposition functions "R->C" and "C->R" on the RPL-based models. These are quite similar to the vague "COMPLEX" function on the HP-42S, but I've noted a subtle but *very important* difference:

On the HP-48/49 models, "R->C" and "C->R" assume arguments in rectangular form:

```
3 ENTER 4 ENTER R->C
```

will always compose  $3+i4$ . If the calc is in polar mode, it will display that value in polar form.

However, on the HP-42S in polar mode,

```
3 ENTER 4 COMPLEX ("R->C")
```

will compose

```
3 ∟4
```

This is the way it ought to work.

Note that the imaginary part is in the x-register and the real part is in the y-register for both RPL models and the HP-42S.

I plan to prepare a detailed short paper about complex numbers and other issues related to improvement of the HP-35s, and deliver it to HP prior to the HHC conference. I hope to get an opportunity for private discussion with HP's calc team during the visit.

Here's the basis of the complex-number discussion, consisting of one exchange between you and me, three years ago:

[User-friendly complex numbers](#)

-- KS

## Re: HP 35s: Complex to Rectangular to Polar Revisited

Message #11 Posted by [James M. Prange \(Michigan\)](#) on 23 Aug 2007, 1:20 a.m.,  
in response to message #10 by Karl Schneider

Quote:

On the HP-48/49 models, "R->C" and "C->R" assume arguments in rectangular form:

```
3 ENTER 4 ENTER R->C
```

will always compose 3+i4. If the calc is in polar mode, it will display that value in polar form.

True, that's how the 48/49 series works, and it's never seemed quite right to me either.

However, for something that works as you'd like R\->C to work, set flag -19 and use \->V2 instead, and for something that works as you'd like C\->R to work, use V\-> instead.

You could write a program:

```
%%HP: T(3);
\<<
  RCLF
  ROT ROT @ or 3 ROLLD, or, on the 49 series UNROT
  -19 SF
  \->V2
  SWAP
  STOF
\>>
```

as a replacement for the R\->C command and name it whatever you want. On the 49 series, you could use either the filer's RENAME operation to change its name to C\->R, or use the development library's S~N operation to create an otherwise invalid name from a string.

On either the 48 or 49 series, to create an otherwise invalid name from a string, you could use the SYSEVAL command with the entry point for the SysRPL \$>ID command. For reference, this would be

#5B15h SYSEVAL for both the 48 and 49 series.

For the C\->R command, you could write the program:

```
%%HP: T(3);
\<<
  V\->
\>>
```

and using the same techniques, rename or store it with the name C\->R.

Of course, when keying in a complex number within the ( ) complex numbers delimiters on the command line (or other source code, such as an ASCII file or a string to be compiled), it's treated as polar notation if the angle symbol is used, or rectangular notation if any other separator is used.

Regards,  
James

### Re: HP 35s: Complex to Rectangular to Polar Revisited

Message #12 Posted by [Karl Schneider](#) on 24 Aug 2007, 1:17 a.m.,  
in response to message #11 by James M. Prange (Michigan)

James --

Good to hear from you, and thanks for the informative response. It's always helpful to be shown how something might be approached in RPL, because many of us -- it must be admitted -- wouldn't have a clue...

-- KS

### Re: HP 35s: Complex to Rectangular to Polar Revisited

Message #13 Posted by [Jeff O.](#) on 23 Aug 2007, 2:13 p.m.,  
in response to message #10 by Karl Schneider

Karl,  
Thanks for your review and comments.

Quote:

...your functional specifications differ from what has been implemented previously.

Agreed, they do differ from the manner in which a complex value is "built" from two stack levels in the 15C, 42S and RPL models. If that is the only way to get a complex number into the calculator, I wholeheartedly approve of keying in real, then imaginary or magnitude, then angle and then executing the function to build the complex number. However, my routines are not intended for use to enter complex numbers in which the components are to be keyed in. The i and theta keys (of which we were long, I'll say pioneering, proponents) allow you to just key them in. No need to put them into stack registers and build the complex number. My routines are for cases where through some sequence of calculations you end up with values in the stack x and stack y registers that represent the real and imaginary components or magnitude and angle of a complex number. You don't want to have to re-key in those numbers (which would likely require writing one of them down) to get them into complex form. For this situation, I chose the convention that the imaginary component (or angle) goes in stack y, and the real component (or magnitude) goes in stack x. This conforms to the "classic" conventions used for the Rectangular to Polar and Polar to Rectangular functions on every hp calculator with those functions since they were introduced

on the HP-45. I then used that convention for all of the functions to which it applied. In any case, if you prefer the other convention, my routines could be easily modified.

I agree that the 42S did things the right way, especially as compared to the RPL models and entry of polar form numbers. The 42S figured you knew what you were doing, i.e., if it was in polar mode, whatever you entered was considered to be in polar form. Of course if you were in polar mode and had a rectangular form number to enter, you could do so, then execute  $\rightarrow$ POL. Again, the 42S figured you knew what you were doing and dutifully performed the conversion using the components of the complex number treated as Real and Imaginary even though they were displayed as Magnitude and Angle. (I'm quite sure you are aware of all this Karl, I'm just providing a complete answer.) In any case, this situation is also made moot by the  $i$  and theta keys.

Quote:

---

I plan to prepare a detailed short paper about complex numbers and other issues related to improvement of the HP-35s, and deliver it to HP prior to the HHC conference. I hope to get an opportunity for private discussion with HP's calc team during the visit.

---

I look forward to seeing that paper (assuming you will make it public here or at the conference) and I hope you get HP's ear. I certainly remember our previous exchanges. While I would still like to see your original or a similar proposal implemented, the 35s is about 80 to 90% of the way there for me. If it had the seven functions I presented, the SHOW function presented the full precision of both components in the two lines of the display, and my Option 3 angle symbol (like the 42S) was used to separate the magnitude from the angle in the display, I'd be pretty well satisfied.

Best Regards,  
Jeff

## Re: HP 35s: Complex to Rectangular to Polar Revisited

Message #14 Posted by [Karl Schneider](#) on 24 Aug 2007, 1:08 a.m.,  
in response to message #13 by Jeff O.

Hi, Jeff --

All in all, it's probably a good idea to redefine "R $\rightarrow$ C" and "C $\rightarrow$ R" as you specified. There's no pressing need for consistency with the methods of the HP-42S and HP-48/49 (I can't speak for the HP-50). With your definition, the following sequences would give the same results for converting  $3+i4$  to polar form as a pair of reals and as a complex (rectangular input mode assumed):

```
3 ENTER 4 x<>y  $\rightarrow$ POL
```

```
3 ENTER 4 x<>y R $\rightarrow$ C  $\rightarrow$ POL C $\rightarrow$ R
```

Quote:

---

The 42S figured you knew what you were doing, i.e., if it was in polar mode, whatever you entered was considered to be in polar form. Of course if you were in polar mode and had a rectangular form number to enter, you could do so, then execute  $\rightarrow$ POL. Again, the 42S figured you knew what you were doing and dutifully performed the conversion using the components of the complex number treated as Real and Imaginary even though they were displayed as Magnitude and Angle.

---

Hmm, perhaps that's the reason that  $\rightarrow$ REC and  $\rightarrow$ POL operating on a complex number didn't change



between "i" and "angle symbol" appropriately. I'd always felt that it was a bug or oversight. However, since the HP-42S offered no means of directly entering a complex number of the form opposite of its current mode setting, then the value-changing conversion was indeed useful. The alternatives were to change mode twice, or to convert a pair of reals with appropriate  $x < > y$ .

Quote:

---

I look forward to seeing that paper (assuming you will make it public here or at the conference)

---

My planned approach was to submit the paper privately to HP, in order to give them a chance to review and respond. I might make it generally available after the conference. I probably won't have it done in time to meet the deadline for presentation, anyway.

-- KS

---

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## HP Forum Archive 17

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### HP-35s bug list

Message #1 Posted by [Daniel Diggelmann](#) on 22 Aug 2007, 5:03 p.m.

I'm working in the R&D department of an aircraft manufacturer. I have ordered a larger quantity of HP-35s for our engineers. While talking to the main importer for Switzerland I mentioned that a few bugs have already been found. The importer had heard about the bugs and had a meeting with HP where HP told them that this was all just negative publicity, possibly spread on the internet by their competitors. What do you guys think of HP's position here?

The importer offered me to pass a buglist to HP if I could provide it. I know of the  $\cos(x)$  bug for  $x =$  near to 90. I have also heard about the checksum error. Could we please collect all known bugs in this thread and I'll pass them to HP. I also made them clear that in aviation industry there's little room for errors. If we find out the HP-35s has unacceptable bugs I'll return them all to HP. I'm quite a HP fan but since about 10 years we have been let down with lousy hardware. The hardware of my personal HP-35s feels very good to me. But I can't believe that HP haven't fixed known bugs since the HP-33s. I understand that the HP-35s would have never been realised without a lot of pressure from the enthusiasts here. Now I think we should keep the pressure up in order to get back the quality we expect.

Thanks for all your contribution.

Daniel Diggelmann

*Edited: 22 Aug 2007, 5:03 p.m.*

### Re: HP-35s bug list

Message #2 Posted by [Paul Dale](#) on 22 Aug 2007, 5:21 p.m.,  
in response to message #1 by [Daniel Diggelmann](#)

I've put this list up as an [article](#) and will try to keep that current rather than editing here all the time. Check the [article](#) for the current state of affairs.

---

Here is a quick list I've made up. Feel free to expand and/or correct these:

1. Vector input bug has been mentioned and very weird behavior shows up but I'm not aware of this being isolated or repeatable. I do have enough trust in the people reporting problems to believe there is something to them.
2.  $\cos(x)$  for  $x$  near 90 is dud.
3. Checksums are meaningless. Seems to be related to numbers in programs but nothing definitely proven yet.
4. Program sizes are also meaningless. Again seems to be number related and again nothing proven.
5. Bad error message on indirection on J. You get "INVALID (I)" error message if done from the

keyboard, from a program it gives the correct message: 1000 ; STO J ; x<>(J)

6. Bad radix. If you are in RADIX, mode and you enter RADIX, in program mode it is displayed as RADIX.
7. Program entry bug for large programs. Create a 999 step program and then try to enter a new LBL. You're not allowed. Delete one step, create the LBL and put the step back and all is fine.
8. GTO.a ENTER doesn't work as expected. GTO.a000 does.
9. INPUT (i) for  $i \geq 0$  doesn't work. Strictly this is documented in the manual and so isn't really a bug.
10. Poor choice for the graphic for the "theta". It is much too close to the graphic for "8". Again, not strictly a bug.

This probably should go up as an article rather than being lost in the forum section.

- Pauli

<edited to include checksum and program size bugs>  
 <edited to include theta vs 8 discrimination problems>  
 <pointed to the article in progress>

*Edited: 22 Aug 2007, 8:02 p.m. after one or more responses were posted*

**(Pauli: the checksum, the checksum ...) :-)**

*Message #3 Posted by [Valentin Albillo](#) on 22 Aug 2007, 5:28 p.m.,  
 in response to message #2 by Paul Dale*

Best regards from V.

**Re: (Pauli: the checksum, the checksum ...) :-)**

*Message #4 Posted by [Paul Dale](#) on 22 Aug 2007, 5:38 p.m.,  
 in response to message #3 by Valentin Albillo*

The checksum was mentioned in the initial post, but I should have remembered it too. Also the program size is screwy. I'll add both to my list.

- Pauli

**Re: HP-35s bug list**

*Message #5 Posted by [Bruce Bergman](#) on 22 Aug 2007, 6:08 p.m.,  
 in response to message #2 by Paul Dale*

Agreed. Some common, visible location would be the best. A wiki, in some respects.

Seems like several folks would like to consider the poor character layout choice for "theta" as a "bug" -- I'd at least pass it along to HP.

thanks, bruce

**Re: HP-35s bug list**

Message #6 Posted by [Alain Mellan](#) on 22 Aug 2007, 6:18 p.m.,  
in response to message #2 by Paul Dale

10. Theta sign in complex display mode is hard to differentiate from an eight.

11. Missing re/img extraction may be considered as bug?

**Re: HP-35s bug list**

Message #7 Posted by [Paul Dale](#) on 22 Aug 2007, 6:24 p.m.,  
in response to message #2 by Paul Dale

I've put the list into an [article](#).

I'll keep it updated as new bugs are found and errors in the list reported.

I've also split the list into genuine bugs and annoyances that are harder to classify as bugs. Feel free to dispute my classifications.

- Pauli

**Re: HP-35s bug list**

Message #8 Posted by [Thomas Radtke](#) on 22 Aug 2007, 6:44 p.m.,  
in response to message #7 by Paul Dale

It has already been mentioned that only improper fractions can be entered, i.e., the expression a..b, resulting in a/b on the 32SII, cannot be entered. I'd consider this a design flaw.

Edit: Not quiet correct, of course 0.a.b can be entered but this seems to be unnecessarily laborious.

*Edited: 22 Aug 2007, 6:46 p.m.*

**Re: HP-35s bug list**

Message #9 Posted by [Walter B](#) on 22 Aug 2007, 6:53 p.m.,  
in response to message #8 by Thomas Radtke

Hallo Thomas,

to reach **a/b**, you are free to enter **.a.b** - same number of keystrokes as the **a..b** you miss AND more logical ;-)

**Re: HP-35s bug list**

Message #10 Posted by [Thomas Radtke](#) on 22 Aug 2007, 7:35 p.m.,  
in response to message #9 by Walter B

How could I possibly miss *\*that\**? Oh well...

Thanks Walter :-)

**Re: HP-35s bug list**

Message #11 Posted by [Katie Wasserman](#) on 22 Aug 2007, 6:31 p.m.,

in response to message #2 by Paul Dale

Also, in a program:

```
VIEW (I)
PSE
```

will show the wrong value of I

### Re: HP-35s bug list

Message #12 Posted by [DLF](#) on 22 Aug 2007, 6:46 p.m.,  
in response to message #2 by Paul Dale

Since you mentioned it for another item you listed, it's worth noting that the "Cos(x) for x near 90 degrees" bug is also alluded to in the documentation (pg. 4-4 in the English User's Guide).

Quote:

Here is a quick list I've made up. Feel free to expand and/or correct these:

1. Vector input bug has been mentioned and very weird behavior shows up but I'm not aware of this being isolated or repeatable. I do have enough trust in the people reporting problems to believe there is something to them.
2. Cos(x) for x near 90 is dud.

blah...blah

### Re: HP-35s bug list

Message #13 Posted by [Gerson W. Barbosa](#) on 22 Aug 2007, 9:26 p.m.,  
in response to message #12 by DLF

Nope, at page 4-4 they say  $\sin(\pi)$  is not equal to zero because  $\pi$  is represented internally with fifteen places (although the computed answer appears to have been taken with  $\pi$  to only twelve places). In fact,  $\sin(3.14159265359 \text{ rad}) = -2.0676153735661672045\text{E-}13$ , to 20 places, whose first 12 digits agree to the answer given by the 33s, after rounding.

The point here is  $\cos(x)$  -- and  $\tan(x)$  -- not being correctly computed for  $x$  near 90 degrees. For instance,  $\cos(89.999)$  returns  $1.745329091\text{E-}5$ . The correct result at this precision is  $1.74532925191\text{E-}5$ . Even worse,  $\tan(89.99999)$  returns  $5,729,578.122$  instead of  $5,729,577.95131$ . These mistakes might not affect practical applications, but should not occur in a XXIst-century calculator...

Gerson.

*Edited: 22 Aug 2007, 9:29 p.m.*

### Re: HP-35s bug list

Message #14 Posted by [DLF](#) on 23 Aug 2007, 12:42 a.m.,  
in response to message #13 by Gerson W. Barbosa

Thanks for the clarification; I just assumed it was a related "rounding error." And it appears that  $\pi$  is definitely \*not\* 15 places internally, but only the 12 places that you noted is actually being used.

So the documentation is wrong about that. (As a technical writer myself, I never like discovering that!)

### Re: HP-35s bug list

Message #15 Posted by [Raymond Del Tondo](#) on 23 Aug 2007, 3:26 a.m.,  
in response to message #14 by DLF

The Saturn-based calcs, like the original HP-32S and HP-32SII, have an internal accuracy of fifteen digits plus sign.

But please note that the 35s is not a Saturn-based machine, and thus it isn't necessarily 100 percent compatible.

Maybe the docs haven't been updated accordingly...

Raymond

### Re: HP-35s bug list

Message #16 Posted by [Gerson W. Barbosa](#) on 23 Aug 2007, 9:26 a.m.,  
in response to message #14 by DLF

In fact, it's been shown that pi is a double-precision constant in all Saturn-based calculators. This is true on the HP-35s as well. Do the following, in RAD and in ALL display mode:

```
pi
9E-11
-
ENTER
SIN
1E22
*
```

You'll get

```
3.1415926535
897,932,384,626
```

That's pi to 23 digits:

```
3.1415926535897932384626
```

This was already discussed here, some years ago:

<http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv014.cgi?read=62301>

When pi is shown in the display, it is rounded up to 12 digits. Therefore the calculator's answer for sin(pi) is equivalent to sin(3.14159265359 rad), which is absolutely correct.

Regards,

Gerson.

Edited 4 grammar.

*Edited: 23 Aug 2007, 10:58 p.m. after one or more responses were posted*

### Re: HP-35s bug list

Message #17 Posted by **DLF** on 23 Aug 2007, 8:10 p.m.,  
in response to message #16 by Gerson W. Barbosa

Gerson --

Maybe I'm just dense then, but (ignoring symbolic-mode calculators for a moment) why is  $\sin(\pi)$  on a "double-precision" 35s equiv. to  $\sin(3.14159265359 \text{ rad})$ , and not  $\sin(3.1415926535897932384626 \text{ rad})$ ?

-- DLF

### Re: HP-35s bug list

Message #18 Posted by **Gerson W. Barbosa** on 23 Aug 2007, 10:54 p.m.,  
in response to message #17 by DLF

I think I didn't make myself clear, sorry! When I wrote  $\sin(\pi)$ , I meant  $\pi$  rounded up to 12 digits, not the internal double-precision constant used in the trigonometric routines to ensure better accuracy.

An example might help us understand how this works:

Let's consider the HP-15C, whose internal  $\pi$  constant is 3.14159265359. So on the HP-15C  $\sin(3.141592654)$  will return  $-\sin(3.141592654 - 3.14159265359) = -\sin(4.1\text{E-}10) = -4.1\text{E-}10$ . In the third quadrant,  $\sin(x) = -\sin(x - \pi)$ . If the argument is the second quadrant, for instance,  $x = 3.14159265$  then  $\sin(x) = \sin(\pi - x)$ . In this case, the HP-15C returns  $\sin(3.14159265359 - 3.14159265) = \sin(0.00000000359)$ . For very small arguments,  $\sin(x) = x$ . So, what we get here are the last three digits of the 12-digit internal  $\pi$  constant: 3.14159265359. Had the HP-15C a double-precision  $\pi$  internally, we would obtain 0.000000003589793239, that is, 3.1415926535897932385 - 3.14159265.

Gerson.

### Re: HP-35s bug list

Message #19 Posted by **DLF** on 24 Aug 2007, 11:33 a.m.,  
in response to message #18 by Gerson W. Barbosa

Gotcha! And thanks for humoring me.

### Re: HP-35s bug list

Message #20 Posted by **Gerson W. Barbosa** on 24 Aug 2007, 1:34 p.m.,  
in response to message #19 by DLF

You're welcome!

FWIW, with the HP CALC application on the HP-200LX, in the proper modes, we can easily get  $\pi$  to 32 digits:

PI  
ENTER  
SIN

```
-> 3.141592653589793
    2.384626433832795e-16
```

**Re: HP-35s bug list**

Message #21 Posted by **Gerson W. Barbosa** on 22 Aug 2007, 10:25 p.m.,  
in response to message #2 by Paul Dale

Not exactly bugs, rather a feature. Anyway, suggestions for improvement:

- 1) XEQ [label] ENTER is rather cumbersome. Also, since XEQ stands for 'execute', ENTER appears to be redundant. Besides, the ENTER key always seems to be so far far away to me :-)... Why not simply XEQ [label]? XEQ [.] nnn should be used for a particular line.
- 2) In ALL mode, the mantissa should be properly rounded so that the exponent fits in the screen, a la 32S, 32Sii, 33s, etc... Or, at least, a flag should be provided for this option.
- 3) 2\*2 lin. solve and 3\*3 lin. solve look strange. 2x2 and 3x3 seems better. I would guess that was the original idea, but then some 'translated' that  $x$  as  $*$ .
- 4) Exchange the positions of Sigma+ and R/S keys.

Regards,

Gerson.

*Edited: 22 Aug 2007, 10:27 p.m.*

**Re: HP-35s bug list**

Message #22 Posted by **Raymond Del Tondo** on 23 Aug 2007, 3:19 a.m.,  
in response to message #21 by Gerson W. Barbosa

For your first note:

AFAIK they made the XEQ work the way it does because you can use it to jump to a specific program line in another program.

Consider you're in line A012, and want to call a specific line in program B, say B056.

Then you will enter XEQ B056, followed by pressing ENTER.

I still don't like the programming model, which is a blown-up 32S/33s programming model, but at least you can call code slices which you otherwise could not reach.

Besides, IMHO the ENTER bar is in the perfect position;-)

Raymond

**Re: HP-35s bug list**

Message #23 Posted by **Gerson W. Barbosa** on 23 Aug 2007, 9:38 a.m.,  
in response to message #22 by Raymond Del Tondo

Quote:

Besides, IMHO the ENTER bar is in the perfect position;-)



IMEMHO, you are right! Now, I wish there were also a big-ENTER-key 50g. It would be a perfect companion to the 35s.

Regards,

Gerson.

### Re: HP-35s bug list

Message #24 Posted by **Gerson W. Barbosa** on 23 Aug 2007, 9:51 a.m.,  
in response to message #22 by Raymond Del Tondo

Quote:

Consider you're in line A012, and want to call a specific line in program B, say B056.  
Then you will enter XEQ B056, followed by pressing ENTER.

I think XEQ .B056 to accomplish this would be better:

- same number of keystrokes;
- Only two keystrokes when calling B001 (XEQ B).

Or would this present some inconsistency I have not perceived?

Gerson.

P.S.: ENTER could be reserved for shortcuts:

XEQ .B7 ENTER, rather than XEQ .B007

*Edited: 23 Aug 2007, 9:55 a.m.*

### Re: HP-35s bug list

Message #25 Posted by **Marcus von Cube, Germany** on 24 Aug 2007, 10:39 a.m.,  
in response to message #24 by Gerson W. Barbosa

Quote:

I think XEQ .B056 to accomplish this would be better:

The dot notation is used in program mode to navigate to a different line without changing the program, at least on my 33s. So it is not free for your intended purpose.

### Re: HP-35s bug list

Message #26 Posted by **Gerson W. Barbosa** on 24 Aug 2007, 12:12 p.m.,  
in response to message #25 by Marcus von Cube, Germany

Would you please explain? I know how GTO.Lnnn works in run mode, but I haven't been able to see how XEQ.Lnnn would work in program mode.

Thanks,

Gerson.

## Re: HP-35s bug list

Message #27 Posted by **Karl Schneider** on 24 Aug 2007, 3:21 a.m.,  
in response to message #21 by Gerson W. Barbosa

Hi, Gerson --

Quote:

Why not simply XEQ [label]? XEQ [.] nnn should be used for a particular line.

Good idea, but we'd need XEQ [.] Lnnn, where L is a letter label.

Quote:

In ALL mode, the mantissa should be properly rounded so that the exponent fits in the screen, a la 32S, 32Sii, 33s, etc

Or in any mode for which the display length is too short to accommodate the full number. I, too, preferred the "legacy" method (which actually pre-dates Pioneer models) because it shows the full exponent, providing the magnitude of the number that cannot be overlooked.

However, the HP-35s, with its 14 display positions, cannot display a complete "longest-possible" complex number, even if the mantissa were rounded to only one digit. 15 display positions would be required to show such a number, e.g.:

$$1.01111 \times 10^{-234} + i * 5.0555 \times 10^{-432}$$

would have to be displayed as

$$-1E-234i-5E-432$$

The HP-42S did not have this problem; it could display up to 22 characters on one line, with each decimal point requiring a position.

-- KS

*Edited: 24 Aug 2007, 3:27 a.m.*

## Re: HP-35s bug list

Message #28 Posted by **Gerson W. Barbosa** on 24 Aug 2007, 10:45 a.m.,  
in response to message #27 by Karl Schneider

Hello Karl,

Quote:

Quote:

Why not simply XEQ [label]? XEQ [.] nnn should be used for a particular line.

Good idea, but we'd need XEQ [.] Lnnn, where L is a letter label.

That was a typo. Thanks for pointing out the mistake! Anyway, I don't think an extra keystroke in these cases should be a problem because they will not occur very often. Also, it's unlikely anyone will use all 26 labels in a calculator which has no I/O system. Chances are only a few programs will reside in memory at a time, so there will be plenty of letter labels left. If M contains some matrix routines for determinant, inverse matrix, etc., it would be better using XEQ D, XEQ I, etc., instead of XEQ .M065, XEQ M.110, etc., for instance.

Quote:

The HP-42S did not have this problem; it could display up to 22 characters on one line, with each decimal point requiring a position.

On the other hand, some consider the tiny characters in the HP-42S a weakness. I like the larger characters in the HP-35s, so that's ok for me. Perhaps providing a way to use both display lines to show a complex number could be offered as an option:

```
1.0111111E-234
i5.0555555E-432
```

The user would know this is only one complex number, otherwise the bottom display line would show

```
0i5.055556E-432
```

Also, as someone has suggested, HMS-> should be changed to ->H.

Regards,

Gerson.

### Re: HP-35s bug list

Message #29 Posted by [bill platt](#) on 23 Aug 2007, 11:19 a.m.,  
in response to message #1 by Daniel Diggelmann

Another desirable feature to be suggested for addition:

composition and decomposition of Vectors. Also cross product.

### Re: HP-35s bug list

Message #30 Posted by [Daniel Diggelmann](#) on 23 Aug 2007, 5:00 p.m.,  
in response to message #29 by bill platt

Dear colleagues,

Thanks very much for all your responses to the bug list. I've passed them on the importer which has already passed them to HP Europe. Let's hope they fix them in the next series.

Regards from Switzerland, Daniel

**Re: HP-35s bug list**

Message #31 Posted by [gteague](#) on 27 Aug 2007, 5:53 a.m.,  
in response to message #1 by Daniel Diggelmann

is this a bug?

p5-4 & 5-5 of the manual say that you can show the value of the maximum denominator '/c' by issuing the commands: '1 (f) /c'.

i cannot get this to work in alg mode although entering a number between 2-4095 works and entering 0 works to set the default of 4095. entering a '1' seems to have no effect whatsoever.

in other words, i can issue '64 (f) /c' in alg mode, then switch to rpn mode and issue '1 (f) /c' and the display will show '64'.

i could not find a sequence of commands that would show the value of '/c' in alg mode.

/guy

**HP-35s bug list -- is this a bug?**

Message #32 Posted by [gteague](#) on 27 Aug 2007, 7:54 p.m.,  
in response to message #31 by gteague

this question seems to have gotten lost or orphaned, but i didn't know where the 'official' bug list was being kept.

upon reflection, this might simply be a owners manual 'bug' rather than a hardware/software bug.

/guy

**Re: HP-35s bug list -- is this a bug?**

Message #33 Posted by [Paul Dale](#) on 27 Aug 2007, 8:54 p.m.,  
in response to message #32 by gteague

The bug list is kept here: [HP-35s bugs](#). I've added this one.

- Pauli

**Re: HP-35s bug list -- is this a bug?**

Message #34 Posted by [Gerson W. Barbosa](#) on 27 Aug 2007, 9:42 p.m.,  
in response to message #33 by Paul Dale

Quote:

\_\_\_\_\_

The bug list is kept here: [HP-35s bugs](#).

\_\_\_\_\_

Quote:

\_\_\_\_\_

Cos(x) for x near 90 is dud.

\_\_\_\_\_

Tan(x) is duff too :-)

*Edited: 28 Aug 2007, 8:17 a.m.*

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## HP Forum Archive 17

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### HP33s has more programing power than one might think

Message #1 Posted by [Howard Boardman](#) on 22 Aug 2007, 12:06 p.m.

...if you consider the equation solver. I came up with an equation that calculates the area of circular segment after asking the middle ordinate and radius of a circle. This is a common problem on geometry exams and NCEES type tests where you need to find the volume of liquid in a cylindrical tank on its side. Its an ugly equation but the 33s handles it. Of course things like this are unnecessary with the 35s and its GTO line ability. Just a thought though. It seems that if you structure an equation right with your parenthesis in the 33s it can solve just about everything and in effect is capable of some pretty daunting equations which typically would be programs. Furthermore it is able to solve for any variable. As of right now the 33s is still the only RPN programmable calc allowed on NCEES tests, hopefully the 35s will be added.

### NCEES and the 35S

Message #2 Posted by [Norris](#) on 22 Aug 2007, 12:47 p.m.,  
in response to message #1 by [Howard Boardman](#)

NCEES updates its calculator policy annually, on November 15. The updated list applies to the coming calender year. So the "approved calculator list" for 2008 should be posted on November 15, 2007.

The current "approved" list was posted on November 15, 2006 for 2007; it includes the 33S, but not the 35S (since nobody knew about the 35S in 2006). So it appears that the 33S will remain the only approved HP for the October 2007 exams. There are still people buying the 33S, even though the 35S is obviously the better option, for this reason.

It seems likely that the 33S will be discontinued in the near future, and that NCEES will add the 35S to the approved list for 2008. The question is whether NCEES will keep the discontinued 33S on the 2008 approved list. It wouldn't surprise me if they did drop the 33S; NCEES wants to keep the approved list as short as possible, to facilitate enforcement.

The licensing process typically requires multiple exams over a period of a few years. If the 33S is dropped from the list, there will be a loud chorus of protest from exam candidates who invested \$50 for a 33S in 2006 or 2007, but who now will have to pay another \$60 to replace it with a 35S for 2008.

So the NCEES announcement on November 15 could significantly affect 35S sales:

- If NCEES adds the 35S and drops the 33S, then 35S sales will probably jump immediately. In this case, literally thousands of existing, 33S-owning exam candidates will be forced to buy the 35S as a replacement. And many new exam candidates will want the 35S as well. There could be a 35S shortage.
- If NCEES adds the 35S but keeps the 33S, then 35S sales will still go up, but not as dramatically. New candidates will buy the 35S for the 2008 exams, but those who already own the 33S won't be obliged to replace it.

*Edited: 22 Aug 2007, 12:59 p.m.*

## Re: NCEES and the 35S

Message #3 Posted by [Bruce Bergman](#) on 22 Aug 2007, 1:24 p.m.,  
in response to message #2 by Norris

With a dedicated (read: captive) crowd of NCEES students potentially swapping for the HP-35s, I wonder if it would be worthwhile to cater somewhat to them. For example, provide some sort of "RPN/HP-35s primer for NCEES students" guide, similar to the educational modules. I think that would be a good way to welcome them and encourage them to use the calc AND RPN.

Maybe provide a handful of solver examples like the one above, a couple of representative solutions taken from the study materials, etc.

That would be kinda cool, if I were in that group...

thanks, bruce

## Re: NCEES and the 35S

Message #4 Posted by [Norris](#) on 22 Aug 2007, 4:58 p.m.,  
in response to message #3 by Bruce Bergman

Note that there are already several vendors that market 33S exam products:

- [PPI](#) sells three different "Essential Equations" guidebooks for using the 33S on the FE exam, the Civil PE exam, and the Mechanical PE exam
- [Newcalc](#) sells three different guidebooks for using the 33S on the FE exam, the Civil PE exam, and the Electrical PE exam
- [HP33Ssurveyor](#) offers a guide for using the 33S on the FS and PS (surveying) exams
- [Software by D'zign](#) also offers a guide for the use of the 33S on surveying exams

Obviously these products promote the 33S and the use of 33S programming. I haven't used any of them myself, and don't know if they encourage the use of RPN.

Certainly seems like more commercial calculator software is being generated for NCEES exams than for any other purpose.

*Edited: 22 Aug 2007, 5:03 p.m.*

## Re: NCEES and the 35S

Message #5 Posted by [Dallas Osborne](#) on 22 Aug 2007, 6:23 p.m.,  
in response to message #4 by Norris

I purchased the 'Essential Equations for the 33s' and have used the equations in it while taking FE practice exams.

Since the book uses the [EQN] function of the 33s to store equations; it doesn't really promote either entry system.

The advantage of the 33s for these tests is really just the ability to fill up the memory with equations for rapid solving...once you know what you are solving for. Just enter the variable you are looking for, punch in the knowns and POOF: \*an\* answer.

I have found that I spend slightly less time looking for any particular equation in the NCEES supplied handbook as I do scrolling through the equation library I built. However, the equations in the handbook are clearly labeled. Those in the calculator are not; many equations start to look the same as time-stress works on my brain (and limited labels/variables doesn't help). Knowing what equations to manipulate and what the answer *\*should\** look like is far more important. And this is takes time leaning over practice tests.

Most of these guides assist test takers but don't provide as an amazing edge as some claim.

*Edited: 22 Aug 2007, 6:26 p.m.*

### **Re: NCEES and the 35S**

*Message #6 Posted by [Fred Lusk](#) on 22 Aug 2007, 9:51 p.m.,  
in response to message #5 by Dallas Osborne*

Dallas...

I'm long past the PE exam (1982), but I have a suggestion for entering equations that will help you determine which one is which. Above every equation I make a fake equation that is the name of the equation on the next line. My equation list looks something like this:

EQN LIST TOP

2\*2 lin solve

3\*3 lin solve

CIRCLE

$A=[\pi]xSQ(D)/4$

PUMP HP

$P=(QxH)/(3960*E)$

...and so on

Of course, I can't properly show pi or divide here, but I think you get the idea.

Fred

### **Re: NCEES and the 35S**

*Message #7 Posted by [Dallas Osborne](#) on 23 Aug 2007, 10:20 a.m.,  
in response to message #6 by Fred Lusk*

Good Morning Fred,

Your suggestion is both excellent and beautifully simple; that *\*whap\** sound was my hand striking my forehead.

Thanks again and I will certainly pass your suggestion on to the masses in the prep course I am taking.

Best Regards, Dallas

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## HP Forum Archive 17

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**RPN for Kids.**

Message #1 Posted by [Doctor Bubu](#) on 22 Aug 2007, 10:10 a.m.

Hallo!

Some folks did thinking about new HP calculators and they think about High End.

I make my own thoughts and I wonder why nobody thinks about the low end. How did we learn to use a calculator, with SOLVE or with Matrix or with Statistic?

No, we used  $+ - / x =$  and some other keys. But did we learn to ENTER first? No our first calculator was Algebraic, and I looked around. What calculator I would give my two Children in School?

There is no simple Calculator with RPN.

That's what we need. A simple HP 35 or HP 21, for the first steps. But I don't want to give them an HP 35 A. How long did it work under that terrible conditions?

A simple Calculator based on the very good looking of the 35s with a good keyboard like the 35s and (it is very important for the survival of the calculator in school) a good hardcase like the 35s. But only with capabilities of the 21 or the 31.

What do you think about that that idea.

Greetings Juergen

**Re: RPN for Kids.**

Message #2 Posted by [Chan Tran](#) on 22 Aug 2007, 10:26 a.m.,  
in response to message #1 by Doctor Bubu

Definitely very useful. In fact something exactly like a 21 for example would be great except for the display changed to LCD to have longer battery life.

**Re: RPN for Kids.**

Message #3 Posted by [Ed Look](#) on 22 Aug 2007, 10:57 a.m.,  
in response to message #2 by Chan Tran

But it should include the RPN option, so that in the future, assuming a calculator manufactured under today's paradigm can survive until the student matures some more, he can explore RPN.

**Re: RPN for Kids.**

Message #4 Posted by [Bruce Bergman](#) on 22 Aug 2007, 11:58 a.m.,  
in response to message #1 by Doctor Bubu

Actually, I think it's a great idea. I've had some similar thoughts (I seem to be on a bandwagon to get HP's back into the educational market, for some sadistic reason ;-)) and I would like to see something like that materialize.

It would also satisfy those who have been asking for a basic 4-banger with RPN functionality.

My main concern, however, is acceptance. HP would need to do a GREAT job of not only marketing it and showing it off well, but providing educational materials included with it. Remember, the \*parents\* are typically the ones buying calculators, and unless THEY understand what the benefit is, they have no motivation to diverge from the norm. Put a great, short example on the back of the packaging and maybe it might survive.

It's a great idea -- just tough to realize.

thanks, bruce

## Re: RPN for Kids.

Message #5 Posted by [Maximilian Hohmann](#) on 22 Aug 2007, 2:45 p.m.,  
in response to message #1 by Doctor Bubu

Hello!

Quote:

What do you think about that that idea.

Honestly, I am one of the heretics that do not believe in the inherent superiority of RPN. Rather, I am a Darwinist who believes in the survival of the fittest, and obviously RPN is not amongst those when it comes to education. Using RPN calculators at school would be a bit like teaching people to drive cars with right-side steering wheels in a country where one drives on the right hand side of the road. Anyway, it is not going to work simply because teachers do not understand RPN because most of them have ever seen it before.

And it is far more important to understand the mathematical problem then to punch numbers into a little box - the way the numbers are entered is of even less importance.

Gretings, Max

NB: The first calculator I gave our little son is neither RPN nor 'algebraic', but a 'Little Professor' that asks the children for the correct numbers and not the other way round :-)

*Edited: 22 Aug 2007, 2:46 p.m.*

## Re: RPN for Kids.

Message #6 Posted by [Vincze](#) on 22 Aug 2007, 3:29 p.m.,  
in response to message #5 by Maximilian Hohmann

I tell my son to memorize! Bah, I not buy him calculator until about year ago. He sophomore in high school. He tell me this year he want graphing calculator as all other kids have. I tell him I get him graphing Hungarian calculator. It consist of slide rule, pencil and graph paper. There his graphing calculator. He say he not happy, I say it NOT my job to make him happy. My job to see that he get educated and smart. Laziness bring struggle and I will not allow lazy son. If teacher think he need graphing calculator, then I go talk to teacher, and educate teacher. If teacher insist, then I make teacher buy graphing calculator, and pay for his college education too. He smart boy and I not want him to be lazy. He can do square roots very

quickly in head. I don't think any of his friends can do that. Sure, he have calculator now, and I very mad when I told he must have one, but I do not want him to get sucked into lazy culture of do everything easy. Life not easy, so he need to get used to it.

I come to this country with little money, and now I have two homes, cars, boat and airplane. That come from hard work, same hard work I wish him to do so he is proud of himself. When he is proud of himself and can say he is successful, then I know I did my job as his father. If he struggle because of laziness, then I failure as father.

*Edited: 22 Aug 2007, 10:10 p.m. after one or more responses were posted*

**Re: RPN for Kids.**

*Message #7 Posted by **Fred Lusk** on 22 Aug 2007, 9:54 p.m.,  
in response to message #6 by Vincze*

Vincze...

I like your style.

Fred

**Re: RPN for Kids.**

*Message #8 Posted by **Vincze** on 22 Aug 2007, 10:09 p.m.,  
in response to message #7 by Fred Lusk*

Thank you my friend. I ashamed to say too many people say I bad father. I guess I should be proud because my son will be a good man and successful.

*Edited: 22 Aug 2007, 10:12 p.m.*

**Re: RPN for Kids.**

*Message #9 Posted by **Doctor Bubu** on 23 Aug 2007, 1:07 a.m.,  
in response to message #6 by Vincze*

Hi Vince!

On one side i accept your opinion, some times i do the same with my kids, but on the other side dont force your son to go the same way as yours, (it was a other time and a other place).

Let him stand upon your shoulder and he can reach much higher you ever think.

Greetings Juergen

**Re: RPN for Kids.**

*Message #10 Posted by **Dan Greil** on 22 Aug 2007, 10:18 p.m.,  
in response to message #5 by Maximilian Hohmann*

To me...

It's not about preserving RPN via the classroom because we're convinced it's more efficient. It's not about Darwinian survival of the fittest notation. It's about presenting an opportunity for students to learn an alternate method to something they take for granted.

That said, I doubt RPN should be made a part of general curriculum in high schools (or their equivalent). For many that are math-challenged, anything that gets in the way of an already limited mathematical intuition will serve only as an unnecessary distraction.

On the other hand, as expressed in another post, by all means introduce RPN to students that excel at math. These are the ones that will likely benefit from the choice of notations - and likely pursue careers where that choice will have an impact.

This approach doesn't require schools to adopt RPN calculators en masse in place of ALG models (which we all know will never happen). Instead, the exposure would be limited to advanced, college-prep math courses and more capable instructors.

### **Re: RPN for Kids.**

*Message #11 Posted by **Fred Lusk** on 22 Aug 2007, 10:20 p.m.,  
in response to message #5 by Maximilian Hohmann*

Max...

Better does not always survive. It is often overwhelmed by the sheer weight of mediocrity. Why else would my favorite baseball team be in last place, while their arch rivals are in the hunt for a playoff spot? :-)

When my son took high school calculus a couple of years ago he was the only student with an HP (I let him borrow my HP-48G). All the other kids had TI-89s or some such. The teacher was basically forced to teach a TI-centric curriculum because that is what was available to him. However, the teacher was actually thrilled that my son had an HP because the teacher's calculator of choice was a 48GX.

My son is no calculator nerd (he's a computer nerd), but he learned how to use the HP pretty well and could run rings around the kids with the newer, faster TIs for that reason. The key is that he learned how to use the tool (unlike his peers) and he learned it because he liked the way it operated, starting with RPN. Previously he showed no interest in my modest calculator collection, or the fact that I use an HP-42S every day at work. He had a simpler TI calc for Algebra II and Trig and his two older sisters had TI graphing calcs. However, after trying out his sister's calcs he asked to borrow my HP instead and decided to learn how to really use it. He turned down a chance to have a NEW electronic toy AND to be the oddball in his class. Certainly not a normal choice for a teenager.

I realize that this is the exception, not the rule, but there is still a market for the intellegent calculator user for RPN.

Fred

### **Re: RPN for Kids.**

*Message #12 Posted by **Bruce Bergman** on 23 Aug 2007, 1:46 p.m.,  
in response to message #11 by Fred Lusk*

Fred --

You, and your son, are making my point beautifully. You son had a choice. He chose to use RPN. That decision alone doesn't make him a genius or anything, but it shows someone who is truly willing to work a bit harder for something that might even only be personally rewarding. He balanced going with the norm against perhaps really finding out something unique, and that was a great, mature decision.

Bravo! I wish there were more kids like your son in this world.

thanks, bruce

**Re: RPN for Kids.**

Message #13 Posted by **Fred Lusk** on 23 Aug 2007, 4:52 p.m.,  
in response to message #12 by Bruce Bergman

Bruce...

If there were more kids like him, I would have quite a few more exemptions I could claim on my income tax :-)

Fred

**Re: RPN for Kids.**

Message #14 Posted by **Ren** on 23 Aug 2007, 10:38 a.m.,  
in response to message #5 by Maximilian Hohmann

Max,

You may be a Darnist B^) but Crocodilians, tuataras, coelacanths, and others are still around after 90 million years. So I think RPN will be around (if only in certain environs) for quite awhile.

Ren

dona nobis pacem

**Re: RPN for Kids.**

Message #15 Posted by **Valentin Albillo** on 22 Aug 2007, 3:14 p.m.,  
in response to message #1 by Doctor Bubu

Hi, Juergen:

Juergen posted:

*"There is no simple Calculator with RPN. That's what we need."*

It's arguable whether we need it or not, but our children certainly *don't*.

I see no reason to handicap them in class just because of their father's private hobby.

Best regards from V.

**Re: RPN for Kids.**

Message #16 Posted by **Bruce Bergman** on 22 Aug 2007, 4:09 p.m.,  
in response to message #15 by Valentin Albillo

Wow Valentin, that's pretty harsh. I don't believe learning, or using RPN, is a handicap -- whether it be in school or career. In fact, if I had your attitude, I wouldn't teach anything but Java or C++ in universities because they are the dominant languages. I'd skip needless other programming languages.

A good engineer, a good programmer, a good mathematician or whatever, uses a toolbox of options and choices. The answer to a problem should be the best tool for the job, not some "religious" belief that one

way is better than the other, or just because it is all that is taught, it is the only style to be used. To constrain oneself to learning one way of doing something is rather narrow minded.

Algebraic may be the dominant methodology today. And RPN might be a past bygone. But it is, by no means, a handicap. Take a look at those kids in the Texas Math Challenge (thread elsewhere on this page) and how they have grown and expanded their mind by using RPN.

Whether it is my hobby or my father's is irrelevant.

thanks, bruce

*Edited: 22 Aug 2007, 4:11 p.m.*

## RPN for Kids: Why it's WRONG !

Message #17 Posted by [Valentin Albillo](#) on 23 Aug 2007, 7:13 a.m.,  
in response to message #16 by Bruce Bergman

Hi, Bruce:

Harsh or not, my assessment is an accurate one and I'll give some reasons why I think this is so:

- Nowadays, next to *noone uses RPN calculators in class anymore*: not certainly most teachers, not certainly most pupils. For efficiency reasons, the teachers need to *standardize* and due to a number of important factors, not the least of which is the fact that *all mathematical texts use standard algebraic notation*, they chose algebraic calcs. This is a fact, and going against it is comparable to driving by the wrong lane, you're going to crash and burn.
- There's also the fact that, due to market pressure and other factors, *the number of RPN models in the market is very small*, a negligible minority in the calculator market to say the least. Essentially, only one company still makes them, and there are very few models to choose from, namely the HP-12C, HP33S, and HP35s, if we stick to classic RPN, *all of them subject to some serious limitations* such as an absolute lack of I/O, for instance. So if you're used to classic RPN or want to introduce it to your children, your options are few and, mostly, relatively expensive compared with the algebraic offer.

There's also the distinct possibility that the only company making them decides that they're not worth the effort, their sales aren't enough to justify the costs, and so the powers-that-be might as well decide to write them off the market, thus completely terminating their actual, precarious availability for good.

- It's also a proven fact that RPN tends to generate what could be termed as '*addiction*', in the sense that once some people are exposed to it, they'll get hooked to the point where *they won't feel comfortable at all* having to use any normal, non-RPN calculator, and would be *highly inefficient* using them, if at all, and would do whatever it takes to avoid using them, as they simply can't cope with algebraic machines anymore, at least not without feeling extremely uncomfortable while doing it.

If these people were then to be *forced* to use an algebraic model (because class regulations make it mandatory, for instance) they would automatically be in *great* disadvantage *and* severely *upset*, with both factors potentially capable or seriously *damaging* their assimilation of the subject matters being taught.

- Combining all of these factors, you can see that by introducing your children to RPN, you

risk they getting hooked on a paradigm which *doesn't* resemble what they see printed in their books, *doesn't* coincide with the procedures and keystrokes taught in class, and forces them to either adapt and convert on the fly what's being taught to their RPN ways, or else *burden the teacher* with the task of dealing with them and their RPN way of doing things, thus generating inconvenience for everyone there: the teacher, the rest of the class, themselves.

Also, once they're hooked, they'll have to confront the fact that, in the near future, there may be no RPN calculators easily available, and they'll *really, really resent* having to use an algebraic model, thus suffering a kind of *abstinence syndrome* for the rest of their lives. I know of *\*many\** people, friends of mine and colleagues alike, that suffer from the RPN bug: they simply *\*can't\** use an algebraic calculator with any decent proficiency, to the point that they'd rather take their NIB collectible HP-15C out from the box and into the dusty construction site if necessary if contemplating the possibility of being forced to use any algebraic calc.

I see this sheer reliance on an *obsolete paradigm* which surely faces extinction as a dangerous and unnecessary *niche adaptation*, which can be no good in the long run for the person afflicted with it.

- Also, there's the *myth* of RPN being perceived as "superior" to algebraic systems, offering this or that "advantage", which "absolutely compensates" and overcomes any alleged disadvantages.

As I've posted in several threads in years past, this is essentially a *myth*, mostly based in the fact that it was indeed true in the very early times, when calculators had a single-line, numeric-only display, extremely little RAM, and working with an algebraic machine essentially meant that you worked through your expression *blind*, seeing only one number or result at a time, not seeing the operators, not seeing the whole expression, not being able to ascertain whether you had opened or closed that parenthesis or not, not being able to ascertain just where you were in the process and continually risking getting lost and having to restart it all over again.

Compared to that, RPN and its 4-level stack was really the much more elegant, superior paradigm, by far, there was no contest at all, anyone could clearly see it. But 35 years have passed by, and while *classic RPN hasn't barely changed one iota*, algebraic models have experienced authentic *quantum leaps*. You can now see your whole expressions as you type them, in clear alphanumerics, you can edit them, re-evaluate them, the parentheses are automatically closed for you, ... yet people hooked on RPN still rely on comparisons from the earlier times: "If RPN was so utterly superior then, it surely still is, right ?" Dead wrong ! They simply adamantly *refuse to acknowledge* the advances in the algebraic camp, and in many cases can't be even bothered to try them or put them to the test on their own.

- Lastly, one of the usual arguments in favor of teaching RPN to kids (or of using RPN in general) is that it allows you a more intimate *understanding* of the expression you're evaluating: you can see intermediate results, you can check them on the fly, the fact that you must frequently pre-decide the order of evaluation makes you more aware of it all ...

In reality, *this is akin to making virtue of necessity*. It's *not* that you *can* do that with RPN, it's that RPN *forces* you to do things that way: you *must* see intermediate results, whether you want or need them or not, you *must* spend time and effort to *pre-decide the order* of evaluation whether you want it or not, lest you risk losing items out of the top of the stack, ....., which can happen nevertheless if you chose the *wrong* order. In which case, you'll have to restart from the beginning, as used operators (and probably most of the intermediate

results) are not recoverable.

This is similar to the arguments rised in favor of doing calculations with slide rule when the first electronic calculators arrived: many insisted that doing them with the slide rule required a more thorough understanding of the problem, what with re-scaling being constantly needed, and that forced you to think about your numbers and prevent mistakes or erroneously scaled results.

Those arguments seemed very solid in theory, but in practice they quickly died away, and I don't think that any parent would insist in their children going to school armed with slides rules because that would "enhance their understanding" of how results are computed and their accuracy. It might *sound* good, but it would *be* absolutely *handicapping*.

The bottom line is: who cares about the calculations ? About whether intermediate results are seen or not ? About how we do our operations, whether algebraic and parentheses or RPN and stack ? The important thing is that the children *understand the problem, understand the algorithms used to solve it, and can correctly write down the necessary expressions that get the results from the initial data.*

How these expressions are evaluated is *absolutely irrelevant*. It could be by hand, with an abacus, with a slide rule, with an RPN calculator, with an algebraic calculator, or by saying aloud "Computer: evaluate this, please" in a near future. Who cares !?

*The important thing is the understanding* of the problem and how to produce the expressions required to correctly solve it, *not* the mechanics of actually *evaluating* the resulting expressions. And as things are right now, I won't be the one to burden and handicap my children with obsolete \*evaluation\* paradigms, which are irrelevant to the definition and understanding of the problem, and which surely will be gone in a few years.

I'd rather have them dedicate their class time to understanding the problem and algorithms, rather than wasting precious time trying to adapt on the fly what is being taught to some obsolete "evaluation" paradigm.

Best regards from V.

*Edited: 23 Aug 2007, 7:32 a.m.*

## **Re: RPN for Kids: Why it's WRONG !**

*Message #18 Posted by [Maximilian Hohmann](#) on 23 Aug 2007, 8:02 a.m., in response to message #17 by Valentin Albillo*

Hello!

Didn't I say all this in one sentence yesterday already :-) ?

To quote myself:

Quote:

\_\_\_\_\_

And it is far more important to understand the mathematical problem then to punch numbers into a little box - the way the numbers are entered is of even less importance.

\_\_\_\_\_

Back at school and university, in mathematics and physics exams we would get around 4/5 of our points for writng down the correct solution (in terms of formulae etc.) and only about 1/5 for the



correct numerical result. And especially at university, the problems to solve were difficult enough so that most students couldn't even produce the correct solution in the time given, so usually the calculators didn't get turned on at all during the exams.

Greetings, Max

*Edited: 23 Aug 2007, 8:03 a.m.*

**Re: RPN for Kids: Why it's WRONG !**

*Message #19 Posted by **Valentin Albillo** on 23 Aug 2007, 8:21 a.m.,  
in response to message #18 by Maximilian Hohmann*

Hi, Maximilian:

Maximilian posted:

*"Didn't I say all this in one sentence yesterday already :-) ?"*

All of it, no; just about 16% or so. But probably the essential 16% ... :-)

*"Back at school and university, in mathematics and physics exams we would get around 4/5 of our points for writing down the correct solution (in terms of formulae etc.) and only about 1/5 for the correct numerical result.*

Same here, at my university getting the wrong numerical result would detract *nothing* from your mark as long as the exposition was sound and the relevant resulting expressions to be evaluated were correctly arrived at.

Best regards from V.

**Re: RPN for Kids: Why it's WRONG !**

*Message #20 Posted by **Vincze** on 23 Aug 2007, 8:38 a.m.,  
in response to message #19 by Valentin Albillo*

Quote:

All of it, no; just about 16% or so. But probably the essential 16% ... :-)

I think it more like 16.213% ;)

**Re: RPN for Kids: Why it's WRONG !**

*Message #21 Posted by **Valentin Albillo** on 23 Aug 2007, 9:16 a.m.,  
in response to message #20 by Vincze*

Damn, you're right !

This damned algebraic thing, I closed the *wrong* parenthesis *again* @|~#@~!!

(Best regards from V.)

**Re: RPN for Kids: Why it's WRONG ! LOL (NT)**

Message #22 Posted by [Giancarlo \(Italy\)](#) on 23 Aug 2007, 9:22 a.m.,  
in response to message #21 by Valentin Albillo

LOL :-D

**Re: RPN for Kids: Why it's WRONG !**

Message #23 Posted by [Ren](#) on 23 Aug 2007, 11:09 a.m.,  
in response to message #17 by Valentin Albillo

Valentin,

A counter argument for teaching RPN (at least in comp sci courses) it shows how Post Fix Notation is used with stacks. Understanding that fundamental can lead to more efficient programming.

Ren

dona nobis pacem

**Re: RPN for Kids: Why it's WRONG !**

Message #24 Posted by [Bruce Bergman](#) on 23 Aug 2007, 1:33 p.m.,  
in response to message #17 by Valentin Albillo

Quote:

Hi, Bruce:

Harsh or not, my assessment is an accurate one [...]

Your **opinion** it might be, but I disagree that your assessment is accurate.

Quote:

For efficiency reasons, the teachers need to standardize and due to a number of important factors, not the least of which is the fact that all mathematical texts use standard algebraic notation, they chose algebraic calcs. This is a fact, and going against it is comparable to driving by the wrong lane, you're going to crash and burn.

Instructors (and schools) clearly need, and benefit from, standardization. There is a huge value in that, both in instruction and in merely saving money. However, textbooks are not as "standard" as you think.

In fact, the recent trend in higher-ed math/stat/finance textbooks is to offer "how do I do this with my calc". They list a couple of different ways of accomplishing examples using 2-3 calculators as the model of choice. There's no reason why HP couldn't aggressively and actively court the textbook publishers to include HP calcs using RPN as an option. Mostly, the publishers and authors just want someone to write that for them. They resist putting HP calc explanations in there because (1) up until recently, HP shunned the educational market, publishing included, (2) they don't have the time or incentive to write each example themselves, and (3) they don't know the technique of RPN. BUT! If you offer to write it for them, they're all for it. I contacted an author of a statistics text for higher-ed last year and discussed it with him, and he was quite open to me submitting an HP-

specific approach to the examples. The publisher appeared to be open as well, although I never followed up on it (um, I got busy elsewhere, unfortunately).

Going against the flow of traffic isn't a BAD thing if you are talking of concepts. Use of algebraic isn't a fact of nature, or of law. We're talking about concepts and ideas here. If everyone went with the flow, we would have ONLY Microsoft software in the world, now wouldn't we? Instead, we have Linux, or replacements for Microsoft Office. We have Firefox instead of MSIE. We have the Mac instead of Windows XP.

Quote:

---

o There's also the fact that, due to market pressure and other factors, the number of RPN models in the market is very small, a negligible minority in the calculator market to say the least. Essentially, only one company still makes them, and there are very few models to choose from, namely the HP-12C, HP33S, and HP35s, if we stick to classic RPN, all of them subject to some serious limitations such as an absolute lack of I/O, for instance. So if you're used to classic RPN or want to introduce it to your children, your options are few and, mostly, relatively expensive compared with the algebraic offer.

---

I agree that the numbers are small, and choices aren't the best. But, it CAN change, as we are seeing with the HP-35. In addition, I notice that you conveniently excluded the HP-50g/49/39 families, which have extensive I/O functionality. And compare favorably to the upper-end TI calcs with applets.

Did you even read the Texas Math Challenge posts earlier this week? Those kids go out and buy used calcs from eBay and craigslist, and use those when the "current" models aren't what they want. A lot of them use the 33s and 50g models. Yes, there aren't as many HP calcs as Casio or TI, but if you want to use RPN, you can certainly find a wealth of options.

Quote:

---

There's also the distinct possibility that the only company making them decides that they're not worth the effort, their sales aren't enough to justify the costs, and so the powers-that-be might as well decide to write them off the market, thus completely terminating their actual, precarious availability for good.

---

It's a risk, I admit. At one time in the past, I thought HP **did** give up on the market. I hope they never do in my lifetime. I choose, however, not to scare myself into using one platform simply because of the *possibility* of something happening.

Quote:

---

o It's also a proven fact that RPN tends to generate what could be termed as 'addiction', in the sense that once some people are exposed to it, they'll get hooked to the point where they won't feel comfortable at all having to use any normal, non-RPN calculator, and would be highly inefficient using them, if at all, and would do whatever it takes to avoid using them, as they simply can't cope with algebraic machines anymore, at least not without feeling extremely uncomfortable while doing it.

---

And this is a reason NOT to use RPN? C'mon, you're reaching... A "proven fact"? I'd love to see the clinical research study you are referring to. Could you please send it to me?

Quote:

---

o Combining all of these factors, you can see that by introducing your children to RPN, you risk they getting hooked on a paradigm which doesn't resemble what they see printed in their books, doesn't coincide with the procedures and keystrokes taught in class, and forces them to either adapt and convert on the fly what's being taught to their RPN ways, or else burden the teacher with the task of dealing with them and their RPN way of doing things, thus generating inconvenience for everyone there: the teacher, the rest of the class, themselves.

---

I don't buy it. Even as much as I respect you and love your comments, challenges and articles, this one has me puzzled. It's such a short-sighted, narrow-minded attitude. I am really surprised that your opinion is as you outline it. Sure, you've got some good points here. Some of which I agree with. But I just don't feel the same way as you and I'm kind of surprised that someone as smart as you is so obviously dissing RPN. Choice is good! I'm not a over-the-top RPN fanatic, but I feel strongly that this "choice" needs to get right back into the thick of things in the education market.

Look at it this way: Darwin is right, in that the stronger will survive. The ultimate survivor of this question **may** be algebraic. But I am not willing to concede the fight this early on. I say we give it to the kids, and let them decide the outcome. I'm willing to trust what comes out over the long run. Give them the choice and let them decide with an educated decision.

You may say "we've already done that!" and yes, that's partially true. But it *\*has\** survived, even after being beaten down and almost exterminated. And it seems to be getting a second chance. I don't give up on my beloved football team simply because they didn't do well the past five years. Give them the opportunity to try again.

Quote:

---

I know of *\*many\** people, friends of mine and colleagues alike, that suffer from the RPN bug: they simply *\*can't\** use an algebraic calculator with any decent proficiency, to the point that they'd rather take their NIB collectible HP-15C out from the box and into the dusty construction site if necessary if contemplating the possibility of being forced to use any algebraic calc.

---

I know the same kinds of people. I think, however, if you dug deep enough into their head, you'll find it's not a function of "can't" use it, it's that they don't WANT to use it. Big difference. I don't WANT to use TI calcs, and I don't have any in my house. I would prefer to use HP calcs with RPN, and it does annoy me when I have to borrow an algebraic calc. But I can certainly use them, and proficiently. I just choose not to. There's a big difference.

If, tomorrow, someone took away RPN from every written word, and magically erased every RPN calc from the world, I somehow thing all your friends and mine would manage just fine. They might not like it, but they'd get along.

Quote:

---

I see this sheer reliance on an obsolete paradigm which surely faces extinction as a dangerous and unnecessary niche adaptation, which can be no good in the long run for the person afflicted with it.

---

And sliding right down that slippery slope with you, I should give up on Linux, because it can't possibly replace Windows. And I should only learn one or two current programming languages

because the others will be extinct in a few years. And I should stop sending emails now because the younger generation says that email is dead and text messaging is going to be it in the future.

Whoa. Pretty free-thinking opinion there...

Quote:

---

o Also, there's the myth of RPN being perceived as "superior" to algebraic systems, offering this or that "advantage", which "absolutely compensates" and overcomes any alleged disadvantages.

---

Truly a myth. I don't tell my folks to use RPN because it is superior, but because it's a different way of doing something, and a way that they might find not only easier, but more helpful. I never say to them that it is superior, because that only breeds arrogance and resentment towards RPN.

Quote:

---

As I've posted in several threads in years past, this is essentially a myth, mostly based in the fact [...]

---

I agree.

Quote:

---

But 35 years have passed by, and while classic RPN hasn't barely changed one iota, algebraic models have experienced authentic quantum leaps.

---

Classic algebraic is the same as it was 35 years ago too. The advances you speak of are -- in some cases -- much like that 4-deep stack. There are accelerators to help with expressions. You can see more on the screen, but that's not a change to algebraic.

What about the changes we've experienced in RPL, or in solver equations? Or that both classes of calcs have seen with CAS? Those "model" changes are as quantum as any of the TI calcs.

Quote:

---

o Lastly, one of the usual arguments in favor of teaching RPN to kids (or of using RPN in general) is that it allows you a more intimate understanding of the expression you're evaluating: you can see intermediate results, you can check them on the fly, the fact that you must frequently pre-decide the order of evaluation makes you more aware of it all

...

---

I don't necessarily push these aspects either, but it's just as easy to come up with "usual arguments" as to why *algebraic* is better, and that doesn't make it any more right either. In fact, you were using many of them yourself. They are not necessarily wrong, but they are not necessarily right. Same for algebraic. I don't see these as big factors in the discussion anyhow.

Quote:

---

In reality, this is akin to making virtue of necessity. It's not that you can do that with RPN, it's that RPN forces you to do things that way: you must see intermediate results, whether you want or need them or not, you must spend time and effort to pre-decide the order of evaluation whether you want it or not, lest you risk losing items out of the

top of the stack, .....

---

Algebraic "forces" you to use parenthesis, doesn't it? Algebraic "forces" you to ignore intermediate results, doesn't it? For almost every necessity you can say RPN requires, algebraic has one too.

Quote:

---

This is similar to the arguments rised in favor of doing calculations with slide rule when the first electronic calculators arrived: many insisted that doing them with the slide rule required a more thorough understanding of the problem, what with re-scaling being constantly needed, and that forced you to think about your numbers and prevent mistakes or erroneously scaled results.

---

Agreed. I remember those very same discussions when the first calcs came out, and I agree that those discussions are similar to the whole "RPN helps you understand the math" arguments. I don't buy them any more than I bought the slide rule vs calc arguments back then. I had a slide rule and understood it as well as any other basic slide rule user, but I dumped it in a heartbeat for the calc. Not because it was archaic and handicapping, but because the calc was a more productive tool. I'd rather be more productive, getting more done, with more powerful tools, than to say that I "understand" the math more. The TI calcs aren't necessarily any more productive than the HP calcs. Sure, they do some things easier, but I can find a half-dozen things that the HP calcs do more productively.

Quote:

---

The bottom line is: who cares about the calculations ? About whether intermediate results are seen or not ? About how we do our operations, whether algebraic and parentheses or RPN and stack ? The important thing is that the children understand the problem, understand the algorithms used to solve it, and can correctly write down the necessary expressions that get the results from the initial data.

---

I don't care about the calculations either. I DO care about choice. About giving kids the ability to push their envelopes, even if it isn't the norm. I'm not saying every kid should learn RPN, or that it should be the standard taught in school. I AM saying that it should be an option.

Quote:

---

How these expressions are evaluated is absolutely irrelevant. It could be by hand, with an abacus, with a slide rule, with an RPN calculator, with an algebraic calculator, or by saying aloud "Computer: evaluate this, please" in a near future. Who cares !?

---

In all of those cases, I agree with you. In many others, I hear cynicism and...something else. Not sure what. Not pleasant though. I just hope and pray that our next generation of students don't have the same narrow-minded attitude that you appear to have.

Now THAT is harsh.

thanks, bruce

### **Re: RPN for Kids: Why it's WRONG !**

*Message #25 Posted by **Valentin Albillo** on 23 Aug 2007, 4:38 p.m.,  
in response to message #24 by Bruce Bergman*

Hi again, Bruce:

First of all, thanks for you detailed and initially interesting reply to my e-mail, much appreciated. Now some brief comments to specific points of it:

Bruce posted (*italics* are Bruce's original sentences, all underlining is mine):

*"Your opinion it might be, but I disagree that your assessment is accurate."*

So far so good ... Now for assorted "pearls":

- *"I don't buy it. Even as much as I respect you and love your comments, challenges and articles, this one has me puzzled. It's such a short-sighted, narrow-minded attitude [...]*
- *I'm kind of surprised that someone as smart as you is so obviously dissing RPN [...]*
- *And sliding right down that slippery slope with you, I should [ ... {lots of absurd, ad-hoc non-sequiturs} ...] Whoa. Pretty free-thinking opinion there ... [...]*
- *In all of those cases, I agree with you. In many others, I hear cynicism and...something else. Not sure what. Not pleasant though. I just hope and pray that our next generation of students don't have the same narrow-minded attitude that you appear to have. [...]*

Now that's crossing the line as far as I'm concerned. After a decent beginning, you seem to become hotter and hotter by the minute till you resort to a bunch of ad-hominem attacks, adscribing to me all sorts of negative opinions and attitudes which you see fit, including the string of preposterous non-sequiturs (after "slippery road" in your original message) as if I would agree with such nonsense, and finally accusing me of "cynicism" and "something else" which also happens to be "not pleasant", plus "narrow-minded" attitude, and what else.

That I consider akin to name-calling and a blatant disrespect to me and my stated points, which you might not share or even positively dislike but in a civilized argument you are required to respect, both.

I don't remember having included in my posted message a single word about you, your frame of mind, or your attitudes, good or bad, so I don't quite see why a supposedly intelligent and educated person such as you would have to resort to such low levels to discredit an opinion you don't agree with.

*"Now THAT is harsh."*

Indeed. This argument is finished as far as I'm concerned and I would ask you to please refrain from using my name to put in my mouth or mind opinions which I haven't explicitly uttered or contemplated, as you do several messages below in this same thread while replying to some other message.

Also, in so far as you don't seem to have an attitude of respect towards me and my ideas, even if you don't share them, I would be obliged if you would refrain from referring to me or my ideas or the ideas you imagine I have. I'll do the same with you.

Thanks in advance and

Best regards from V.

### **Re: RPN for Kids: Why it's WRONG !**

*Message #26 Posted by **Bruce Bergman** on 23 Aug 2007, 5:21 p.m.,  
in response to message #25 by Valentin Albillo*

Everyone is entitled to an opinion, even me. Maybe its your choice of words, or the way you wrote it or whatever, but your statements often make it sound like what you say is fact, and what others think (or say) differs from that fact.

"...my assessment is an accurate one..."

Why is my assessment not an accurate one too? Am I not allowed to discuss your message, point-by-point, and offer a differing opinion?

"...it's a proven fact that RPN..."

I'm not aware of that fact, and you still haven't told me where you got that from. Why must I assume your fact is correct? I have the right to ask for clarification or proof. All of my comments were expressing an opinion, and sharing information, not coming to a conclusion.

None of my examples were any more non-sequiturs than yours, since you were the one who chose certain examples such as driving on the wrong side of the road, etc. You brought up the slippery slope that once you introduce RPN to kids, they risk getting hooked, which leads to adaption, etc. Where did THAT line of logic reasoning come from? If you're allowed to jump to conclusions, I certainly can too.

Heck, maybe you just don't like someone pushing back on you, expressing a different opinion and trying to point out other things to consider. None of those were attacks on you (whether you think so or not), and in fact I went out of my way to tell you that I respect you and always have. I still do. I just have a different opinion, and I have the right to express it.

I will certainly honor your request, and I won't put words in your mouth. I will always, however, reserve the right to respond in kind to postings -- yours or others -- using original words, and expressing my own opinions. Perhaps I prefer to be more blunt in my replies at times. It's just as easy for someone to express a "tone" in messages that achieve a similar result. I prefer to just say it and lay it on the table. Let everyone make up their own mind, you know?

thanks, bruce

### **Re: RPN for Kids: Why it's WRONG !**

*Message #27 Posted by **Bruce Bergman** on 23 Aug 2007, 6:02 p.m.,  
in response to message #25 by Valentin Albillo*



By the by, I'd be more than pleased to buy you a pint at the conference and we can laugh at all this, if you're up for it. No harm intended.

thanks, bruce

**Re: RPN for Kids.**

*Message #28 Posted by **Ren** on 23 Aug 2007, 11:02 a.m.,  
in response to message #16 by Bruce Bergman*

Programming languages?

You mean you straddle your students with a dead language like Pascal because you aren't innovative enough to teach them C, C++, Java or other current languages? What does Pascal offer that can't be taught in the other languages? Data structures? Nope... Variables? Nope... Ease of learning? Hah!

It is past the time for Computer Science teachers to let go of some "teaching languages" and start TEACHING LANGUAGES!

I didn't have to learn Ancient Hebrew, Ancient Greek, or Latin to learn how to speak English. So why fill up your students brains with Pascal before you teach them something that is useful in the job market?

(Now I do admit that learning the ancestral languages of my tongue is helpful in better understanding English, but I don't feel it should be a pre-requisite for kindergarten).

Sure you can teach them MIPS or 68K as assembly languages, for there is a growing market for programming embedded devices.

The oft used rebuttal by comp sci teachers is, "its easier to teach Pascal". Why is it easier, is it because that is what the teacher learned, and they are quite comfortable in their ivory tower?

Okay, I'm through ranting...

(for now)

Ren

dona nobis pacem

**teaching programming languages**

*Message #29 Posted by **Don Shepherd** on 23 Aug 2007, 11:14 a.m.,  
in response to message #28 by Ren*

Ren, regarding teaching programming languages, I would make a distinction between teaching students who aspire to be programmers versus other liberal arts students who just want an introduction to programming, but won't make it their living. For the programmers-to-be, I'd teach the popular languages plus show the kids some older languages so they get an appreciation for how programming has evolved over time. For the non-programmer who just wants to see a little of what programming is about, Kemeny and Kurtz had it right in 1964: BASIC. Kids can learn the essentials of vanilla BASIC in an hour, and use it productively in a short time.

**Re: RPN for Kids.**

*Message #30 Posted by **Bruce Bergman** on 23 Aug 2007, 12:21 p.m.,  
in response to message #28 by Ren*

Ren --

I think you confused me with someone else. I do NOT teach Pascal, and I have resisted that abominable language since the day it was taught to ME back in college. In fact, I resent your comment that I "straddle" anyone with things that aren't "innovative". I don't know how you got that from my post, but maybe you have some pent-up aggression towards instructors in your past??

My point was that if mere dominance is the reason for selection of what to teach in higher-ed, then we would have schools ONLY teaching Java and C++. Fortunately, that's not the case. To be so narrow minded as to teach one or two styles of programming would be a travesty of education, and it does nothing for upcoming programmers.

Many universities now teach other programming languages like Visual Basic, C#, ColdFusion, Perl, Python, PHP, Ada, PL/SQL and others. True, they are not the dominant languages, but by getting students exposed to them, the pros and cons, the trials and tribulations, etc., the student starts to understand why there are CHOICES in the world.

There were a ton of Pascal programmers on the market after the 1980's, and that was because it was the language being taught. AND it resulted in some piss-poor code out there. The reason why we HAVE languages like C++, Java and C# is because finally people started understanding what was wrong with the older versions, and realizing that there are choices. I.e., make it better.

I "collect" programming languages like other people collect calculators. I know more than 34 programming languages, and I'd say I'm more than fluent in at least 8-10 of them. One of the reasons why I got as far in my career as I did is because I can offer clients that breadth of knowledge -- that breadth of CHOICE -- to pick the right solution with the right tools. If my toolbox only had two options in it (or, sadly, as Valentin would want: ONE choice), I am limited in what I can do.

I won't go into a discussion of why it's valuable to learn the historical languages (both spoken and programming) if you want to truly understand more modern languages. In my mind, that argument doesn't apply to all students -- it applies to those who are truly heading down the computer science path, not the IT path. It's easy enough to get a career as a decent programmer when you only know a couple languages and don't desire to dig deeper. But when I want someone who is a compiler designer, or who writes code generators or run-times, I do NOT seek those IT people out; I search out someone with a computer science background, who HAS gone and studied those old languages and understands why decisions are as they are today.

I know I'm kind of mixing calcs with programming, but I draw a parallel between the two. If we provide kids with only one way of learning to do math, they only know that one way. If we offer them the choice -- even if it is a less-used choice -- then some of them are going to have a lightbulb moment and move beyond their peers.

If I were teaching math to teens, I could be happy/content with teaching the vast majority of them the things they need to succeed, using TI calcs. But... It is the rare kid who brings in that HP calc to class who I would spend extra time with. That kid is likely to be the one who makes a difference in this world. Instead of blending into the woodwork of normalcy, that kid is probably going to be the one who stands out in our world. NOT because he or she has an HP calc, but because he or she chose to try a different road.

For example, in one of my music classes recently, a student asked if she could write her term papers in poetry instead of straight prose. The prof thought for a moment and asked her to write an

example of what it would look like with the topic being how the piano had evolved over the years. She did, and he was VERY impressed. It wasn't a flippant work, just trying to be cute or artistic. It conveyed exactly what he asked, with factual content, and yet it was written in a poetic (??) style. She got her wish and wrote all of her papers in that style.

She took a stance to try something out of the box. It was probably much harder than a traditional paper. Yet because she had CHOICES and didn't feel like she had to do it one particular way, she made a difference to all of us in class, including the prof. She is the kind of person who I expect will stand out in our world.

Giving up on RPN simply because algebraic is the dominant tool is sad to me. Not for nostalgic reasons, but because I believe it is short-sighted, and shows me that people would rather -- as YOU put it -- go the "easier" route. Personally, I'd rather challenge myself, and my students, and give them the option.

thanks, bruce

### **Re: RPN for Kids.**

*Message #31 Posted by [Stefan Vorkoetter](#) on 23 Aug 2007, 1:21 p.m.,  
in response to message #30 by [Bruce Bergman](#)*

Quote:

---

If I were teaching math to teens, I could be happy/content with teaching the vast majority of them the things they need to succeed, using TI calcs. But... It is the rare kid who brings in that HP calc to class who I would spend extra time with. That kid is likely to be the one who makes a difference in this world. Instead of blending into the woodwork of normalcy, that kid is probably going to be the one who stands out in our world. NOT because he or she has an HP calc, but because he or she chose to try a different road.

---

I had a teacher like that. This was in about 1980, and I had a programmable calculator (a TI SR-52, not an HP unfortunately). We were learning how to solve systems of equations, and I had programmed the algorithm (Gaussian elimination) into the SR-52, from scratch. It worked for 2 or 3 equations (since there wasn't enough memory to hold the coefficients for more than 3), but it was implemented to solve the general case. I asked him if I could use it (and the program) on my math tests, and he agreed. Another student overheard this and objected, to which my teacher responded, "if he understands the method well enough to program the calculator to do it, he deserves to be able to use it."

Basically, instead of forcing me to conform to the way everyone else did it, he let me take advantage of the skill and initiative I'd shown. That was probably a more valuable lesson than knowing how to solve systems of equations.

Stefan

### **Re: RPN for Kids.**

*Message #32 Posted by [Bruce Bergman](#) on 23 Aug 2007, 1:39 p.m.,  
in response to message #31 by [Stefan Vorkoetter](#)*

Good point. In fact, back when I was in high-school (same timeframe!), using calculators of ANY kind wasn't permitted, let alone HP calcs. I finally successfully argued with one of my

teachers to let me use my HP-25c in class because if I knew the algorithms and technique well enough to program it, I certainly could do it on paper. After showing him how I did it, he agreed.

Like you, I think this was one of the more valuable lessons learned.

Did we go to the same school? ;-)

thanks, bruce

*Edited: 23 Aug 2007, 1:40 p.m.*

**Re: RPN for Kids.**

*Message #33 Posted by **Ren** on 23 Aug 2007, 2:23 p.m.,  
in response to message #30 by Bruce Bergman*

Bruce,

When I saw the phrase in your earlier posting "teaching languages", I went ballistic (too much caffiene). After I'd posted, I re-read your post and saw it for what you intended. While I didn't mean to attack you personally, it was your posting that triggered me to hit the reply key. Reading your follow-up to my rant, I agree with much of what you wrote.

I humbly apologize for not reading your post clearly before replying, and I'm sorry I made you look guilty of lazy teaching (of which you are not).

Over the years of being a student, I've gotten touchy (over-sensitive) to instruction that didn't make sense to me, busy work as it were, for students, work that distracted from underlying goal of the course. Often when instructors were challenged about that, the "we've always done it this way" reply was common.

On the subject of BASIC, well I suppose in the form of Visual BASIC it can be argued (ooh, I'm good at arguing today!) that BASIC is NOT a dead language. (I also think the embedded processor BASIC-stamp further supports that BASIC is alive). I'm not opposed to teaching BASIC, but it too was the first language I learned, and so I don't want my prejudice for it (I have a few you may have noticed B^) to automatically impose it on any possible student, just because it would be the easy route for me to teach. Again, I'm not criticizing BASIC, or your response, just doing a bit of self evaluation.

Ren

dona nobis pacem

**Re: RPN for Kids.**

*Message #34 Posted by **Bruce Bergman** on 23 Aug 2007, 2:31 p.m.,  
in response to message #33 by Ren*

Thanks, Ren. I figured you might have had some pent-up anger ;-), and I fully understand it in relation to Pascal.

I, like you, was always confused and driven crazy by the push to teach Pascal as if it were the panacea for all programming. In reality, it was inconsistent, slow, painful and sadly missing many important concepts that existed in other languages at the time.

I'm sure there were reasons at the time, but I never bought into them. It still bugs me when a university teaches Pascal.

I totally agree about work done merely because it has always been that way, or to just "rote" people into doing things. The profs who spend the time to teach a subject and make sure you understand it, and then use it as a leap to other things, are worth their weight in gold.

BTW, I love mutzing with the Basic Stamp. Brings me back to my old embedded systems days, and it just feels so...fun! :-)

thanks, bruce

**Re: RPN for Kids.**

Message #35 Posted by [Stefan Vorkoetter](#) on 22 Aug 2007, 4:44 p.m.,  
in response to message #15 by Valentin Albillo

My first calculator was an RPN four-function model, the Novus 650 "Mathbox". It had a six digit LED display, and basically only did integer arithmetic (there was a permanent decimal point displayed between the second and third digits from the right). I think it cost \$20. I don't recall exactly when I got it, but it was some time between the 4th and 7th grade (1973 to 1976).

I turned out just fine, thank you very much.

Stefan

**Re: RPN for Kids.**

Message #36 Posted by [Valentin Albillo](#) on 22 Aug 2007, 4:55 p.m.,  
in response to message #35 by Stefan Vorkoetter

Hi, Stefan:

Stefan wrote:

*"I turned out just fine, thank you very much."*

You're welcome.

Best regards from V.

**Re: RPN for Kids.**

Message #37 Posted by [Walter B](#) on 22 Aug 2007, 6:23 p.m.,  
in response to message #15 by Valentin Albillo

Buenas tardes, Valentin,

your post shall be taken with a grain of salt. IMHO, the average student (i.e. escolar, Schüler) shall get what the teacher recommends and/or the majority of his/her classmates use. This is to guarantee optimum support during lessons. Nowadays this will be some TI or Casio.

If, however, you know you have a little math genius at home, who enjoys math instead of struggling with it, why not show him/her something which will make calculating life a little easier for the price of another way of thinking? Remember the translation of "Mathematika" is "learning to think".

The average student (i.e. estudiante, Student), however, should be sufficiently mature to select the best tool supporting his/her studies, whatever it's logic system may be.

Just my 20 Milli-Euros.

BTW, what bothers me: How do you Americans differentiate between students and students (please see above)??

**Re: RPN for Kids.**

*Message #38 Posted by **Vincze** on 22 Aug 2007, 7:03 p.m.,  
in response to message #37 by Walter B*

Quote:

BTW, what bothers me: How do you Americans differentiate between students and students (please see above)??

Güten nacht (or is it morgen there now?), my friend Walter. This is easy. There are two type of student in America. Those that have to be, and those that want to be. The later have a light in there eyes that is different. Most likely much like yours, mine and the rest of those in this group. The former, is more like the student who just want to get done with school so "life is no a hassle" and realize it really is just beginning for them (hassle that is). The most later student I pray for, the former, I thank God for.

**Re: RPN for Kids.**

*Message #39 Posted by **Ed Look** on 23 Aug 2007, 12:05 a.m.,  
in response to message #37 by Walter B*

Quote:

... BTW, what bothers me: How do you Americans differentiate between students and students (please see above)??

Age?

Level? (Secondary or postsecondary or graduate?)

For secondary "students", often another word can be used, "pupils". In some instances, and you'll have to read the (American) English context, "student" means one studying to be a scholar. I suspect, at least in America, you may generally need a master's (wow!) or doctorate degree (holy smoke, what's he, crazy??) to be called a scholar. If only a baccalaureate, I think it's just "college grad".

Maybe you need to master (or in the case of some our posters here who own screwdrivers and soldering irons, doctor) a HP RPN scientific programmable calculator? Yeah, I like this one.

**Re: RPN for Kids.**

*Message #40 Posted by **Valentin Albillo** on 23 Aug 2007, 7:24 a.m.,  
in response to message #37 by Walter B*

Hi, Walter:

Thanks for your comments, please read my answer to Bruce Bergman above, which equally well applies to what you say in your post.

Best regards from V.

**Re: RPN for Kids.**

*Message #41 Posted by **Walter B** on 23 Aug 2007, 6:00 p.m.,  
in response to message #40 by Valentin Albillo*

Buenas noches, Valentin,

after reading the major part of it, I hope you did not mean that this very personal discussion above "equally well applies to what you say in your post". But maybe I took the wrong answer? Anyway, I'm not in the mood of arguing, so I let you get away with it today. Sleep well!

**Re: RPN for Kids.**

*Message #42 Posted by **Valentin Albillo** on 24 Aug 2007, 6:20 a.m.,  
in response to message #41 by Walter B*

Hi, Walter:

Walter posted:

*"After reading the major part of it, I hope you did not mean that this very personal discussion above "equally well applies to what you say in your post". But maybe I took the wrong answer?"*

No of course it does *not* apply to you and yes, it seems you've read the wrong answer. I was specifically referring to message #17, my *second* post in this thread (my first one, to which you replied initially, is #15).

You've probably read my *third* post in the thread, (in which I regretted the non-sequiturs and ad-hominem attacks issued by some other poster) instead of the *second* one, in which I elaborated my points in much greater detail, specially when compared with my terse, 2-line initial message.

If you then go on to read my second message (#17 it was) and have any further comments, please don't hesitate to let me know. Thanks for your continued kindness and

Best regards from V.

**Re: RPN for Kids.**

*Message #43 Posted by **Walter B** on 24 Aug 2007, 5:13 p.m.,  
in response to message #42 by Valentin Albillo*

Buenas tardes, Valentin,

besides the danger of "addiction" you claim, I do not see in your response #17 too much difference to my post above - besides you like to write longer posts than me.

I would rather claim people get accustomed to RPN than addicted. And, the older we become the less we like (or are able) to change our dear customs. Nevertheless, I'd still rate RPN being "better" than ALG, provided the stack size is set to 6 levels for real "sans soucis"

calculations. But, to repeat it, I would not force an average pupil to use it.

Once again, just my 20 Milli-Euros :)

*Edited: 24 Aug 2007, 5:14 p.m.*

### **Re: RPN for Kids.**

*Message #44 Posted by [Fred Lusk](#) on 22 Aug 2007, 10:00 p.m.,  
in response to message #1 by Doctor Bubu*

Dr B...

Actually, I started with RPN, not algebraic. The first calculator I ever used was my dad's HP-35, which he got in late 1972 when I was in 9th grade. RPN is so natural, it took almost no time for either of us to learn how to use it. Natural? Sure, once you realize that it is impossible to perform an operation on one or two numbers without first having the numbers, then postfix becomes natural. All other syntactical methods must "store" the operation waiting for the number.

Fred

### **Re: RPN for Kids.**

*Message #45 Posted by [bink](#) on 22 Aug 2007, 10:36 p.m.,  
in response to message #44 by Fred Lusk*

I agree. I started out with a simple 4 function calculator, but when it was time to step up at age 13, I bought an HP 41CV and learnt how to use it and program it by myself. I sometimes had to use an algebraic calculator because no-one knew what an HP 41 was, but I still think RPN is much easier to use.

My GF needed a financial calculator so I offered her my spare HP 12C, but she thought RPN was too complicated (having never used it). So I bought her a TI Business Analyst. After seeing me use the HP more quickly, she has given up on it and wants an HP 12C as well.

I really do think that RPN is easier to use and more in tune with how mathematics is. Algebraic is better for those who don't understand, and simply want to key in formulas exactly the way they see them on the page. The latter people then tend to trip up when they don't have access to a calculator.

### **Re: RPN for Kids.**

*Message #46 Posted by [Garth Wilson](#) on 23 Aug 2007, 1:19 p.m.,  
in response to message #45 by bink*

Quote:

I really do think that RPN is easier to use and more in tune with how mathematics is. Algebraic is better for those who don't understand, and simply want to key in formulas exactly the way they see them on the page.

And that's where algebraic diverges from actual life & work in engineering. Schools focus too much on memorizing equations and not on understanding what's behind them. Very often *there won't be a formula written down!* I find myself usually having to think through what's actually happening *while* punching buttons, and it would take me *longer* if I had to form a complete equation before beginning the calculation or writing a short program. If I use my HP-71 as a calculator instead of the 41, I use the cursor keys a lot to go forward and back as I form the equation, and then I have to be careful about the



pile of parentheses. (I hate the 71's "calc" mode too, and never use it.)

**Re: RPN for Kids.**

Message #47 Posted by **Ren** on 23 Aug 2007, 11:17 a.m.,  
in response to message #44 by Fred Lusk

Fred wrote:

Quote:

Actually, I started with RPN, not algebraic. The first calculator I ever used was my dad's HP-35, which he got in late 1972 when I was in 9th grade. Fred

Fred,

Do you mean you didn't learn to add, subtract, multiply, and divide integers until the 9th Grade?

B^)

I'm sure you had learned math[s] algebraically long before the 9th grade. At that time you were "introduced" to RPN and electronic calculators.

(Boy, am I in a crabby mood today, or what?)

B^)

Ren

dona nobis pacem

**Re: RPN for Kids.**

Message #48 Posted by **Fred Lusk** on 23 Aug 2007, 11:37 a.m.,  
in response to message #47 by Ren

Ren...

Arithmetic is done RPN in the brain, even though it is written algebraically. :-)

Fred

**Re: RPN for Kids.**

Message #49 Posted by **Chuck** on 23 Aug 2007, 12:25 p.m.,  
in response to message #47 by Ren

Quote:

Fred wrote

Do you mean you didn't learn to add, subtract, multiply, and divide integers until the 9th Grade?

B^)

I'm sure you had learned math[s] algebraically long before the 9th grade.

Come to think of it, we ALL probably learned RPN without knowing it. For instance, take the problem of adding, subtracting or multiplying two "large" numbers (to a third grader), i.e., 23 and 146. First, we write down the two numbers stacked:

$$\begin{array}{r} 23 \\ 146 \\ \hline \end{array}$$

THEN place the appropriate symbol for the problem,

$$\begin{array}{r} 23 \\ +146 \\ \hline \end{array}$$

However, I agree with Valentin...I'm "forced" to use TI calcs in class since they have the best overhead for classroom demonstrations, 29 of 30 students have a TI, and a used TI-84 can be found for \$30 (a VERY capable calculator). It's not until I teach differential equations or linear algebra that I start taking my HP into class making a few converts. But again, in ANY class the understanding and correct synthesis of the problem is more important than the precisely correct answer.

Chuck

### Re: RPN for Kids.

Message #50 Posted by [James M. Prange \(Michigan\)](#) on 23 Aug 2007, 1:37 a.m.,  
in response to message #1 by Doctor Bubu

From what I've seen with my grandniece and grandnephew, they found using RPN calculators much more intuitive than the algebraic models that they'd used before. Of course, they were just getting started with using calculators for anything more than basic arithmetic, so they weren't yet too indoctrinated into using any sort of algebraic interface.

My two concerns with children learning to use RPN models would be first that it may well be difficult for them to get help in using them, and second that RPN models may stop being manufactured at some time in the future.

Personally, my first experiences with "calculators" were with "adding machines".

Regards,  
James

### Re: RPN for Kids.

Message #51 Posted by [bink](#) on 23 Aug 2007, 2:06 a.m.,  
in response to message #50 by James M. Prange (Michigan)

James,

Re concern #2: Just buy a bunch of them! My HP12C has lasted over 20 years of abuse and still works perfectly. I have a couple of spares, just in case the original dies.

Bink

**Re: RPN for Kids.**

*Message #52 Posted by [Patrick Rendulic](#) on 23 Aug 2007, 4:57 a.m.,  
in response to message #1 by Doctor Bubu*

6 years ago I started working as a physics teacher at a high school in Luxembourg. The young people I am teaching physics to are aged from 14 to 20.

Up to now, no one, absolutely no one of the pupils/students I have worked with had an RPN calculator!

The calculators that ore most used are the basic scientifics from Casio and TI. Some students have Casios with the "Natural Textbook Display". They like it a lot because it is so easy to copy written problems to the display of the calculator. No way to worry about parentheses and above all, the meaning of what they are calculating.

For me it is impossible to introduce RPN calculators in my course:

- All students have their cheap 10 to 15 Euro basic calculator. They are not willing to spend some extra 60 to 100 Euro for an RPN calculator that is hardly available in stores here in Luxembourg.
- They don't know RPN and cannot understand the advantage of not having parentheses. The problem is that you have to know some basic rules of mathematics in order to use a RPN calculator. Or for most of them, mathematics is something they don't want to learn, no way!
- The main problem is, that they should have to learn RPN earlier, at least at the beginning of their high school career when they are 12 years old. Or there we have another problem. Most mathematics teachers I know don't even use RPN! Most of them even think that it is too complicated! This really is the wrong start.
- Nevertheless, many of my students are amazed how fast I can calculate with those strange machines at the blackboard!

So a simple RPN calculator for kids would be a good start towards illumination of those dark minds!

**Re: RPN for Kids.**

*Message #53 Posted by [Ed Look](#) on 23 Aug 2007, 12:07 p.m.,  
in response to message #52 by Patrick Rendulic*

I must admit, right before I decided to spend the then (a looonngg time ago) \$124 USD for a HP-34C, the decision did require a bit of persuasion.

The major reason for any resistance was the relative higher cost of the HP machines over the TI ones (which seems to be less true today). But some very intelligent graduate students who happened to be also my instructors and supervisors convinced me (a professor also had the same high opinion of HP's RPN calculators, but was far less persuasive than the grad students) of the superior power of RPN once it was mastered and the superior quality of HP construction (then VERY true).

I am glad I listened to them; I still enjoy using RPN programmables.

**Re: RPN for Kids.**

*Message #54 Posted by [Chan Tran](#) on 23 Aug 2007, 3:43 p.m.,  
in response to message #53 by Ed Look*

If the expression is already written down somewhere I found that a calculator with "text book entry" is the easiest to use. If I am solving something like a word problem and I have not written down an expression then RPN or RPL is easiest. The algebraic type is OK but I often forgot the extra parenthesis when I have an expression that use the bar for divide or one that use the radical sign.

## **Re: RPN for Kids.**

*Message #55 Posted by [dbatiz](#) on 23 Aug 2007, 6:35 p.m.,  
in response to message #1 by Doctor Bubu*

My humble post will not compare to the comprehensive and eloquent discussions above. I only would like to add the following observation:

I've tutored many children and adults, all of whom used TI hardware, through algebra (Junior High, High School, and College Algebra). Many of them had used their TI for several years before entering the course. All were very proficient at manipulating their calculators, but none of them, not a single one, knew the order of operations.

I have seen algebraic entry systems used in education become a crutch over and over again.. For the few kids who actually get it, more power to them. But the vast majority learn how to get the "Answer" never having a clue what the "Solution" is.

In the hands of a person with sound math skills, the RPN/Algebraic choice is truly a matter of personal preference. But for a student, I believe algebraic provides way too much automation.

I'd never presume to speak for all children, but my boy will carry an RPN until he's able to buy his own. If he encounters a professor that requires other hardware, he'll carry both. I don't mind automation lifting the arithmetic burden, but I insist that he does the MATH.

I recently read Mr. Albillo's story, "Time Voyager". I enjoyed it immensely. If I may, I have a question for the author: If the story featured an algebraic machine, which one would it be and why?

Very respectfully,

David

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## HP Forum Archive 17

[ [Return to Index](#) | [Top of Index](#) ]**Suggestion for an Emulator/Simulator***Message #1 Posted by [Chan Tran](#) on 22 Aug 2007, 8:59 a.m.*

Instead of a emulator or a simulator of a real HP calc I think what would be very useful is a software calculator. I know there are many of them out there. My idea is one that has the capabilities based on the 48, 49 and 50G. It won't be as powerful and expensive like Mathematica. It would have all the functions of say a 50G but taking the advantage of large display, large keyboard and large memory of a PC. For example, the plotting capabilities of the 50G is quite good but the screen is too small to be of much use, a large screen on a PC would make it much more useful. The calculator would be able to display large equation with the equation writer without scrolling. It would be able to display many levels of stack. We can simply have pull down menu, computer style, instead of the kind of menu we have on a hand held calc. I would be willing to pay the price of a 50G for such a software package. Another nice thing is that now I can pick nice hardware to run it on or if I don't care I can run it on a cheap PC. What do you think?

**Re: Suggestion for an Emulator/Simulator***Message #2 Posted by [hugh steers](#) on 22 Aug 2007, 3:14 p.m.,  
in response to message #1 by Chan Tran*

this is the kind of thing ive been working on. basically make a virtual calculator and host it anywhere, like on the 50g platform for example.

ive been showing people the idea of a virtual calculator running on a real calculator and they think i'm cookoo. but it makes sense because all the buttons are there.

insofar as a programming language i thought that rather than adding a programming language to a software calculator, i'd add a software calculator to a programming language! i have extended LUA to have a expression evaluating command line and to have a choice of number systems for different purposes. i have some graphic demos too, but they're not finished right now.

i'm going to talk more on these ideas at this years HHC/HPCC conferences.

<http://www.voidware.com/tmp/lc.jpg>

**Re: Suggestion for an Emulator/Simulator***Message #3 Posted by [Howard Owen](#) on 22 Aug 2007, 6:16 p.m.,  
in response to message #2 by hugh steers*

Quote:

ive been showing people the idea of a virtual calculator running on a real calculator and they think i'm cookoo. but it makes sense because all the buttons are there.

[I don't think you are 'cookoo'.](#)

8)

Regards,  
Howard

### **Re: Suggestion for an Emulator/Simulator**

*Message #4 Posted by [hugh steers](#) on 22 Aug 2007, 6:32 p.m.,  
in response to message #3 by Howard Owen*

hi howard,

i'm interested to know if there's a way to call out to the built in functions of the 50g. if this were possible, then it would automatically give all the functions of the 50g plus a new programming language.

someone somewhere must know how to call parts of the rom from cold. since luacalc works in decimal it would be easy to convert to and from my internal number format without a big overhead.

then you would have your calculator.

### **Re: Suggestion for an Emulator/Simulator**

*Message #5 Posted by [Howard Owen](#) on 22 Aug 2007, 8:21 p.m.,  
in response to message #4 by hugh steers*

What you need are hooks into System RPL from your implementation, right? I assume your LUA interpreter is compiled with hpgcc. The libraries that come with that package aren't enough? [The folks that wrote the libraries](#) might be interested in what you are doing. Their [hplib documentation](#) states that it contains "[a]n exposed interface to the underlying KOS operating system calls (for advanced users only)." I assume that means the ARM based kernel. From there you would have to access the Saturn emulator. It sounds like it might be difficult to do, but you probably wouldn't have to go it alone.

Regards,  
Howard

### **More on hplib**

*Message #6 Posted by [Howard Owen](#) on 22 Aug 2007, 8:37 p.m.,  
in response to message #4 by hugh steers*

A quick perusal of that documentation shows me that they have gone at least part way down the path to a general interface to the Saturn emulator. They have stack manipulation pretty well nailed, and data type conversions too. Finally, there's a Saturn file system header file. I see they also have a basic math library. I wonder if that's a reimplementaion, or calls the on-board math stuff? The advantage for the latter approach would be compatibility with native HP50g results. The former would be better for speed, of course.

Regards,  
Howard

### **Re: More on hplib**

*Message #7 Posted by [hugh steers](#) on 23 Aug 2007, 4:21 a.m.,  
in response to message #6 by Howard Owen*

yes there is stuff to manipulate the RPN stack and get to the file system, but AFAIK nothing to call builtin functions. I can push onto the stack, but i can't call anything. i need some help on this.

the math library is a softfloat ieee754. i'm not using the hpgcc math lib. instead i have my own BCD code in there.

### **Re: Suggestion for an Emulator/Simulator**

*Message #8 Posted by [Pal G.](#) on 22 Aug 2007, 10:30 p.m.,*

*in response to message #4 by hugh steers*

Mr. Steers,

I am wondering if you caught this very recent thread at comp.sys.hp48. It seems two programmers over there are getting serious about Lua on the hp 50g, so I thought I would let you know, as I thought you might be interested.

The thread has grown quite a bit, and there is some bickering about using some "ancient" languages to program for the hp 50g (Ada and Fortran were mentioned!), but if you weed through those posts, later in the thread you will find two people, "Claudio" and "manjo" discussing Lua.

There is the thread:

[http://groups.google.com/group/comp.sys.hp48/browse\\_thread/thread/f766a3eb68e61200/ba0bdb574b4ed387](http://groups.google.com/group/comp.sys.hp48/browse_thread/thread/f766a3eb68e61200/ba0bdb574b4ed387)

I hope this helps somehow.

Cheers, Pal

### **Re: Suggestion for an Emulator/Simulator**

*Message #9 Posted by [hugh steers](#) on 23 Aug 2007, 4:36 a.m.,  
in response to message #8 by Pal G.*

thanks! they are refering to my 50g hplua port. i've made a lot of changes since the last release and these are not yet on sourceforge mainly because i need to do a proper tidy up before checking it all in.

i've rehosted hplua in a new graphical front end which is capable of international characters, greek etc and also general graphics, lines pictures etc. right now i have to tweak the fonts somewhat. but basically there is unicode coverage. later i hope to display formulae.

### **Re: Suggestion for an Emulator/Simulator**

*Message #10 Posted by [Pal G.](#) on 23 Aug 2007, 10:35 a.m.,  
in response to message #9 by hugh steers*

Ok, I saw your response to the thread c.s.hp48. Good deal. I suspected from the thread they were aware of your port and were not discussing starting from scratch..

I am a fan of Lua as well, having written several programs in Plua (Palm OS port). I have not tried your port yet, but have been keeping an eye on it. I have school, work, and kids, thus little time.

Can you tell me what you mean by "rehosted" hplua? Have you moved from a console interface to a frame-buffered graphical application interface (which can print text or graphics)?

Cheers, Pal

### **Re: Suggestion for an Emulator/Simulator**

*Message #11 Posted by [hugh steers](#) on 23 Aug 2007, 2:56 p.m.,  
in response to message #10 by Pal G.*

Quote:

\_\_\_\_\_

Have you moved from a console interface to a frame-buffered graphical application interface

\_\_\_\_\_

absolutely!

i've integrated my 2D graphics library and render into a window. unfortunately, the window is currently full sized to make max use of the screen. later i'll be adding some decoration.

### **Re: Suggestion for an Emulator/Simulator**

*Message #12 Posted by [Chan Tran](#) on 23 Aug 2007, 3:37 p.m.,  
in response to message #11 by [hugh steers](#)*

Actually my idea was for a program that run on the PC and has the mathematical capabilities of the 50G with the exception of a very large screen, large keyboard and lots of memory. I found that the 50G has sufficient capabilities in both numerical and symbolic as well as graphing except that its screen is too small to be very useful especially in graphic. Data entry is also slower because it doesn't have a good keyboard nor a mouse.

### **Re: Suggestion for an Emulator/Simulator**

*Message #13 Posted by [hugh steers](#) on 24 Aug 2007, 5:02 a.m.,  
in response to message #12 by [Chan Tran](#)*

i agree with you about the screen size - and what kind of wombats make a screen with an ODD width!

the 131x80 screen is pretty pathetic for graphing and display of any kind of interesting formulae. its also slow and not in colour. if i try to display any movement, i get a horrible blur a bit like looking into a bowl of hot porrage (due to the bogus dithering).

im trying to make the best of it tho' :-)

---

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## HP Forum Archive 17

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### HP 35s - my first thoughts

Message #1 Posted by [Patrick Rendulic](#) on 22 Aug 2007, 6:13 a.m.

I finally got my first HP35s through Samson Cables s.n. CNA 72105985. As I live in Luxembourg/Europe it was still a very good deal. It only costed 63 Euro, including shipping.

Here are my first thoughts concerning the physical appearance and some functions of the calculator :

- I think that the form factor is too big. In comparison to the Pioneer or the Voyager series, the calculator is too thick and too large for a comfortable fit in my shirt pocket. It should be 1 or 2 cm (an inch) shorter and thinner, just like an HP32 for example.
- The built quality of the case feels cheaper than that of the Pioneer series.
- My unit shows some cosmetic defects out of the horrible blister case. The color of the LCD screen is not uniform. The lower left part has a more greenish tint than the rest of the screen. Some dirt was on the outer side of the right top part of the screen; I managed to remove it. A minor scratch (less than half a mm) in the paint is located below the screen bezel. The visibility of the top annunciators is not very good.
- The key click is good, but not as "sharp" as on a HP 41. In comparison to a HP 48 the keys feel a bit softer. Nevertheless I think that the keyboard is quite acceptable.
- In complex mode it is very hard to distinguish "Theta" from the numbers.
- Concerning vectors, there should be a cross-product function, the dot-product is there.
- The implementation of complex numbers should be better.

Considering the price, the HP35s remains a wonderful deal although HP certainly can do better! It is a good step in the right direction, but they must evolve!

But now I have to start playing around.

### Re: HP 35s - my first thoughts

Message #2 Posted by [Stefan Vorkoetter](#) on 22 Aug 2007, 10:18 a.m.,  
in response to message #1 by Patrick Rendulic

Quote:

\_\_\_\_\_

In complex mode it is very hard to distinguish "Theta" from the numbers.

\_\_\_\_\_

Agreed! I did some work with complex numbers, and the first time I did, I thought it wasn't working, since I was getting numbers like 5.12383.456. Then I realized the "8" was actually the theta. There's only a 2-pixel difference between the "8" and the theta. They should have made the theta less tall.

Stefan

### Re: HP 35s - my first thoughts

Message #3 Posted by [Chuck Sommer](#) on 22 Aug 2007, 10:39 a.m.,  
in response to message #2 by Stefan Vorkoetter

The Theta is a real problem. In the Display selection menu (hp-35S) the selection for polar coordinates uses a "lower case Theta". That Theta would have been great to use.

In the HP-48G,49G and 50G there is a similar situation with exponential notation and the E used for numbers like 3.14159E0, since the E is the same size as the digits my eye does NOT spot it as quick as I would like. The smaller E used on my HP-35S is very easy to spot.

### Re: HP 35s - my first thoughts

Message #4 Posted by [Peter Niessen](#) on 22 Aug 2007, 12:01 p.m.,  
in response to message #3 by Chuck Sommer

Hi,

there's also a small bug connected with the E key: older models (like the 32S) would show 1E\_\_ when pressing E, but the 35S puts just E\_\_, which will result in a syntax error.

Cheers, Peter.

### Re: HP 35s - not a bug

Message #5 Posted by [Gene Wright](#) on 22 Aug 2007, 12:37 p.m.,  
in response to message #4 by Peter Niessen

That's not a bug, as the manual describes it working in that manner.

It is different than it used to be, true, but it is not a bug.

The command line on the 35s is much more like a command line found on the 50g than the earlier line of machines.

Gene

### Re: HP 35s - my first thoughts

Message #6 Posted by [Jeff O.](#) on 22 Aug 2007, 1:38 p.m.,  
in response to message #2 by Stefan Vorkoetter

Quote:

\_\_\_\_\_  
They should have made the theta less tall.  
\_\_\_\_\_

Perhaps like this:



or this:



or maybe even this?



**Re: HP 35s - my first thoughts**

Message #7 Posted by [Chuck Sommer](#) on 22 Aug 2007, 2:37 p.m.,  
in response to message #6 by Jeff O.

oo I hope it is up for a vote, but wait, I like them all.

**Re: HP 35s - my first thoughts**

Message #8 Posted by [Pal G.](#) on 22 Aug 2007, 3:32 p.m.,  
in response to message #6 by Jeff O.

Forgive me for asking, as I do not yet own an hp 35s. What does the symbol look like now? Can you recreate the current offering as an illustration of "current design"?

Thanks, Pal

**Re: HP 35s - my first thoughts**

Message #9 Posted by [Stefan Vorkoetter](#) on 22 Aug 2007, 3:44 p.m.,  
in response to message #8 by Pal G.

Exactly like the "8", but with the left and right middle-line pixels filled in.

**Re: HP 35s - my first thoughts**

Message #10 Posted by [Jeff O.](#) on 22 Aug 2007, 4:47 p.m.,  
in response to message #8 by Pal G.

Sure:



**Re: HP 35s - my first thoughts**

Message #11 Posted by [Stefan Vorkoetter](#) on 22 Aug 2007, 3:46 p.m.,  
in response to message #6 by Jeff O.

The OPTION 1 looks too much like an "e". I know that the calculator doesn't display scientific notation using a lowercase "e", but it could still cause confusion.

**Re: HP 35s - my first thoughts**

Message #12 Posted by [Vincze](#) on 22 Aug 2007, 7:11 p.m.,  
in response to message #11 by Stefan Vorkoetter

Agreed

**Re: HP 35s - my first thoughts**

*Message #13 Posted by **Walter B** on 22 Aug 2007, 6:45 p.m.,  
in response to message #6 by Jeff O.*

Thanks, Jeff, for making the difference visible. If I had to vote for one, I'd vote for your #3, because its next to the notation in HP42S - and there is no need to reinvent the wheel.

**Re: HP 35s - my first thoughts**

*Message #14 Posted by **Jeff O.** on 22 Aug 2007, 7:07 p.m.,  
in response to message #13 by Walter B*

Quote:

Thanks, Jeff, for making the difference visible.

You are very welcome! I seem to enjoy creating such things, so I'm glad someone found it helpful.

Quote:

If I had to vote for one, I'd vote for your #3

I agree, I like that one best myself. I'm probably kidding myself, but it seems like of all of the changes to the 35s that have been wished for, this one should be the easiest to implement. (No new functions, no ferreting out and correction of bugs, just "light up" a different set of pixels when a certain character is displayed.)

**Re: HP 35s - my first thoughts**

*Message #15 Posted by **Vincze** on 22 Aug 2007, 7:08 p.m.,  
in response to message #13 by Walter B*

My fiends, I have to agree with Walter. Number 3 I think is most distinguished, and Stefan also bring up good point too.

**Re: HP 35s - my first thoughts - Theta**

*Message #16 Posted by **JoeFrisco** on 22 Aug 2007, 8:14 p.m.,  
in response to message #13 by Walter B*

Uuugggh

I am glad Buy.com cancelled my hp-35 order( even though they took 3 weeks to credit my charge card). The big 8 is just wrong. It should have been designated as unacceptable from a human factors standpoint. It just does not look right. Ptewey. I want "natural" numbers to stand out on the calculator. The big 8 causes them to smash together. It is terrible. I want to see "a+ib" or "A<B" not "A8B" I really have to really re-think my future purchase of this devcice. This is in many ways, for me, is a vanity/collecting purchase. I like to sit down with a collection of pens, paper, calculator, books and aimlessly study math, physics etc. Everytime I take a log or exponent of the "natural" numbers and have to look at the big 8 will just detract from the experience.

All three options are much better, but my vote is for #3.

Thanks for taking time to create and capture the graphics

*Edited: 22 Aug 2007, 8:15 p.m.*

### **Re: HP 35s - my first thoughts - Theta**

*Message #17 Posted by **DaveJ** on 22 Aug 2007, 11:09 p.m.,  
in response to message #16 by JoeFrisco*

Quote:

Uuugggh

I am glad Buy.com cancelled my hp-35 order( even though they took 3 weeks to credit my charge card). The big 8 is just wrong. It should have been designated as unacceptable from a human factors standpoint. It just does not look right. Ptewey. I want "natural" numbers to stand out on the calculator. The big 8 causes them to smash together. It is terrible. I want to see "a+ib" or "A<B" not "A8B" I really have to really re-think my future purchase of this device.

Same here. I don't have a 35S myself, but that big 8 should have been smacked on the head at the prototype stage, it is awful, truly awful.

The "big E" on my 20S to represent the exponent is not quite as bad, but it still just scrapes into the awful category too. Does no one at HP see these things and even think "that just doesn't look right"?

Dave.

### **Re: HP 35s - (angle symbol)**

*Message #18 Posted by **Karl Schneider** on 22 Aug 2007, 11:04 p.m.,  
in response to message #13 by Walter B*

I'd also vote for the #3 "angle symbol" not only because it looks best, but there's also a more fundamental reason:

Theta is the greek letter most commonly used to identify an angular value. It is not the generic symbol for an angle, which is an indicator and not a numeric value such as *i*.

In rectangular mode, it is the accepted standard to display

3.1415-i2.7182 instead of 3.1415i-2.7182

However,

3.1415∟-2.7182 is preferable to 3.1415-∟2.7182,

where ∟ is the angle symbol.

-- KS

*Edited: 22 Aug 2007, 11:22 p.m.*

### **Re: HP 35s - (angle symbol)**

*Message #19 Posted by **Walter B** on 23 Aug 2007, 3:12 a.m.,*

*in response to message #18 by Karl Schneider*

Hi, Karl,

just for sake of clarity:

Quote:

Theta is the greek letter most commonly used to identify an angular value.

Almost. AFAIK, usually alpha is taken for an arbitrary angle. Just for cylinder coordinates, theta is most common. And for polar, it's theta and phi.

Quote:

It (theta) is not the generic symbol for an angle, which is an indicator and not a numeric value such as i. ...

3.1415 $\angle$ -2.7182 is preferable to 3.1415- $\angle$ 2.7182

?? It is quite obvious it doesn't make sense to add an angle on a distance. In any consistent system, you must not add apples on pears. Thus, the 2nd notation is not "less preferable", but simply wrong. On the other hand, **i** is no unit like Meters or Degrees or Chinese Li, but a pure number, though in a direction we usually do not have in the **real** world ;)

HTH, Walter

*Edited: 24 Aug 2007, 1:18 a.m.*

## Re: HP 35s - my first thoughts

*Message #20 Posted by **Thomas Klemm** on 23 Aug 2007, 5:38 a.m.,  
in response to message #1 by Patrick Rendulic*

Quote:

Concerning vectors, there should be a cross-product function, the dot-product is there.

The discussion about Rect/Polar conversion showed us how we can do that (for 3-dim vectors):

```
X001 LBL X
X002 ABS
X003 CLx
X004 LASTx
X005 RDN
X006 RDN
X007 [
      [0,[0,0,-1]*REGT,[0,1,0]*REGT]*REGZ,
      [[0,0,1]*REGT,0,[-1,0,0]*REGT]*REGZ,
      [[0,-1,0]*REGT,[1,0,0]*REGT,0]*REGZ
    ]
X008 REGZ
X009 RDN
X010 RTN
```

Lines 2-4 and 8-9 could be omitted. They copy T to Z and X to LASTx.

Line 7 is a nightmare to edit I now. But don't blame me for that. I hope it's easier to read spread over five lines.

RDN means Roll down.



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## HP Forum Archive 17

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### HP-97 Printer parts and repair

Message #1 Posted by [Clark H Lewis](#) on 21 Aug 2007, 6:17 p.m.

I am new to the Museum Forum, but I have HP-41CX and HP-97 calculators. I am now trying to repair the "Gummy Wheel" problem in the 97, and I would like to repair the 97 printer or better yet replace the printer. I have looked at the Forum and Museum site, but I only found one post which addressed a gear problem in the 97 printer.

Comment/suggestions on printer parts and repairs would be appreciated.

Thanks.

### Re: HP-97 Printer parts and repair

Message #2 Posted by [Giancarlo \(Italy\)](#) on 22 Aug 2007, 7:53 a.m.,  
in response to message #1 by Clark H Lewis

Hi Clark.

I think that a look at the MoHPC's [Repair Section](#) would prove helpful.

In particular you may find:

[HP-65 HP-67 HP-97 "Clutch" Fix](#)

[Repairing the HP-97 Card Reader](#)

[HP-67 / HP-97 card reader repair hints \(wheel & clutch\)](#)

[HP-97 printer ribbon repair](#)

[HP-97 Printer Gear Replacement](#)

Hope this helps.

Best regards.

Giancarlo

### Re: HP-97 Printer parts and repair

Message #3 Posted by [Clark H Lewis](#) on 22 Aug 2007, 7:35 p.m.,  
in response to message #2 by Giancarlo (Italy)

Thanks, but I have decided the repair task is above my skill level, and I am going to send the card reader off to get some expert help.

The printer repair looks even more demanding, so I will live without a working printer in the 97.

Thanks again for your comments.

### Re: HP-97 Printer parts and repair

Message #4 Posted by [Gerry Schultz](#) on 22 Aug 2007, 10:23 p.m.,  
in response to message #3 by Clark H Lewis

Clark:



I just had my HP-41C, CV, 41 card reader, my 82143A printer, my HP-55 and my HP-97 calculator repaired by Richard Anthony and he did a fantastic job. On my recently purchased 97, a printer gear broke and he replaced it and it works like new. If you are interested in contacting him, let me know and I will forward you his email address. My email address is gerald.schultz@fox.com.

Gerry

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## HP Forum Archive 17

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**Yet another simulator**

Message #1 Posted by **Mike T.** on 21 Aug 2007, 6:01 p.m.

Some of you with long memories may just about remember [this](#) earlier post.

It has taken a bit longer than I planned to tidy up the code and release another version, probably because once I had a tool that was 'good enough' for my own needs I didn't have such a strong incentive to release another version in a hurry.

However, I didn't forget about it and though I finished up rewriting just about everything in order to get the code in to a presentable state for public release I finally have a new version of the simulator ready, or at least I thought I did until a couple of days ago, and Dave has very kindly placed a copy of a ZIP file containing it [here](#).

In some ways it is a retrograde step as this release does not include the original HP33C simulation - the changes to the code were extensive enough to force me to test them using a simpler model. On the plus side though the current code can simulate both the HP21 and HP31E, and the code has been structured to make it easier to reuse. There are some differences between the simulations and the real thing, for details see the readme file included or the source code.

Unfortunately while using the simulator since uploading the file I've found a few really annoying bugs, so this defiantly isn't a finished piece of work even in the limited form presented here. I've already fixed most of the problems and I'm busy working on getting these changes into the next version. This should also include simulations of the HP25C and HP33C and possibly the HP10C as well. (I'd really like to be able to simulate the HP32E but don't know how to approach the Q and Q-1 functions on this model as I'm not much of a mathematician).

Hopefully it won't take so long to this time!...

Note - I have already changed the interfaces to clsRPNcalc so the next version will not be compatible with this one.

Feedback is welcome but I already know I have a few issues to fix and it is quite possible some of the original problems may have found their way back into the code during the rewrite. Obviously I should have tested this for a longer period of time before uploading it but I really wanted to release something before I go on holiday this year and probably jumped the gun a bit as a result.

**Please treat this as a BETA release, for use entirely at your own risk.**

Mike T.

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## HP Forum Archive 17

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### **HHC2007 in San Diego now up to 60 registered attendees!**

Message #1 Posted by [Gene Wright](#) on 21 Aug 2007, 4:54 p.m.

Wow! This is really shaping up to be the biggest HHC conference in years!

Four speakers from HP are expected.

San Diego, CA. Last weekend in September.

If you plan to attend, register now and we'll see you there!

### **Re: HHC2007 in San Diego now up to 60 registered attendees!**

Message #2 Posted by [Howard Owen](#) on 21 Aug 2007, 5:34 p.m.,  
in response to message #1 by Gene Wright

That's great!

Attendance has been growing steadily, going by the holyjoe.net HHC sites. Add the 35S, and that's what you get: almost a 50% increase year over year.

So, what about the possibility of firing up a new national HP calculator club? Is Richard completely jaded on the idea?

Regards,  
Howard

P.S. If the bad connotations have had enough time to fade, maybe we could call it "PPC". Or would that be tempting fate?

P.P.S. HP has four people involved with the calculator division now?

### **Re: HHC2007 in San Diego now up to 60 registered attendees!**

Message #3 Posted by [Bruce Bergman](#) on 21 Aug 2007, 10:45 p.m.,  
in response to message #1 by Gene Wright

AND, the best part is, we're going to have beautiful weather for everyone. I've talked to our local weather forecaster and she has assured me that it will be typical awesome San Diego weather.

So don't miss it! :-)

thanks, bruce

### **Re: HHC2007 in San Diego now up to 60 registered attendees!**

Message #4 Posted by [hugh steers](#) on 22 Aug 2007, 3:40 a.m.,

*in response to message #3 by Bruce Bergman*

how can you know what the weather will be like that far out? over here in the UK i've no idea what the weather will be like later today!

**Re: HHC2007 in San Diego now up to 60 registered attendees!**

*Message #5 Posted by [Dave Colver](#) on 22 Aug 2007, 5:15 a.m.,  
in response to message #4 by hugh steers*

Quote:

how can you know what the weather will be like that far out? over here in the UK i've no idea what the weather will be like later today!

I use [Metcheck](#)

If you allow that you wont notice rainfall at or below .1mm its normally pretty accurate.

**Re: HHC2007 in San Diego now up to 60 registered attendees!**

*Message #6 Posted by [Bruce Bergman](#) on 22 Aug 2007, 9:46 a.m.,  
in response to message #4 by hugh steers*

Well, aside from being somewhat facetious, I do have San Diego's almost perfect record of great weather to rely on.

San Diego usually maintains an average temperature of about 76 degrees F somewhere around 300 of 365 days of the year. We haven't had any noticeable rainfall in almost seven months, and September is usually one of our hotter months.

So, while I'm betting that I'm right, the odds are with me. ;-)

thanks, bruce

**Re: HHC2007 in San Diego now up to 60 registered attendees!**

*Message #7 Posted by [Pal G.](#) on 24 Aug 2007, 12:49 a.m.,  
in response to message #3 by Bruce Bergman*

Bruce, who is your weather person?

My wife's dad's brother happens to be Loren Nancarrow. You've probably seen or heard of him..

Cheers, Pal

**Re: HHC2007 in San Diego now up to 60 registered attendees!**

*Message #8 Posted by [Bruce Bergman](#) on 24 Aug 2007, 1:07 a.m.,  
in response to message #7 by Pal G.*

Yup, Loren has been around a LONG time. Nice guy.

My weather person is Aloha Taylor. She's the cousin of my wife's uncle. In Hawaii, almost everyone is

related to everyone else somehow. ;-)

thanks, bruce

## **Re: HHC2007 in San Diego now up to 60 registered attendees!**

*Message #9 Posted by **Dan Greil** on 23 Aug 2007, 1:10 p.m.,  
in response to message #1 by Gene Wright*

I won't be able to attend but would really like to have someone that can go ask the questions that pop up here on this forum:

- Does HP utilize focus groups for new calculator designs? How does HP create these groups, from a general public sampling or from niche areas like engineers, CPAs, instructors, etc?
- Describe the beta testing of prototypes and pre-production units. Is it all done in-house or do they utilize non-HP beta testers for math/logic validation, user experience feed-back, etc?
- How can MoHPC forum members contribute to design and pre-production quality control processes? Is there a formal way they can be involved in focus groups or become beta testers? The forum, as great as it is, only provides feed-back *after* a model goes into production.
- Describe HP's market strategy. Do they, for example, plan to focus on competing with TI in the education space, Sharp in the low-end retail space or are they shifting focus back to their roots - engineers and accountants?
- Given that the 12c is still in production and doing well, why doesn't HP re-release the 15c which shares so many components with the 12c? This would seem a no-brainer - simply start manufacturing something for which HP already possesses the design and manufacturing capabilities. Or, is there a Voyager 15c+ in the works and re-releasing the old 15c would under-cut that model's intended market?
- Would HP consider publishing 'release notes' for calculators so there is an official list of bugs (and work-arounds for things that are more quirks than bugs)? If these devices are to be relied upon in civil, aeronautical, and related fields where lives are at stake, it would appear to be the responsible thing to do. It would also buy credibility within those fields by HP showing it takes bugs seriously.

I'm sure other forum members have questions they'd like represented at HHC2007.

For those that have gone in the past, does HP make attendees sign non-disclosure agreements so that what is announced cannot be repeated (on this forum for example)?

-Dan

## **Re: HHC2007 in San Diego now up to 60 registered attendees!**

*Message #10 Posted by **Gene Wright** on 23 Aug 2007, 3:12 p.m.,  
in response to message #9 by Dan Greil*

The problem will be that if you want to hear the answers to these questions, you'll have to attend.

HP sessions require those in attendance to sign a non-disclosure agreement.

Anything HP might say in answer to these questions would have to remain private between the attendees and HP.

So far, in the 3-4 years this has been asked for by HP, no one present has objected to signing the form.

If someone really does not want to sign the form, they are free to wait in another area during HP's presentations. In this case, they would miss out on 4 HP speakers, but that is their choice.

Especially this year, since the conference itself will be held at an HP facility used by the calculator group in San Diego.

I'm also glad to say that I have not seen anyone who attended a past HHC meeting who broke their NDA. That helps HP trust those who attend even further.

So, bottom line, if you want to know the "scoop", you have to attend in person.

Sorry about that!

**Re: HHC2007 in San Diego now up to 60 registered attendees!**

*Message #11 Posted by **Wayne Brown** on 23 Aug 2007, 5:52 p.m.,  
in response to message #10 by Gene Wright*

Quote:

HP sessions require those in attendance to sign a non-disclosure agreement.

Anything HP might say in answer to these questions would have to remain private between the attendees and HP.

So far, in the 3-4 years this has been asked for by HP, no one present has objected to signing the form.

If someone really does not want to sign the form, they are free to wait in another area during HP's presentations. In this case, they would miss out on 4 HP speakers, but that is their choice.

This is the primary reason I've never attended an HHC meeting, and why I never will while that policy continues.

**Re: HHC2007 in San Diego now up to 60 registered attendees!**

*Message #12 Posted by **Bruce Bergman** on 23 Aug 2007, 6:00 p.m.,  
in response to message #11 by Wayne Brown*

Wayne, I'm curious... For you, is this a matter of principle, or does it literally cause a conflict (say, with an employer)? I don't like signing NDA's any more than the next chap, but it seems a pretty good trade-off for getting insight into an otherwise private operation.

This is the norm for businesses who have concerns about industrial theft, especially intellectual property.

I'm not casting any aspersions on your choice; I'm just trying to understand what would cause you to feel this way.

thanks, bruce

**Re: HHC2007 in San Diego now up to 60 registered attendees!**

*Message #13 Posted by **Gene Wright** on 23 Aug 2007, 6:03 p.m.,  
in response to message #12 by Bruce Bergman*

Where I work, visitors who want to see the warehouse have to sign an NDA as well. Common practice in business. Period.

Wayne, come to HHC2007. You'll just have to stand in the hallway for a couple of hours while the rest of us hear many good things. :-)

**Re: HHC2007 in San Diego now up to 60 registered attendees!**

*Message #14 Posted by **Wayne Brown** on 24 Aug 2007, 10:37 p.m.,  
in response to message #12 by Bruce Bergman*

I wouldn't object to an NDA from any other company. But with the way HP has behaved over the last 15 years or so, I think it's insulting for them to ask for an NDA or anything else. I think they should be on their hands and knees, begging for the privilege of being allowed to attend at all, rather than having the impudence to impose conditions on other attendees.

If I were to attend, it would be to spend time with HP enthusiasts like those on this forum. I have no interest in meeting with HP company representatives; in fact, I'd be more likely to attend if HP were forbidden from participating at all. But there's no way I'd go anywhere near it if I had to wait outside while the HP flacks were allowed inside!

**Re: HHC2007 in San Diego now up to 60 registered attendees!**

*Message #15 Posted by **Eric Smith** on 23 Aug 2007, 8:30 p.m.,  
in response to message #11 by Wayne Brown*

Quote:

\_\_\_\_\_

This [NDA policy for HP presentations] is the primary reason I've never attended an HHC meeting, and why I never will while that policy continues.

\_\_\_\_\_

IMNSHO, the conferences are useful and worthwhile even when HP doesn't make presentations. Therefore, I think they would be interesting and worthwhile even for someone who doesn't sign the NDA and skips those particular sessions.

**Re: HHC2007 in San Diego now up to 60 registered attendees!**

*Message #16 Posted by **Dan Greil** on 23 Aug 2007, 8:02 p.m.,  
in response to message #10 by Gene Wright*

Gene,

Thanks for that insight. I surmised NDAs were necessary but now you've confirmed it. I can live with that.

But now you have my curiosity piqued! I am in need of a vacation...

I just finished reading "The HP Way" by Dave Packard and realized that the *HP Journal* was probably discontinued for the same reason - i.e. not disclosing trade secrets. The *HP Journal* was published (according to the book) in response to General Radio Company's publishing of the *Experimenter*. Back then, these publications were a marketing tool. Now, the information in those would be considered trade secrets.

Thanks,

Dan

**Re: HHC2007 in San Diego now up to 60 registered attendees!**

*Message #17 Posted by [DLF](#) on 24 Aug 2007, 12:20 p.m.,  
in response to message #16 by Dan Greil*

Quote:

Back then, these publications were a marketing tool. Now, the information in those would be considered trade secrets.

Thanks,

Dan

Back when marketing was more about substance than style....

**Re: HHC2007 in San Diego now up to 60 registered attendees!**

*Message #18 Posted by [David Ramsey](#) on 25 Aug 2007, 10:59 a.m.,  
in response to message #1 by Gene Wright*

Quote:

Wow! This is really shaping up to be the biggest HHC conference in years!

Four speakers from HP are expected.

San Diego, CA. Last weekend in September.

If you plan to attend, register now and we'll see you there!

Registration info...?

**Re: HHC2007 in San Diego now up to 60 registered attendees!**

*Message #19 Posted by [Gene Wright](#) on 25 Aug 2007, 11:07 a.m.,  
in response to message #18 by David Ramsey*

[HHC2007 website](#)

Be great to see you (and others there).

HP is providing the facilities this year and they have room for up to 90 people.

Gene

**Re: HHC2007 in San Diego now up to 60 registered attendees!**

*Message #20 Posted by [Matt Kernal](#) on 25 Aug 2007, 1:41 p.m.,*



*in response to message #1 by Gene Wright*

Any idea why Joe Horn isn't on the attendee list (since the other committee members are listed)? I hope it's just an oversight.

I'm glad to see Jim's name is there.

Matt

p.s. I hope Wlodek's "Probability of attending" increases to something more than 51%.

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## HP Forum Archive 17

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### HP35s / RPN Calculator Simulator in Excel / Java?

Message #1 Posted by [Thomas Chrapkiewicz](#) on 21 Aug 2007, 3:42 p.m.

Has anyone seen (or perhaps already done) a RPN calculator/simulator in Excel(VBA) or Java?

My particular interest has been picqued by writing code for the HP35s and wanting to be able to see the data memory as the algorithm was executing.

While there are several simulators(even bit-accurate emulators) out there for various machines, I was thinking it would be nice to have a simulator, for example the HP35s where one could not only see the full stack, but all (or many - perhaps 100) data memories while code is executing to see the movement of data while the algorithm executes. I've begun this process (in Excel97) and was curious if perhaps this has been done already - or if anyone else out there would have a need for such a piece of code. Certainly, Java would be more universal, but I'm currently more conversant in Excel(VBA).

Thoughts and opinions appreciated,

Tomcee ( I also posted in comp.sys.hp48)

### Re: HP35s / RPN Calculator Simulator in Excel / Java?

Message #2 Posted by [Arne Halvorsen \(Norway\)](#) on 21 Aug 2007, 4:28 p.m.,  
in response to message #1 by [Thomas Chrapkiewicz](#)

I am not joking...

I am trying to write one right now (java) as I type (well not \*exactly now\*...).

And my reasons are yours! Thing is, I got ideas for HP35s programs, not gonna have it for months it seems, so need simulator...

Well, writing simulators are tedious stuff... AND to get it right you need very exact documentation and time to study it... I dont have that :-)

So my approach is to \*try\* write a generic rpn hp calculator with the stuff I need for my programs AND try to match it according to what I can understand of the machine by online doc.. (HP, anytime now would be ok for that manual pdf to be posted).

Propably fail, but if not will put stuff up as open source...

What as a simulator/emulaotor wannabe would like would be a database of hp calc operation normalized by name, brand and description (exact) operation.

Well, nuff posting, back to hacking...

### Re: HP35s / RPN Calculator Simulator in Excel / Java?

Message #3 Posted by **Raymond Del Tondo** on 21 Aug 2007, 4:42 p.m.,  
in response to message #1 by Thomas Chrapkiewicz

Hello,

pleaswe take a look at  
[RPN Calc simulations](#)

HTH

Raymond

### **Re: HP35s / RPN Calculator Simulator in Excel / Java?**

Message #4 Posted by **Thomas Chrapkiewicz** on 21 Aug 2007, 5:07 p.m.,  
in response to message #3 by Raymond Del Tondo

Ray: Thanks. Yes,these are fine simulators - even bit-accurate in most all cases.

My need here is more driven - not so much by an absolutely accurate model of the machine - but by being able to watch the machine perform while executing steps in a program. I am writing some code for the HP35s to do Matrix operations, and ascertaining that my code is using data memory properly, I need to 'see inside' the machine while the data is being moved around and modified. Checking that a 5x5 or 10x10 matrix has been moved and/or operated on via the HP35s display is a bit tedious. I can see all 100 or so memories simultaneously on a spreadsheet.

I've gotten the basic code done for stack and data operations done. Doing the program interpretation is going to be significantly more tedious.

TAFYH, TomCee

### **Re: HP35s / RPN Calculator Simulator in Excel / Java?**

Message #5 Posted by **Arne Halvorsen (Norway)** on 21 Aug 2007, 5:15 p.m.,  
in response to message #4 by Thomas Chrapkiewicz

What code 'done' are you talking about? I would be interested!

### **Re: HP35s / RPN Calculator Simulator in Excel / Java?**

Message #6 Posted by **Namir** on 21 Aug 2007, 6:37 p.m.,  
in response to message #1 by Thomas Chrapkiewicz

Thomas,

I am working on an **RPN2** simulator in Excel (and Excel VBA). This is a version of RPN that support paged variables (single variables and matrices), global labels, and local labels. The result is the ability to write subroutine that have their own variables that don't necessarily clash with other routines that use variables with similar names (but associated with a different page name). I designed RPN2 to allow a routine to switch page name (as many times as you wish) and access variables in different pages. Also, RPN2 has global and local level labels, goto commands, and subroutine commands.

My intent is to create a new version of a programmable RPN engine that can compete with RPL.

RPN2 supports single numeric variable, flags, strings, and also matrices. I am tapping into Excel's commands to support matrices without slowing down the interpreter.

I am working on the documentation and that will take a while.

Namir

**Re: HP35s / RPN Calculator Simulator in Excel / Java?**

*Message #7 Posted by [Thomas Chrapkiewicz](#) on 23 Aug 2007, 7:30 a.m.,  
in response to message #6 by Namir*

Hello Namir:

Your project sounds most interesting!!! Would like to know more as it becomes ready.

My current project is very simple - only real numbers (for now - I really do need smooth complex number handling). I anticipate that extending it to 3D vectors as the 35s does will not take too much effort. My demand was driven to 'see' what is going on inside my HP35s while solving matrices and manipulating significant blocks of memory.

I am using Excel97 and VBA. Thus the application will run across many (more modern) Excel platforms. Should speed become an issue, I may use VB4 or VB6.

Regards, Tomcee

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## HP Forum Archive 17

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### Hoping for a new high-end RPN calculator

Message #1 Posted by [John \(Corvallis\)](#) on 21 Aug 2007, 3:28 p.m.

I'm hoping for a new high-end RPN calculator. It might be called the HP 45s or 65s for historical reasons, as was the new 35s. But it would draw inspiration mostly from the 41CX, 42S, 35s, and 50g. It would continue or improve on the newly-rediscovered (35s, 50g) traditional, professional look and quality key-feel.

It would have alphanumeric capability for globally naming programs (and variables?), as well as for constructing prompts and labeling outputs. It would have local numeric labels.

It would have modern I/O, such as USB for direct connect to computers and peripherals (such as a small printer), as well as an SD card slot.

It would have a large memory, a large function set (including time functions), and be fast.

How powerful can/should a top-of-the-line RPN calculator be? What features do you want in such a machine?

### Re: Hoping for a new high-end RPN calculator

Message #2 Posted by [Arne Halvorsen \(Norway\)](#) on 21 Aug 2007, 3:35 p.m.,  
in response to message #1 by John (Corvallis)

GPS...

That would be way, way coool man!

### Re: Hoping for a new high-end RPN calculator

Message #3 Posted by [Vincze](#) on 21 Aug 2007, 3:39 p.m.,  
in response to message #2 by Arne Halvorsen (Norway)

For what? Tracking fool who steel your calculator?

I would like something that have softkeys as well.

### Re: Hoping for a new high-end RPN calculator

Message #4 Posted by [Arne Halvorsen \(Norway\)](#) on 21 Aug 2007, 3:44 p.m.,  
in response to message #3 by Vincze

Seriously, I think that would be usefull for a lot of application (survey type, navigation(!), atronomical, recreational) and now that we see nokia putting it in more and more telephones why not.

It would also give you access to accurate atomic time.

*Edited: 21 Aug 2007, 3:46 p.m.*

**Re: Hoping for a new high-end RPN calculator**

*Message #5 Posted by [John \(Corvallis\)](#) on 21 Aug 2007, 3:50 p.m.,  
in response to message #3 by Vincze*

GPS functionality might be useful in surveying. GPS plus timer functions would be great for geocaching competitions. A rugged, rain-proof case would be helpful for all outdoor applications.

How about a large display, perhaps square for distortion-free plotting and graphics? Perhaps the display could be faster, higher-resolution, and even color.

**Re: Hoping for a new high-end RPN calculator**

*Message #6 Posted by [Arne Halvorsen \(Norway\)](#) on 21 Aug 2007, 3:57 p.m.,  
in response to message #5 by John (Corvallis)*

I am going to be hated for this....., but here goes....

Java SE with special API's to the native machine, done right could be a killer in terms of third party development.

**Re: Hoping for a new high-end RPN calculator**

*Message #7 Posted by [Geir Isene](#) on 22 Aug 2007, 3:20 a.m.,  
in response to message #6 by Arne Halvorsen (Norway)*

Oh, please. No Java.

The GPS is a great idea, though. Fantastic for astronomy.

Another Norwegian... cool.

**Re: Hoping for a new high-end RPN calculator**

*Message #8 Posted by [Howard Owen](#) on 21 Aug 2007, 5:18 p.m.,  
in response to message #2 by Arne Halvorsen (Norway)*

Quote:

\_\_\_\_\_  
GPS...  
\_\_\_\_\_

USB host would get you GPS plus a lot more.

Regards,  
Howard

**Re: Hoping for a new high-end RPN calculator**

*Message #9 Posted by [Egan Ford](#) on 21 Aug 2007, 5:33 p.m.,  
in response to message #8 by Howard Owen*

As would bluetooth.

**Re: Hoping for a new high-end RPN calculator**

*Message #10 Posted by [Howard Owen](#) on 21 Aug 2007, 5:39 p.m.,*

*in response to message #9 by Egan Ford*

Quote:

As would bluetooth.

Ah, yes. But USB host would get you bluetooth. 8)

Regards,  
Howard

### **Re: Hoping for a new high-end RPN calculator**

*Message #11 Posted by [Arne Halvorsen \(Norway\)](#) on 21 Aug 2007, 5:44 p.m.,  
in response to message #9 by Egan Ford*

Yea... but (and I'm the only one, I mean history flooded with navigation (aviation!), survey apps of hp41\* stuff), and soon every cell phone size less than this will have gps... Get out of the box I say...

Thing is, I programmed years ago some embedded java stuff connected to raw gps receiver, that was cool programing stuff...

And (sorry to repeat myself), it take cares of your time needs..., those birds are flying atomic clocks...

### **Re: Hoping for a new high-end RPN calculator**

*Message #12 Posted by [Tim Wessman](#) on 21 Aug 2007, 6:45 p.m.,  
in response to message #9 by Egan Ford*

My calculator has GPS, and long range (1/2 mile) bluetooth already. . . :-)

TW

### **Hoping for a new ^H^H^Hold high-end RPN calculator**

*Message #13 Posted by [Howard Owen](#) on 21 Aug 2007, 8:41 p.m.,  
in response to message #12 by Tim Wessman*

Not all of us can go out and design/build a cool system extension for the 50g, Tim. 8)

Although, that's a darned good point. We know that the 50g is capable of doing microcode simulation of the HP41, the Voyagers, the 71B, and 42S. Why not turn it into the ultimate RPN keystroke programmable calculator, not through emulation but with a new implementation. Why wait for hobbyist hardware (sorry, Eric) when you've got a fairly stable mainframe that is flash upgradeable, has a choice of targetable architectures (i.e. ARM or Saturn, C/C++, User or System RPL,) and a solid keyboard, though with an under-endowed ENTER key? (What do you want to bet that the follow-on high end machine will remedy that deficiency?) You get flash, a large RAM and SD out of the box. And with your nifty enclosure, Tim, it could have bluetooth too. (Dual bluetooth, right?)

I wonder if a collaborative project to build software for something like that could work? OpenRPN seems to have made quite a bit more progress on the software side than the hardware, for example. And you wouldn't be breaking new ground as to the development or distribution models. It could be hosted on Source Forge, for cryin' out loud!

I vote for 50rpn as the project name. 8)

Regards,  
Howard

**Re: Hoping for a new ^H^H^Hold high-end RPN calculator**

*Message #14 Posted by **Howard Owen** on 21 Aug 2007, 8:48 p.m.,  
in response to message #13 by Howard Owen*

50g features that could be made available to an RPN OS running on the machine:

- Nice display
- Solid keyboard, though busy.
- Secure Digital Storage
- Sorta-kinda RS-232
- USB slave
- Bluetooth via Tim's surveying case
- Flashable OS
- Lots of RAM
- Anything else?

The form factor isn;t what most people here would like to see, but check out how well the above tallies with the rest of the wish list!

Regards  
Howard

**Re: Hoping for a new ^H^H^Hold high-end RPN calculator**

*Message #15 Posted by **James M. Prange (Michigan)** on 21 Aug 2007, 9:22 p.m.,  
in response to message #14 by Howard Owen*

Quote:

\_\_\_\_\_

50g features that could be made available to an RPN OS running on the machine:

\_\_\_\_\_

But the 50g already has an "RPN OS" built-in!

Perhaps you'd like to handicap it with a 4-level stack? Require line numbers for each program step? Require GOTO instructions instead of using program structures? Add more restrictions to what names can be used?

I don't think that the RPL models are perfect, but any of the above seem to me like steps in the wrong direction.

If anyone feels up to the task of writing a new OS for the 50g, suit yourself; no doubt the hardware is capable of quite a lot.

Regards,  
James



## **Re: Hoping for a new ^H^H^Hold high-end RPN calculator**

Message #16 Posted by **Will Hartung** on 22 Aug 2007, 12:16 a.m.,  
in response to message #15 by James M. Prange (Michigan)

Actually, I was sort of toying around with this idea.

Someone, somewhere, here, earlier mumbled something about having a "generic calculator" platform to develop, well, calculators. The "Generic" or "Blank" Calculator.

And, frankly, modulo the form factor, the 48-50g series is, essentially, exactly that.

Anyone so motivated can make those machines do most anything.

There is a line crossed by the RPL machines when they crept away from being "keystroke" programmable. I mean, I guess you could program these things using all of the soft keys and what not, but it doesn't take long for one to drop that and simply key the program in on the alpha keyboard.

What makes keystroke programmables nice is their coarseness and simplicity. Keystroke programs start as little more than "watch me" macros, which makes it much easier for someone trying to replicate a complicated equation. Obviously folks can take it far beyond that, but more casual users can more easily program a keystroke programmable simply because doing so is little more than what they would normally do on the calculator.

So, for some, that's what makes something like the 35s more compelling than a behemoth like the 50g. That keystroke ease of use.

But it would be interesting for someone to try and convert a 50 into a keystroke machine, rather than a RPL machine. At the core, all of the capability is there. The 50 series will pretty much do anything a calculator can do, and has all of the core routines. So, the game isn't so much function and algorithm design, rather it's a design of user interface.

Realistically, that's all a calculator is today. A compromise between functionality and interface. How to cram usable and friendly power and functionality into a bunch of buttons and 1 or 2 lines of text.

There are other non-functional requirements, mostly battery life and performance, but the balance and elegance of a calculator is pretty much all interface.

An interesting example of this comes from an industrial application I wrote for the 48 series several years ago. This fellow was working on a design for resource tracking, and he started out with a bar code scanner. It was interesting to see how his design expanded until the user was expected to run around with a bunch of double sided flip cards packed to the gills with bar codes to scan. Eventually, he was even considering giving them a single card with 10 barcodes (one for each digit) on it and a list of code to be scanned in, digit by digit, with the scanner.

I asked him "So, you expect the users to basically key in numbers using a bar code scanner?"

Yea, it does sound silly. But with the bar code scanner as the hammer of the day, that was how the design was progressing. At that point the bar code scanner was

obviously the wrong tool for the job.

But the core problem we found wasn't the data, or the process, but it was all form factor and interface.

Turns out that a 48 with a serial port, those bright orange nylon pouches, and some custom software, and a bit of "White out" and a ball point pen for some custom keys was the hot, outside the box solution to the problem.

And interface is what defines a calculator, and separates the good from the bad.

Back to the 50, as I said all of the math is there. But also, all of the interface is there as well. You can reprogram (even from just User RPL) pretty much every key on the keyboard. Most likely the ON and R/L Shift keys may not be available from User RPL, but every other one is. And with a bit of Sys RPL, those too may be up for grabs. You can address every pixel on the display, and make the thing sing Yankee Doodle Dandy. I/O, clocks, gobs of RAM.

So, to me, it seems that the 50, with a little bit of software to handle some infrastructure, would be a calculator hackers dream experimenters tool.

The truly motivated could obviously reflash the entire machine from the core with compiled code. But so much is available to even the "lowly" User RPL user.

No doubt, much of this work would be done with an emulator, but the samples can then be downloaded to the machine to try out in real life. Heck, strip the case and make some custom dry transfer labels for your custom key sets. A little paint and a steady hand can redo the keys themselves (though they may not last).

Basically, for folks motivated to reinvent the calculator, there's a machine out there that's reinventable: The HP 50. (I dunno if the TI's are as flexible)

### **Re: Hoping for a new ^H^H^Hold high-end RPN calculator**

*Message #17 Posted by [Howard Owen](#) on 22 Aug 2007, 12:51 a.m.,  
in response to message #16 by Will Hartung*

Quote:

\_\_\_\_\_

The truly motivated could obviously reflash the entire machine from the core with compiled code. But so much is available to even the "lowly" User RPL user.

\_\_\_\_\_

That's what I meant by "has a choice of targetable architectures." There are multiple levels at which you could implement your dream calculator. (Why use compiled code? ARM machine code at 75MHz just might have a performance edge.)

Regards,  
Howard

### **Re: Hoping for a new ^H^H^Hold high-end RPN calculator**

*Message #18 Posted by [Howard Owen](#) on 22 Aug 2007, 1:05 a.m.,  
in response to message #16 by Will Hartung*

Quote:

---

So, to me, it seems that the 50, with a little bit of software to handle some infrastructure, would be a calculator hackers dream experimenters tool.

---

The 48 series was certainly exactly that. Metakernel, anyone?

Regards,  
Howard

### **Re: Hoping for a new ^H^H^Hold high-end RPN calculator**

*Message #19 Posted by [Geir Isene](#) on 22 Aug 2007, 3:26 a.m.,  
in response to message #16 by Will Hartung*

A bridge to HP-IL would be cool, though (reuse of all HP-41/71 equipment)...

### **50g as emulator platform**

*Message #20 Posted by [James M. Prange \(Michigan\)](#) on 24 Aug 2007, 12:17 p.m.,  
in response to message #16 by Will Hartung*

Quote:

---

There is a line crossed by the RPL machines when they crept away from being "keystroke" programmable.

---

Well, with all the operations available on the RPL models, even with the various shift keys, you'd need an awful lot of keys to make them truly "keystroke programmable". When you have too many operations to fit on the available key combinations, you pretty much have to use alternative entry methods such as menus or named commands keyed in from the keyboard for some operations.

Quote:

---

I mean, I guess you could program these things using all of the soft keys and what not, but it doesn't take long for one to drop that and simply key the program in on the alpha keyboard.

---

True, RPL models give you some choices as to which method to use. If I'm going to use commands found on one or two menus several times, then I'll probably use the menus, and otherwise simply key in the command name from the keyboard.

Quote:

---

What makes keystroke programmables nice is their coarseness and simplicity. Keystroke programs start as little more than "watch me" macros, which makes it much easier for someone trying to replicate a complicated equation.

---

So with the RPL models, instead of simply recording keystrokes, you're recording named commands keyed in from the keyboard or a menu. What's difficult about that?

Quote:

---

Obviously folks can take it far beyond that, but more casual users can more easily program a keystroke programmable simply because doing so is little more than what they would normally do on the calculator.

---

It seems to me that a casual user ought to be able to write a simple UserRPL program simply by starting the command line editor with the UserRPL program delimiters, pressing whatever keys he normally would for the problem, and then pressing ENTER.

Of course using program structures for branching and so on takes more thought, but isn't the same true of using labels, GOTO instructions, and so on the Classic RPN models?

Quote:

---

You can reprogram (even from just User RPL) pretty much every key on the keyboard. Most likely the ON and R/L Shift keys may not be available from User RPL, but every other one is.

---

Even those can be assigned, if you really want to do so, with either the ASN or STOKEYS command. Offhand, I don't think that I'd want to make any assignments to the ALPHA, LeftShift, or RightShift keys, or combinations that include them, but in case you're not actually using them as shift keys, why not? But do leave yourself an easy way to switch out of user mode.

Certain of the "Shift Hold" key combinations could be assigned, but wouldn't be usable: 70.41 (hold down ALPHA and press ALPHA), 80.21 (hold down LeftShift and press LeftShift), 80.51 (ALPHA hold down LeftShift and press LeftShift), 90.31 (hold down RightShift and press RightShift), and 90.61 (ALPHA hold down RightShift and press RightShift).

Other than the above, including the various "Shift" and "Shift Hold" combinations, each key can have as up to 11 user key assignments.

The ON key, including all six key "planes" and the "shift hold flag", can be assigned however you wish. In case you assign anything to 101.10, with the calculator off, pressing ON simply turns it on, and with the calculator already on, pressing ON invokes the assignment.

But would you want to assign anything to the ON key? Well, you could replace the standard 101.10 assignment of the CANCEL operation (which beeps and displays an "Interrupted" message box if a program is running) with the program `\<< #DFFh DOERR \>>`, which is normally used to abort any execution to run a control alarm, and seems less annoying. If you have a STARTOFF program, then you might want to replace the standard 101.30 assignment of the OFF command with the reserved variable name 'STARTOFF', so that the program will run with

you manually turn the calculator off, instead of when it does an automatic turnoff.

What can't be assigned are the various "hold down ON" key combinations.

You can also use the DELKEYS or STOKEYS commands to suppress some or all standard key assignments while in user mode; pressing an unassigned key simply causes a "bad keystroke" beep.

Note that you can get yourself into a situation where you can't easily get out of user mode because 70.20 doesn't have its standard assignment, or even have all keys disabled while in user mode, so that you can't even use -62 CF. If this occurs, to get out of user mode, invoke a warmstart by holding down ON while pressing C, or use the "paperclip reset".

Wolfgang's Keyman library, among other things, adds the ability to assign to "double-click" and "long-pressed" keys; see <http://page.mi.fu-berlin.de/raut/WR49/index.htm#Keys>.

KEYEVAL is a somewhat related command that can invoke whatever operation is assigned to a keycode. While in user mode, if a positive keycode is used, then the user key assignment is invoked, and if a negative keycode is used, then the standard key assignment is invoked. When not in user mode, the standard key assignment is invoked, regardless of whether the keycode is positive or negative. This could be used to invoke non-programmable operations, but do so with caution; there may be a very good reason for not making such an operation a programmable UserRPL command.

Regards,  
James

*Edited: 24 Aug 2007, 2:16 p.m.*

## **Re: Hoping for a new ^H^H^Hold high-end RPN calculator**

*Message #21 Posted by [Howard Owen](#) on 22 Aug 2007, 1:03 a.m.,  
in response to message #15 by James M. Prange (Michigan)*

Hi, James.

We've been down this road before, have we not? 8)

Regardless of what you implement, the point is that the 50g offers a great deal of flexibility in how to go about the implementation. You could use ARM targeted C code for performance critical routines, and SysRPL calls to leverage what is already on the machine. You could add hooks to UserRPL so that your simpler RPN programming environment could call UserRPL subs and be called by it. That would allow this to be an extension of the current OS.

My imagination about where to go with this would tend one way, and yours might tend another. But surely you have some idea of how you would improve the OS, if you had a bunch of help to rewrite code in C and create new stuff? If the 50g isn't "perfect" then that implies you would like to make changes, right?

Regards,

Howard

**Re: Hoping for a new ^H^H^Hold high-end RPN calculator**

*Message #22 Posted by **Paul Dale** on 21 Aug 2007, 8:56 p.m.,  
in response to message #13 by Howard Owen*

Quote:

OpenRPN seems to have made quite a bit more progress on the software side than the hardware, for example.

The OpenRPN software is (was) aimed at making \*fix which is essentially a beefed up RPL so it isn't going to be directly relevant to a key stroke programmable environment.

I had some nefarious ideas on how to implement key stroke programming under \*fix without interpreting stored key codes. See sflib/rpn.sfix from the repository for details.

- Pauli

**Re: Hoping for a new ^H^H^Hold high-end RPN calculator**

*Message #23 Posted by **Howard Owen** on 21 Aug 2007, 9:02 p.m.,  
in response to message #22 by Paul Dale*

Have you considered targeting the HP50g with the OpenRPN stuff? (Regardless if it's what this crew is after, you could blaze a trail for us. 8)

Regards,  
Howard

**Re: Hoping for a new ^H^H^Hold high-end RPN calculator**

*Message #24 Posted by **Paul Dale** on 21 Aug 2007, 9:05 p.m.,  
in response to message #23 by Howard Owen*

Personally, I hadn't. I believe there were discussions about it but I've no recollection what became of them.

- Pauli

**Re: Hoping for a new ^H^H^Hold high-end RPN calculator**

*Message #25 Posted by **Hugh Evans** on 25 Aug 2007, 2:12 p.m.,  
in response to message #24 by Paul Dale*

It was discussed and even attempted on the 49g+ but as I recall there were some issues getting code compiled and running on that platform. In terms of long-term goals I want to see \*fix running on an HP someday.

For more details on \*fix and OpenRPN check out [www.openrpn.org](http://www.openrpn.org) in the coming weeks. The project has picked up a new host, so the site will be up all the time. Short-term plans are to restore the wiki and implement a simplified main webpage.

-Hugh

**Re: Hoping for a new ^H^H^Hold high-end RPN calculator**

*Message #26 Posted by [Hugh Evans](#) on 25 Aug 2007, 2:21 p.m.,  
in response to message #13 by Howard Owen*

You've basically described the concept behind the \*fix core, which is a minimal subset of commands that provide the necessary foundation for all other commands. That way you can use it to build RPL, keystroke RPN, BASIC, or whatever else you please without too brutal of a learning curve.

If current 50g c++ development tools are up to the task I think it would make a great platform for the testing and development of \*fix, with a great potential to generate more interest within the HP community.

**Re: Hoping for a new high-end RPN calculator**

*Message #27 Posted by [Reth](#) on 22 Aug 2007, 10:45 a.m.,  
in response to message #12 by Tim Wessman*

given its size and weight it should do a lot better than that ;)

**Re: Hoping for a new high-end RPN calculator**

*Message #28 Posted by [Thomas Chrapkiewicz](#) on 21 Aug 2007, 4:02 p.m.,  
in response to message #1 by John (Corvallis)*

While some of these thoughts may be mutually exclusive, I'll continue:

1. Package size of HP42s (i.e. 32sii)-truly shirtpocket size.
2. Some sort of I/O - preferably wireless.
3. Memory Card Slot.
4. Clock / Calendar.
5. Beeper (some sort of audible output).
6. Graphic Display (not too big - perhaps like the 42s).

Further thoughts:

Actually, having a Memory Card slot would defeat part of the reason for the I/O - this card would be used to get programs in and out of the machine. Of course the output for an 'Execution-Time' printer is handy. On that note, thermal printer mechanisms are so ubiquitous these days (credit card machines, gas-station printers), that it would seem someone could make a HP IR style printer quite cost effectively. Thus perhaps just an IR I/O like the 42s would be sufficient. I would suspect that Bluetooth or 802.11 would be cost and power prohibitive.

**Re: Hoping for a new high-end RPN calculator**

*Message #29 Posted by [Vincze](#) on 21 Aug 2007, 4:09 p.m.,  
in response to message #28 by Thomas Chrapkiewicz*

I think memory card slot not just for I/O, but also for extra storage, so it not redundant, but good thing.

---

---

**Re: Hoping for a new high-end RPN calculator**

Message #30 Posted by [Bruce Bergman](#) on 21 Aug 2007, 6:38 p.m.,  
in response to message #28 by Thomas Chrapkiewicz

Um, you're kinda describing the HP-48s family. Except for size. ;-)

thanks, bruce

---

**Re: Hoping for a new high-end RPN calculator**

Message #31 Posted by [Seth Morabito](#) on 22 Aug 2007, 12:48 a.m.,  
in response to message #1 by John (Corvallis)

I've said this before, but I'll repeat myself...

My perfect high-end HP calculator already exists, and it's called the HP-50g ;^) The only things I would do to improve it would be as follows.

1. Replace the keys with the same type used on the HP 35s.
2. LARGE ENTER KEY!
3. *Optional* Higher resolution display. Maybe the same as the TI-89, 160x100 pixels.
4. *Optional* Move the SD card slot to the top, for easier use with SD expansion options such as SD GPS cards.

Note that these are very minor and simple changes. Nothing too crazy here. I don't want it to toast my bread, walk my dog, hover, pick up the kids after school, and tell me it loves me while brushing my teeth. I just want it to be a great calculator. The 50g is already a great calculator, and a 50gII with 1 & 2 (and optionally 3 & 4) would just be that much better!

\* Caveat: I grew up with RPL. I learned it first, on my HP 48SX. Pure 4-level-stack RPN is new to me, and while it is very fun, it's still not as natural to me as RPL is. So your milage may vary!

*Edited: 22 Aug 2007, 12:50 a.m.*

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**Re: Hoping for a new high-end RPN calculator**

Message #32 Posted by [John \(Corvallis\)](#) on 22 Aug 2007, 1:13 a.m.,  
in response to message #31 by Seth Morabito

I don't agree that HP calculators need a double-width ENTER key. For a given keyboard layout design with a single-width ENTER key, substituting the double-wide key would result in the loss of one key with its several functions. I would like to see a high-end RPN machine as well as future even-better RPL machines, but I personally prefer a single-wide ENTER key in the easy-to-find lower-right corner, like the 50g.

---

**Re: Hoping for a new high-end RPN calculator**

Message #33 Posted by [Seth Morabito](#) on 22 Aug 2007, 1:34 a.m.,  
in response to message #32 by John (Corvallis)

**GASP!**

I... I don't know what to say! It's like you've just blasphemed against all that is holy!

---



; ) ; ) (three smilies, to be extra sure that my ribbing is understood to be good natured)

### **Re: Hoping for a new high-end RPN calculator**

*Message #34 Posted by **Walter B** on 22 Aug 2007, 2:46 a.m.,  
in response to message #32 by John (Corvallis)*

Dear friend! See the beheaded bodies lying there on the ground? Those were the last ones who didn't believe in DOUBLE WIDTH ENTER. Now, it's all up to you, make your choice ... (taking out my wand, grinning evilly, thinking about "cruciatu\$").

Caveat for USA: Statements in this post may look more dangerous than they are. This post MUST NOT be used for frightening children ;)

*Edited: 22 Aug 2007, 2:52 a.m.*

### **Re: Hoping for a new high-end RPN calculator**

*Message #35 Posted by **John (Corvallis)** on 22 Aug 2007, 1:53 p.m.,  
in response to message #34 by Walter B*

Oops! I think I'll get out of town for a while.

### **Re: Hoping for a new high-end RPN calculator**

*Message #36 Posted by **DLF** on 23 Aug 2007, 8:18 p.m.,  
in response to message #35 by John (Corvallis)*

Are the same folks who would seemingly kill to keep a double-wide ENTER key the very \*same\* folks complaining about the lack of R->P and P->R function keys?

Just curious which people would rather see/have to use regularly.

### **Re: Hoping for a new high-end RPN calculator**

*Message #37 Posted by **papakanush** on 22 Aug 2007, 1:28 p.m.,  
in response to message #32 by John (Corvallis)*

I have recently upgraded from the 48g to the 50g. Sorry everyone, but the double wide enter key is not that big of a thing to me. In fact, if you enter information with two thumbs while holding the calculator with both hands, the enter button at the lower right corner is actually more convenient to me.

I've really enjoyed using the 50g so far. Durability, of course, remains to be seen whether it will last as long as my 48g (which still works fine by the way).

### **Re: Hoping for a new high-end RPN calculator**

*Message #38 Posted by **Kostas Kritsilas** on 22 Aug 2007, 3:12 p.m.,  
in response to message #37 by papakanush*

Just my own personal opinions:

1. Use the basic 35S shell, but add one row of soft keys.
2. Make the display 4 lines; default would show all 4 levels of the stack;

3. Add a SD slot capable of SD I/O, open up the programming interface so that device drivers could be written for various SDIO cards, and make the slot SDHC compatible as well.

4. Think about changing the battery pack to a rechargeable pack of some sort, with the ability to use AAA batteries. The rechargeable pack could be optional.

5. Address the software bugs, and fix the base conversion and complex math/Polar-Rectangular irritations. Possibly add Matrix math capabilities.

Try to get all this done for \$100-\$120. The 50G has a graphical display; this would be an RPN calculator that fits above the current 35S, NOT as a replacement for the 50G.

Kostas

### **Re: Hoping for a new high-end RPN calculator**

*Message #39 Posted by [Walter B](#) on 22 Aug 2007, 7:26 p.m.,  
in response to message #38 by Kostas Kritsilas*

Kalinichta sou, Kostas,

we have something almost in line with your proposal [here already](#). What you cannot see, of course, is the SD slot and the socket to connect the charger ;-)

### **Re: Hoping for a new high-end RPN calculator**

*Message #40 Posted by [Kostas Kritsilas](#) on 23 Aug 2007, 3:13 p.m.,  
in response to message #39 by Walter B*

Walter:

I think most people would still want a set of soft keys, perhaps as the top row of keys. Could also be used as alphanumeric keys when not being used for calling programs/routines. The additional keys would allow for the base conversion to be added as shifted functions to the other keys, as well as the complex math/matrix functions. It would be a nice to have to have a really fast CPU, but the HP-35s hasn't really generated many complaints regarding execution speed. Another nice to have would be more on-board RAM, to allow even larger programs to execute. I would think that the bracket keys could also be dispensed with, making this a true, RPN only, calculator.

The 45s concept is really good, and a very nice keyboard layout.

Kostas

PS. Have a nice day (Kali Mera Sas).

### **Re: Hoping for a new high-end RPN calculator**

*Message #41 Posted by [Seth Morabito](#) on 22 Aug 2007, 3:44 p.m.,  
in response to message #37 by papakanush*

In all honesty, I think my desire for the wide ENTER key is a matter of familiarity and tradition more than anything else.

I find it difficult to get used to a calculator that has a small ENTER key in the lower right, because I've been using HPs for so long that my motion memory just expects it to be above and to the left

of the number keys, as it is on the classics, spices, coconuts, pioneers, and 48s. It's just what I'm used to, so that's where my finger goes by default.

I could probably retrain my brain, and it's really not a deal-breaker. I can live with an small enter key. But I greatly *prefer* the big enter key :)

## **Re: Hoping for a new high-end RPN calculator**

*Message #42 Posted by **James Biddlecombe** on 23 Aug 2007, 6:00 a.m.,  
in response to message #1 by John (Corvallis)*

I definitely DON'T want a machine with a large screen like the 50g. I want a machine with the feature set of the 42s plus I/O (e.g. usb) that I can fit into my shirt pocket.

I want the keyboard feel of the new 35s.

I also want it to have base conversion that works in the base currently selected that I don't always have to prefix when I enter a hex number.

In fact there is probably scope for 2 new machines. The first as I have described above and the second which would eventually replace the the 50g, if required, which would be a large screen graphic calculator.

I want a proper high end CALCULATOR, not something that's competing with my mobile phone or laptop, e.g. with GPS, Java (read sloooooow, etc).

Cheers, James.

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## HP Forum Archive 17

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### Only a couple of months ago . . .

Message #1 Posted by [Paul Brogger](#) on 21 Aug 2007, 2:51 p.m.

. . . I would have said my favorite day-to-day calculator was the 33s. I recently had occasion to pick one up again, to compare some function or other with that of the 35s.

What a difference a new model makes! I was long ago able to get past the 33s' legendary and superficial chevron keyboard design (in its way somewhat successful, I must admit, in that my teenage son carried a 33s to school with pride -- albeit in ALG mode). But upon renewed acquaintance, its perverse and seemingly *random* function assignment had me flummoxed.

The 35s layout isn't perfect, but it's *such* an improvement as to render the 33s (for me at least) (at *last*?) all but unusable.

(It's amazing what one may grow accustomed to!)

*Edited: 21 Aug 2007, 2:59 p.m.*

### Re: Only a couple of months ago . . .

Message #2 Posted by [Dave Johnson](#) on 21 Aug 2007, 3:29 p.m.,  
in response to message #1 by Paul Brogger

I am not a fond proponent of algebraic modes but the HP-35s algebraic mode is a tremendous improvement over the 33s. It let me give my son the calculator to learn about RPN but works in algebraic mode. I could not give my son a 33S as it was not possible to use the algebraic mode to write equations (the stupid combination prefix and postfix input system). The 35s is far better and though not perfect a great improvement!!!!

### Re: Only a couple of months ago . . .

Message #3 Posted by [Ed Look](#) on 21 Aug 2007, 3:49 p.m.,  
in response to message #2 by Dave Johnson

I gave my son a 39G.

For a short while, he was into it. However all his teachers and classmates use TI graphing calcs in class, so that's what he uses in class; I didn't buy him one- he just borrows the school units.

However, I've just printed and bound for him he 39G/G+ AUR and got him (on sale at Samson Cables) the 39G-PC cable. So, the long and short of this is that he's going to go algebraic for a while more.

On advice a long time ago, I believe from our legendary Norm Hill, I'm holding off REALLY teaching him to use RPN until just a bit later... if for no other reason than just that at this age, all his peers and instructors are TI-bots.

Also, for a younger child, there may be no patience for RPN, especially if they've just mastered PEMDAS not too long ago.

But when it's time, I plan to show him the 33s. What do you all think, 33s or 35s? (Norm recommended the 32E; I'd love to, but can't afford the exorbitant collector prices for such a lovely unit.)

### Re: Calc for ALGophiles

Message #4 Posted by [Paul Brogger](#) on 21 Aug 2007, 4:19 p.m.,  
in response to message #3 by Ed Look

The first, best destiny of the 33s was simply to appeal to appearance-oriented teenagers. Given that, the optimum use of a 33s may be to capitalize on its "attributes": set MODE to ALG and hand it to a high- or middle-schooler (or maybe even a *high* middle-schooler ;-). If the kid happens to ask something like "What's this RPN thing all about?" then offer a 35s replacement.

It will probably be flexed to death in an overloaded backpack anyway. (I had a 28s de-part in that manner!)

Where before I snapped up a couple extra 33s in case they'd be the last RPN keystroke programmable to be made, I now doubt I'll even save one for my "collection" (such as it is). (Maybe the newer units will be useful as sources of replacement LCDs for the 35s.)

*Edited: 21 Aug 2007, 4:22 p.m.*

### Re: Calc for ALGophiles

Message #5 Posted by [Ed Look](#) on 21 Aug 2007, 5:15 p.m.,  
in response to message #4 by Paul Brogger

Quote:

... (Maybe the newer units will be useful as sources of replacement LCDs for the 35s.)

Ouch! Rough! I still think the 33s has redeeming qualities, not in the least of which is RPN and a fair amount of calculational power and decent amount of programming power for its size.

### Re: Calc for ALGophiles

Message #6 Posted by [Vincze](#) on 23 Aug 2007, 4:41 p.m.,  
in response to message #5 by Ed Look

Quote:

I still think the 33s has redeeming qualities,

I still waiting to hear what the redeeming qualities are. ;)

### Re: Only a couple of months ago . . .

Message #7 Posted by [Stefan Vorkoetter](#) on 24 Aug 2007, 2:07 p.m.,  
in response to message #3 by Ed Look

Quote:

Also, for a younger child, there may be no patience for RPN, especially if they've just mastered PEMDAS not too long ago.

---

Hmmm. If they've just mastered PEMDAS and then start using an ALG calculator, they'll quickly forget PEMDAS because the calculator automagically does it for them, with no indication that it's doing so.

With RPN on the other hand, they have to remember PEMDAS because order of operations is completely up to the user in RPN, just as it is with pencil and paper.

Stefan

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**Re: Only a couple of months ago . . .**

*Message #8 Posted by **Ed Look** on 24 Aug 2007, 2:51 p.m.,  
in response to message #7 by Stefan Vorkoetter*

Good point!

I suspect this was one reason why Norm (yes, the famous one) recommended that more advanced (mature?) students begin to learn to use a RPN calculator.

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## HP Forum Archive 17

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**HP-41 Catalog**

Message #1 Posted by [Patrick Rendulic](#) on 21 Aug 2007, 1:57 p.m.

Is there a way to execute a function from the HP41 catalogs? I checked the manual and as far as I understand the catalogs can only be used to *display* available functions, commands and programs. Am I right?

**Re: HP-41 Catalog**

Message #2 Posted by [Raymond Del Tondo](#) on 21 Aug 2007, 4:44 p.m.,  
in response to message #1 by [Patrick Rendulic](#)

If you have a W&W CCD module installed,  
or at least a CCD OS/X image,  
you can execute catalog entries directly.

HTH

Raymond

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## HP Forum Archive 17

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### Why do we collect HP calculators

Message #1 Posted by [Stefan Vorkoetter](#) on 21 Aug 2007, 11:36 a.m.

As a casual collector of HP calculators (I have a 19c, 32e, 34c, 41cx, 42s, and now a 35s), I found myself asking "why?"

Why do we spend the time to collect and/or play with old (or in the case of the 35s, wannabe old) HP calculators?

Stefan

### Re: Why do we collect HP calculators

Message #2 Posted by [Gerson W. Barbosa](#) on 21 Aug 2007, 11:58 a.m.,  
in response to message #1 by Stefan Vorkoetter

Asperger, perhaps? Or do those people collect only stamps? :-)

*"People with Asperger syndrome often develop an almost obsessive interest in a hobby or collecting."*

<http://www.nas.org.uk/nas/jsp/polopoly.jsp?d=212>

### Re: Why do we collect HP calculators

Message #3 Posted by [bill platt](#) on 21 Aug 2007, 12:46 p.m.,  
in response to message #2 by Gerson W. Barbosa

We had a guy active on this forum for a while who often proclaimed he had Asperger's.

### Re: Why do we collect HP calculators

Message #4 Posted by [Gerson W. Barbosa](#) on 21 Aug 2007, 1:06 p.m.,  
in response to message #3 by bill platt

Yes, I do remember him. However, he had only one HP-41CV, if I am not wrong.

I think I keep some out of nostalgia (HP-15C, HP-28S and HP-48GX - they were there when I needed them most), and some because they were well engineered (HP-35, all those functions in only 960 bytes of ROM!, HP-41CX, HP-42S, HP-15C, etc...).

Gerson.

(Pretty normal guy: only 22 HP-calcs, but will get rid of a couple, only deciding which... and a small banknote collection, but only 40 bills and no progress in the last two years :-)

### Re: Why do we collect HP calculators

Message #5 Posted by [Vincze](#) on 21 Aug 2007, 4:29 p.m.,



*in response to message #2 by Gerson W. Barbosa*

Ha-ha... you need help my friend.

I no have Asperger's, but Paprika-spergers syndrome. Must eat all food with Paprika. :) Even Pop-corn and Ice cream. Ice cream even better with Hungarian Peppers on it too.

### **Re: Why do we collect HP calculators**

*Message #6 Posted by [Dallas Osborne](#) on 21 Aug 2007, 12:11 p.m.,  
in response to message #1 by Stefan Vorkoetter*

For starters, we like to be different than the herd. It is, however, good that the means to our ends allows for such subtle, yet powerful, user adaptation.

The second most common reason is a combination of awe and nostalgia; we recognize the impressive bounds made by the teams of engineers that initially designed these devices and enjoy the fact that many of these units were so close to apex. Few, if any, newer units from any manufacture have ever come close to those made within HP's first twenty years.

At last, the ease of programming from the simple to the complex, and especially the ability to share these programs with others, has allowed us to enjoy greater solution development than we ever would alone.

Edit: Yes, I definently have aspergers ;) ... or something else... But you should really have a look at my fine collection of vintage can openers.

*Edited: 21 Aug 2007, 12:48 p.m. after one or more responses were posted*

### **Re: Why do we collect HP calculators**

*Message #7 Posted by [Kelly Huckman](#) on 21 Aug 2007, 12:47 p.m.,  
in response to message #6 by Dallas Osborne*

Not trying to be too much of a contrarian, but how exactly does rampant consumerism (and really, that's what collecting is) differentiate yourself from the herd?

Buy the calculators; enjoy playing with them (god knows I do). But please don't fool yourself into thinking that purchasing something mass produced establishes yourself as a non-conformist.

### **Re: Why do we collect HP calculators**

*Message #8 Posted by [Dallas Osborne](#) on 21 Aug 2007, 12:53 p.m.,  
in response to message #7 by Kelly Huckman*

I concede; you have an excellent point. This is especially true for the current line of HP calculators.

I was trying to referring to the collection of the older units. Some would say paying hundreds of dollars for a calculator some twenty to thirty years old is rather odd. I have never really considered the group that does this to be large enough to be considered a herd.

### **Re: Why do we collect HP calculators**

*Message #9 Posted by [Maximilian Hohmann](#) on 21 Aug 2007, 3:09 p.m.,  
in response to message #6 by Dallas Osborne*

Hello!

Quote:

For starters, we like to be different than the herd.

Not me, I don't care about the herd. Even if everybody else would start collecting calculators - I would still do it :- ) (As I like Madonna just like (mostly) everybody else...)

But why collect calculators (not just HP in my case, I like different brands too) at all? Maybe, because in my childhood/youth days, these were miraculous and incredibly expensive, therefore unattainable, devices that were obviously very useful (from a schoolboy's point of view, who lost entire afternoons doing tedious maths homework) and therefore highly desirable.

Now, that they are commonplace items found in every supermarket, this schoolboy fascination is no longer there, but seeing the dark red glow of an early LED display brings back some of the old memories. Therefore, I really only collect older models and buy LCD calculators only if I can get them very cheap for the sake of completing the collection. Or if they are really powerful or special in one way or another like the latest Ti CAS models.

Greetings, Max

### **Re: Why do we collect HP calculators**

*Message #10 Posted by [Vincze](#) on 21 Aug 2007, 3:24 p.m.,  
in response to message #9 by Maximilian Hohmann*

Quote:

As I like Madonna just like (mostly) everybody else...

I no like Madonna, she have funny looking chest. Look like ice cream cone.

I remember when I come over to USA, and get my very first calculator. It was old HP45 that someone give me because he say it junk and I could have it. It was like he gave me key to world, and all the worlds gold. I had only dreamed of such thing in Hungary, and here in USA, people just give it to me and say it was "junk" because it was old. I still have "Blinky" (my HP45) on my desk. In fact I looking at it now. I used to love and use Blinky when it dark in the room, and I still have fond memories of the soft dim glow of the LED's. Ahhhh, such memory.

Why I collect calculators, because they something I was never able to have in Hungary. I grew up in very humble home in Hungary where my Aunt and Uncle cared for me. It small miracle that they were able to send me to University. Now, I do well in USA, and I want to collect as many as possible just to have. I think of this as like collecting antique computing devices. :)

*Edited: 23 Aug 2007, 8:57 a.m.*

### **Re: Why do we collect HP calculators**

*Message #11 Posted by [Ed Look](#) on 21 Aug 2007, 12:53 p.m.,  
in response to message #1 by Stefan Vorkoetter*

Me?

I miss them, the style and feel of the old ones, but only HP, as I have less than fond memories of old TIs, others.

Also, there's the weaker, but still real, historical interest.

### **Re: Why do we collect HP calculators**

*Message #12 Posted by [Bruce Bergman](#) on 21 Aug 2007, 1:16 p.m.,  
in response to message #1 by Stefan Vorkoetter*

Simply, because we love them.

thanks, bruce

### **Re: Why do we collect HP calculators**

*Message #13 Posted by [Alex L](#) on 21 Aug 2007, 1:38 p.m.,  
in response to message #1 by Stefan Vorkoetter*

I speak only for me, not "we"...

I happen to enjoy both calculators and collecting things. Then earlier this year, I lucked into an estate's worth of HP calcs for a rock-bottom price (11c, 12c, 15c, 28c, 28s, 19BII, 48s, 48g, 42s). I found corrections in the 11c manual made by the original owner; the widow who sold the calculators was touched to know that I had connected in a small way with her husband.

I played with the calculators and was instantly hooked on RPN. Now I'm a collector (much to my wife's chagrin).

I think that the reasons we collect are not nearly as interesting as the stories of our collections.

-A

### **Re: Why do we collect HP calculators**

*Message #14 Posted by [Dallas Osborne](#) on 21 Aug 2007, 1:59 p.m.,  
in response to message #13 by Alex L*

I apologize for the use of we; I certainly cannot speak for everyone.

### **Re: Why do we collect HP calculators**

*Message #15 Posted by [Howard Owen](#) on 21 Aug 2007, 2:07 p.m.,  
in response to message #1 by Stefan Vorkoetter*

Well, I don't know about Asperger's. I'm borderline autistic, myself. 8)

Seriously, I collect calculators because I like to play with them. I'm a systems engineer and programmer, and I love computer systems and networks. Seeing how these earlier examples were set up is endlessly fascinating to me. Then too, I started computing on an HP-41C in 1982, so I have a good deal of nostalgia for that platform. Since it is a complete system, with networking and everything, the 41C combines my two motivations in one platform. The 71B does that too. And I love programming the 42S, 48gx and 50g, though I know mentioning those in the same breath is tantamount to heresy, or at least esthetically dubious. 8)

I sort of collect languages, too. I've always been like that, learning tons of computer languages whenever I had a spare moment, for no better reason than intrinsic fascination. Several of those languages turned out to be fairly lucrative and career enhancing, but once again, that's not why I learned them. I just love systems. That has made for a pretty enjoyable career so far.

Regards,  
Howard

edtid fur speling oopseys

*Edited: 21 Aug 2007, 2:08 p.m.*

### **Re: Why do we collect HP calculators**

*Message #16 Posted by **Gerson W. Barbosa** on 21 Aug 2007, 2:30 p.m.,  
in response to message #15 by Howard Owen*

Quote:

That has made for a pretty enjoyable career so far.

Reading in the biographies section, yours I think, I got curious about *careers changed because of programmable calculators* -- many examples would appear. But that's subject for another thread...

Regards,

Gerson.

### **Re: Why do we collect HP calculators**

*Message #17 Posted by **Ed Look** on 21 Aug 2007, 3:55 p.m.,  
in response to message #16 by Gerson W. Barbosa*

I'm not at all sure, but perhaps I might have given up a science career because repeated advanced college level calculations by hand got too tedious and took me too long into the early hours of the morning.

But I was saved by a HP-34C- it was programmable, had advanced hard-coded functions right on the keyboard, had lots (for then) of memory, AND CONTINUOUS MEMORY!!!

### **Re: Why do we collect HP calculators**

*Message #18 Posted by **Gerson W. Barbosa** on 21 Aug 2007, 6:12 p.m.,  
in response to message #17 by Ed Look*

Now I have an HP-34C. I like it (it's been useful to show me where the HP-15C, my first HP calculator, came from). I am sure I would have liked it even more in 1982. Then I was in my first year as a Physics student, and had only a TI-51-III to play with. I was able to write a 32-step numerical integration program on it, although it would integrate only the built-in functions. The HP-34C, with SOLVE and Integrate keys would have been very nice, if I were only aware of it...

Turns out I was fascinated with calculator programming and changed to Computer Science. But then I discovered punching cards with COBOL and even Pascal codes was no fun and I changed again to EE. I guess I wouldn't have made it without my 15C, and later, my 48GX... I eventually graduated some years ago but I am still in the military. Hearing stories of succesful careers started or changed due to programmable calculators, like yours and Howard's, is always interesting.

Regards,

Gerson.

### **Re: Why do we collect HP calculators**

*Message #19 Posted by [Ed Look](#) on 22 Aug 2007, 11:04 a.m.,  
in response to message #18 by Gerson W. Barbosa*

Heeheehee... .. not so successful! But the HP scientific programmables surely have made it more bearable!

### **Re: Why do we collect HP calculators**

*Message #20 Posted by [Mike T.](#) on 21 Aug 2007, 2:30 p.m.,  
in response to message #1 by Stefan Vorkoetter*

Because I like using them... (and possibly because after so long I can't get used to a 'normal' calculator).

Mike T.

### **Re: Why do we collect HP calculators**

*Message #21 Posted by [dbatiz](#) on 21 Aug 2007, 2:32 p.m.,  
in response to message #1 by Stefan Vorkoetter*

Collector isn't the best word to describe me since I only have two. Protagonist may be a better word. Over the years I've given as gifts an 11C (x2), 49g+, and 50g. My interest in them is strictly utilitarian. My wife once said gift shopping for me is difficult. I responded, "If it helps me fix or build something, it's a hit!" All of my HPs have helped both causes. An HP has helped me make everything from bed frames, scale model solar systems, dark field reflectors, a barn, chicken coops, book cases, and even art work. The least likely thing I've ever made with an HP is a genuine curiosity in math for my niece who had learned to dislike the subject.

For curiosity sake, I'd love to have a collection of vintage calcs. But for day to day use, I'll always reach for the one I'm most familiar with. These days, when I need to get the job done now, right, and fast, I reach for my 50g.

Very Respectfully,

David

### **Re: Why do we collect HP calculators**

*Message #22 Posted by [Iqbal](#) on 21 Aug 2007, 9:41 p.m.,  
in response to message #21 by dbatiz*

I think it's an addiction. I remember when I got my first 48 [after owing a 41cx] and I was now starting my collection of survey programs, my wife told me "I wish I was an HP calculator, then maybe you'll play with me". :-) Most people feel it's weird collecting calculators. That's why I like this forum. It's a place where people who love HP calculators get to share their joys (35S), and sorrows (49G+) and hopes (42SX).

### **Re: Why do we collect HP calculators**

*Message #23 Posted by [Karl Schneider](#) on 22 Aug 2007, 2:06 a.m.,  
in response to message #1 by Stefan Vorkoetter*

Quote:

---

Why do we spend the time to collect and/or play with old (or in the case of the 35s, wannabe old) HP calculators?

---

This question has certainly been posed before in the MoHPC Forum, but here's an earnest list:

1. Nostalgia, and the desire to obtain now what was coveted but unaffordable in one's youth -- much like classic cars
2. The desire to appreciate and operate practical products that are well-engineered in virtually every aspect
3. Particularly for us "natives", the importance of preserving the artifacts of an American corporation that exemplified engineering-driven excellence in a not-too-distant era
4. Costs of collecting are not exorbitant; required space is minimal
5. Required effort to repair, refurbish, and maintain is quite low -- particularly for LCD models

-- KS

### **Why, why, why, why, why...**

*Message #24 Posted by [Vincze](#) on 22 Aug 2007, 4:21 p.m.,  
in response to message #23 by Karl Schneider*

Why, why, why... why does everybody ask why? Why does young boy do what he do? Why, because he like it and he can.

Why we collect old calculator, same reason, because we like it and we can.

I sorry for bad analogy, but I have very bad day, and everybody ask why. If you here, and have to ask why, then you damaged.

*Edited: 23 Aug 2007, 8:56 a.m. after one or more responses were posted*

### **Re: Why, why, why, why, why...**

*Message #25 Posted by [Stefan Vorkoetter](#) on 22 Aug 2007, 4:59 p.m.,  
in response to message #24 by Vincze*

If you find certain posts offensive or pointless when you've had a very bad day, then perhaps you shouldn't read the forum on such days, rather than insulting your fellow HP enthusiasts.

Stefan

### **Re: Why, why, why, why, why...**

*Message #26 Posted by [Vincze](#) on 22 Aug 2007, 6:54 p.m.,  
in response to message #25 by Stefan Vorkoetter*

My friend Stefan. You very right. I apologize. I not find posting offensive, but just strange. I apologize if I offend you or anyone else. It was not very becoming of me.

### **Re: Why, why, why, why, why...**

*Message #27 Posted by [Giancarlo \(Italy\)](#) on 23 Aug 2007, 3:37 a.m.,  
in response to message #26 by Vincze*

Hi Vincze and Stefan.

Even though I understand Stefan's suggestion, I find that reading the Forum "on a bad day" often act as a remedy for my mood :-)

On the other hand, I must confess that, in my own experience, asking too many "whys" sometimes

was not so helpful...

Best regards.

Giancarlo

**Re: Why, why, why, why, why...**

*Message #28 Posted by [Kostas Kritsilas](#) on 23 Aug 2007, 5:06 p.m.,  
in response to message #27 by Giancarlo (Italy)*

i think that the philosophical answer would be: Why Not?

Kostas

---

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### **TDS 256k Ram Card**

Message #1 Posted by [eduardo campos](#) on 21 Aug 2007, 8:13 a.m.

Any one interested in purchaseing a TDS 256k 48gx Ram Card for slot number 2, call me at 956-455-7616 or e-mail me at [aeimhear@hotmail.com](mailto:aeimhear@hotmail.com). Thanks.

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### HP35s - The Buggy Little Beast (Report to Hrast)

Message #1 Posted by [Nenad \(Croatia\)](#) on 21 Aug 2007, 7:22 a.m.

Sergeant-Major, Sir, the requested report is on your desk, Sir.

If I may speak freely, I think it deserves emulation on something else (e.g. 50g) after the ROM is available.

### Re: HP35s - The Buggy Little Beast (Report to Hrast)

Message #2 Posted by [HrastProgrammer](#) on 21 Aug 2007, 9:25 a.m.,  
in response to message #1 by [Nenad \(Croatia\)](#)

OK, soldier. Good work. I will read your report when I'll be back because I am outside of Croatia at the moment ...

### Re: HP35s - The Buggy Little Beast (Report to Hrast)

Message #3 Posted by [Dallas Osborne](#) on 21 Aug 2007, 11:35 a.m.,  
in response to message #2 by [HrastProgrammer](#)

Young user shouts,

" **Recognizing** that I volunteered as an RPN Zealot, fully knowing the hazards of my chosen technique, I will always endeavor to uphold the prestige, honor, and high esprit-de-corps of my RPN/RPL sect.

**Professing** the fact that an RPN Zealot is a more elite user who arrives at the cutting edge of solutions by keystroke, program, or sheer cheek, I accept the fact that as an RPN Zealot my sect expects me to think further, faster and solve harder than any measly algebraic user.

**Never** shall I fail my comrades. I will always keep myself mentally alert, physically strong, and morally straight and I will shoulder more than my share of the task, whatever it may be, one hundred percent and then some.

**Readily** will I show the world that I am a specially gifted user who wields a well-engineered tool. My courtesy to superior users, efficiency of memory, and care of equipment shall set the example for others to follow.

**Perspicuously** will I meet the tribulations of my profession. I shall defeat them with speed of solution for I am better trained and will solve with all my might. Surrender is not a an RPN Zealot word. I will never leave a fallen unit to fall into the hands of the internet price hikers and under no circumstances will I ever embarrass my sect.

**Loyally** will I display the intestinal fortitude required to solve on to the RPN Zealot objective and complete the mission, though I be the lone survivor.

**Reversers leads the way!"**

Sergeant-Major hardly glances up, "Excellent; dismissed."

*Edited: 21 Aug 2007, 11:53 a.m. after one or more responses were posted*

**Re: HP35s - The Buggy Little Beast (Report to Hrast)**

*Message #4 Posted by [Vincze](#) on 21 Aug 2007, 11:47 a.m.,  
in response to message #3 by Dallas Osborne*

I confused. What the heck this all about?

**Re: HP35s - The Buggy Little Beast (Report to Hrast)**

*Message #5 Posted by [Dallas Osborne](#) on 21 Aug 2007, 11:51 a.m.,  
in response to message #4 by Vincze*

It is only satire...

;)

**Re: HP35s - The Buggy Little Beast (Report to Hrast)**

*Message #6 Posted by [Vincze](#) on 21 Aug 2007, 12:40 p.m.,  
in response to message #5 by Dallas Osborne*

I still confused. Is there a new emulator?

**Re: HP35s - The Buggy Little Beast (Report to Hrast)**

*Message #7 Posted by [Dallas Osborne](#) on 21 Aug 2007, 12:46 p.m.,  
in response to message #6 by Vincze*

Sadly, no; just hopes and rantings to pass the time

**Re: HP35s - The Buggy Little Beast (Report to Hrast)**

*Message #8 Posted by [Trent Moseley](#) on 21 Aug 2007, 2:03 p.m.,  
in response to message #7 by Dallas Osborne*

The above exchanges are priceless. Only on this Forum. Reading them made my day!

tm

**Re: HP35s - The Buggy Little Beast (Report to Hrast)**

*Message #9 Posted by [Chan Tran](#) on 21 Aug 2007, 3:04 p.m.,  
in response to message #8 by Trent Moseley*

Why 35s emulator? I thought each of us should get one of the real thing.

**Re: HP35s - The Buggy Little Beast (Report to Hrast)**

*Message #10 Posted by [Vincze](#) on 21 Aug 2007, 4:05 p.m.,  
in response to message #9 by Chan Tran*

Quote:

---

I thought each of us should get one of the real thing.

---

Why just one? Buy two to ten of them. Maybe we drive up demand for them and HP start making more calculators.

**Re: HP35s - The Buggy Little Beast (Report to Hrast)**

*Message #11 Posted by [Howard Owen](#) on 21 Aug 2007, 5:48 p.m.,  
in response to message #7 by Dallas Osborne*

Quote:

---

Sadly, no [new emulator]; just hopes and rantings to pass the time

---

On the other hand, what was that military dispatch all about, hey?

Hrast being the HP rom-based calculator emulator wizard that he is, might that have concerned a ROM dump of a certain beast we are all coming to know?

Hope springs eternal.

Regards,  
Howard

**Re: HP35s - The Buggy Little Beast (Report to Hrast)**

*Message #12 Posted by [Dallas Osborne](#) on 21 Aug 2007, 6:02 p.m.,  
in response to message #11 by Howard Owen*

I was following the odd humor that initiated this thread as my coffee brewed; strange and unintelligible wit usually only happens prior to caffeination.

**Re: HP35s - The Buggy Little Beast (Report to Hrast)**

*Message #13 Posted by [Howard Owen](#) on 21 Aug 2007, 8:57 p.m.,  
in response to message #12 by Dallas Osborne*

Well, that's true, but too much caffeine will make one babble nonsense as well.  
8)

Regards,  
Howard

**Re: HP35s - The Buggy Little Beast (Report to Hrast)**

*Message #14 Posted by [HrastProgrammer](#) on 22 Aug 2007, 1:15 a.m.,  
in response to message #11 by Howard Owen*

Just to make the first two posts clear:

Nenad and I were just joking. He made a post some time ago about being the first one to have a HP-35S here and I said that I am expecting a report on my desk in a few days. So, the report is now on my desk :-)

We were talking about a possibility to develop an HP-35S emulator for HP-50G and (as usual) I said that we only need to extract the ROM, which isn't a simple task at all. This is the meaning of "I think it deserves emulation on something else (e.g. 50g) after the ROM is available" ... Don't take it too serious.

To Howard: Did you receive my last mail (with some attachments) few weeks ago?

*Edited: 22 Aug 2007, 1:40 a.m. after one or more responses were posted*

**Re: HP35s - The Buggy Little Beast (Report to Hrast)**

*Message #15 Posted by [Howard Owen](#) on 22 Aug 2007, 1:21 a.m.,  
in response to message #14 by HrastProgrammer*

Quote:

\_\_\_\_\_

To Howard: Did you receive my last mail (with some attachments)  
few weeks ago?

\_\_\_\_\_

Yes, I did Hrast. I intended to reply after I got a chance to try the new 71X out. But then I got very busy and didn't get around to it. Thanks for the update!

Regards,  
Howard

---

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### hp-35s in Norway

Message #1 Posted by [Arne Halvorsen \(Norway\)](#) on 21 Aug 2007, 5:12 a.m.

Just in case any Norwegians goes here that wonder when one could stroll down to the local hp pusher to pick up a HP-35s: Talked with one shop that contacted their supplier (that would be hp Norway?) and it will NOT be in BEFORE Xmas this year... Sigh,... well at least it is comming...

### Re: hp-35s in Norway

Message #2 Posted by [John Mosand](#) on 21 Aug 2007, 7:33 a.m.,  
in response to message #1 by Arne Halvorsen (Norway)

Skuffet? Whenever it appears, I would like to see it and, like with a car, "try it before I buy it". So far, I'm quite satisfied with a 10C in my shirt pocket and a 48SX on my desk. So, we'll see... BTW I just discovered that my 10C has the same downward slanting display as the 35s. I hadn't noticed it before :-). And the 10C is still working without a change of batteries!!

### Re: hp-35s in Norway

Message #3 Posted by [bill platt](#) on 21 Aug 2007, 7:38 a.m.,  
in response to message #2 by John Mosand

I don't understand how anyone has a voyager go 20 years on a set of batteries. I regularly ran out of juice in my 11c back in its early days--more or less on a yearly basis.

However my wife's sharp elsi-mate made over 15 years on the original alkaline AA cell!

### Re: hp-35s in Norway

Message #4 Posted by [John Mosand](#) on 21 Aug 2007, 11:16 a.m.,  
in response to message #3 by bill platt

The MoHPC indicates that there may be several 10C's running on the original batteries. I admit that my 10C has been used a lot less than the 48SX, which I bought when it was introduced. I have changed its batteries only once.

PS Jeg er trønder...

### Re: hp-35s in Norway

Message #5 Posted by [Arne Halvorsen \(Norway\)](#) on 21 Aug 2007, 11:41 a.m.,  
in response to message #4 by John Mosand

Allo, allo Trønder..., Bergenser her.. :-). Make some sound if you observers some hp-35s up there in NTNU land before seen elsewhere!

## **Re: hp-35s in Norway**

*Message #6 Posted by [Arne Halvorsen \(Norway\)](#) on 21 Aug 2007, 7:56 a.m.,  
in response to message #2 by John Mosand*

Well, my hp calculators died a long time ago, even before got out of schools. Having lived all those years without a usable calculator I should be able to hold on some more months... :-)

Actual, right now I am pretty much able to borrow my boss' old hp15c whenever in need to check those numbers my programs produces...

Skuffet? Nae, great to see hp still can do it (right)!

*Edited: 21 Aug 2007, 8:04 a.m.*

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## HP Forum Archive 17

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### Alt-Az coordinates Part 2 for35s

Message #1 Posted by [Howard Lazerson](#) on 20 Aug 2007, 10:46 p.m.

Thanks Gerson for making pgm readable! This pgm is designed to convert right ascension & declination of any celestial body into simple altitude and azimuth. You therefore need to make/copy /draw a 360degree az circle on the mount base and a 0 to 90 degree scale for alt, 0 being level, 90 pointing straight up. Marking every 10 degrees is sufficient since its easy to interpolate. The # 6.619 is a constant and changes yearly, for2008 = 6.603, for 2009 =6.654. U is GMT for Calif, 10PM this August =5.0 , when daylight sav ends it is 6.0, use decimal minutes, 9:30 PM= 4.50 GMT. Latitude & longitude of your site are decimal degrees. Day number - add date to this # so for August 20= 212 + 20 = 232. Jan=0, Feb=31, March = 59, April=90, 120, 151, 181, 212, 243, 273, 304, and 334 for Dec. Right & declination are also input in decimal degrees. To get accurate results, the scope must be LEVEL- I mounted a bullseye level on my portable scope which works well. Sight Polaris [north star] and set Az to read 0 degrees, use a red light preserves nite vision ], look up RA & Dec of object, run pgm to get alt/az and slew scope to these coordinates. Use a widefield-low power eyepiece initially since there is a 1 to 3 degree offset in position- slowly slewing from the calculated position will locate object quickly. One really appreciates this pgm with objects Over 50 degrees high-no more on your knees squinting up while your back complains. Howard

### Re: Alt-Az coordinates Part 2 for35s-addendum

Message #2 Posted by [Howard Lazerson](#) on 21 Aug 2007, 12:44 p.m.,  
in response to message #1 by Howard Lazerson

Part 2 addendum ; For leap years, add 1 day to D starting with March thru December. Howard

### Re: Alt-Az coordinates Part 2 for35s-addendum

Message #3 Posted by [Gerson W. Barbosa](#) on 21 Aug 2007, 6:40 p.m.,  
in response to message #2 by Howard Lazerson

Perhaps these time and date routines might be useful somehow. They should be adapted to your needs and converted to the HP-35s, in order to save labels. They are based on a program that came in the Master Library Module, for the TI-58/59.

Regards,

Gerson.

DATE & DAYS BETWEEN DATES ROUTINES (HP-33S VERSION)

```
G0001 LBL G
G0002 x<>y
G0003 STO A
G0004 x<>y
G0005 ENTER
G0006 IP
G0007 STO C
G0008 Rv
G0009 RLC C
G0010 -
G0011 100
```

```
G0012 *
G0013 ENTER
G0014 IP
G0015 STO B
G0016 Rv
G0017 FP
G0018 4
G0019 10^x
G0020 *
G0021 STO D
G0022 2
G0023 ENTER
G0024 RCL C
G0025 x>y?
G0026 GTO H
G0027 RCL D
G0028 1
G0029 -
G0030 100
G0031 /
G0032 1
G0033 +
G0034 IP
G0035 0.75
G0036 *
G0037 IP
G0038 +/-
G0039 RCL D
G0040 1
G0041 -
G0042 4
G0043 /
G0044 IP
G0045 +
G0046 RCL C
G0047 1
G0048 -
G0049 31
G0050 *
G0051 +
G0052 RCL B
G0053 +
G0054 RCL D
G0055 365
G0056 *
G0057 +
G0058 RTN
```

```
H0001 LBL H
H0002 RCL D
H0003 365
H0004 *
H0005 RCL B
H0006 +
H0007 RCL C
H0008 1
H0009 -
H0010 31
H0011 *
H0012 +
H0013 RCL C
H0014 0.4
H0015 *
H0016 2.3
H0017 +
H0018 IP
H0019 -
H0020 RCL D
H0021 4
H0022 /
H0023 IP
H0024 +
H0025 RCL D
H0026 100
H0027 /
H0028 1
H0029 +
H0030 0.75
H0031 *
```



```
H0032 IP
H0033 -
H0034 RTN
```

```
N0001 LBL N
N0002 XEQ G
N0003 RCL A
N0004 XEQ G
N0005 RCL A
N0006 -
N0007 +/-
N0008 RTN
```

```
W0001 LBL W
W0002 XEQ G
W0003 ENTER
W0004 +/-
W0005 7
W0006 /
W0007 IP
W0008 7
W0009 *
W0010 +
W0011 RTN
```

Length & Checksum Table:

| LBL | CK   | LN  |
|-----|------|-----|
| G   | 7A9E | 318 |
| H   | 75E1 | 210 |
| N   | E3B8 | 24  |
| W   | 3A2B | 57  |

Usage:

```
date 1 (MM.DDYYYY)
ENTER
date 2 (MM.DDYYYY)
XEQ N => number of days between dates
```

```
date (MM.DDYYYY)
XEQ W => weekday (0=Sat, 1=Sun, ... , 6=Fri)
```

## Re: Alt-Az coordinates Part 2 for35s-addendum

Message #4 Posted by [Howard Lazerson](#) on 23 Aug 2007, 12:53 a.m.,  
in response to message #3 by Gerson W. Barbosa

yes, you could use this for the day # however the best help would be an internal clock for the time input which means you only have to input Right Ascension & Declination and dont have to check your watch before input of each object. Howard

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### **Spiral Bound 35s Manual - FYI**

Message #1 Posted by [Chuck](#) on 20 Aug 2007, 7:42 p.m.

Liking what Dallas did with his 35s manual at Kinkos, I took mine to OfficeMax for spiral binding. They lopped of the glue binding, and spiraled in a new one for \$2.99. A definite must. None of the text was comprimised, but maybe three of the blue check marks in the margines were punched. I don't mind. :)

### **Re: Spiral Bound 35s Manual - FYI**

Message #2 Posted by [Stefan Vorkoetter](#) on 21 Aug 2007, 2:19 p.m.,  
in response to message #1 by [Chuck](#)

Just did mine too, at Kinkos. Turned out great! Reminds me of the HP 42s manual (in binding, not content).

### **Re: Spiral Bound 35s Manual - FYI**

Message #3 Posted by [Vincze](#) on 21 Aug 2007, 3:31 p.m.,  
in response to message #1 by [Chuck](#)

I get mine bound today, and I had them add a clear plastic cover and back to help protect covers. It looks great!

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### Altitude/Azimuth pgm, Part 1 for35S

Message #1 Posted by [Howard Lazerson](#) on 20 Aug 2007, 6:59 p.m.

pgm converts RA & DEC of celestial objects to Altitude & Azimuth. I use it for a small scope I take on vacation. Each command is separated by a comma below. lbl H,fix 2, input U,input D, input L, 6.619 , rcl D,0.0657, \* , +, rcl U, 1.0027, \* , +, rcl L, 15, /, -, 24, X exchange Y, X less equals Y, -, STO W, input R, rcl W, rcl R, -, 15, \*, sto X, rcl X, sin, stoY, input C, sin, rcl T, sin, \*, rcl C, cos, rcl T, cos, rcl X, cos, \*, \*, +, asin, sto V, rcl V, sin, rcl C, sin, rcl T , sin , rcl V, sin, \*, -, enter, rcl T, cos, rcl V, cos, \*, /, acos, rcl Y, X greater or equal 0 ?, xeq Eoo1, Roll down, xeq foo1, lbl E, roll down, 360, X exchange, -, sto W, lbl F , sto Z, view Z, rcl V, view V, rtn , Z=azimuth in decimal degrees, V= altitude in dec degrees, U= GMT in decimal minutes, ie 4hours 15 minutes=4.25, D = day number, L = longitude of observor,T = latitude of observor, R= RA, C = declination-both in decimal degrees. In part 2 I will explain how to use pgm. I am not an engineer etc so I am sure people will come up with shorter/faster changes- also I cant actually label the various names like I CAN IN MY 42S , HOPEFULLY someone can show us how to do this on the 35s?! I have used this pgm for past 3 weeks and it gets me within a few degrees of the object.  
Howard

### Re: Altitude/Azimuth pgm, Part 1 for35S

Message #2 Posted by [Vincze](#) on 20 Aug 2007, 7:54 p.m.,  
in response to message #1 by Howard Lazerson

No offense, but this very hard to read.

### Re: Altitude/Azimuth pgm, Part 1 for35S

Message #3 Posted by [Howard Lazerson](#) on 20 Aug 2007, 10:04 p.m.,  
in response to message #2 by Vincze

I agree, see above posts, Howard

### Re: Altitude/Azimuth pgm, Part 1 for35S

Message #4 Posted by [Gerson W. Barbosa](#) on 20 Aug 2007, 8:34 p.m.,  
in response to message #1 by Howard Lazerson

Howard,

Please don't reply this post. Just try to edit it. When you'll get to the editing window copy from the first **pre** on, then paste it to your own post. Make the necessary corrections and changes you like. When you're done, I'll delete this.

Regards,

Gerson.

|      |         |      |         |      |       |      |     |
|------|---------|------|---------|------|-------|------|-----|
| H001 | LBL H   | H022 | -       | H043 | RCL X | H064 | COS |
| H002 | FIX 2   | H023 | STO W   | H044 | COS   | H065 | *   |
| H003 | INPUT U | H024 | INPUT R | H045 | *     | H066 | /   |

|      |         |      |         |      |       |      |           |
|------|---------|------|---------|------|-------|------|-----------|
| H004 | INPUT D | H025 | RCL W   | H046 | *     | H067 | ACOS      |
| H005 | INPUT L | H026 | RCL R   | H047 | +     | H068 | RCL Y     |
| H006 | 6.619   | H027 | -       | H048 | ASIN  | H069 | x>=0?     |
| H007 | RCL D   | H028 | 15      | H049 | STO V | H070 | XEQ E001  |
| H008 | 0.0657  | H029 | *       | H050 | RCL V | H071 | ROLL DOWN |
| H009 | *       | H030 | STO X   | H051 | SIN   | H072 | XEQ F001  |
| H010 | +       | H031 | RCL X   | H052 | RCL C | E001 | LBL E     |
| H011 | RCL U   | H032 | SIN     | H053 | SIN   | E002 | ROLL DOWN |
| H012 | 1.0027  | H033 | STO Y   | H054 | RCL T | E003 | 360       |
| H013 | *       | H034 | INPUT C | H055 | SIN   | E004 | x<>y      |
| H014 | +       | H035 | SIN     | H056 | RCL V | E005 | -         |
| H015 | RCL L   | H036 | RCL T   | H057 | SIN   | E006 | STO W     |
| H016 | 15      | H037 | SIN     | H058 | *     | F001 | LBL F     |
| H017 | /       | H038 | *       | H059 | -     | F002 | STO Z     |
| H018 | -       | H039 | RCL C   | H060 | ENTER | F003 | VIEW Z    |
| H019 | 24      | H040 | COS     | H061 | RCL T | F004 | RCL V     |
| H020 | x<>y    | H041 | RCL T   | H062 | COS   | F005 | VIEW V    |
| H021 | x<=y?   | H042 | COS     | H063 | RCL V | F006 | RTN       |

*Edited: 20 Aug 2007, 10:14 p.m. after one or more responses were posted*

### Re: Altitude/Azimuth pgm, Part 1 for35S

Message #5 Posted by [Howard Lazerson](#) on 20 Aug 2007, 10:01 p.m.,  
in response to message #4 by Gerson W. Barbosa

site would not accept my edit, only a few corrections are necessary following your numbering of pgm steps. HO12 should read 1.0027, EOO4 should read X exchange Y , every thing else OK, thanks for your help, Howard

### Re: Altitude/Azimuth pgm, Part 1 for35S

Message #6 Posted by [Gerson W. Barbosa](#) on 20 Aug 2007, 10:08 p.m.,  
in response to message #5 by Howard Lazerson

Fixed!

You might want to take a look at [advanced formatting techniques](#).

Regards,

Gerson.

*Edited: 20 Aug 2007, 10:14 p.m.*

### Re: Altitude/Azimuth pgm, Part 1 for35S

Message #7 Posted by [Howard Lazerson](#) on 20 Aug 2007, 10:51 p.m.,  
in response to message #6 by Gerson W. Barbosa

as you probably deduced, Im not a computer person - however I will ck out the formatting techniques, Howard

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### Valentin - Still interested in HP 33s Emulator?

Message #1 Posted by [Oswaldo Rodriguez](#) on 20 Aug 2007, 6:06 p.m.

A few months (years?) ago Valentin offered to translate some of his programs to work with the HP 33s if someone could provide him with an emulator. As some of you may recall that went nowhere fast. I was always surprised at all the comments against having Valentin translate his programs. Regardless, I know that Valentin now has an HP 35S, so the HP 33s may pose no interest to him.

Nonetheless, a few months ago I was able to get an emulator from HP, as a chemistry instructor. I get permission to install it on three computers, I have used it for my laptop and desktop.

Thus, Valentin, if you are still interested, let me know and I will forward to you the program so you can play with it or do what you wish with it.

Oswaldo

### Re: Valentin - Still interested in HP 33s Emulator?

Message #2 Posted by [Eric Smith](#) on 20 Aug 2007, 6:34 p.m.,  
in response to message #1 by [Oswaldo Rodriguez](#)

Quote:

\_\_\_\_\_

I get permission to install it on three computers, I have used it for my laptop and desktop.

Thus, Valentin, if you are still interested, let me know and I will forward to you the program so you can play with it or do what you wish with it.

\_\_\_\_\_

That's a generous offer, but are you sure that the permission HP granted extends to installing it on a computer belonging to a third party?

Based on statements made by HP employees at past HHC conferences, I expect that if Valentin asked HP for the emulator, they would likely make it available to him.

### Re: Valentin - Still interested in HP 33s Emulator?

Message #3 Posted by [Bruce Bergman](#) on 20 Aug 2007, 6:54 p.m.,  
in response to message #2 by [Eric Smith](#)

I don't know if I'd go THAT far. For some reason, HP seems VERY protective of their educational emulators program. I know people who are truly educators who have been turned down. Those of us on the fringe don't even get the courtesy of a reply.

I agree, however, about watching the usage clauses.

thanks, bruce

### **Re: Valentin - Still interested in HP 33s Emulator?**

*Message #4 Posted by **Vincze** on 20 Aug 2007, 7:51 p.m.,  
in response to message #3 by Bruce Bergman*

Why they not want people to have emulator? With advent of 35s, it seem to me that 33s on the way out, and production more than likely has stopped already. I sure they just trying to flush distribution channels at this point.

### **Re: Valentin - Still interested in HP 33s Emulator?**

*Message #5 Posted by **Oswaldo Rodriguez** on 20 Aug 2007, 8:59 p.m.,  
in response to message #2 by Eric Smith*

Eric:

I will point you to the original thread about 2 years ago

<http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv015.cgi?read=80196>

[pre] Towards the bottom you will see Valentin's response to a similar answer to yours. The great Valentin wrote:

"Thanks a lot for your kind, supportive words but I don't think anybody at HP gives a damn about what I may or may not do in this forum or elsewhere, and if someone actually does, I doubt they can pull the necessary strings to accomplish even such a minor feat as letting me have an HP33 simulator."

Now I do not want to get anyone in trouble or do I want to repeat the type of discussion on that original thread, which became very heated. However, I believe, that the HP community missed on a great opportunity to have Valentin port some amazing and exciting programs to the 33s. I know that he is probably enjoying the 35s too much to have a desire to play with the 33s, but I just thought of offering.

The following link has the terms of use:

[http://www.hp.com/calculators/emulators/otheremulator.html?jumpid=reg\\_R1002\\_USEN](http://www.hp.com/calculators/emulators/otheremulator.html?jumpid=reg_R1002_USEN)

Now, I may be picking, however, in terms of use, it seems to me that only students are not allowed to use the software. Receiving the software by cd is restricted to educators. HP sent me the software by download link. I'll let you draw your own conclusions. If illegal, oh well, I won't do it. Nonetheless, as mentioned before, this may all be a moot point, since the interest may not be there anymore.

Oswaldo

### **Re: Valentin - Still interested in HP 33s Emulator?**

*Message #6 Posted by **Ed Look** on 20 Aug 2007, 9:14 p.m.,  
in response to message #5 by Oswaldo Rodriguez*

If it is the 33s emulator that appears on the screen as a life sized image of the 33s calculator, I have it on my work computer and students have seen it there and have watched me use it, especially when I'm too lazy to reach into my briefcase for the real 33s.

It seems, alas, none of them were too interested at all, except in the results, and how it compared to theirs.

I suspect they won't care at all that the emulator is RPN.

Someone here posted just a few days ago maybe that HP should give away RPN calculators, or even their algebraic ones to students, especially high school ones, to cultivate a greater appreciation of RPN machines, or at least, any HP calculator product. Letting them at the emulator software might even have a similar effect. But as of right now, the kids wouldn't even care to steal it. Not flattering at all.

McAfee did this a long time ago, giving out free versions of their anti-virus engine and updating it every week or so. They had me hooked until recently, when they made accessing their site and getting support so difficult.

HP, at least, has continued their rather good support and I think that if they were willing to so invest, they might reap many customers in years to come.

### **Re: Valentin - Still interested in HP 33s Emulator?**

*Message #7 Posted by [Bruce Bergman](#) on 21 Aug 2007, 4:04 p.m.,  
in response to message #6 by Ed Look*

You know, the lack of a 33s emulator MIGHT be because HP knew the 35s was coming out in a year or so (surely they have at least that long a lead time on building something like that). I mean, if \*I\* were in HP's shoes, knowing that something truly better was coming out in a year or so to "replace" (my finger quotes...) the 33s, I certainly wouldn't expend any energy on building something like that. I'd focus on building something for the 35s instead.

That's my guess, anyhow.

thanks, bruce

### **Re: Valentin - Still interested in HP 33s Emulator?**

*Message #8 Posted by [Osvaldo Rodriguez](#) on 22 Aug 2007, 10:05 p.m.,  
in response to message #7 by Bruce Bergman*

The problem is not that there is not 33s emulator the problem is the availability of the emulator. Hp has emulators for the 10BII, 12c, 17BII+, 39G+, 48GII, 49G+, and the 33s. However, they only make them available to educators. I had to provide a copy of the syllabus that I use for my students and in the syllabus I had to require or recommend the use of the model that I was requesting. In addition you can only request one emulator regardless of the classes or types of classes that you teach. For my students I recommend the hp 33s if money is tight, however, I recommend the 48GII or hte 49G+ if they can afford it. Nonetheless, when requesting the emulator I had to choose and I chose the 33s. I must say that it works just like the calculator and it is fun to use.

Osvaldo

### **Re: Valentin - Still interested in HP 33s Emulator?**

*Message #9 Posted by [Eric Smith](#) on 21 Aug 2007, 1:55 p.m.,  
in response to message #5 by Osvaldo Rodriguez*

Quote:

\_\_\_\_\_

If illegal, oh well, I won't do it.

\_\_\_\_\_

I wasn't saying that it was illegal, and I'm sure you weren't intending to offer anything that wasn't strictly above-board. I was just concerned that it \*might\* be a violation of an EULA, and that if it was, you might not be aware of it. Not having seen the EULA, I have no idea whether the proposal would violate the EULA terms or not.

## Re: Valentin - Still interested in HP 33s Emulator?

Message #10 Posted by [Valentin Albillo](#) on 21 Aug 2007, 5:45 a.m.,  
in response to message #1 by [Osvaldo Rodriguez](#)

Hi, Osvaldo:

Osvaldo wrote:

*"[...] if you are still interested, let me know and I will forward to you the program so you can play with it or do what you wish with it."*

Thank you very much for your extremely kind offer and further your kind appreciation but, regrettably, once my vacations are over I find myself with a severe lack of free time and so I have to correctly arrange my priorities.

At the time I posted the original request for an HP33S emulator, that was the one and only easily-available RPN calc, and further it was one of the approved models for NCEES exams, so it found a market and generated quite a lot of interest among the HP calc-fan community.

Thus, though I profoundly disliked its physical incarnation (not the programming model, mind you), I saw it as a service to the community to port some of my best unpublished (or published) technical or mathematical programs written at their time for such machines as the HP-34C, HP-67, etc, which would perfectly run in the new HP33S within its maximum data register constraints, and would provide a base foundation of useful software. I didn't want the physical machine at all (even to the point of rejecting it as a gift) so an emulator was the way to go.

Much to my surprise, my request went finally unfulfilled and that was the end of it. Now the new HP35s is available, and it absolutely supersedes the HP33S in most every aspect, while being highly upward-compatible with it, so the HP33S is rendered utterly obsolete and I can see many owners getting rid of them for whatever they can get in order to buy the HP35S as soon as they can.

This being so, it surely would be a waste of time and effort to try and port old programs to an already obsolete, superseded model when there's even more scarcity of basic materials for the newer model. So I'm redirecting all my present efforts to the HP35s which means three brand-new programs (with corresponding articles) will appear in the next issue of Datafile.

Converting old programs isn't as good an idea now, as RAM restrictions have been mostly removed and so it's better to simply write new programs to take advantage of the fact instead of porting old programs created around the 26-register limitation which had to jump through all kinds of hoops merely in order to cope with it, thus resulting in tricky, convoluted, slow-running code. This was unavoidable in the case of the HP33S, but the new HP35s gets that drudgery wholly out of the picture.

Anyway, thanks again for your kind offer and

Best regards from V.

*Edited: 21 Aug 2007, 6:45 a.m.*



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**Re: Valentin - Still interested in HP 33s Emulator?**

Message #11 Posted by [Oswaldo Rodriguez](#) on 21 Aug 2007, 12:56 p.m.,  
in response to message #10 by Valentin Albillo

Valentin:

I figured as much, as the saying goes a dollar short and a day late. Anyways I look forward to your publications on the 35s, and your challenges are always, well a "challenge". I'll finish by saying that it would have been quite a sight to see a 7 x 7 matrix handled on the 33s.

Ed:

My students are the same way, only interested in the final answer and many times without paying attention to the actual process. Several months ago there were several threads on how TI calculators were dummy proof, that you did not need to pay much attention into how the problem is entered. I never answered in that post even though I wanted to share some opinions. However, I have had students that regardless of how "dummy proof" the calculator is they always find a way to key in the process wrong. Somehow it becomes a challenge for some students to use the exponent key instead they type  $x 10^{\wedge}$ . In many stoichimetric problems it ends up messing up the sequence. This is a problem every semester, and even after I tell them repeatedly to use the exponent key, half way through the semester there are always a handful of students still getting wrong answers for not using the proper input keys.

Oswaldo Rodriguez

*Edited: 21 Aug 2007, 12:56 p.m.*

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**Re: Valentin - Still interested in HP 33s Emulator?**

Message #12 Posted by [Ed Look](#) on 21 Aug 2007, 1:35 p.m.,  
in response to message #11 by Oswaldo Rodriguez

Quote:

... Somehow it becomes a challenge for some students to use the exponent key instead they type  $x 10^{\wedge}$ ...

This one is especially troubling, that they can't figure this out just by looking at the keyboard... of ANY calculator!

Quote:

... In many stoichimetric problems it ends up messing up the sequence...

... Oswaldo Rodriguez

It will mess up any problem. It doesn't get better when they somehow trudge forward up to equilibrium problems. By then, it's clear it's not the calculator!

However, I still believe that even today's better student can benefit (greatly) from using instead (HP's or any) RPN calculator; it just seems to stimulate more thinking and realization on the part of the user.

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## HP Forum Archive 17

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### **Newer HP 17BII+ with double-width Input/Enter key?**

Message #1 Posted by [bt\\_schmidt](#) on 20 Aug 2007, 3:20 p.m.

Hi,

My original Aug 5 2007 [posting](#) included an image of a newer HP 17BII+ with a double-width Input/Enter key, as served off of the OfficeDepot.com website.

Unfortunately Office Depot has reverted the image to that of a standard, gold & black HP 17BII+. So anyone reading that original thread will be confused as rather than side-by-side comparison images, they now see side-by-side images of the identical, gold & black, HP 17BII+.

I'm assuming that OfficeDepot had 'jumped the gun' when they posted an image of the newer HP 17BII+ with the double-width Enter key **before** HP had announced the calculator. Thanks to the Curator hosting the original image, here it is again. I know I will be in line to buy one when HP officially releases it.

...bt

<http://hpmuseum.org/guest/bschmidt/n17biip.jpg>

### **Re: Newer HP 17BII+ with double-width Input/Enter key?**

Message #2 Posted by [Bruce Bergman](#) on 20 Aug 2007, 4:21 p.m.,  
in response to message #1 by [bt\\_schmidt](#)

Has anyone seen this model mentioned, referred to, alluded to or otherwise potentially existing in any location OTHER than Office Depot?

I'm wondering when this might materialize.

thanks, bruce

### **Re: Newer HP 17BII+ with double-width Input/Enter key?**

Message #3 Posted by [bink](#) on 21 Aug 2007, 2:03 a.m.,  
in response to message #2 by [Bruce Bergman](#)

FWIW, I saw the new version at Angus & Robertson on George St in Sydney, Australia about a month ago!!!

### **Double-width Input/Enter key? Why input? Why not ENTER?**

Message #4 Posted by [Gene Wright](#) on 20 Aug 2007, 4:48 p.m.,  
in response to message #1 by [bt\\_schmidt](#)

Here's a good question for the group...

Can anyone make a good case for this key saying INPUT?

It certainly comes from the past link to the original HP 17B, but that probably dates from some previous HP marketing person trying to break from HP's RPN heritage.

So, a vote...

PLEASE PUT IN THE SUBJECT OF YOUR REPLY...

ENTER

or

INPUT

for the Enter/Input key on the 17b.

Gene

P.S. This is purely a poll for fun. I ain't got nothing for you.

### **Enter**

*Message #5 Posted by [Vincze](#) on 20 Aug 2007, 5:17 p.m.,  
in response to message #4 by Gene Wright*

I would not buy one unless it match quality of Pioneer series 17BII. I saw cheapo 17bii+, and it look like joke. I don't think you ever see a business person be proud to pull that put at meeting.

### **Neither...**

*Message #6 Posted by [Thomas Okken](#) on 20 Aug 2007, 5:23 p.m.,  
in response to message #4 by Gene Wright*

How about [SAVE](#) instead? :-)

*Edited: 20 Aug 2007, 5:24 p.m.*

### **So that's an ENTER vote?**

*Message #7 Posted by [Gene Wright](#) on 20 Aug 2007, 5:40 p.m.,  
in response to message #6 by Thomas Okken*

Don't confuse things. :-) Be good to see a long list of ENTER or INPUT.

### **Re: So that's an ENTER vote?**

*Message #8 Posted by [Egan Ford](#) on 20 Aug 2007, 6:04 p.m.,  
in response to message #7 by Gene Wright*

ENTER should only be ENTER. This has nothing to do with legacy or RPN, just common sense. Look at any PC, it is an ENTER key, not an INPUT key, it is convention. (Well my Apple ][+ did have a RETURN key and so does my kids MacBook (but ENTER is printed above RETURN)). I think the argument still stands. ENTER.

### **OK, "ENTER", then...**

*Message #9 Posted by **Thomas Okken** on 20 Aug 2007, 10:14 p.m.,  
in response to message #7 by Gene Wright*

But only if it has an upward-pointing arrow next to it.

HP-25 Forever. :-D

(The HP-25 just happens to be **my** first HP, and I got it when I was 12 years old (thanks Dad!!!). That's an impressionable age... So there.)

*Edited: 20 Aug 2007, 10:19 p.m.*

### **Re: Neither...**

*Message #10 Posted by **Walter B** on 20 Aug 2007, 6:31 p.m.,  
in response to message #6 by Thomas Okken*

I second Thomas, SAVE is the only appropriate key print for a business calc :)

### **ENTER**

*Message #11 Posted by **Vincze** on 20 Aug 2007, 7:43 p.m.,  
in response to message #10 by Walter B*

Güten nacht my friend Walter. [SmartA\$\$Mode] Why not dummy it up and make it say OK. :)  
[/SmartA\$\$Mode]

Why you say Save? Was that not only one calculator that have that? If we say save, why not commit? That at least more liking computer term as you must commit SQL statements. My only concern is if we have commit or save, Mr Gates would get in picture and and say to have popup box that say "Are you sure you wish to save? Yes, No". And then after that, it say "Are you really, really sure?" ;)

Personally, I think it should say Belép, which mean Enter in Hungarian. :)

I never understand why 17BII have INPUT. That not make sense to me. Input where you put food in baby.

### **Re: Double-width Input/Enter key? Why input? Why not ENTER?**

*Message #12 Posted by **Bruce Bergman** on 20 Aug 2007, 6:50 p.m.,  
in response to message #4 by Gene Wright*

ENTER

### **Re: Double-width Input/Enter key? Why input? Why not ENTER?**

*Message #13 Posted by **Peter A. Gebhardt** on 20 Aug 2007, 7:19 p.m.,  
in response to message #4 by Gene Wright*

Pls. keep INPUT - it's better to avoid redesigning the manual!

Instead HP should invest into the SW so that L() & G() would be working properly again ....

Best regards

Peter A. Gebhardt

### **fix the solver please**

*Message #14 Posted by [Don Shepherd](#) on 20 Aug 2007, 7:42 p.m.,  
in response to message #13 by Peter A. Gebhardt*

Here here!

### **Definitely ENTER**

*Message #15 Posted by [Bruce Bergman](#) on 21 Aug 2007, 1:05 p.m.,  
in response to message #13 by Peter A. Gebhardt*

I agree about getting L() and G() working -- no question! I think all of us that use, and are fond of, the 17bii+ want that fixed.

But why would you want to keep INPUT the same just to not fix the manual? I mean, the manual is the EASIEST thing to change. It's a matter of someone going through a document and doing a search and replace (in the simplest case) or slightly more. There's probably some proofreading too, but that also pales in comparison to other changes.

The result would be *\*another\** appealing calc for HP fans and users alike. It would also make it more consistent with the rest of the current HP offerings. Even the HP-12C has an ENTER key...

thanks, bruce

### **INPUT**

*Message #16 Posted by [Thomas Radtke](#) on 20 Aug 2007, 7:49 p.m.,  
in response to message #4 by Gene Wright*

My first HP calc was a 20S. I had no clue about RPN (besides a little Forth) until I *\*accidently\** bought the 32SII. So, INPUT just reminds me on having had a great time in France, where I bought it ;-).

But...the HP-80 SAVE also looks great. I'm tempted to vote for it.

Has anyone mentioned that the new housing looks like that from the 35s? Can we expect the same great keyboard?

### **Re: INPUT**

*Message #17 Posted by [Raymond Del Tondo](#) on 21 Aug 2007, 12:25 a.m.,  
in response to message #16 by Thomas Radtke*

> Has anyone mentioned that the new housing looks like that from the 35s?

>

Yes, when I saw the first photo sme weeks ago;-)

The display and upper right corner keys are different, too.

I still hope they make an HP-42S anniversary model.

Raymond

### **Re: INPUT**

*Message #18 Posted by **Thomas Radtke** on 21 Aug 2007, 4:09 a.m.,  
in response to message #17 by Raymond Del Tondo*

...not to mention that a whole row of keys is missing :^).

I don't believe in a 41/42 successor. It will probably not be approved for the various exams and if it would, it could very well cannibalize the 35s.

### **Re: INPUT**

*Message #19 Posted by **Raymond Del Tondo** on 21 Aug 2007, 4:30 a.m.,  
in response to message #18 by Thomas Radtke*

> ..not to mention that a whole row of keys is missing :^).

>

Now that you mention it...but that's compatible with the Pioneer series.

Actually the 35s has one additional row...

I fear they won't make a new 42S, but the hope is still there;-)

The programming model of the 35s is so limited in comparison to the 42S,  
it just doesn't make fun to program the 35s IMHO.

It would also be a nice idea to have the 17bII+ in the new housing,  
equipped with Flash updateable ROM, and black faceplate,  
and a suitable SDK to built an own calculator.

Raymond

### **Rationale for ENTER, plus other changes (dreaming)**

*Message #20 Posted by **Bruce Bergman** on 21 Aug 2007, 1:14 p.m.,  
in response to message #4 by Gene Wright*

The 17bii+ can output programs (solver equations) to the printer, so it's marginally better than the HP-35s in that sense! I like that it has a good combination of features and functions.

Putting the ENTER label back on would be useful because it would justify what you can already do. I.e., in RPN mode, you can use the INPUT key like an ENTER key. In RPN mode the stack operations are also the face functions of the parenthesis keys.

While we're at it, I'd like to see HP put some other basic math functions into the MATH menu. Right now it has LOG,  $10^x$ , LN, EXP, N! and PI, which is great. But it has no SIN, COS, TAN, etc. If there were room in the ROM, it would seem to make sense to add those basic math functions.

There are solver equations that provide those functions, but it's not the same. There are even DEG->RAD solver equations. But it would be so much easier to have them in the ROM.

Also, I notice there is no yellow shifted function under STO. What about putting some functions under there? How about base conversions, or some simple conversions? Heck, if we're dreaming, I'd LOVE to see the E+ (sigma+) key back on the face of the calc, and if it were there, you could use it to create SUM lists automatically. Man, NOW we'd be talking! :-)

thanks, bruce

## **Re: Rationale for ENTER**

*Message #21 Posted by [Jake Schwartz](#) on 21 Aug 2007, 4:20 p.m.,  
in response to message #20 by Bruce Bergman*

Hi,

ENTER is to HP as the scroll wheel is to the iPod. It is their "bread and butter"...it is their trademark...it represents, as Gary Tenzer once put it, an expression of their unique "brand". Although the HP80 key said "SAVE", the HP70, HP22, HP27, and all business-oriented machines which used RPN had ENTER leading up to the hp12c in 1981. As I stare at Rick Furr's HP Calculator Poster (check it out at <http://www.vcalc.net>), it looks like "INPUT" first started with the HP18C in Summer of '86 and stayed on ALL algebraic-logic machines, business or scientific. When the 17BII and 19BII came out with the RPN or algebraic option, they left the wide key with "INPUT". Since the 18C, all HP business machines were exclusively algebraic (like the 10BII) or offered both logic options (like the 17BII+). With the exception of the 12C Platinum, those others all used INPUT. If the 35s represents HP's return to its roots, then I vote that they all say ENTER from now on, as long as they offer RPN as a logic option.

Jake Schwartz

## **Re: Rationale for ENTER (ban all INPUT keys)**

*Message #22 Posted by [Bruce Bergman](#) on 21 Aug 2007, 4:24 p.m.,  
in response to message #21 by Jake Schwartz*

Hear, hear! A vote for no more INPUT anywhere!

Well said, Jake.

thanks, bruce

## **Re: Rationale for ENTER, plus other changes (dreaming)**

*Message #23 Posted by [Peter A. Gebhardt](#) on 22 Aug 2007, 12:43 p.m.,  
in response to message #20 by Bruce Bergman*

Bruce,

may I add some more dreams?

Whats about:

- numerical integration & differentiation
- GAMMA distribution & GAMMA function for non-integers
- UTPN & other statistical relevant distributions

...

All of the above required, once you do some "serious" retirement or life-cycle planning.

Best regards

Peter A. Gebhardt



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## HP Forum Archive 17

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### Writing DEG/RAD mode-insensitive code

Message #1 Posted by [Stefan Vorkoetter](#) on 20 Aug 2007, 12:34 p.m.

A lot of times, I see programs that depend on the calculator's angle mode being set in a particular way. Or, the program sets the angle mode based on what it needs. I gave some thought as to how to write programs that do trig, but don't depend on the angle mode being set properly. Two approaches came to mind:

1. Determine the angle mode at program start, change it as needed, and then change it back upon completion.
2. Determine the angle mode at program start, and then do conversions as necessary during processing.

Suppose we want to write a program that works in degrees (such as an aviation related program). First let's look at option 1:

Determining the angle mode is easy. We can then use a flag to remember what it is. The following sequence of instructions determines the angle mode, and sets flag 0 if it is radians. Then it sets the mode to degrees:

```
CF 0
4
SIN
X<0?
SF 0
DEG
```

To restore the initial angle mode later, we just need to do:

```
FS0?
RAD
```

For option 2, we use the same initial sequence as option 1, except we omit the DEG instruction at the end.

Then, just before any function that expects an angle as an argument, we do:

```
FS0?
D->R
```

After any function that returns an angle, we do:

```
FS0?
R->D
```

At the end of the program, there's nothing to do, since we didn't change the calculator's angle mode setting at all (although we could clear the flag just to clean things up).

Of course, using this method trades making one change to the calculator's state (the angle mode) for a different change (the setting of a flag), but the latter is probably less likely to interfere with something.

Thoughts?

Stefan

## Re: Writing DEG/RAD mode-insensitive code

Message #2 Posted by [Vincze](#) on 20 Aug 2007, 12:58 p.m.,  
in response to message #1 by Stefan Vorkoetter

My friend Stefan, that very interesting. So if we were to do this with my aviation programs, what would my program look like? Which would effect size of program less.

One thing I not like with my code is that if you break out of distance program, calculator stuck in RAD mode, and unsuspecting user may forget and be fooled by results.

## Re: Writing DEG/RAD mode-insensitive code

Message #3 Posted by [Karl Schneider](#) on 21 Aug 2007, 3:13 a.m.,  
in response to message #1 by Stefan Vorkoetter

Quote:

\_\_\_\_\_

A lot of times, I see programs that depend on the calculator's angle mode being set in a particular way. Or, the program sets the angle mode based on what it needs. I gave some thought as to how to write programs that do trig, but don't depend on the angle mode being set properly.

...

Suppose we want to write a program that works in degrees (such as an aviation related program)...

Determining the angle mode is easy. We can then use a flag to remember what it is.

\_\_\_\_\_

Hi, Stefan --

I regularly use a celestial-object program, "Sky map and compass" for the HP-41, originally written by Tom Sherman in 1986, and improved by Geir Isene. It requires inputs in degrees, but neither version included a DEG instruction to set the proper mode. I've gotten a few incorrect results that way.

It's worth mentioning that the HP-41 and HP-42S retain the angular-mode setting in system flags 42 and 43. Thus, the user can check the setting without having to infer it through calculation, store it as appropriate (perhaps as a variable or user flag), and reset it later.

Flag 42 set = grads mode; Flag 43 set = radians mode. These are not directly user-settable.

-- KS

## Re: Writing DEG/RAD mode-insensitive code

Message #4 Posted by [Gerson W. Barbosa](#) on 21 Aug 2007, 2:13 p.m.,  
in response to message #3 by Karl Schneider

Detecting the initial angle mode, setting it to degrees and then getting back to the original mode appears to be to best way to do it. Another way is computing the conversion factor and using it throughout the program. For example, the following program returns  $\sin(30)$  and  $\text{atan}(1)$  in degrees, regardless the angle mode:

```
LBL A
1
ASIN
90
/
```

```
STO K
30
RCL* K
SIN
1
ATAN
RCL/ K
RTN
```

This method would be useful only for calculator on which the angle mode cannot be changed programmatically. This is not the case in any HP calculator, by what I can remember...

Gerson.

## Re: Writing DEG/RAD mode-insensitive code

Message #5 Posted by **Gerson W. Barbosa** on 21 Aug 2007, 2:21 p.m.,  
in response to message #1 by Stefan Vorkoetter

Quote:

Then, just before any function that expects an angle as an argument, we do:

```
FS0?
D->R
```

After any function that returns an angle, we do:

```
FS0?
R->D
```

Don't forget the calculator might also be set to GRAD mode :-)

Gerson.

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## HP Forum Archive 17

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**HP Journal**

Message #1 Posted by [Vincze](#) on 20 Aug 2007, 10:05 a.m.

I stumble across website last night on HP site that house all old HP Journals. It very nice to read some of these. It look like it go up to 1998, but then stop. What happen to the journal, did it just stop being made?

**Re: HP Journal**

Message #2 Posted by [HrastProgrammer](#) on 20 Aug 2007, 3:15 p.m.,  
in response to message #1 by Vincze

The answer is on the same site:

*"The HP Journal was published from 1949 - 1998, earning a well-respected tradition of excellence."*

**Re: HP Journal**

Message #3 Posted by [Vincze](#) on 20 Aug 2007, 4:05 p.m.,  
in response to message #2 by HrastProgrammer

Why they stop publication?

**Re: HP Journal**

Message #4 Posted by [Stefan Vorkoetter](#) on 20 Aug 2007, 4:21 p.m.,  
in response to message #3 by Vincze

Perhaps 1998 was when they stopped doing anything interesting, thus having something interesting to write about?

An interesting coincidence that 49 and 98 were the number of steps of program memory in several of the early HP programmables.

Stefan

**Re: HP Journal - It's Back (sort of)!**

Message #5 Posted by [Katie Wasserman](#) on 20 Aug 2007, 11:54 p.m.,  
in response to message #4 by Stefan Vorkoetter

Stefan, are you a numerologist? :)

Well yes, in fact HP did stop doing anything interesting about then because they were about to spin off Agilent and Agilent Labs -- the source of most of the stuff in the journal and almost all the interesting things that HP did. I don't know why Agilent didn't keep the Journal running, perhaps they just didn't have the funding to do so.

.... after searching the internet a bit.....

Curiously, they seemed to have just recently revived the journal as [Agilent Measurement Journal](#). It's a shame that the calculator division isn't part of Agilent.

*Edited: 20 Aug 2007, 11:58 p.m.*

**Re: HP Journal - It's Back (sort of)!**

*Message #6 Posted by [Stefan Vorkoetter](#) on 21 Aug 2007, 10:30 a.m.,  
in response to message #5 by Katie Wasserman*

Quote:

Stefan, are you a numerologist? :)

No, I just have this runaway pattern matcher always running in the background in my brain. I tend to notice pointless meaningless stuff like that (along with a lot of pointful meaningful stuff too of course).

Stefan

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## HP Forum Archive 17

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### **Back from vacation and 4 new articles online ! :-)**

Message #1 Posted by [Valentin Albillo](#) on 20 Aug 2007, 6:58 a.m.

Hi all:

Just came back from my summer vacations I've spent in a little, rural village where neither Internet nor email access were possible in any way. Quite refreshing, if a little isolated. It will now take me quite a long time to read the tons of threads newly posted here, I see you all have been pretty busy, vacations or not.

Speaking of vacations, among many other things I've taken advantage of the free time and quiet environment I've enjoyed to write \*three\* new articles, all of them focused in the new HP35s (which I carried with me as my sole computing device in order to familiarize myself with its pros and cons), which will be promptly submitted to Datafile for their eventual publication in the very next issue, so you'll be able to have a look at them there come October (subject to Mr. Editor's kind approval of course).

Meanwhile, thanks to the invaluable help of my 15-year old daughter Laura (who got a Nintendo DS plus assorted game cards for her considerable efforts), [my humble HP calculator site](#) boasts a brand-new aspect and layout, and to commemorate the occasion I've just uploaded there and made freely available for download the following four articles of mine which were previously featured in Datafile, all of them in PDF format:

#### ***Long Live the HP-35 !***

This 5-page article, belonging to my ongoing "Long Live ..." series, is intended as a commemorative article for the HP-35's 35th anniversary, and I think you'll agree it's quite an original approach to it. It does include three sample applications featuring four small programs, addressing such topics as root finding and numerical integration, as well as providing the appropriate historical context and a few personal anecdotes to spice it all.

#### ***Boldly Going - Matrix Square Root***

This 6-page article is the first of a new series of articles, the "Boldly Going" series which, as its name implies, is intended to effectively go "... where no HP calc has gone before ...", and so they will be dealing with unusually difficult programming tasks in a straightforward manner, thus expanding the limits of what you can do with your HP model and how simply can you do it.

To provide a taste for the series, this first article deals with this task of finding the matrix square root of square matrices. Two full programs are featured: a 7-line subprogram for the HP-71B which can deal with real- or complex-valued  $N \times N$  matrices, and a 45-step routine for the HP-15C which will find the square root of real-valued matrices up to  $4 \times 4$ . Full examples are provided, with comments and notes, as well as the underlying algorithm.

#### ***Boldly Going - Identifying Constants***

This is a 14-page article which includes a truly awesome (if simple) program which allows ye goode olde HP-71B to perform some rather impressive 'symbolic' feats. The program does not require any additional ROMs or files, just a bare bones HP-71B, and can be converted to any other suitably fast

HP model or emulator with minimum effort.

It's a relatively simple program which provides basic functionality for an advanced, very useful and most impressive feature which is nevertheless absent in our beloved machines' built-in instruction sets, namely identifying numeric constants, i.e., the capability of, given some real, numeric value, to try and identify its exact symbolic form if possible, and that failing, to provide an approximate symbolic expression of user-specified relative accuracy.

This will allow us to perform some pretty nifty feats, such as give exact, symbolic results for definite integrals (even if they can't be expressed in terms of elementary functions), finite or infinite summations, and specific values of transcendental functions, among other uses.

The full 14-page article boasts more than 40 worked out examples, as well as three detailed extensions, the last being an 'exercise' for the reader, solution included ! :-)

### ***Small Fry - Primes A'counting***

This 1-page article belongs to the new series "Small Fry", which is intended to feature very \*small\* articles (maximum 1 page), while still keeping all the flavour and bite of the usual longer ones.

This first article deals with the topic of prime counting, i.e., finding out how many prime numbers there are up to a given limit N. For large N, generating all primes up to N and returning the count is prohibitively expensive in terms of running time and/or memory usage. What can we do about it when N goes sky-high (say 1010, 1015, or more) ? The article features an 8-line user-defined function for the HP-71B to accomplish the feat very quickly, as well as several comparative examples against other well-known prime counting procedures.

That's all for now, you can download them for free at my site, and I sincerely hope you'll enjoy them and will consider them good read for these quiet summer evenings (26 pages in all, nearly a full regular Datafile issue !). Any and all comments are really welcome, thanks in advance for them and

Best regards from V.

*Edited for typos*

*Edited: 20 Aug 2007, 7:03 a.m.*

### **Re: Back from vacation and 4 new articles online ! :-)**

*Message #2 Posted by [hugh steers](#) on 20 Aug 2007, 8:30 a.m.,  
in response to message #1 by [Valentin Albillo](#)*

excellent! i like the site improvements, especially the calculator image branding.

Quote:

\_\_\_\_\_

where neither Internet nor email access were possible in any way

\_\_\_\_\_

unless you have satellite broadband that is.

cheers!

### **Re: Back from vacation and 4 new articles online ! :-)**

*Message #3 Posted by [Valentin Albillo](#) on 20 Aug 2007, 10:12 a.m.,*



*in response to message #2 by hugh steers*

Hi, Hugh !

Hugh posted:

*"excellent! i like the site improvements, especially the calculator image branding. "*

I'll pass you comments on to Laura, she'll be *\*very\** happy ! She's a fledgling "web designer" and is very eager to get feedback for her very first "professional" work, so thank you very much for providing it.

Also, I hope you'll enjoy the 26-pages worth of articles :-)

Best regards from V.

**Re: Back from vacation and 4 new articles online ! :-)**

*Message #4 Posted by [Vincze](#) on 20 Aug 2007, 8:41 a.m.,  
in response to message #1 by Valentin Albillo*

My friend, it appears you page must be broken. The main image in the center is 404 and it redirects to Lycos, and the items on the side, look like broken images.

**Re: Back from vacation and 4 new articles online ! :-)**

*Message #5 Posted by [Valentin Albillo](#) on 20 Aug 2007, 10:09 a.m.,  
in response to message #4 by Vincze*

Thanks for the warning, Vincze, but it works Ok to me.

¿ Perhaps some configuration problem in your browser and/or your firewall, such as forbidding popups or adds to appear ?

The free, french Lycos server I'm using to host my pages does include some adds and such, like most other free services, but that should present no problems at all.

Anyway, should you still be unable to reach some of the articles, just tell me which are you interested in and I'll send them to some public e-mail account of yours or else post the direct links.

Best regards from V.

**Re: Back from vacation and 4 new articles online ! :-)**

*Message #6 Posted by [Vincze](#) on 20 Aug 2007, 10:14 a.m.,  
in response to message #5 by Valentin Albillo*

I disable everything and nothing. Only thing I see on page is your counter, and the menu on left. I try and click on link for each menu item, but it just shows "Page non trouvée" and then go to main Lycos page. Very strange.

**Re: Back from vacation and 4 new articles online ! :-)**

*Message #7 Posted by [Valentin Albillo](#) on 20 Aug 2007, 10:21 a.m.,  
in response to message #6 by Vincze*

Strange indeed ... I've tried just now (IE 6.0) and this is approximately what you should see:

<http://i18.tinypic.com/61oaidc.jpg>

Best regards from V.

**Re: Back from vacation and 4 new articles online ! :-)**

*Message #8 Posted by [Alain Mellan](#) on 20 Aug 2007, 10:22 a.m.,  
in response to message #6 by Vincze*

I get the same "Page non trouvÃ©". It seems the main page references other pages with ...calc\main.htm (a backslash) instead of ...calc/main.hm (a regular, forward slash). Typical of a web site prepared on a Windows machine ;-)

**Re: Back from vacation and 4 new articles online ! :-)**

*Message #9 Posted by [Valentin Albillio](#) on 20 Aug 2007, 10:24 a.m.,  
in response to message #8 by Alain Mellan*

Thanks a lot, I'll have Laura look into it ASAP.

Best regards from V.

**Re: Back from vacation and 4 new articles online ! :-)**

*Message #10 Posted by [Ed Look](#) on 20 Aug 2007, 10:56 a.m.,  
in response to message #9 by Valentin Albillio*

Gentlemen, it appears to work in Internet Explorer, but not Mozilla Firefox.

**Re: Back from vacation and 4 new articles online ! :-)**

*Message #11 Posted by [Vincze](#) on 20 Aug 2007, 10:58 a.m.,  
in response to message #9 by Valentin Albillio*

Ah, I think I see problem. I go into IE and try, and it work. I normally use for 99.999999% of all things Firefox browser, and it not work in there. I wonder why that they case. ActiveX?

**Re: Back from vacation and 4 new articles online ! :-)**

*Message #12 Posted by [Alain Mellan](#) on 20 Aug 2007, 11:16 a.m.,  
in response to message #11 by Vincze*

Nothing that complicated. I think when Explorer sees a \ (backslash) in a URL, it automatically translates to a / (forward slash) when sending a request to the web server. Firefox does not.

-- alain.

**Re: Back from vacation and 4 new articles online ! :-)**

*Message #13 Posted by [bill platt](#) on 20 Aug 2007, 11:17 a.m.,  
in response to message #11 by Vincze*

Aha!

That's it! (I couldn't get it to work either). The IE Windoze thing again :-)

**Re: Back from vacation and 4 new articles online ! :-)**

*Message #14 Posted by **Vincze** on 20 Aug 2007, 11:39 a.m.,  
in response to message #13 by bill platt*

I just add IE render to Firefox, and then turn on flux capacitor, and all is fine in Firefox. Anything to upset Mr Gates.

**Re: Back from vacation and 4 new articles online ! :-)**

*Message #15 Posted by **Dave Shaffer (Arizona)** on 20 Aug 2007, 4:23 p.m.,  
in response to message #14 by Vincze*

Valentin's page also shows up fine with Netscape 8.1 (I'm a real dinosaur when it comes to browsers, and I, too, will do almost anything to not use Micro\$oft products!)

In fact, those of you who have never tried WordPerfect instead of Word should give it a try!

**Re: Back from vacation and 4 new articles online ! :-)**

*Message #16 Posted by **Ed Look** on 20 Aug 2007, 4:38 p.m.,  
in response to message #15 by Dave Shaffer (Arizona)*

Anybody remember AmiPro (by Lotus) in the days of Windows 3.1?

I was cleaning out some old manuals and the like and I found literature for AmiPro. I liked it much better than Word or WordPerfect then... and I think that's a bit of high praise from me as I preferred the DOS command line WordStar, maybe WordPerfect, over any GUI based word processor.

Yeah, I found the old WordStar manuals, too. I even found some literature on using VMS (ugh!... what horrible memories... ) on some old mainframe.

But none of this is older than my HP-34C with its Cylonic red LED eyes, and its spiral bound manual that could double as a high school or college math text. Yeah, it's also got that laminated quick reference card!

**Re: Back from vacation and 4 new articles online ! :-)**

*Message #17 Posted by **Vincze** on 20 Aug 2007, 5:23 p.m.,  
in response to message #16 by Ed Look*

I remember AmiPro. I hate to say this, but I really did not like it.

I have OpenOffice at home, and it very nice and free. I also have M\$ Office too, but I wanted to see what OpenOffice like and it very nice. I can use documents from both system back and forth just fine. Again, to upset Mr Gates.

**Re: Back from vacation and 4 new articles online ! :-)**

*Message #18 Posted by [James M. Prange \(Michigan\)](#) on 21 Aug 2007, 12:49 a.m.,  
in response to message #8 by Alain Mellan*

With Firefox 2.0.0.6, the page looked just fine the first time that I loaded it. However, if I use Tools > Options... > Content, and uncheck "Load images automatically", of course I get the "broken images". I suspect that any problems with viewing this page with Firefox is a matter of browser configuration. Something else to check would be the configuration of extensions, such as Adblock.

Regards,  
James

**FIXED ! It should work now. Please try and tell me. [NT]**

*Message #19 Posted by [Valentin Albillo](#) on 20 Aug 2007, 5:22 p.m.,  
in response to message #4 by Vincze*

Sorry for the inconvenience, thanks for bringing the problem to my attention, and

Best regards from V.

**Yes, it work now**

*Message #20 Posted by [Vincze](#) on 20 Aug 2007, 7:53 p.m.,  
in response to message #19 by Valentin Albillo*

Yes, it work now, what did you have to do?

**Re: Yes, it work now**

*Message #21 Posted by [Valentin Albillo](#) on 21 Aug 2007, 4:05 a.m.,  
in response to message #20 by Vincze*

Simply changing all incorrect "\" to the correct "/", as someone kindly suggested. Thanks for the feedback and

Best regards from V.

**Re: Yes, it work now**

*Message #22 Posted by [Giancarlo \(Italy\)](#) on 21 Aug 2007, 8:48 a.m.,  
in response to message #21 by Valentin Albillo*

Hi Valentin, welcome back :-)

Now it works fine also on Opera 9.22, which is the browser I currently use.

Thank you and your daughter for this nice improvement and articles!

Best regards.

Giancarlo

**Re: Yes, it work now**

*Message #23 Posted by [Valentin Albillo](#) on 21 Aug 2007, 10:10 a.m.,  
in response to message #22 by Giancarlo (Italy)*

Hi, Giancarlo:

Giancarlo wrote:

*"Thank you and your daughter for this nice improvement and articles!"*

Thanks to you for your feedback and kind appreciation. I'll let her know and she'll be delighted: it is her first "professional" attempt, and as is my educational stand that children must be encouraged to attempt and solve real-world situations, I formally issued her a letter asking for her services in revamping my web page, with full specifications, and demanding to know cost and schedule. She complied, and all the process was treated with utmost "seriousness", conflicts and all, till the final result was delivered, accepted, put into production, and the payment fulfilled.

That's a way for she to gain experience and training to deal with real professional demands well in advance. And after all the hard work, lots of googling for site creation tutorials, desperation when something didn't work as it should, excitement when finally the bulb did light up, and satisfaction with the final product being duly accepted by the "demanding customer" (i.e., me), she's more than happy with herself and convinced she can overcome non-trivial difficulties, learn a lot in the process, and enjoy her new Nintendo DS plus game cards of her choice.

The bottom line is both her knowledge and her self-esteem have increased immensely with this "real world" little stratagem of mine.

And she's asking for more work ... ! :-)

Best regards from V.

### **Re: Back from vacation and 4 new articles online ! :-)**

*Message #24 Posted by **Rodger Rosenbaum** on 21 Aug 2007, 4:57 p.m.,  
in response to message #1 by Valentin Albillo*

In the first paragraph of your new article, "Boldly Going...Matrix Square Root", you say "...nor can programmed solutions be found."

You must have missed my post in the thread:

<http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv014.cgi?read=66526>

which contains a programmed solution for the matrix square root problem. It requires the EGV function found on the HP48G and descendants.

The program gets the same solution you do for all your examples.

### **Re: Back from vacation and 4 new articles online ! :-)**

*Message #25 Posted by **Valentin Albillo** on 22 Aug 2007, 4:22 a.m.,  
in response to message #24 by Rodger Rosenbaum*

Hi, Rodger:

Rodger wrote:

*"You must have missed my post in the thread: [...]"*

First of all, thanks for the feedback, much appreciated. As for the thread you mention, it's from nearly three years ago. In that much time, there are tons of long, math-related threads posted here and the archives searching mechanism isn't particularly adequate to research them for a given topic.

Besides, my last posted message in that thread was #21 while your first posted message was #32, so I had already stopped reading the thread by the time you first posted and thus your post went utterly unnoticed by me.

*"[...] which contains a programmed solution for the matrix square root problem. It requires the EGV function found on the HP48G and descendants."*

I'm not familiarized with the HP48G (and descendants) instruction set at all as I don't like RPL models, but I guess EGV stands for "EiGenValues" and so must be some built-in function that returns either the eigenvalues or eigenvectors (or both) of a given matrix, either general or of some special type.

If that's correct, I think it might be the case that your approach only works for the special case of diagonalizable matrices. All the examples in my article deal with diagonalizable matrices, which explains why you get the same results. It might be the case that for some non-diagonalizable matrix my approach would still work but yours won't.

Thanks again and

Best regards from V.

## **Re: Back from vacation and 4 new articles online ! :-)**

Message #26 Posted by **Rodger Rosenbaum** on 23 Aug 2007, 6:31 a.m.,  
in response to message #25 by Valentin Albillo

Quote:

---

I think it might be the case that your approach only works for the special case of diagonalizable matrices. All the examples in my article deal with diagonalizable matrices, which explains why you get the same results. It might be the case that for some non-diagonalizable matrix my approach would still work but yours won't.

---

Yes, the HP48 program does require the matrix to be diagonalizable, but even though this is a "special" case, it isn't a rare case. Most matrices that arise from physical problems will be diagonalizable, for example.

There is a method which would be applicable to non-diagonalizable matrices. It uses the Schur decomposition, but it is more complicated. The HP48G program I've already given is very short and often will work.

While it is possible that your method may work with some non-diagonalizable matrices, it doesn't even work with some diagonalizable matrices that the HP48G program handles properly.

Your HP71 program doesn't seem to be able to find a square root of these matrices:

$$\begin{bmatrix} 1 & 2 & 3 \\ 4 & 5 & 6 \\ 7 & 8 & 9 \end{bmatrix}$$

and

$$\begin{bmatrix} -9 & 2 & -6 & 3 \\ 5 & 1 & 5 & 7 \\ 6 & 0 & 3 & 1 \\ 3 & -2 & 3 & -1 \end{bmatrix}$$

Do you know why? I let it go for 900 iterations for both of them, and there was no sign of convergence.

**Re: Back from vacation and 4 new articles online ! :-)**

Message #27 Posted by **Valentin Albillo** on 23 Aug 2007, 7:21 a.m.,  
in response to message #26 by Rodger Rosenbaum

Hi, Rodger:

I'll have a look into it if I find the time. The first matrix is obviously singular, at first glance.  
Can you post your computed square roots for both of them so that I can compare ?

Best regards from V.

**Re: Back from vacation and 4 new articles online ! :-)**

Message #28 Posted by **Rodger Rosenbaum** on 23 Aug 2007, 8:52 a.m.,  
in response to message #27 by Valentin Albillo

For the first one:

$$\begin{bmatrix} (.449756, .762279) & (.552622, .206796) & (.655487, -.348687) \\ (1.01852, .0841513) & (1.25147, .0228293) & (1.48442, -.0384932) \\ (1.58729, -.593976) & (1.95032, -.161138) & (2.31335, .271701) \end{bmatrix}$$

and the second one:

$$\begin{bmatrix} (.215101, 2.95788) & (-.183078, -.489361) & (.215101, 1.22583) & (.343944, -1.07186) \\ (1.71776, -.117905) & (1.29884, .0448131) & (1.71776, -.117905) & (2.49701, .0332699) \\ (.566935, -.973341) & (.541642, -.264916) & (.566935, .758709) & (.813907, .511870) \\ (.457715, -1.30388) & (-.478761, .495577) & .457715, -1.30388) & (.739943, .367923) \end{bmatrix}$$

I've only shown 6 digit results, although the calculator returned 12 digits. When the 12 digit results are squared, the error is out in the 11th or 12th place.

**Thanks a lot, I'll check it. [NT]**

Message #29 Posted by **Valentin Albillo** on 23 Aug 2007, 9:06 a.m.,  
in response to message #28 by Rodger Rosenbaum

Best regards from V.

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## HP Forum Archive 17

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**altitude-azimuth coordinates**

Message #1 Posted by [Howard Lazerson](#) on 19 Aug 2007, 9:23 p.m.

I have written a coordinate conversion for the 35S, right ascension/declination to azimuth/altitude , if anyone interested I will post it.

*Edited: 19 Aug 2007, 9:24 p.m.*

**Re: altitude-azimuth coordinates**

Message #2 Posted by [Vincze](#) on 19 Aug 2007, 9:27 p.m.,  
in response to message #1 by Howard Lazerson

I would be interested.

**Re: altitude-azimuth coordinates**

Message #3 Posted by [Dave Shaffer \(Arizona\)](#) on 20 Aug 2007, 4:17 p.m.,  
in response to message #1 by Howard Lazerson

I hope it is, in fact, hour angle/dec to az/el! Otherwise, you have to keep track of time, too.

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## HP Forum Archive 17

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**35s Availability?**

Message #1 Posted by [Ken Cambier](#) on 19 Aug 2007, 8:09 p.m.

Am I just being neurotic or is the 35s harder to find? I got mine about 2 months ago from buy.com for \$51.95 and free shipping. When I went back they don't even list a 35s anymore. I checked at HP and they were on back order. There are not even any on eBay or at Amazon. You would think that just before the start of school in September they would be bunches of them on the market. Anyone else notice this or are the 60's finally catching up with me?

**Re: 35s Availability?**

Message #2 Posted by [DaveJ](#) on 19 Aug 2007, 8:14 p.m.,  
in response to message #1 by [Ken Cambier](#)

Quote:

Am I just being neurotic or is the 35s harder to find? I got mine about 2 months ago from buy.com for \$51.95 and free shipping. When I went back they don't even list a 35s anymore. I checked at HP and they were on back order. There are not even any on eBay or at Amazon. You would think that just before the start of school in September they would be bunches of them on the market. Anyone else notice this or are the 60's finally catching up with me?

You must have missed the big news that the 35s was recalled due to "cosmetic" problems. Heaps of info and speculation in the archives about it.

Dave.

**Re: 35s Availability?**

Message #3 Posted by [Ken Cambier](#) on 19 Aug 2007, 8:21 p.m.,  
in response to message #2 by [DaveJ](#)

Doh! Thanks! I upped the dosage on my Homer pills and stuff just goes right by me. :)

**Re: 35s Availability?**

Message #4 Posted by [Ken Cambier](#) on 19 Aug 2007, 9:02 p.m.,  
in response to message #2 by [DaveJ](#)

Now I know I am losing it. I searched around for some info but all I got was empty links. Like all the posts about the recall got recalled. If you got a second come back with a few good links on this recall. Thanks!

**Re: 35s Availability?**

Message #5 Posted by [Egan Ford](#) on 19 Aug 2007, 8:23 p.m.,  
in response to message #1 by [Ken Cambier](#)

You can get them from HP and Walmart online. I have been unable to find a 35s for less than \$59.98 US.

### Re: 35s Availability?

Message #6 Posted by [Vincze](#) on 19 Aug 2007, 8:27 p.m.,  
in response to message #5 by Egan Ford

I sell one less than that if you want. It is one I throw across room and broke when I get frustrated with SIN equation. For all I know, it may be first HP 35s ever broken. ;)

### Re: 35s Availability?

Message #7 Posted by [Matt Kernal](#) on 19 Aug 2007, 9:26 p.m.,  
in response to message #5 by Egan Ford

A few minutes ago, I noticed that Costco is *finally* selling HP calculators again. The 50G, 35S, and 17BII+ are selling for \$119.99, \$54.99, and \$84.99 respectively (including shipping!). That's \$11 cheaper than what I paid Walmart for my 35S.

Here is the link to Costco's [calculator selections](#).

Matt

### Re: 35s Availability?

Message #8 Posted by [Paul Brogger](#) on 20 Aug 2007, 10:33 a.m.,  
in response to message #7 by Matt Kernal

I was surprised to see the 12C Platinum on the local Costco *floor* -- ~\$70.00, IIRC. (Right next to the TI-84+SE and a similar Casio that includes *three* different pastel-colored cover plates!)

### Re: 35s Availability?

Message #9 Posted by [Gene Wright](#) on 19 Aug 2007, 8:59 p.m.,  
in response to message #1 by Ken Cambier

Not to mention that it has been available exactly 1 month and 1 day now (as of 8/19/07).

Two months? :-)

### Re: 35s Availability?

Message #10 Posted by [Ken Cambier](#) on 20 Aug 2007, 12:11 a.m.,  
in response to message #9 by Gene Wright

Wow! I must have gotten real lucky. My delivery receipt for Buy.com is dated 7/22/07 (7/23 was the ship date). I just assumed that it had been available for some time prior to that. :)

### Re: 35s Availability?

Message #11 Posted by [James M. Prange \(Michigan\)](#) on 19 Aug 2007, 10:42 p.m.,  
in response to message #1 by Ken Cambier

"Available now" from <http://commerce.hpcalc.org/> for \$58 plus shipping, plus 6% sales tax in the case of North Dakota deliveries.

I don't know whether these units have the "cosmetic" problem, whatever that may turn out to be.

Regards,  
James

### **35s Cosmetic Issue**

*Message #12 Posted by **Matt Kernal** on 20 Aug 2007, 4:07 p.m.,  
in response to message #11 by James M. Prange (Michigan)*

Quote:

I don't know whether these units have the "cosmetic" problem, whatever that may turn out to be.

Because the halt in 35S sales was so short in duration (less than two weeks), I'm thinking the only thing that could've occurred was for HP to issue instructions to their re-sellers to "inspect and remove" any 35S's in their inventory that had the mislabeled "->l" printing (to make sure all remaining stock had the correctly labeled "->gal" conversion markings).

Gene showed an example of this in a photo he posted a little while back. Who else has one of these unique models?

Certainly, there couldn't have been enough time to do any other sort of mass cosmetic modifications.

Just some random synapses firing,  
Matt

### **Re: 35s Cosmetic Issue**

*Message #13 Posted by **Gene Wright** on 20 Aug 2007, 5:01 p.m.,  
in response to message #12 by Matt Kernal*

No production units had that little fun tidbit.

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## HP Forum Archive 17

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### 71B questions

Message #1 Posted by [Vincze](#) on 19 Aug 2007, 7:33 p.m.

I still looking for 71B very badly. One question I have though is I never see slip case for it. Did it not come with one. Also, I see many time modules for 71B. Where do these modules go? I know on 41C series, there are ports on the north side of unit, but 71B look like big/long 15C.

### Re: 71B questions

Message #2 Posted by [allen](#) on 19 Aug 2007, 7:39 p.m.,  
in response to message #1 by Vincze

Quote:

\_\_\_\_\_

I never see slip case for it.Did it not come with one.

\_\_\_\_\_

They look like [THIS](#) and were included with all new 71b calcs.

Quote:

\_\_\_\_\_

Where do these modules go?

\_\_\_\_\_

On the South [EDGE](#) . Two on the left, two on the right.

*Edited: 19 Aug 2007, 7:40 p.m.*

### Re: 71B questions

Message #3 Posted by [Vincze](#) on 19 Aug 2007, 7:50 p.m.,  
in response to message #2 by allen

Okay, so case look like 41C case?

What are other covers on bottom of machine?

### Re: 71B questions

Message #4 Posted by [Maximilian Hohmann](#) on 19 Aug 2007, 8:05 p.m.,  
in response to message #3 by Vincze

Hello!

Quote:

\_\_\_\_\_

Okay, so case look like 41C case?

\_\_\_\_\_

Yes, very similar, but the size is different (bigger, but less thick).

Quote:

What are other covers on bottom of machine?

The biggest in the middle is the battery door (4 AAAs), under the second goes either the card reader or a RAM extension (like "Corvallis memory") and the third one is the optional HP-IL interface. BTW: It needs no time module, because it has an internal clock!

Greetings, Max

## Re: 71B questions

Message #5 Posted by **Egan Ford** on 19 Aug 2007, 7:54 p.m.,  
in response to message #1 by Vincze

The 71B has a 41CX looking zipper case, about as long but a bit wider. Here is a sold eBay listing with a picture of it:

[http://cgi.ebay.com/ws/eBayISAPI.dll?](http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&rd=1&item=120146780352&ssPageName=STRK:MEWA:IT&ih=002)

[ViewItem&rd=1&item=120146780352&ssPageName=STRK:MEWA:IT&ih=002](http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&rd=1&item=120146780352&ssPageName=STRK:MEWA:IT&ih=002)

On the North side there are 2 ports, one is for a HP-IL only, the other is for the card reader or RAM module. IMHO, HP-IL is a must IF you have something to connect it to (PC, 9114 floppy drive, or HP-IL/RS232 bridge). I do all my development on EMU71 and then HP-IL it to my 71B via an HP-IL PC ISA card.

On the South side there are 4 general purpose RAM/ROM ports. I would recommend that you get a Math ROM.

I mentioned this before, but try the classifieds:

<http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/adforum.cgi>

Post a Want To Buy (WTB).

If you look now there is a FSBO HP 71B starting at \$75.

*Edited: 19 Aug 2007, 7:56 p.m.*

## Re: 71B questions

Message #6 Posted by **Vincze** on 19 Aug 2007, 8:23 p.m.,  
in response to message #5 by Egan Ford

I email person selling, but I not know who he is. I am not sure I like buying from someone who I do not know. All other calculators I buy I actually got to see. Someone else email me that they have one too. I guess I need to put some trust in people.

## Re: 71B questions

Message #7 Posted by **Egan Ford** on 19 Aug 2007, 8:33 p.m.,  
in response to message #6 by Vincze

Quote:

I guess I need to put some trust in people.

---

I trust the people here more than eBay.

Ask for pictures with the device powered up. Ask for a return policy. If you use Paypal you can leverage their dispute engine (never tried it).

IMHO, the rewards outweigh the risks.

### Re: 71B questions

Message #8 Posted by **Vincze** on 19 Aug 2007, 8:09 p.m.,  
in response to message #1 by Vincze

Thank you all. I wonder why does it need math module if it has BASIC and calculator built in. Also, I not sure I understand IL module. Is that like a IO port? What type of connector does it accept?

Lastly, they not all come with card reader? On card reader, is it one use only, or can one overwrite it with new program like disc?

### Re: 71B questions

Message #9 Posted by **Maximilian Hohmann** on 19 Aug 2007, 8:17 p.m.,  
in response to message #8 by Vincze

Hello!

Quote:

---

I wonder why does it need math module if it has BASIC and calculator built in.

---

The MATH module adds some additional functions (like matrix calculations) that you would have to program yourself otherwise. But even without this, the calculator has all functions that one really needs.

Quote:

---

Also, I not sure I understand IL module. Is that like a IO port? What type of connector does it accept?

---

Yes, it is a closed-loop serial connection. It has two special kinds of HP-IL connectors (in and out - like MIDI, only that MIDI uses the same connector for everything) that you will find nowhere else.

Quote:

---

Lastly, they not all come with card reader? On card reader, is it one use only, or can one overwrite it with new program like disc?

---

The card reader was an option. It is not really practical, because in the early 80ies, RAM sizes were growing fast and you needed heaps of cards to store the contents of the calculator memory (I think they hold 512 k each). I don't know for sure, because I don't have a card reader in my 71, only one in the '75, but that may be slightly different. The cards can be overwritten just like floppies. They are very hard to find and are differnt from the '65, '67, '97 and '41 cards, that are all the same and therefore in plenty supply.

Greetings, Max

*Edited: 19 Aug 2007, 8:18 p.m.*

### Re: 71B questions

*Message #10 Posted by **Raymond Del Tondo** on 20 Aug 2007, 12:30 a.m.,  
in response to message #9 by Maximilian Hohmann*

Hi,

> [..Mag cards for HP-71..]

> (I think they hold 512 k each)

>

You certainly mean 512 bytes ;-)

Apart from that, according to the hpmuseum,  
it was about 650 bytes per track,  
or about 1300 bytes per card.

HTH

Raymond

### Re: 71B questions

*Message #11 Posted by **Egan Ford** on 19 Aug 2007, 8:19 p.m.,  
in response to message #8 by Vincze*

Quote:

\_\_\_\_\_

I wonder why does it need math module if it has BASIC and calculator built in.

\_\_\_\_\_

You do not need it, but you may want it. E.g. complex numbers, matrix operations. In 41CX terms think of it as an Advantage ROM, sans TVM.

Quote:

\_\_\_\_\_

Also, I not sure I understand IL module. Is that like a IO port? What type of connector does it accept?

\_\_\_\_\_

Yes. Read <http://en.wikipedia.org/wiki/HP-IL>. Bottom line it is proprietary and expensive, but fun.

Quote:

\_\_\_\_\_

Lastly, they not all come with card reader? On card reader, is it one use only, or can one overwrite it with new program like disc?

\_\_\_\_\_

Less than 1/2 (eBay) of them come with card readers. Yes you can reuse the cards. AFAIK, you cannot use the cards with a 41 or a PC, so its only useful to backup programs and share with others that have a 71B+card reader.

### Re: 71B questions

*Message #12 Posted by **Howard Owen** on 20 Aug 2007, 3:32 a.m.,  
in response to message #8 by Vincze*

Quote:

\_\_\_\_\_  
Lastly, they not all come with card reader?  
\_\_\_\_\_

No, not by a wide margin. The card readers are fairly rare, and pretty expensive when you do find one.

I think there are three reasons for this. First, as Raymond and Egan have said, the card reader was a pain to use because of the small capacity relative to the calculator's memory size. (You can get the cards on eBay pretty easily, by the way.) Second, the "card reader" port was actually used by lots of companies to take RAM/EPROM expansion modules. My main 71B has 128K in that port. Finally, the availability of HP-IL meant that you could use several faster and higher capacity devices for storage. In particular, the 9114(A/B) floppy drive is quite usable from the 71B. It beats the cards hands down for both speed and capacity.

Regards,  
Howard

### **Re: 71B questions**

*Message #13 Posted by **Vincze** on 20 Aug 2007, 10:03 a.m.,  
in response to message #12 by Howard Owen*

Ok, so IL device best bet it sound like. how hard it to find IL cables?

### **Re: 71B questions**

*Message #14 Posted by **Maximilian Hohmann** on 20 Aug 2007, 5:39 p.m.,  
in response to message #13 by Vincze*

Hello!

Quote:

\_\_\_\_\_  
how hard it to find IL cables?  
\_\_\_\_\_

Very hard, I'm afraid. I have quite a few IL devices (printers, micro-cassette-tape-readers and a video interface), but only one set of cables, so I can only use one at a time. In all the years I am after these things, I have only once seen IL cables on eBay and they went for a price that would have earned me a divorce if I had spent so much on so little... Maybe in the States the situation is different? (Same as with the "long" magnetic cards for the 71 and 75 that are almost impossible to find here.)

Greetings, Max

### **Re: 71B questions**

*Message #15 Posted by **Egan Ford** on 20 Aug 2007, 5:53 p.m.,  
in response to message #14 by Maximilian Hohmann*

1m cables average \$10-\$20 each on eBay. You will need at least two unless you are talking to an 41C only, the HP-IL adapter for the 41 has cables hardwired.



**Re: 71B questions**

Message #16 Posted by [Vincze](#) on 20 Aug 2007, 9:04 p.m.,  
in response to message #15 by Egan Ford

Why need two? I just wish to talk to my laptop which have rs232 port. Do I still need two?

**Re: 71B questions**

Message #17 Posted by [Egan Ford](#) on 20 Aug 2007, 9:53 p.m.,  
in response to message #16 by Vincze

Please read:

<http://en.wikipedia.org/wiki/HP-IL>

<http://www.hpil.hp.com/hpjournal/pdfs/IssuePDFs/1983-01.pdf>

IANS, HP-IL is not RS232. You need a gateway/bridge to get from HP-IL to your laptop. Your options are:

1. HP-IL PC ISA card in a old PC with network support (this is what I do and it works great and is very easy to do with Linux+EMU71 and/or EMU41)
2. HP-IL to RS-232 (cumbersome, one program at a time)
3. 9114 HP-IL floppy drive (floppies can be read/written from Linux).

All three options require at least two HP-IL cables--its a loop.

#1 is clearly the best way to go. Take an old PC (with ISA slots), install an HP-IL adapter, install Linux+DOSEMU, install EMU71 (registered version), and install a network adapter. Now you have an HP-IL appliance. It emulates 2 virtual floppies (9114), can emulate a HP-IL to RS-232 device, a printer, and an 80 column display. Do all your development on your laptop with EMU71, then copy the virtual floppy image to your HP-IL appliance (no need to restart EMU71), then from your 71B you can directly access the virtual floppy drive using easy 71B commands. Get fancy and export the DOSEMU directory, mount on your laptop and share the virtual floppy drive.

#2 is a more work, not as flexible or simple.

#3 is easy. But the diskettes can only be formatted in the 9114 (not Linux, DOS OK) and the diskettes can only be read/write from DOS or Linux (no Windows).

**Re: 71B questions**

Message #18 Posted by [Vincze](#) on 21 Aug 2007, 9:33 a.m.,  
in response to message #17 by Egan Ford

My friend Egan, how hard it to find the IL ISA card? One other issue. My laptop not have floppy drive. Just CD and flash drive, so I would have to have PC that can read flash drive. Hmm... This getting more complicated. :(

**Re: 71B questions**

Message #19 Posted by [Egan Ford](#) on 21 Aug 2007, 10:53 a.m.,  
in response to message #18 by Vincze

Quote:

My friend Egan, how hard it to find the IL ISA card?

Very hard. I have never seen one on eBay. However, there is one for sale now (check the Classifieds).

Quote:

One other issue. My laptop not have floppy drive. Just CD and flash drive, so I would have to have PC that can read flash drive.  
Hmmm... This getting more complicated. :(

The 71B is 22 years old. You are going to need an old PC if you want to use HP-IL/ISA. Perhaps HP-IL -> RS/232 is the answer for you.

### Re: 71B questions

Message #20 Posted by [Vincze](#) on 21 Aug 2007, 10:57 a.m.,  
in response to message #19 by Egan Ford

How does HP-IL - RS232 work? Connect one to IL, and other end to serial port on PC? How is loop made though?

Edited: 21 Aug 2007, 10:57 a.m.

### Re: 71B questions

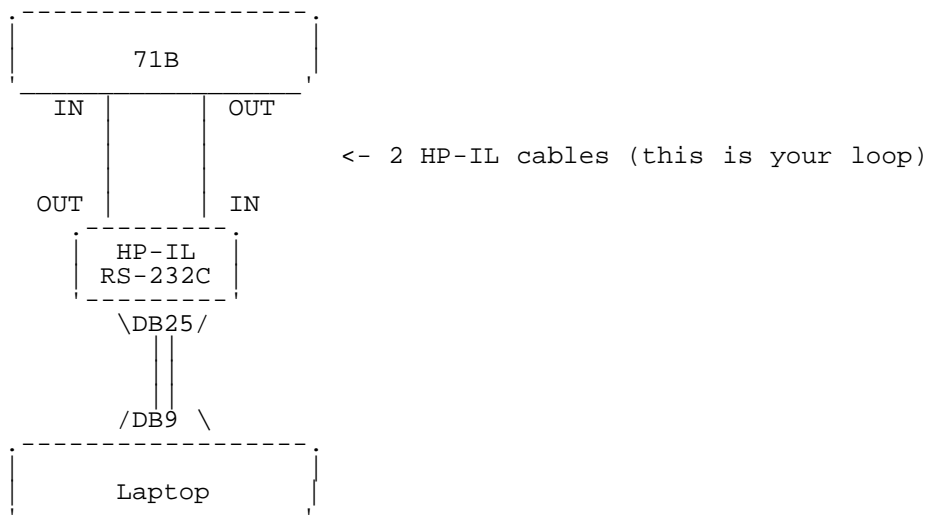
Message #21 Posted by [Egan Ford](#) on 21 Aug 2007, 11:59 a.m.,  
in response to message #20 by Vincze

Please, please read:

<http://en.wikipedia.org/wiki/HP-IL>

<http://www.hp1.hp.com/hpjournal/pdfs/IssuePDFs/1983-01.pdf>

IANS:



*Edited: 21 Aug 2007, 12:02 p.m.*

### Re: 71B questions

*Message #22 Posted by **Dave Colver** on 21 Aug 2007, 12:18 p.m.,  
in response to message #21 by Egan Ford*

(anticipates Vincze's next question - yes there are USB to serial port converters made :))

### Re: 71B questions

*Message #23 Posted by **Vincze** on 21 Aug 2007, 12:54 p.m.,  
in response to message #22 by Dave Colver*

Thank you my friend, yes I know there are USB/Serial converter, but good you thought of it regardless. ;)

### Re: 71B questions

*Message #24 Posted by **Vincze** on 21 Aug 2007, 12:44 p.m.,  
in response to message #21 by Egan Ford*

Okay, that explain. I did not aware that there was box between PC and 71B. I thought cable went direct between 71B and computer. Now I understand.

So with ISA card, there no box between PC and 71B. You have two wires from 71B and PC that connect, yes? Wow... this seem like a lot just to transfer program, but I see value of backing up 71B.

Well, now I wait for my 71B to arrive. I just happy that I able to find one.

How hard Math module to find, and how much they normally go for?

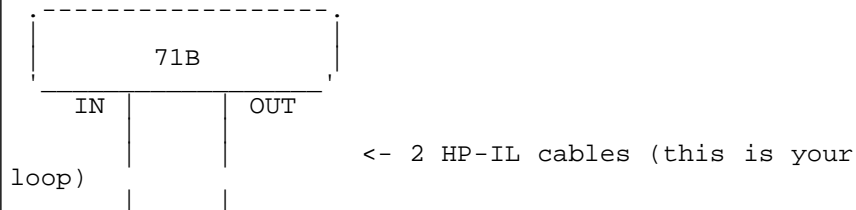
### Re: 71B questions

*Message #25 Posted by **Egan Ford** on 21 Aug 2007, 1:38 p.m.,  
in response to message #24 by Vincze*

Quote:

So with ISA card, there no box between PC and 71B.  
You have two wires from 71B and PC that connect,  
yes?

Yes.



OUT | | IN

OLD PC  
HP-IL ISA

<- Ethernet/WiFi/IP

Laptop

Quote:

How hard Math module to find, and how much they normally go for?

No very. ~\$100. Optionally you can post a WTB for a burned ROM with Math+JPC. Or you can install a 32K RAM module put it there (but you will need HP-IL to do that).

### Re: 71B questions

Message #26 Posted by [Vincze](#) on 21 Aug 2007, 3:14 p.m.,  
in response to message #25 by Egan Ford

How much is burned Rom with math and JPC?

### Re: 71B questions

Message #27 Posted by [Egan Ford](#) on 21 Aug 2007, 3:27 p.m.,  
in response to message #26 by Vincze

See Howard's reply below.

### Re: 71B questions

Message #28 Posted by [Vincze](#) on 21 Aug 2007, 3:44 p.m.,  
in response to message #27 by Egan Ford

\$300!!?? Szent juh szar! Are you kidding me? That crazy for old computer part.

### Re: 71B questions

Message #29 Posted by [Maximilian Hohmann](#) on 21 Aug 2007, 4:01 p.m.,  
in response to message #28 by Vincze

Hello!

Quote:

\$300!!?? Szent juh szar! Are you kidding me? That crazy for old

computer part.

You are perfectly right. Especially, since this is not really an old computer part, but fairly recent. For this amount of money, you could get yourself a Curta (almost) and believe me, apart from being more than twice as old, it will give you infinitely more pleasure and satisfaction! And it cannot be run on an emulator :-)

Greetings, Max

**Re: 71B questions**

*Message #30 Posted by **Raymond Del Tondo** on 21 Aug 2007, 6:39 p.m., in response to message #29 by Maximilian Hohmann*

Hi,

IIRC there exists at least one Curta simulator...

Raymond

**Re: 71B questions**

*Message #31 Posted by **Vincze** on 21 Aug 2007, 9:06 p.m., in response to message #30 by Raymond Del Tondo*

Quote:

IIRC

?????

**Re: 71B questions**

*Message #32 Posted by **Garth Wilson** on 22 Aug 2007, 2:32 a.m., in response to message #31 by Vincze*

IIRC = if I remember correctly  
IOW = in other words  
IMO = in my opinion  
IMHO = in my humble opinion  
FWIW = for whatever it's worth  
LOL = laugh out loud

There are many more. It's convenient for writing, but hard on newcomers and foreigners.

*Edited: 22 Aug 2007, 2:33 a.m.*

**Re: 71B questions**

*Message #33 Posted by [Vincze](#) on 22 Aug 2007, 9:44 a.m.,  
in response to message #32 by Garth Wilson*

Who you calling a foreigner? ;)

**Re: 71B questions**

*Message #34 Posted by [Thomas Klemm](#) on 22 Aug 2007, 3:55 a.m.,  
in response to message #30 by Raymond Del Tondo*

[Curta Simulation](#)

**Re: 71B questions**

*Message #35 Posted by [Dave Shaffer \(Arizona\)](#) on 22 Aug 2007, 11:24 a.m.,  
in response to message #34 by Thomas Klemm*

Is there an instruction manual for those of us not familiar with how this gizmo and its simulator works!?

I kept trying to grab the arrows until I realized all I need to do was click them, but I still don't know how to multiply, divide, etc., although I have an inkling after a bit of playing.

**Re: 71B questions**

*Message #36 Posted by [Thomas Klemm](#) on 22 Aug 2007, 1:22 p.m.,  
in response to message #35 by Dave Shaffer (Arizona)*

[Simulator & Bedienung](#) or [Simulator & operation](#) or [here](#)

The guidances are all in German but you may use [Google](#) to translate them.

Hope this helps

*Edited: 22 Aug 2007, 1:55 p.m.*

**Babbage Emulator??**

*Message #37 Posted by [Vincze](#) on 22 Aug 2007, 2:51 p.m.,  
in response to message #36 by Thomas Klemm*

Anyone have a Babbage emulator? Just curious... I would like to see it spew

steam and all.

*Edited: 23 Aug 2007, 8:43 a.m. after one or more responses were posted*

### **Re: Babbage Emulator??**

*Message #38 Posted by [Paul Dale](#) on 22 Aug 2007, 4:56 p.m.,  
in response to message #37 by Vincze*

Forget an emulator, try the real thing: [Difference Engine](#), [Larger Difference Engine](#) and partially complete [Analytical Engine](#). Also of interest is the [Differential Analyzer](#). All the videos are worthwhile.

Even though these aren't my constructions, Meccano is one of my other hobbies :-)

- Pauli

### **Re: Babbage Emulator??**

*Message #39 Posted by [Thomas Klemm](#) on 23 Aug 2007, 8:14 a.m.,  
in response to message #38 by Paul Dale*

Quote:

Meccano is one of my other hobbies

Then you might like [Meccano Math](#) by Gerard 't Hooft.

### **unacceptable language on the forum**

*Message #40 Posted by [Don Shepherd](#) on 22 Aug 2007, 7:26 p.m.,  
in response to message #37 by Vincze*

Vincze, you have begun to use language on this forum that I and, I am sure, others find offensive. This is a civilized community, and your choice of language is inappropriate.

### **Re: Babbage Emulator??**

*Message #41 Posted by [Howard Owen](#)*

*on 22 Aug 2007, 8:50 p.m.,  
in response to message #37 by Vincze*

That language won't fly here, Vincze.

This forum has participants from a wide variety of backgrounds, Vincze. It's best to assume that anything even slightly off-color might offend someone. [The museum terms of use](#) say that you shouldn't post material that is ".. vulgar, hateful, harassing, obscene, profane, .." among many other categories. And it's the curator's interpretation of those categories that matters, not yours or mine.

Please take this as friendly advice and nothing else.

Regards,  
Howard

### **Re: Babbage Emulator??**

*Message #42 Posted by [Vincze](#) on 23  
Aug 2007, 8:43 a.m.,  
in response to message #41 by Howard Owen*

I very sorry.

### **Re: Babbage Emulator??**

*Message #43 Posted by [Howard Owen](#)  
on 22 Aug 2007, 8:54 p.m.,  
in response to message #37 by Vincze*

There's no working hardware model of the Analytical Engine, as far as I know. I have seen several scale models of the Difference Engine, however. (And there's a full scale model in Britain, I believe.) None of those run on steam, unlike the imagined mechanical computers of "The Difference Engine" novel.

Regards,  
Howard

### **Re: Babbage Emulator??**

*Message #44 Posted by [Howard Owen](#)  
on 22 Aug 2007, 9:07 p.m.,  
in response to message #37 by Vincze*



I should have read Paul's post before my last. The Meccano site contains a [link to a 40MB Quicktime video](#) of a working model of one of the Analytical Engine's components. This is not a direct implementation from the plans, but an embodiment of the ideas contained in the plans. For example, it is made from a Meccano building kit with modern materials, and appears to be powered with an electric motor.

Regards,  
Howard

**Re: 71B questions**

*Message #45 Posted by [Howard Owen](#) on 21 Aug 2007, 5:23 p.m.,  
in response to message #28 by Vincze*

The burned ROM is around \$100.00.

**Re: 71B questions**

*Message #46 Posted by [Howard Owen](#) on 21 Aug 2007, 1:50 p.m.,  
in response to message #24 by Vincze*

The math module is pretty hard to find, and expensive when you do find one.

The alternative I took was to send a CMT 64K front port EEPROM module I had acquired on eBay to Mike Davis. He has a programmer for those devices. I asked him to put the math module and the JPC ROM images on mine. I now have the functional equivalent of both those very rare modules in a single front port module. Mike occasionally sells similar EEPROMs on eBay, along with the burning service. The 64K version goes for \$100.00 or so.

Another possibility is to acquire a large RAM expansion module. You can then configure it as a detached memory, and fill it with the math module image and whatever else will fit. The images for most of the historical modules for the 71B are all on the swap disks. This won't work for the FORTH/Assembler or HP41 Translator modules. These modules take over the OS of the 71B at a lower level, and can't be configured to run out of a detached RAM or EEPROM. Those modules are therefore expensive when they come up on eBay. \$300.00 or so is typical.

Also, with respect to the HP-IL cables, I got most of mine by acquiring 71B and 41C bundles from eBay. Generally speaking, a large lot of equipment is a far better deal on eBay than single item auctions. I'm not sure why, but people seem not to bid as high for

lots as they do for the single items. That's how I got my CMT  
EEPROM and other goodies as well.

Regards,  
Howard

*Edited: 21 Aug 2007, 1:54 p.m.*

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## HP Forum Archive 17

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### "Irrational Exuberance"?

Message #1 Posted by [Steve Fennell](#) on 18 Aug 2007, 6:55 p.m.

There are two HP 42S currently up for auction, described as new, with prices nearing \$500. Doesn't this seem ridiculous? I was thinking of bidding but it may be an emotional auction.

Has anyone seen this model go for this high of a price before? It's a great calculator I'll admit, but I'd rather buy a couple of new 35s than pay that much.

### Re: "Irrational Exuberance"?

Message #2 Posted by [Thomas Okken](#) on 18 Aug 2007, 7:46 p.m.,  
in response to message #1 by Steve Fennell

To paraphrase a Dutch saying, "anything is worth what a fool is willing to give". :-)

A few years ago, I paid \$170 for an HP-67. Maybe I spent more than I had to, but I really wanted one, and I could afford to spend that amount... I'm happy, and I suspect the seller is, too.

The HP-42S is the subject of many discussions on this forum, and the prevalent opinion appears to be that it is the best keystroke-programmable RPN calculator ever made. (Maybe that's exaggerating things, but not by much.) Even so, given the fact that calculators like the HP-50g cost only \$150 or so, brand new, and also considering the fact that most of the tasks that people used to use calculators for are done using cheap laptop and desktop PCs nowadays, spending \$500 on an HP-42S seems extreme... It's certainly more than the calculator is worth in any practical sense, but we're all human, and sentiment (nostalgia?) is always a factor. And of course, there's always good old-fashioned insanity. Again my Dutch compatriots seem to know something about that; if you haven't heard of it yet, you may be interested to read about the 17th century [Tulip Mania](#).

I suspect the HP-42S craze may turn out to be just another market bubble... But I'm **NOT** selling mine. :-D

- Thomas

### Re: "Irrational Exuberance"?

Message #3 Posted by [Trent Moseley](#) on 18 Aug 2007, 9:20 p.m.,  
in response to message #2 by Thomas Okken

It seems to me that I paid over \$200 brand new in June of 1980 for my HP-67. But I can't remember. Anyway it's not for sale.

tm

### Re: "Irrational Exuberance"?

Message #4 Posted by [Randy](#) on 18 Aug 2007, 9:21 p.m.,  
in response to message #1 by Steve Fennell

Quote:

Doesn't this seem ridiculous?

Not really, after all, its eBay. Anything is possible.

Quote:

Has anyone seen this model go for this high of a price before?

Sure, they've reached \$600. And then there was the new in box, still in shrinkwrap 15C that hit \$1,135.00 last October.

Quote:

I was thinking of bidding but it may be an emotional auction

It's all emotion. They function exactly the same as my fifteen year old, beat to death, been 'round the world a few times 42S. Except they look better than my mine :)

### **Re: "Irrational Exuberance"?**

*Message #5 Posted by [Diehl-Peshkur](#) on 19 Aug 2007, 8:53 a.m.,  
in response to message #1 by Steve Fennell*

Did you notice that current high bidder, number 12 has 0% feedback and has only been in eBay system 30 days or less? It's either a newbie or a bid fluffer :-)

### **Re: "Irrational Exuberance"?**

*Message #6 Posted by [Vincze](#) on 19 Aug 2007, 7:10 p.m.,  
in response to message #1 by Steve Fennell*

That seem crazy to me, especially when I look at completed items for HP 42s. There was one that close yesterday that close for \$117.50. There are others too that sold in the \$200's. With fact that many 42s still out there, I would wait and find one that sell for less.

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## HP Forum Archive 17

[ [Return to Index](#) | [Top of Index](#) ]**HP35s meaning of indirect address 0/hp32sii keyboard***Message #1 Posted by [Peter Niessen](#) on 18 Aug 2007, 4:38 p.m.*

Hi Forum,

proud owner of the new 35s since a few days, I'm a bit puzzled by the indirect variables 0-800. I came across the VIEW(I)/VIEW(J) bug, but that was already described earlier in

[the 48g forum](#)

I'd also like to apologize if this has been brought up before, but I could not find it back in the forum. It seems that some editing took place, e.g. [for this message](#).

Now, I wrote the little program to delete all indirect variables

Length=30, CHKSM=EE33

```
C001 LBL C
C002 0.800
C003 STO I
C004 0
C005 STO (I)
C006 ISG I
C007 GTO C004
C008 RTN
```

to obey the point 2. on page 14-24 of the manual. However, after running the program, the number of variables is still > 700 according to the MEM menu, and only after saying

```
0
STO I
STO (I)
```

(which takes .5 seconds or so) the memory used by indirect variables is gone. (memo to HP: in the HP35Sii, there should be a CLR INDIRECT or so in the MEM menu.)

So, is there a special meaning for (0)?

On another point: I bought the 35s, which appeared at the right moment, as a replacement for my 32Sii, whose keys started to fail. I took it apart following

[these instructions](#)

an will glue in a little slice of rubber to make the case press against the board.

On that occasion, I noticed that the 32S can also display messages using equations and flag 10. Was this a documented feature?

Thanks for reading this up to here,

yours sincerely, Peter.

**Re: HP35s meaning of indirect address 0/hp32sii keyboard**

*Message #2 Posted by [Reth](#) on 18 Aug 2007, 5:33 p.m.,  
in response to message #1 by Peter Niessen*

I made that point (about clearing indirect registers) before, but the post seems to disappeared... Assuming we've got 50 in reg 50 that makes MEM to report 51 indirect regs. As you've noticed those can be cleared and memory reclaimed at once only if you did store 0 in reg 0 \*after\* doing so for the rest of them ???

This works:

```
U001 LBL U
```

```
U002 50
U003 STO I
U004 CLSTK
U005 STO(I)
U006 DSE I
U007 GTO U005
U008 STO I
U009 STO(I)
U010 RTN
```

Cheers,  
Reth

### Re: HP35s meaning of indirect address 0/hp32sii keyboard

Message #3 Posted by **Gerson W. Barbosa** on 18 Aug 2007, 9:16 p.m.,  
in response to message #2 by Reth

Quote:

I made that point (about clearing indirect registers) before, but the post seems to disappeared...

It will show up again. Meanwhile, Google cache has it, or most of it:

[http://64.233.169.104/search?q=cache:c6RWHIRT3awJ:www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/forum.cgi%3Fread%3D120509+site:hpmuseum.org+Reth+%2B+%22INPUT+\(I\)+bug%22&hl=en&ct=clnk&cd=2](http://64.233.169.104/search?q=cache:c6RWHIRT3awJ:www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/forum.cgi%3Fread%3D120509+site:hpmuseum.org+Reth+%2B+%22INPUT+(I)+bug%22&hl=en&ct=clnk&cd=2)

Regards,

Gerson.

### Re: HP35s meaning of indirect address 0/hp32sii keyboard

Message #4 Posted by **Reth** on 18 Aug 2007, 9:32 p.m.,  
in response to message #3 by Gerson W. Barbosa

Thanks Gerson, now I saw it there. Cheers, Reth

### Re: HP35s meaning of indirect address 0/hp32sii keyboard

Message #5 Posted by **Dave Johnson** on 18 Aug 2007, 5:35 p.m.,  
in response to message #1 by Peter Niessen

p 1-5 CLVARx to clear indirect bank.

### Re: HP35s meaning of indirect address 0/hp32sii keyboard

Message #6 Posted by **Reth** on 18 Aug 2007, 5:42 p.m.,  
in response to message #5 by Dave Johnson

I've missed that, thanks; MEM still reports 1 indirect register available - the \*0\* one :) so - back to

```
0
STO I
STO(I)
Cheers,
Reth
```

and also CLVARx does not work in a program... so - back to the above :)

*Edited: 18 Aug 2007, 5:46 p.m.*

### Re: HP35s meaning of indirect address 0/hp32sii keyboard

Message #7 Posted by **Gene Wright** on 18 Aug 2007, 5:49 p.m.,  
in response to message #6 by Reth

Yes, CLVARx clears the indirect registers GREATER than the number given to it as an argument.

So, give it a 0 and it clears 1 and up.

It is mentioned on page two of the indirect register learning module found here:

[Indirect register learning module for the 35s](#)
**Re: HP35s meaning of indirect address 0**

Message #8 Posted by [Reth](#) on 18 Aug 2007, 6:24 p.m.,  
in response to message #7 by Gene Wright

Thanks, Gene, but that's not the point; The point is (given we have 50 in reg 50) - after :

```
Q001 LBL Q
Q002 0.05
Q003 STO I
Q004 CLSTK
Q005 STO(I)
Q006 ISG I
Q007 GTO Q005
Q008 RTN
```

MEM reports 50 regs and :

```
49
STO I
RCL (I)
```

doesn't give an error message

Regards, Reth

*Edited: 18 Aug 2007, 6:30 p.m.*

**Re: HP35s meaning of indirect address 0**

Message #9 Posted by [Will Hartung](#) on 18 Aug 2007, 6:48 p.m.,  
in response to message #8 by Reth

To be fair, having the calculator report 50 registers makes complete sense.

When you store a value in to a register, the indirect register memory block is essentially a contiguous array of values.

If you stored a value in register 50, the calc allocates a block of memory up to and including 50. That's why you don't get an error for accessing register 49 -- it's already there (I dunno if you would get an error for 51, I've not played with a 35s).

Otherwise it would have to keep track of not just stored values, but "dirty" values, which would simply consume yet more memory, and access would be even slower than it may be now.

If the calculator kept track of individual registers, it would need to track their number and their location in memory. If you wanted to fetch the value, the calculator would then have to look up the list of "used" registers for the register you wanted, and look up it's actual address, and finally the value. That's a lot of looking up!

Instead, HP traded memory for speed, being conscious of the fact that most folks would be doing most of their register dancing at the lower limits (who uses register number 743 in normal work anyway?), and that they'd most likely use contiguous blocks of registers (since they're easily leveraged as arrays).

This technique simply gives better performance, a reasonable trade off, and makes overall memory management much easier.

**Re: HP35s meaning of indirect address 0**

Message #10 Posted by [Reth](#) on 18 Aug 2007, 6:55 p.m.,  
in response to message #9 by Will Hartung

You've missed the point - 0 has been stored in all indirect registers and still the system reports their existence. Storing 0 in I and 0 in (I) fixes it, system reports 0 indirect registers.

**Re: HP35s meaning of indirect address 0**

Message #11 Posted by [Gene Wright](#) on 18 Aug 2007, 7:47 p.m.,  
in response to message #10 by Reth

Hmm. Yes, I had seen the point you were making. I was just commenting on the CLVARx portion. :-)

Try this...do the loop counting down rather than up and see if that does it differently.

**Re: HP35s meaning of indirect address 0**

Message #12 Posted by [Reth](#) on 18 Aug 2007, 8:01 p.m.,  
in response to message #11 by Gene Wright

I did, just look a few posts up; Looping down lives 1 register intact - reg 0; Looping up leaves all 50; In both cases if you don't store 0 in I and then indirectly 0 in (I) \*at the end of the process\* you don't get the expected 0 indirect regs. That makes me and the original poster to think about "special" meaning of the 0 register, features, bugs, misprints etc, etc, etc... :)

cheers,

reth

**Re: HP35s meaning of indirect address 0/hp32sii keyboard**

Message #13 Posted by [Peter Niessen](#) on 18 Aug 2007, 6:36 p.m.,  
in response to message #5 by Dave Johnson

Thanks! And thank you for not posting RTFM!

Cheers, Peter.

**Re: HP35s meaning of indirect address 0/hp32sii keyboard**

Message #14 Posted by [Vincze](#) on 20 Aug 2007, 9:41 a.m.,  
in response to message #1 by Peter Niessen

I have question about indirect variables. I read manual, but I little confused. It say it variable that not defined beforehand. Is this like temp variable in programming that only there when program run and gone after. Or is this like not declaring a variable? Then further in manual it say is useful for controlling loops. So is it like array?

I guess I just not understand what I and J be. Can someone give me simple explanation and why I might use it.

**Re: HP35s meaning of indirect address 0/hp32sii keyboard**

Message #15 Posted by [Don Shepherd](#) on 20 Aug 2007, 9:55 a.m.,  
in response to message #14 by Vincze

Vincze, refer to the link in Gene's post in this thread. You really need to be looking at those training modules since he has already done the work of explaining these topics to those who do not understand them.

**Re: HP35s meaning of indirect address 0/hp32sii keyboard**

Message #16 Posted by [Vincze](#) on 20 Aug 2007, 10:15 a.m.,  
in response to message #15 by Don Shepherd

Thank you my friend, I will do.

**Re: HP35s meaning of indirect address 0/hp32sii keyboard**

Message #17 Posted by [Vincze](#) on 20 Aug 2007, 10:53 a.m.,  
in response to message #15 by Don Shepherd

Ok, I read Gene's article, but now I more confused. On page two of Gene's article, it say

Quote:

\_\_\_\_\_

This becomes very useful is when you need to work with a lot of numbers, often within programs, or **or when you may not be able to know in advance where the number you wish to use is stored.**

\_\_\_\_\_

How you not know where to store value? When I write program, I create variables that I name, and I store value there. How someone not know where to store value if you declare variables. I think I missing very fundamental point of this, so please excuse me being ignorant.

**Re: HP35s meaning of indirect address 0/hp32sii keyboard**

Message #18 Posted by [Don Shepherd](#) on 20 Aug 2007, 10:57 a.m.,  
in response to message #17 by Vincze



Google "indirect addressing"

**Re: HP35s meaning of indirect address 0/hp32sii keyboard**

Message #19 Posted by **Vincze** on 20 Aug 2007, 11:43 a.m.,  
in response to message #18 by Don Shepherd

Okay, I say fervent prayer to Saint Google and see what he have to say.

**Re: HP35s meaning of indirect address 0/hp32sii keyboard**

Message #20 Posted by **Vincze** on 20 Aug 2007, 11:53 a.m.,  
in response to message #19 by Vincze

Okay, I understand now. It basically an indirection array. That make sense to me now. Not sure when I would use on calculator, but, it nice to have.

**Re: HP35s meaning of indirect address 0/hp32sii keyboard**

Message #21 Posted by **bill platt** on 20 Aug 2007, 12:33 p.m.,  
in response to message #20 by Vincze

Vincze,

You might enjoy reading about programming on the HP-41C. There was a link not long aog here to a complete HTML facsimilie of the manual.

The 41 makes large use of "indirection" as it is known. It is useful for more than just getting to the "extra" registers.

Best regards,

Bill

**Re: HP35s meaning of indirect address 0/hp32sii keyboard**

Message #22 Posted by **Vincze** on 20 Aug 2007, 1:01 p.m.,  
in response to message #21 by bill platt

My friend Bill, thank you for that suggestion. Yes, I do remember that link, and I shall see if I can track it down and look into that. It would be nice to conceptualize why I might use indirection on calculator. In programming I have used many times, but I just can't grasp why I would use on calculator.

**Re: HP35s meaning of indirect address 0/hp32sii keyboard**

Message #23 Posted by **Bill (Smithville, NJ)** on 20 Aug 2007, 2:09 p.m.,  
in response to message #22 by Vincze

Hi Vincze,

Quote:

It would be nice to conceptualize why I might use indirection on calculator. In programming I have used many times, but I just can't grasp why I would use on calculator.

Indirection is great to use to pass a parameter of several memory locations to a subroutine.

For example:

Several years ago, I was writing a program to calculate the psychometric properties of air. I had several subroutines that would be called for each of the air streams - Outside Air, Room Air and Mixed Air. Instead of trying to pass all the variables on the stack, I would pass only the single index value. For example, 10 for Outside air, 20 for Room Air and 30 for Mixed air.

For each of the air streams, the parametes were stored in sequential memory locations - R11-15, R21-25, and R31-35. The subroutine would then use the index variable to extract and work on the respective air stream. The results could be stored in R16-19, R26-29, R36-39.

A similar method was then used to printout the results - a single subroutine that used the index to determine which air stream to print.

It worked great. Unfortunately, I got sidetracked about halfway through the project and never finished the program. Still want to get back to it one of these days.

Bill

### **Re: HP35s meaning of indirect address 0/hp32sii keyboard**

*Message #24 Posted by [Peter Niessen](#) on 20 Aug 2007, 5:14 p.m.,  
in response to message #23 by Bill (Smithville, NJ)*

Hi Vince,

another use of the indirect variables is to use it as a parameter stack when recursively calling a subroutine. (Like a higher language does for you in the background.) As an example, see

[Towers of Hanoi on the HP32s](#)

(I apologise for this self-promotion)

which shifts around the towers of Hanoi using a recursive prescription:

```
void move (int n, int source, int target) {
  if (1 == n) {
    std::cout << "Move disk from " << source << " to " << " target
      << std::endl;
    return;
  }
  move (n-1, source, 6-target-source);
  move (1, source, target);
  move (n-1, 6-target-source, target);
}
```

Or, maybe a bit simpler: Factorials:  $n! = n * (n-1)!$

```
[pre] int factorial (int n) {
if (n <= 1) // we're done and know the answer return 1;
return n * factorial (n - 1); }
```

Of course, these are more academic examples, in real life things might be done differently.

Other (more down to earth application) could be a chi-square test

[\(wiki article here\)](#)

where you use the indirect variables to represent a histogram with a previously unknown number of bins.

Cheers, Peter.

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## HP Forum Archive 17

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### **OT (as in Out of Touch) -- 1.5 Farad (!) Capacitor???**

Message #1 Posted by [Paul Brogger](#) on 17 Aug 2007, 6:07 p.m.

I feel like Rip Van Winkle. I happened upon a Fry's ad insert from the local paper. It offers, among other things, a 1.5 **farad** (as in, *not* microfarad) capacitor with a digital voltage display. (A "digital capacitor" of all things.) I guess they're used to supplement the car's electrical supply when that monster stereo wants to pump a loud bass note through those enormous sub-woofers.

Man! I know it's been a while since my "hardware days" in school, but I've been *seriously* out of touch! (I'd never seen anything like that at the old Radio Shack.)

Now . . . I wonder: to what creative uses might such a component be put, hmmm?

*Edited: 17 Aug 2007, 6:09 p.m.*

### **Re: OT (as in Out of Touch) -- 1.5 Farad (!) Capacitor???**

Message #2 Posted by [Ed Look](#) on 17 Aug 2007, 6:14 p.m.,  
in response to message #1 by Paul Brogger

Phasers on the Enterprise.

### **Re: OT (as in Out of Touch) -- 1.5 Farad (!) Capacitor???**

Message #3 Posted by [Chan Tran](#) on 17 Aug 2007, 6:38 p.m.,  
in response to message #2 by Ed Look

May be power one of our LED calc?

### **Re: OT (as in Out of Touch) -- 1.5 Farad (!) Capacitor???**

Message #4 Posted by [Vincze](#) on 17 Aug 2007, 7:19 p.m.,  
in response to message #1 by Paul Brogger

I think it may be used in flux capacitor. ;)

### **Re: OT (as in Out of Touch) -- 1.5 Farad (!) Capacitor???**

Message #5 Posted by [Thomas Radtke](#) on 17 Aug 2007, 7:36 p.m.,  
in response to message #1 by Paul Brogger

Switch polarity and place a 33s on it.

### **Re: OT (as in Out of Touch) -- 1.5 Farad (!) Capacitor???**

Message #6 Posted by [allen](#) on 17 Aug 2007, 7:51 p.m.,  
in response to message #1 by Paul Brogger

Farad caps have been out for a few years now. One company called CAP-X makes an interesting assortment that can source 20A of current, initially at 4.5V. Pretty interesting stuff-- though they could suck a set of Pioneer batteries (3x LR44) dry in about 20 seconds! GRIN.

**Re: OT (as in Out of Touch) -- 1.5 Farad (!) Capacitor???**

Message #7 Posted by [Eric Smith](#) on 17 Aug 2007, 8:01 p.m.,  
in response to message #6 by allen

In fact, you can now get "ultracaps" that are rated in the hundreds and even thousands of farads, though generally at not more than 2.7V. You can put several in series to raise the voltage, though that also lowers the capacitance. However, if you want to increase the voltage rating by n, you need more than n capacitors in series, because they won't share the voltage equally.

I'm not convinced that the ones being sold for car stereo use are anything other than a clever new way to part a fool from his money.

More than one vendor brags about using hybrid capacitors combining the characteristics of electrolytic capacitors and carbon capacitors. They claim specs like 5 farads and 0.002 ohm ESR. However, IMNSHO that's basically fraudulent, because it's just a low-capacitance low-ESR capacitor in parallel with a series chain of 6 or more high-capacitance high-ESR (e.g., 0.1 ohm) capacitors. When your amplifier tries to draw 80A from it, you're not going to actually get that 0.002 ohm ESR, because the carbon capacitor with the low ESR isn't actually storing much energy. Almost all of it will actually have to come from the electrolytic stack, with its 0.6 ohm ESR.

While 0.6 ohms might not sound like much, at 80A that will drop 4.8V out of your nominal 13V. That sort of voltage drop is exactly what installing the capacitor was supposed to fix.

**Re: OT (as in Out of Touch) -- 1.5 Farad (!) Capacitor???**

Message #8 Posted by [Katie Wasserman](#) on 18 Aug 2007, 2:07 a.m.,  
in response to message #7 by Eric Smith

There are some hybrid switching power supplies that make use of several large capacitors combined with a low current switching PS. They're recommended for ham radio use in CW or SSB mode that need high transient currents but low average currents. The test results I've seen indicate that they are doing their job to deliver 20+ amps peak from a 5 amp continuous PS @ 13.8 volts with no significant voltage drop.

For example:

[Here's one that runs from 120VAC.](#)

So I think that they can be engineered to work well, but you're probably right about the stuff they sell to people who's goal is to go deaf while driving.

*Edited: 18 Aug 2007, 2:10 a.m.*

**Re: OT (as in Out of Touch) -- 1.5 Farad (!) Capacitor???**

Message #9 Posted by [Paul Brogger](#) on 18 Aug 2007, 10:41 a.m.,  
in response to message #8 by Katie Wasserman

Quote:

\_\_\_\_\_

... people who's goal is to go deaf while driving.

Say *whaaat*?

;-)

### **Re: OT (as in Out of Touch) -- 1.5 Farad (!) Capacitor???**

*Message #10 Posted by [Eric Smith](#) on 18 Aug 2007, 1:42 p.m.,  
in response to message #8 by Katie Wasserman*

Yes, using capacitors to reduce voltage sag for high-current transients is a valid concept. What is wrong with the "hybrid capacitors" being sold for car audio is paralleling a high-capacitance high-ESR chain of ultracaps with a low-capacitance low-ESR capacitor, and then claiming that the result is high-capacitance low-ESR. That does NOT work as claimed.

If you really had a 2 farad 0.002 ohm ESR capacitor, it could supply a peak of a hundred amps with less than 1V sag for more than 10ms. The "hybrid capacitor" they're selling won't do that. If you're lucky, you might get a microsecond, which is clearly not long enough to have any beneficial effect on audio frequencies. It's snake oil -- just another way to part a fool from his money.

*Edited: 18 Aug 2007, 1:43 p.m.*

### **Re: OT (as in Out of Touch) -- 1.5 Farad (!) Capacitor???**

*Message #11 Posted by [John Noble](#) on 18 Aug 2007, 4:09 p.m.,  
in response to message #10 by Eric Smith*

I was working as a car audio installer back when these came out, and I agree that they are mostly snake oil.

*However...*

If you want to construct a theoretical model, you have to include the whole power supply chain to the amplifier(s).

Here's a typical chain:

Alternator -> Battery B+ -> Short length of #4-#00AWG -> Fuse or Circuit Breaker -> 10-20 ft. #4-#00AWG -> Distribution Block Input -> Fuse -> 2-4 ft. #10-#8AWG (Sometimes #4) -> Amplifier B+ Terminal -> [amplifier power supply, amplifier circuit, speaker(s), etc.] -> Amplifier B- Terminal -> 1-2 ft. #10-#8AWG (or sometimes bigger) -> Vehicle's steel body -> 1 ft. #6-4AWG Ground Strap (unless upgraded) -> Battery B-

As you can see, there are a lot of potential voltage drops. Depending on where you put the capacitor it could make a difference, especially if the car's charging system is operating near its limit.

There are demonstrable gains to be had, but the only people who will really notice are those with very powerful systems (more than 1-2kW) or people competing in maximum SPL events where winning margins might be a dB or less.

### **Re: OT (as in Out of Touch) -- 1.5 Farad (!) Capacitor???**

*Message #12 Posted by **Eric Smith** on 18 Aug 2007, 10:48 p.m.,  
in response to message #11 by John Noble*

I'm not disputing that adding a capacitor will help. Done right, it certainly can.

I'm only asserting that the specific "hybrid capacitor" approach that many are using to claim low ESR is essentially fraudulent. The real ESR of the hybrid capacitor when delivering tens of amps will most likely be more than half an ohm, rather than the 0.002 ohms they claim in their specs.

The digital voltmeter they attach isn't going to tell the customer the real story, either, as it will (by design) respond far too slowly to show the actual voltage sag during high-current transients.

### **Re: OT (as in Out of Touch) -- 1.5 Farad (!) Capacitor???**

*Message #13 Posted by **Andrés C. Rodríguez** on 17 Aug 2007, 8:02 p.m.,  
in response to message #1 by Paul Brogger*

- 1) Fine tune the HP-45 embedded timer/stopwatch (once upon a time, such devices were referred as "gimmick" capacitors) Alas, the counter will now change once a week instead of once a second...
- 2) "Zap" HP-25 NiCd batteries, when aging causes shortcircuits on them...
- 3) Power CMOS RAM chips to offer really-continuous memory, able to withstand a delay of a couple of days when reinserting a battery pack.
- 4) Offer a script line in which the value is entered as 1.5 E6 uF, to explain scientific and engineering notation in a 1970-style HP calculator manual. It may go as "Friendly engineer Daniel Ectron wants to calculate ..."

### **Re: OT (as in Out of Touch) -- 1.5 Farad (!) Capacitor???**

*Message #14 Posted by **Vincze** on 17 Aug 2007, 10:38 p.m.,  
in response to message #13 by Andrés C. Rodríguez*

You know, I remember seeing ad about such capacitor, but I remember seeing it about a **digital** Farad capacitor. I forget where, but that not important. Question I have is how is a capacitor digital, as I thought they all analog? I would think as digital, they could harm electrical equipment.

### **Re: OT (as in Out of Touch) -- 1.5 Farad (!) Capacitor???**

*Message #15 Posted by **Ed Look** on 17 Aug 2007, 11:37 p.m.,  
in response to message #14 by Vincze*

<Serious voice>

Wow. One farad. Digital. I guess it means you can touch it safely with your fingers.

</Runs out of forum>

### **Re: OT (as in Out of Touch) -- 1.5 Farad (!) Capacitor???**

*Message #16 Posted by **Walter B** on 18 Aug 2007, 5:01 p.m.,  
in response to message #15 by Ed Look*

LOL

Really out of touch :))

**Re: OT (as in Out of Touch) -- 1.5 Farad (!) Capacitor???**

Message #17 Posted by [Eric Smith](#) on 18 Aug 2007, 12:36 a.m.,  
in response to message #14 by Vincze

They call it digital because of the digital voltmeter they've attached to it.

The voltmeter is intended to make the purchaser think that the capacitor is doing its job, but in actuality DVMs do not respond to fast transients, so it doesn't really prove that the capacitor is making a difference to the car audio system.

**Re: OT (as in Out of Touch) -- 1.5 Farad (!) Capacitor???**

Message #18 Posted by [Ren](#) on 23 Aug 2007, 11:44 a.m.,  
in response to message #14 by Vincze

Quote:

\_\_\_\_\_  
You know, I remember seeing ad about such capacitor, but I remember seeing it about a **digital** Farad capacitor. I forget where, but that not important. Question I have is how is a capacitor digital, as I thought they all analog? I would think as digital, they could harm electrical equipment.  
\_\_\_\_\_

Back in tech school (late '70's) an electronics instructor showed us that a linear voltage regulator (a voltage regulator that had a transistor in series with the load) was comparable to having greater than 1 Farad capacitors in a passive voltage regulator.

Hmmm, maybe that has nothing to do with a "Digital" capacitor...

I'm not sure if those kids who "pimp" their automobile audio systems use "Digital" capacitors or not, if they do, it may just be a marketing term.

But 1+ Farad capacitors used as SRAM backup have a slow discharge rate, unlike conventional electrolytic capacitors, because rapid discharge is not needed for those circuits (even undesirable). Maybe that is what is meant by a digital capacitor- a capacitor designed to be used as a backup for digital circuitry.

Ren

dona nobis pacem

**Re: OT (as in Out of Touch) -- 1.5 Farad (!) Capacitor???**

Message #19 Posted by [Eric Smith](#) on 23 Aug 2007, 12:33 p.m.,  
in response to message #18 by Ren

No, all they mean is that they've attached a Digital Voltmeter to the top of the capacitor. A marketing breakthrough!

**Re: Marketing**

Message #20 Posted by [Paul Brogger](#) on 23 Aug 2007, 3:23 p.m.,

*in response to message #19 by Eric Smith*

Quote:

\_\_\_\_\_

A marketing breakthrough!

\_\_\_\_\_

Next up: The microwave hair dryer.

;->

*Edited: 23 Aug 2007, 3:24 p.m.*

## **Re: OT (as in Out of Touch) -- 1.5 Farad (!) Capacitor???**

*Message #21 Posted by [JoelB](#) on 24 Aug 2007, 8:21 a.m.,*

*in response to message #18 by Ren*

Quote:

\_\_\_\_\_

But 1+ Farad capacitors used as SRAM backup have a slow discharge rate,

\_\_\_\_\_

The discharge rate is a product of the capacitance and the resistance of the circuit. Over a given period of time, this combination will discharge a given percentage of the available charge, and voltage does not figure into this calculation.

Quote:

\_\_\_\_\_

Back in tech school (late '70's) an electronics instructor showed us that a linear voltage regulator (a voltage regulator that had a transistor in series with the load) was comparable to having greater than 1 Farad capacitors in a passive voltage regulator.

\_\_\_\_\_

Yes. When an active device (transistor) is sensing and negating variations in available voltage, it appears to the circuit loading it as if it were a source with low impedance, such as a large capacitor.

However, a capacitor has an impedance which varies with frequency, so one needs to be specified.

## **not so OT**

*Message #22 Posted by [Meindert Kuipers](#) on 18 Aug 2007, 3:42 a.m.,*

*in response to message #13 by Andrés C. Rodríguez*

This is not so OT after all. My MLDL2000 for the HP41 uses a 1.0F/5.5V capacitor (also called supercap or goldcap) for keeping SRAM contents for many weeks. It is about the size of 5 stacked 10 Eurocent coins (smaller than a \$ quarter??). I have also played with 0.1 F supercaps, which are smaller than an HP16 battery.

Meindert

## **Re: OT (as in Out of Touch) -- 1.5 Farad (!) Capacitor???**

*Message #23 Posted by [Hal Bitton in Boise](#) on 18 Aug 2007, 10:24 p.m.,*

*in response to message #1 by Paul Brogger*

Well, when I went to school (late '70s) a 1 farad cap was about as big as a horses leg, and any circuit



boards/componentry were strapped to it (rather than vice-versa). As for applications... reducing the ripple voltage on a **BIG** TR/power supply comes to mind.

Hal :)

**Re: OT (as in Out of Touch) -- 1.5 Farad (!) Capacitor???**

*Message #24 Posted by [Ed Look](#) on 19 Aug 2007, 2:01 a.m.,  
in response to message #23 by Hal Bitton in Boise*

Seriously, big caps were used in the early '70s in "homemade" lasers when some researchers were too cheap, uh... , I mean decided not to spend for commercial ones. You'd be crazy to construct your own today unless you weren't serious.

**Re: OT (as in Out of Touch) -- 1.5 F - OK!**

*Message #25 Posted by [Matthew W. Milligan](#) on 19 Aug 2007, 6:11 a.m.,  
in response to message #1 by Paul Brogger*

I teach high school physics and recently obtained some 1.0 F capacitors. When I get them out I'm always blown away that they even exist. But my students are like, "Oh, OK, one farad, hmm, so is that the biggest one you have?" They have NO CLUE how radical a change that is from the recent past. I try to explain . . .

---

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## HP Forum Archive 17

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### Things 35s - Purely Superficial...

Message #1 Posted by [Dallas Osborne](#) on 17 Aug 2007, 4:48 p.m.

...but nice for the comfort of carry and ease of use.

(My thanks to CalcPro for the extra 33s case and Kinko's for the bind job).

[http://www.alkaspace.com/free/view\\_thumb/3b8781305/IMG00045.jpg](http://www.alkaspace.com/free/view_thumb/3b8781305/IMG00045.jpg)

[Larger Shot](#)

Edited: 17 Aug 2007, 4:54 p.m.

### Re: DIY Spiral-bound 35s Manual

Message #2 Posted by [Paul Brogger](#) on 17 Aug 2007, 5:22 p.m.,  
in response to message #1 by Dallas Osborne

About that Kinko's binding -- did it obliterate any text?

Nice idea! (Now if we could get H-P to print it in three or four colors . . . )

### Re: DIY Spiral-bound 35s Manual

Message #3 Posted by [Dallas Osborne](#) on 17 Aug 2007, 5:29 p.m.,  
in response to message #2 by Paul Brogger

Nope...

[All opened up...](#)

[Another page...](#)

Edited: 17 Aug 2007, 5:51 p.m.

### Re: DIY Spiral-bound 35s Manual

Message #4 Posted by [Ed Look](#) on 17 Aug 2007, 5:59 p.m.,  
in response to message #3 by Dallas Osborne

How much did Kinko's charge for he spiral binding and how much did Calcpro charge for the 33S case?

### Re: DIY Spiral-bound 35s Manual

Message #5 Posted by [Egan Ford](#) on 17 Aug 2007, 6:14 p.m.,  
in response to message #4 by Ed Look

I get stuff spiral bound often at Kinko's for about \$5 US. Usually 8.5x11 paper. My question is who removed the old binding? How?

**Re: DIY Spiral-bound 35s Manual**

Message #6 Posted by [Dallas Osborne](#) on 17 Aug 2007, 6:16 p.m.,  
in response to message #4 by Ed Look

Kinko's charged \$10 for binding and CalcPro charged \$11 for the case; it fits beautifully.

Kinko's lopped it off there in the studio; it took off about 3mm at the most.

*Edited: 17 Aug 2007, 6:18 p.m.*

**Re: DIY Spiral-bound 35s Manual**

Message #7 Posted by [brianh](#) on 18 Aug 2007, 7:47 a.m.,  
in response to message #6 by Dallas Osborne

This makes me wonder just how much extra it would cost HP to spiral bind these manuals in the first place. Perhaps a buck or two, at the most, at the printers. The slight extra cost would be more than worth it.

**Re: DIY Spiral-bound 35s Manual**

Message #8 Posted by [Paul Brogger](#) on 17 Aug 2007, 6:16 p.m.,  
in response to message #3 by Dallas Osborne

Thanks for the idea. Excellent!

(I assume they cut off the old binding for you with a bulk paper cutter?)

**Re: Things 35s - Purely Superficial...**

Message #9 Posted by [Vincze](#) on 17 Aug 2007, 7:08 p.m.,  
in response to message #1 by Dallas Osborne

I like binding system very much. I know where I am going this weekend.

I was going to wait for PDF to come out and make my own with comb binder I have, but it is not spiral binder. Spiral is much nicer.

*Edited: 17 Aug 2007, 7:14 p.m.*

**Re: Things 35s - Purely Superficial...**

Message #10 Posted by [Karl Schneider](#) on 18 Aug 2007, 5:13 a.m.,  
in response to message #1 by Dallas Osborne

Quote:

\_\_\_\_\_  
(My thanks to CalcPro for the extra 33s case and Kinko's for the bind job).  
\_\_\_\_\_

Kinko's prepared me a correct-size, double-sided spiral-bound HP-16C manual directly from the B&W PDF on the earlier MoHPC CD-ROM. Price was about \$40, but that included printing. Quality was excellent.

-- KS

### **Re: Things 35s - Purely Superficial...**

*Message #11 Posted by [Egan Ford](#) on 19 Aug 2007, 4:26 p.m.,  
in response to message #10 by Karl Schneider*

Quote:

---

Kinko's prepared me a correct-size, double-sided spiral-bound HP-16C manual directly from the B&W PDF on the earlier MoHPC CD-ROM. Price was about \$40, but that included printing. Quality was excellent.

---

Good to know. I may do the same after I receive the new color PDFs (still waiting on my DVD).

I just returned from Kinko's. The \$4.26 to spiral bound the 35s manual was more than worth it. The original binding was very stubborn (more than usual for that type of binding), as if it did not want to reveal it's contents. IMHO, manuals should not require two hands to operate.

Kinko's said that requests to spiral bound existing paper bound books is not uncommon. The machine that prepares the book for spiral binding also does the cropping of the glue binding. Sadly only black plastic is available. I have some older manuals that would look better with white. The process of inserting the spiral binding is manual (I've watched them before). I speculate that you could order any color, size, and type (metal or plastic) online and put it on yourself.

### **Re: Things 35s - Purely Superficial...**

*Message #12 Posted by [Vincze](#) on 19 Aug 2007, 7:03 p.m.,  
in response to message #11 by Egan Ford*

Quote:

---

The process of inserting the spiral binding is manual (I've watched them before). I speculate that you could order any color, size, and type (metal or plastic) online and put it on yourself.

---

Yes, I have seen done too. Not with plastic spiral though, but plastic coated metal I believe, and then use needle nose pliers to put slight bend so spiral do not come out. I guess you could always have them bind for you with black, and when you get white spiral, you could remove black, and insert yourself.

---

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## HP Forum Archive 17

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### More 35s First Impressions

Message #1 Posted by [Dan Greil](#) on 17 Aug 2007, 2:54 p.m.

First impressions may be old news now that everyone is moving on to bug hunting but they bear stating (or repeating) for those that are still trying to decide whether to buy. It is also my customer feedback to HP product development, should they be monitoring the forum.

So here's my take based on SN 72103313:

- My display is not skewed at all but the annunciators are **barely** within the window when viewed perpendicularly. This seems unnecessarily close given the free space at the bottom of the display they've allowed for viewing at an angle. This is not unique to mine as even the unit pictured on the User's Guide has the annunciators obscured by the shadow of the window.
- Display pixels have a 1:2 aspect ratio making for some very rough looking digits. I would have preferred a 1:1 pixel aspect ratio – like the 28s or 42s – for smoother characters.
- Excellent keyboard. So thankful for the return of the beveled keys and large enter key. I would have used yellow and blue plastic keys for the left and right shifts ala Voyagers as the silk screened colors may not wear well on these more heavily used keys. I don't notice the key stops (the tabs below the metal mask that keep the keys in place) on the 35s. These were very visible with the 42s and 48G. Cosmetic yes, but the larger gap around the keys of the latter meant larger entry point for debris. The printed labels on the 35s keys have very crisp characters unlike those of a lot of late model 12c's where the edges appear to have bled.
- No PDF manual (yet). The 49g+ and 50G had the PDF manuals on the included CD and are also available on-line. If HP is going to produce a DVD, then it should include the User's Guide and all the training modules (55 of them). PDF manuals are important because I keep the manuals at home and use PDFs at work.
- Nice case. I was not a fan of the Coconut zippered cases because it was difficult to get the calc into the case without zipper contact. The 35s has a clam-shell zippered case that will open 360 degrees. It is also semi-rigid so it will protect the calc better. The elastic band that retains the 35s surprisingly doesn't detract from its appearance or use.
- Nice balance of key functions versus functions available by menus. Key functions I like that I haven't seen before are the <-ENG and ENG-> (engineering notation decimal shift by 3 digits down or up with a corresponding change in exponent).
- The annunciators for flags 0 through 4 are present. These were great for 41C program debugging and I'm glad to see them on the 35s.

Overall, the 35s has the engineering-driven design all of us die-hard HP fans of the past crave. No attempt was made to cater to the commodity consumer electronics market as was done with the 9s, 30s, 33s, etc. – i.e. nothing 'stylized' just for marketing purposes. THANK YOU HP!

---

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## HP Forum Archive 17

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### HP35s Features, or not

Message #1 Posted by [JayL \(MD, USA\)](#) on 17 Aug 2007, 12:48 p.m.

Hi all

I just got my hp35s the other day to replace the hp32sii I seem to have lost and while I really like it, I'm surprised that square roots and logs of negative numbers produce an error when the calculator is designed to handle complex numbers (my hp28s handles these conditions). Anyone else surprised/annoyed by this?

I'm also a little disappointed that there is no vector cross product function.

Oh well, it's still a good calculator with a great feel.

### Re: HP35s Features, or not

Message #2 Posted by [Seth Morabito](#) on 17 Aug 2007, 1:31 p.m.,  
in response to message #1 by JayL (MD, USA)

Quote:

I'm surprised that square roots and logs of negative numbers produce an error when the calculator is designed to handle complex numbers

There has been some discussion about this, but after all it's an evolution of the 32S platform, not the 42 or 28/48 platforms. On my 32SII, square roots and logs of negative numbers also produce errors, even though the 32SII has complex support. The only difference between the 32SII and the 35s in that regards is that complex numbers take up two stack registers on the former, and only one on the latter.

I do wish the complex support were more like the 42S, but I'm still very pleased with the 35s overall!

### Re: HP35s Features, or not

Message #3 Posted by [Miguel Toro](#) on 17 Aug 2007, 3:10 p.m.,  
in response to message #2 by Seth Morabito

There is a post about this but I could not find it. At least, you can get the square root of a negative number this way:

1. enter the number as a complex, example:  $-5i0$
2. enter 0,5 and do  $x^y$ , complete exemple:

```
5 +/- i 0 enter
0.5 x^y
0.0000i2.2361
```

regards,

Miguel

---

---

**Re: HP35s Features, or not**

*Message #4 Posted by [JayL \(MD, USA\)](#) on 17 Aug 2007, 3:53 p.m.,  
in response to message #3 by Miguel Toro*

Excellent suggestion, Miguel. Thanks.

---

**"cheat sheet" idea**

*Message #5 Posted by [Vincze](#) on 17 Aug 2007, 10:54 p.m.,  
in response to message #4 by JayL (MD, USA)*

Yes, very good. These should be things, like figuring out how to go from P->R and back that we should archive and add to list of things to include in "cheat sheet" to keep with 35s.

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## HP Forum Archive 17

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### My Aviation programs for 35s

Message #1 Posted by [Vincze](#) on 17 Aug 2007, 11:15 a.m.

Okay, here is my listing of Aviation programs for the 35s. It is only for two two calculations right now, but I plan on extending it for others. It take me a while to write as I had a lot to learn about calculator, and also it takes me longer to write so it does not sound like a fool who does not speak english well wrote it. Here you go. Please let me know if there are any ways to optimize the programs.

Aeronautical Functions on the 35s

Vincze

Aeronautics has many calculations that the pilot uses when flying. For many decades, many pilots have relied upon the tried and true E6-B flight computer to do these calculations. The E6-B is nothing more than a fancy slide rule device that can compute such as time, speed and distance problems, fuel consumption, conversions, altitude and speed corrections, wind and heading issues and a few more calculations.

A disadvantage of the E6-B is that it is a manual process, and takes a bit of concentration while in flight. In recent years, computerized E6-B's have come out that can perform some of these tricky manual calculations very precisely, and quickly. In fact, the HP41C series calculators had an expansion pack that could do these very nicely.

My thought is why not use our trusty and inexpensive 35s to do these. I will present here, two of the programs that I have programmed on my unit.

True Heading and Ground speed conversion

When flying, just because you choose a certain course, it does not mean that is the true course that you must fly to reach your destination. Many factors affect the true heading that you must steer, and the true ground speed. One of the major factors is the wind direction and velocity. In this program, there will be four variables that you must know to determine the true heading and the ground speed. They are true wind direction, wind velocity, true course and true airspeed (TAS). I will indicate these as variables D, V, C, and T respectively.

Program Listing

```

H001   LBL H
H002   CLVARS
H003   SF 10
H004   WIND VEL
H005   PSE
H006   INPUT V
H007   TAS
H008   PSE
H009   INPUT T
H010   WIND DIR
H011   PSE
H012   INPUT D
H013   COURSE
H014   PSE
H015   CF 10
H016   INPUT C
H017   -

```

```

H018 STO A
H019 SIN
H020 RCL V
H021 *
H022 RCL T
H023 /
H024 ASIN
H025 STO+ C
H026 RCL A
H027 X<>Y
H028 -
H029 SIN
H030 RCL A
H031 SIN
H032 /
H033 RCL T
H034 *
H035 RCL C
H036 X<>Y
H037 RTN

```

Notes On lines H004, H007, H010, and H013 you will notice text. This is entered by pressing the EQN key, then RCL and the alpha key until the text is entered. After the text entry, press ENTER to exit EQN mode. More information may be found on pages 13-16 – 13-18 of the manual.

SF 10 is set with left shift, 2.0. The . will input a 1. CF 10 is set with left shift, 3.0. If you need more explanation, see page13-17 or 14-11 in the manual.

Example Let us assume that the Wind direction is  $240^\circ$ , the wind velocity is 38 knots, the true course is  $300^\circ$ , and the TAS is 165 knots. [One note, it does not matter if your wind speed or air speed are in knots, MPH, KMH, all that matters is that you are consistent between the two.] So,  $V = 38$ ,  $T = 165$ ,  $D = 240$ , and  $C = 300$ . When we run the program, we will notice that in the Y register, we have 288.49, this represents the True Heading in degrees, or what we must adjust to in order to compensate for the wind if we wish to have a true course of  $300^\circ$ . In the X register, we see 142.68, which is our true ground speed, with the effects of the wind.

### Distance Between Two Latitude/Longitude Points

When planning a flight between two points, one must know the actual distance, in nautical miles, that you must fly. This is essential for fuel planning, time in flight and filing you flight plan. There are a number of ways that you can do this, but one thing that we must do is use great circles since the earth is round. Two formulas are generally relied upon. The first being the Haversine formula which tells us great-circle distances between two points. It is a bit more complicated, and we will not use it here. The second formula is the spherical law of cosines, which gives well conditioned results down to distance as small as 1 meter. The exact formula is:

### Spherical Law of Cosines

Where  $d$  is the distance, and  $R$  is the earth's radius, (we will use nautical miles). Lat and Lon will be in the format of ddd.mmmsss (or degrees.minutes seconds), so if our Latitude is  $33^\circ 57' 00''$ , we would enter 33.5700. This should all be entered in the degree mode, as the program will convert everything to HMS and radians.

### Program Listing

```

D001 LBL D
D002 CLVAR S
D003 RAD
D004 SF 10
D005 LAT1
D006 PSE
D007 INPUT A
D008 HMS ->
D009 ->RAD
D010 STO A
D011 LON1
D012 PSE
D013 INPUT B

```

```

D014 HMS ->
D015 -> RAD
D016 STO B
D017 LAT2
D018 PSE
D019 INPUT C
D020 HMS ->
D021 -> RAD
D022 STO C
D023 LON2
D024 PSE
D025 CF 10
D026 INPUT D
D027 HMS ->
D028 -> RAD
D029 STO D
D030 RCL A
D031 SIN
D032 RCL C
D033 SIN
D034 *
D035 RCL A
D036 COS
D037 RCL C
D038 COS
D039 *
D040 RCL D
D041 RCL B
D042 -
D043 COS
D044 *
D045 +
D046 ACOS
D047 3440.065
D048 *
D049 DEG
D050 RTN

```

You will notice in line D047 that there is a constant there. This will apply the answer towards the mean radius of the earth in nautical miles. If you wish to use kilometers, then the constant would be 6371. You will notice that there are four variables. They are defined as follows:

A = Lat1, B = Lon1, C = Lat2, D = Lon2.

### Example

Let us assume we are flying from LAX to JFK. LAX is located at 33° 57' 00" N, 118° 24' 00" W. JFK is located at 40° 38' 00" N and 73° 47' 00" W. Our variables would therefore be:

A = 33.5700                      B = 118.2400              C = 40.3800                      D = 73.4700

When entered into the program, it will return an answer of 2,145.17 nm. If you wish to convert that to km, then you would multiply that by 1.852 to get the kilometers.

### Special Thanks

I would like to thank a number of people who have helped this Hungarian better understand how the unit works. Because I am fearful that I may forget someone, I will just say thank you to the folks over at moHP who have helped. They know who they are, and I thank you sincerely.

## Re: My Aviation programs for 35s

Message #2 Posted by [Stefan Vorkoetter](#) on 17 Aug 2007, 11:33 a.m.,  
in response to message #1 by Vincze

Nice!

Just one suggestion on using text prompts:

If you're going to prompt with a message, then I wouldn't use INPUT after that. I would do either:

```
INPUT W
```

or:

```
SF 10  
EQN "ENTER WIND DIR"  
CF 10  
STO W
```

but not both:

```
SF 10  
EQN "ENTER WIND DIR"  
PSE  
CF 10  
INPUT W
```

In the last example above, you're not likely to see the text prompt anyway, since it's only displayed briefly.

By the way, to see how the wind calculations are done on the two different types of slide rule devices, take a look at my article: [A Tale of Two Whiz Wheels](#)

Stefan

### Re: My Aviation programs for 35s

Message #3 Posted by [Vincze](#) on 17 Aug 2007, 11:50 a.m.,  
in response to message #2 by Stefan Vorkoetter

I was not aware you could do that. That make more sense for input.

### Re: My Aviation programs for 35s

Message #4 Posted by [Jeff Kearns](#) on 18 Aug 2007, 7:35 p.m.,  
in response to message #3 by Vincze

Hi Vincze,

The following shortens the True Heading and Ground speed conversion program by 4 steps and takes advantage of the point Stefan made. It works as-is on my 32sii (I do not have a 35s... yet).

```
H001 LBL H H002 CLVARS H003 SF 10 H004 WIND VEL = H005 STO V H006 ENTER TAS  
H007 STO T H008 WIND DIR = H009 STO D H010 COURSE = H011 CF 10 H012 STO C H013 -  
H014 STO A H015 SIN H016 RCL V H017 * H018 RCL T H019 / H020 ASIN H021 STO+ C H022  
RCL A H023 X<>Y H024 - H025 SIN H026 RCL A H027 SIN H028 / H029 RCL T H030 * H031  
RCL C H032 X<>Y H033 RTN
```

Regards,

Jeff

### Re: My Aviation programs for 35s

Message #5 Posted by [Les Bell](#) on 17 Aug 2007, 7:29 p.m.,  
in response to message #2 by Stefan Vorkoetter

Nice explanation of the Jepp CR series, Stefan. I also remember finding the CR-5 a bit mind-boggling

when I first tried to use it!

Best,

--- Les

[<http://www.lesbell.com.au>]

---

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### 35s (what else)

Message #1 Posted by [Diehl-Peshkur](#) on 17 Aug 2007, 8:10 a.m.

Hi all, 72105702 and 72105701 arrived today (finally). Straight LCD, no problems. The crooked serials don't bother me at all.

Thank you HP for making keys with the same feeling as my 10c, 15c and 11c!!! It is like a visit from the past...All the noted problems aside, this is a keeper for me as a daily calculator, and a breath of fresh air after the 33s...

Speaking of the past, any reactions from you guys about the included DVD ? (ok, let's ignore the PR hype aspect)...  
Ciao, Tadeyev

### Re: 35s (what else)

Message #2 Posted by [Mark Crispin](#) on 17 Aug 2007, 1:25 p.m.,  
in response to message #1 by [Diehl-Peshkur](#)

I bought mine on August 9 and seem to have a relatively early serial number: CNA 72101920. Yes, the serial number sticker is on crooked, but who cares.

The included DVD is a definite keeper.

A design element that I miss from the classic (35/45/55/65/70/80) series was the use of multiple colors on keys. The 35s has the blue key, the gold key, and the four grey arrow keys, but otherwise the keys are black and hard to distinguish.

I also **detest** white lettering on a black background. It is harder to read, especially for those of us getting on in years.

Here's what I would like to see, based upon comparing the 35s to my classics:

The numeric and decimal keys should definitely be white. I keep on expecting them to be right-aligned (as on the classics) when they are centered in the 35s.

The four arithmetic keys should be a medium grey. Possibly also ENTER, +/-, E, <-, and C.

The top row keys should be the same color as the four direction keys; and this in turn should be a different color from the other keys (second and third row, (), EQN, and sigma +). In keeping with tradition, I suggest black for the former and darker grey for the latter. It's alright for the relatively few programming keys to be the evil white-on-black as long as the majority of keys are not.

Note that *all* of these are cosmetic changes only. I could quibble a bit with the layout as well. For example, I would prefer to have (as on the classics) LOG and  $10^x$  be the gold and blue for one key, and LN and  $e^x$  be the gold and blue for another key. However, I'm less of a power user on calculators these days and I assume that there were good reasons for the layout. So I don't really want to push these arguments.

I think that my suggested color changes would make the calculator more attractive and intrinsically easier to

use. I guess that someone with a drawing application could come up with an image mockup of what I'm talking about. Hint, hint...

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### **35s display glare - solutions thus far?**

Message #1 Posted by **Thomas Radtke** on 17 Aug 2007, 6:13 a.m.

I remember having read about two ideas to reduce the 35s display glare using (i) an eraser and (ii) a PDA protection film. Some time has passed now and I wonder if those methods were successfully adopted by other users. In particular, can the protection film be applied below the tin faceplate?

Maybe, the display glass can be replaced by a differently structured glass?

Any results or further ideas thus far? It turns out, that, especially after more or less closing the R <> P case, this glare is the most distracting property of the 35s.

Thanks a lot,

Thomas

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## HP Forum Archive 17

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### Compiling Free42 for Linux under Ubuntu (64-bit)

Message #1 Posted by [Les Wright](#) on 17 Aug 2007, 4:49 a.m.

After expermenting a bit for several hours deleting and reinstalling my Ubuntu virtual machine on the iMac, I have come to the conclusion that the following steps allow for the successful compilation of Thomas Okken's code:

1. Install Ubuntu 7.04, and when prompted install the updates. 2. After reboot, in Synaptic Package Manager search for and select: libgtk2.0-dev, lesstif2-dev, libxpm-dev, and libxmu-dev. 3. After installation of these packages enter either the motif or gtk subdirectories of the free42 directory tree and make the binary version by simply typing "make", and the decimal version by "make -e BCD\_MATH=1".

I have found that using the lesstif package seems simpler than motif since the package manager in the former case seems to magically install as well some necessary X Windows development stuff that Motif does not. You have to find and install them manually, and in the spirit of overkill I probably grabbed a bunch of disk wasting stuff I don't need since I don't know for sure what is needed. Instead, choosing the above 4 dev packages above will select a total of about 40 packages that seem to be a minimal installation required to compile this excellent program in this flavour of Linux.

Thank you to Thomas and others for guiding me in this little adventure, and for the forbearance of the forum in indulging this discussion that is at best incidental to its main mandate of "real" vintage HP calculators. I hope other newbie Linux programming amateurs who start out with something like Ubuntu will benefit from my recent adventures.

Les

*Edited: 17 Aug 2007, 12:34 p.m. after one or more responses were posted*

### Re: Compiling Free42 for Linux under Ubuntu (64-bit)

Message #2 Posted by [Vincze](#) on 17 Aug 2007, 8:48 a.m.,  
in response to message #1 by [Les Wright](#)

Ubuntu is a very nice package, for graphical Linux. I must admit though, I like non graphical Linux/Unix better.

### Re: Compiling Free42 for Linux under Ubuntu (64-bit)

Message #3 Posted by [Thomas Okken](#) on 18 Aug 2007, 3:49 a.m.,  
in response to message #1 by [Les Wright](#)

Hi Les,

While I'm sorry we didn't get Free42 to build as a 32-bit application under 64-bit Ubuntu, it's good to hear that the 64-bit build was successful without too much trouble. My own experience building a 32-bit version under 64-bit Fedora was painless by comparison, but I suspect that a lot of credit for \*that\* goes to the sysadmins at my office who do an excellent job of setting up everything-but-the-kitchen-sink Fedora installations for us spoiled developers. One can't expect that kind of thing with a Linux For The Masses like Ubuntu, perhaps. ;-)

Your troubles building the Motif version of Free42 are mostly a sign of the times; while Motif has been the standard for building GUI applications in Unix environments for many years, it has been eclipsed by GTK and other newcomers in recent years, and right now the only thing keeping it from oblivion are a few legacy applications that haven't been ported to newer toolkits yet. Getting a Linux installation ready for Motif-based development is getting to be more and more of a pain with each passing year. Sic transit gloria mundi.

Well, enough of all this Linux talk; back to our HP calculators, be they real or simulated. :-)

- Thomas

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### 35s - inputting to indirect registers

Message #1 Posted by [srayb](#) on 17 Aug 2007, 1:09 a.m.

Hi,

I am trying to create a program loop to enable me to enter values into the indirect registers 11 to 15. I am able to VIEW(I) these values using the ISG loop technique, but cannot use INPUT(I) with the same technique (results in an "INVALID (I)" error).

Here's the code that works for VIEWing (LBL C), followed by the code that doesn't work for INPUTing (LBL B):

```
C001 LBL C
C002 11.015
C003 STO A
C004 RCL A
C005 INTG
C006 STO I
C007 VIEW(I)
C008 ISG A
C009 GTO C004
C010 RTN
```

```
B001 LBL B
B002 11.015
B003 STO A
B004 RCL A
B005 INTG
B006 STO I
B007 INPUT(I)
B008 ISG A
B009 GTO B004
B010 RTN
```

Many thanks for any help with this!

*Edited: 17 Aug 2007, 1:14 a.m.*

### Re: 35s - inputting to indirect registers

Message #2 Posted by [Don Shepherd](#) on 17 Aug 2007, 1:26 a.m.,  
in response to message #1 by [srayb](#)

There was a recent thread on this subject. You can only use indirect addressing with INPUT for registers A-Z, or -1 to -26. It does work with those registers.

### Re: 35s - inputting to indirect registers

Message #3 Posted by [srayb](#) on 17 Aug 2007, 1:37 a.m.,  
in response to message #2 by [Don Shepherd](#)

Quote:

There was a recent thread on this subject. You can only use indirect addressing with INPUT

for registers A-Z, or -1 to -26. It does work with those registers.

Ah, another BUG, I mean LIMITATION, I mean FEATURE of the 35s. Oh well, it's still a cool calculator! :-)

Thanks for the info!

### Re: 35s - inputting to indirect registers

Message #4 Posted by [Don Shepherd](#) on 17 Aug 2007, 1:54 a.m.,  
in response to message #3 by [srayb](#)

I agree, it's cool. Per Gene, this is probably a manual (documentation) error.

### Re: 35s - inputting to indirect registers

Message #5 Posted by [Stefan Vorkoetter](#) on 17 Aug 2007, 11:36 a.m.,  
in response to message #1 by [srayb](#)

I guess you could always input into one of the named registers, and then STO (i) the value.

Stefan

### Re: 35s - inputting to indirect registers

Message #6 Posted by [Gene Wright](#) on 17 Aug 2007, 12:04 p.m.,  
in response to message #5 by [Stefan Vorkoetter](#)

Or just do something like this in a loop.

```
RCL I
STOP
STO ( I )
```

This prompts with the value of the indirect register into which the value will be stored. Then it is stored into the proper indirect register.

### Re: 35s - inputting to indirect registers

Message #7 Posted by [Ralph](#) on 18 Aug 2007, 6:22 a.m.,  
in response to message #6 by [Gene Wright](#)

I just input to a regular variable and then pull it to the stack and store it.

```
INPUT D
RCL D
STO( I )
```

Not as elegant as INPUT(I) but functional.

*Edited: 18 Aug 2007, 6:24 a.m.*

## HP Forum Archive 17

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### 35s Polar-Rectangular Conversions

Message #1 Posted by [Trent Moseley](#) on 16 Aug 2007, 10:24 p.m.

I want to thank Reth, Thomas Radtke, Paul Dale, and Gene Wright for helping us all with their programs and helpful guidance regarding these conversions on the HP-35s.

tm

### Re: 35s Polar-Rectangular Conversions

Message #2 Posted by [Vincze](#) on 17 Aug 2007, 8:37 a.m.,  
in response to message #1 by Trent Moseley

It would be nice if we had one article that summarized these conversions and maybe Mr Hicks would be so kind to post that to his site someplace.

### Re: 35s Polar-Rectangular Conversions

Message #3 Posted by [Kelly Huckman](#) on 17 Aug 2007, 8:54 a.m.,  
in response to message #2 by Vincze

Yep, it would be nice. Until then you can find the programs [here](#), just in case you missed the thread the first time around.

Thanks to those involved from myself as well.

### x+iy and apply ARG

Message #4 Posted by [Vincze](#) on 17 Aug 2007, 9:27 a.m.,  
in response to message #3 by Kelly Huckman

Strange, as I thought in different post, someone say x+iy and apply ARG to get P -> R conversion. Not sure though how you would go back.

### Re: x+iy and apply ARG

Message #5 Posted by [Kelly Huckman](#) on 17 Aug 2007, 9:44 a.m.,  
in response to message #4 by Vincze

ARG returns the polar angle and ABS returns the magnitude.

That's basically what's happening in this line of Paul Dale's code:

```
P006 eqn [ATAN(REGT/REGZ),SQRT(SQ(REGT)+SQ(REGZ))]
```

This is just better because you don't lose the Z and T registers.

*Edited: 17 Aug 2007, 9:46 a.m.*

### **Re: x+iy and apply ARG**

*Message #6 Posted by [Vincze](#) on 17 Aug 2007, 9:50 a.m.,  
in response to message #5 by Kelly Huckman*

So to get it back to P, I just do X+iY ABS? Why does that not make sense?

I guess the point I try to make before though, is it would be nice to have summary of program or key stroke that do this. With the link you provide, you must read through all posts to figure out which one most efficient.

Even now, I look at listings and not sure which one to use. I just know x+iy ARG give me R

*Edited: 17 Aug 2007, 9:56 a.m.*

### **Re: x+iy and apply ARG**

*Message #7 Posted by [Kelly Huckman](#) on 17 Aug 2007, 9:58 a.m.,  
in response to message #6 by Vincze*

Paul Dale's second posting of the programs. Message #15.

*Edited: 17 Aug 2007, 9:58 a.m.*

### **Re: x+iy and apply ARG**

*Message #8 Posted by [Vincze](#) on 17 Aug 2007, 10:17 a.m.,  
in response to message #7 by Kelly Huckman*

One thing I do not understand in his post if when he enters SF 10? How do you get the question mark?

Also, I see next to his line numbers sometime an \*. What does this indicate? I see this in other listings too.

### **Re: x+iy and apply ARG**

*Message #9 Posted by [Gene Wright](#) on 17 Aug 2007, 10:49 a.m.,  
in response to message #8 by Vincze*

There should be no question mark after a SF 10 instruction.

There IS a question mark if you are testing the flag using a FS? 10 instruction.

The asterisk indicates that the line number the asterisk is next to is the destination of a GTO or XEQ from somewhere else in the program.

This has been manually typed into the program listing to help find the step number when reading the program.

It does not show up in the 35s itself.

### **Re: x+iy and apply ARG**

*Message #10 Posted by [Vincze](#) on 17 Aug 2007, 11:04 a.m.,  
in response to message #9 by Gene Wright*

Sorry for this Les, but I a stupid Hungarian. ;) I misread what was typed. I feel so stupid.

**Re: 35s Polar-Rectangular Conversions**

*Message #11 Posted by [Paul Dale](#) on 19 Aug 2007, 5:02 p.m.,  
in response to message #2 by Vincze*

I have submitted the conversion programs to the MoHPC software library. It will turn up eventually.

I didn't think writing an article as well would add anything. Although it would be available a little more quickly.

- Pauli

**Re: 35s Polar-Rectangular Conversions**

*Message #12 Posted by [Vincze](#) on 19 Aug 2007, 7:13 p.m.,  
in response to message #11 by Paul Dale*

It might be nice too if you submit it to Datafile for publication.

---

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## HP Forum Archive 17

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### Aviation Programs

Message #1 Posted by [Vincze](#) on 16 Aug 2007, 8:45 p.m.

I have written two programs for aviation use. I like to send them to Datafile to be published, but I want to make sure I have them optimized, and also that my English is good in article. May I post them here first and get feedback before I send to them?

Also, must you be member of Datafile to submit, as I am not yet.

If okay to post here, I will post tomorrow, as programs are done, but I need to clean up wording of document so it is well written.

### Re: Aviation Programs

Message #2 Posted by [Maximilian Hohmann](#) on 17 Aug 2007, 2:38 a.m.,  
in response to message #1 by Vincze

Hello!

Quote:

\_\_\_\_\_

If okay to post here, I will post tomorrow...

\_\_\_\_\_

If you ask me: Yes it is OK to post them here! I am always interested in aviation programs and because I do not receive this datafile thing, I would miss them otherwise. Of course I can also have have a closer look at them and give you some feedback if necessary. As for the language, I can be of no much help though, because I could only replace Hungarian-English by German-English ("Denglish" we call it)...

Greetings, Max

### Re: Aviation Programs

Message #3 Posted by [Vincze](#) on 17 Aug 2007, 9:43 a.m.,  
in response to message #2 by Maximilian Hohmann

Will do once I get the wording all fixed up.

What type of equipment do you fly? I see from user info you are a pilot.

### Re: Aviation Programs

Message #4 Posted by [Maximilian Hohmann](#) on 17 Aug 2007, 4:19 p.m.,  
in response to message #3 by Vincze

Hello!

Quote:



---

What type of equipment do you fly? I see from user info you are a pilot.

---

I started this flying thing quite late and do it part-time besides my engineering job, so I never aimed for the big airlines. As a flying instructor, I mostly teach future airline pilots in the simulator and on single- and twin-engine airplanes the "art" of instrument flying. Myself, I do air-taxi/company flights in twin-engine piston airplanes (Cessna 421 Golden Eagle and Piper Seneca), express cargo with a Cessna 404 Titan Courier and just started my conversion course on the Fiarchild/Swearingen Metro 23 twin turboprop (had my first 2 1/2 hours training yesterday, what a machine :- ) ! ) that my company also uses for express freight. And sometimes I also spray silver iodide into thunderstorm clouds to prevent the formation of hailstones (but don't tell this my wife).

Regarding your programs: I had a quick look and as was already stated by someone else, without text prompts, they are very difficult to use, especially when one is in a hurry and has more important things on his mind (as is always the case once in the air). There should also be a provision for using default values (especially for wind and true air speed) when calculating different legs of a flight, because otherwise you have to re-enter the same values many times. This is exactly the reason why dedicated hardware (like the ASA pathfinders, Jeppesen Techstars or Sporty's electronic E6Bs (I have all of these in my collection :- ) ) have replaced programmable calculators long, long ago.

This distance-between-coordinates thing is a nice exercise, but of no real use to a pilot, because every aircraft (at least every one I know) has a GPS receiver with a navigation database that will do this for you without the need to enter co-ordinates manually. And in the office, we have dedicated flight planning software (our company uses PPS by the Danish company Air Support <http://www.airsupport.dk/productsandservices.htm> ) that will provide you with a complete flight briefing (including real-time wind and weather data) in less than two minutes, that even with the best pocket-calculator software will take you more than an hour to produce :-)

But what I really miss in my daily routine is a universal conversion program, not just the (useless!) mm->inch conversion that some calculators offer, but something like Pounds (fuel) -> Litres, that is always difficult to calculate and error-prone, when you are in a hurry.

Happy landings, Max

### **Re: Aviation Programs**

*Message #5 Posted by **Vincze** on 17 Aug 2007, 4:42 p.m.,  
in response to message #4 by Maximilian Hohmann*

I thought Sporty's E6B had that built in? I don't have mine here so I can not check. That easy calculation in states with standard airplane fuel. 6lbs per gallon. (or about 6.7lbs for jet fuel I believe.)

### **Re: Aviation Programs**

*Message #6 Posted by **Maximilian Hohmann** on 18 Aug 2007, 6:00 a.m.,  
in response to message #5 by Vincze*

Hello!

Quote:

---

I thought Sporty's E6B had that built in? I don't have mine here so I can not check.  
That easy calculation in states with standard airplane fuel. 6lbs per gallon. (or about

6.7lbs for jet fuel I believe.)

The E6B has a quite arbitrary marking at 0,77 kg/l that is neither correct for AVGAS (0,72 kg/l) nor for JetA1/Kerosene (between 0,75 and 0,84 kg/l). The most popular aviation slide rule in our part of the world, the Aristo (now Pooleys) Aviat has two dedicated subscales for the whole range of densities encountered with different fuel and oil types, both in kilograms and in pounds (see this foto here that I found through google (I would show you a photo of my own Aviat, but I have no idea where I have it, last time I used it must be over ten years ago) [http://personal.telefonica.terra.es/web/jcvilchesp/reglas/imagenes/139\\_aristo\\_617\\_a.jpg](http://personal.telefonica.terra.es/web/jcvilchesp/reglas/imagenes/139_aristo_617_a.jpg) ).

Anyway, the real-life task is not just a simple conversion, but a little bit more complicated and error-prone:

After landing, we are usually met by the refueller, who wants to know how much fuel we need to uplift. And in a hurry, because there are other customers waiting for him... To compute the required amount in the unit he uses, usually litres, rarely imperial gallons, we need to start from the fuel remaining on board (displayed either in pounds, gallons, litres or kilograms, depending on the aeroplane), the expected flying time to the next destination, an average fuel consumption (again in lbs/hr, gals/hr, l/hr or kg/hr, sometimes not even in the same units that are shown on the fuel gages!) and the fuel type (Avgas or Jet, at 0,72 kg/l or around 0,8 kg/l). Many of these inputs are constants for a certain aeroplane, so it would be an unnecessary complication to re-enter them every time.

Real-life tasks like the one described above really require a calculator with a multi-line display and a menu-system, because they have to be programmed in a fool- and error-proof way that allows for real quick data entry. Also one must be able to see at a glance, if all his inputs are correct (especially the units!). Therefore, tasks like these are now ususally performed with notebook computers or tablet PCs running dedicated software. I once programmed this into my hp-71B, but found that it is not user-friendly and safe enough for the job. It might be different for a private pilot who flies once per week and can spend the rest of the week playing around with his toys, but in commercial operations with multi-sector flights and quick turnaround times, programmable calculators really have become a thing of the past just like everywhere else, I'm afraid.

Greetings, Max

### **Re: Aviation Programs**

*Message #7 Posted by **Vincze** on 18 Aug 2007, 9:06 a.m.,  
in response to message #6 by Maximilian Hohmann*

See difference between you and me is that you fly commercial planes, and I fly private. My plane has many of the features built in as well, but I wanted challenge of programing calculator to do.

### **Re: Aviation Programs**

*Message #8 Posted by **Maximilian Hohmann** on 19 Aug 2007, 7:42 a.m.,  
in response to message #7 by Vincze*

Hello!

Quote:

---

See difference between you and me is that you fly commercial planes, and I fly private. My plane has many of the features built in as well, but I wanted challenge of programing calculator to do.

---

What are you flying? Anyway, the tasks are always the same, no matter if you pay for it or someone else is paying you :-)

Here is my one-minute-implementation of the above stated problem on one of the best pocket calculators built so far (not from my collectors point of view, but strictly in terms of functionality and usability):

<http://www.bombie.de/tmp/FuelTi200.jpg>

A user-friendly, idiot-proof interface with all input and output values labelled and visible all the time. And, as I said, implemented in less than two minutes thanks to the built-in spreadsheet application.

Greetings, Max

### **Re: Aviation Programs**

*Message #9 Posted by [Don Shepherd](#) on 19 Aug 2007, 10:30 a.m.,  
in response to message #8 by Maximilian Hohmann*

Max, great screen shot! How easy it is to read the spreadsheet at regular size? My major disappointment with the 89 Titanium is its very small font size. It is so small that it us frequently unreadable to my eyes.

I seem to recall an incident in Canada years ago that resulted from a mixup of refueling units. I forget if it was liters/gallons or pounds or whatever, but the plane ran out of fuel because of the mixup. It did land safely, though, as I recall. On an unused dragstrip!

### **Re: Aviation Programs**

*Message #10 Posted by [Maximilian Hohmann](#) on 19 Aug 2007, 1:41 p.m.,  
in response to message #9 by Don Shepherd*

Hi Don,

Quote:

---

Max, great screen shot! How easy it is to read the spreadsheet at regular size? My major disappointment with the 89 Titanium is its very small font size. It is so small that it us frequently unreadable to my eyes.

---

I could have transferred the screen content alone with the Ti-Connect software and cable, but I wanted to show the name&brand of the calculator, so I took a photo with my digital SLR camera and macro lens.

I have no Ti-89 for direct comparison, but the pixel count is 160x100 for the 89 and 240x128 for the 200. The physical screen size of the 200 is 89mm x 49mm (or 3.5in x 1.9in), you would have to measure the size of your 89 screen in order

to calculate the relative pixel sizes.

I find the spreadsheet font very easy to read, but when I try to read equations in the normal calculator mode, subscripts and superscript are very hard to read. But overall, the Ti200 has a far better (by orders of magnitude!) display than a classic hp-48.

Quote:

---

I seem to recall an incident in Canada years ago that resulted from a mixup of refueling units. I forget if it was liters/gallons or pounds or whatever, but the plane ran out of fuel because of the mixup. It did land safely, though, as I recall. On an unused dragstrip!

---

Yes, this is the famous "Gimli glider" (an Air Canada Boeing 767 that landed on a disused military airfield called Gimli) where they messed-up kilograms and pounds upon refuelling. But then, aviation has made the biggest imaginable mess of units over the years, that it really is a miracle that this kind of incident doesn't happen more often! (See e.g. here: <http://www.wadenelson.com/gimli.html> )

Greetings, Max

### **Re: Aviation Programs**

*Message #11 Posted by **Vincze** on 19 Aug 2007, 12:58 p.m.,  
in response to message #8 by Maximilian Hohmann*

That very cool. Interesting that it has built in spreadsheet. I have never seen TI voyager calculator.

I own a Columbia 400 SL with E-Vade. In fact I was to fly to Virginia this weekend, but plans change and I never went. I am thinking of upgrading plane to have climate control as well and my family and I go to some warmer areas, and it would be nice when on the ground or at lower levels to have less humid cockpit. It is no rush though.

### **Re: Aviation Programs**

*Message #12 Posted by **Maximilian Hohmann** on 19 Aug 2007, 3:51 p.m.,  
in response to message #11 by Vincze*

Hello!

Quote:

---

I own a Columbia 400 SL with E-Vade.

---

Wow! This is on my shopping list once I win the lottery :-). Does the E-Vade system work well? This really is a big advance over de-ice boots and TKS!

Quote:

---

One other thing, I glad I not own plane you fly in that program as at

700 lbs an hour, that a lot.

The 700 lbs figure is typical for the Metroliner, but that carries 19 passengers at around 280 knots. A more modern design (with modern powerplants) should be able to do the same with less than 500 lbs/hr, but there are no modern aeroplanes in that category.

Quote:

It would be nice to be able to have solver...

The fuel calculation above could indeed be handled by a solver, because there is always only one value to be computed. I have played around with different HP calculators with solvers on this (48, 28, 33s, 17bII). The advantage of using a solver is that you have to enter your constants (like fuel flow, conversion rates) only once, yet they do not become part of the formulas and can easily be changed when necessary.

The more interesting (in terms of formulas involved) wind calculations can hardly be done with solvers though, because there is always more than one resulting value.

A good calculator for this kind of thing is the hp-28 (C or S does not matter much) because it is nearly indestructible (good when carrying it around in the flight bag), can handle long variable names and as many variables as there is memory, has a proper alpha keyboard and a multi-line display. And since nobody likes them, you can find them very cheap on eBay (usually under 20 Euros). But they have one big disadvantage: The RPL programming language, that makes them almost unusable. I think I could quicker learn Hungarian or Irish Gaelic than RPL ;-)

Greetings, Max

*Edited: 19 Aug 2007, 3:53 p.m.*

### **Re: Aviation Programs**

*Message #13 Posted by **Vincze** on 19 Aug 2007, 3:59 p.m.,  
in response to message #12 by Maximilian Hohmann*

I have only had to use the E-vade a few times because I purchased the unit in June, and have not flown in too many bad situations. Living more up north though, I felt that would do myself and family better than the climate control. It is a lovely airplane with glass cockpit and all. Very nice to travel in.

I do have a 28C, but I have not yet figured out how to use it much. You are right that it is very rugged. Only problem I have is corrosion in battery compartment. I have been meaning to fix that, but have not had time yet. It is no big deal though as my plane provide most information that I need, and I have a old E6B that I could use, and PDA with Sporty's E6B on it as well.

### **Re: Aviation Programs**

*Message #14 Posted by **Pal G.** on 19 Aug 2007, 6:32 p.m.,*

*in response to message #13 by Vincze*

Greetings,

I have been following this thread. That Voyager screenshot was nice, but do either of you own an hp 50g? I do not own an hp 35s yet, but based on my experience with my hp 50g, I know nice aviation programs may be written. (RPL though).

In fact, while I was writing this post I thought to search hpcalc.org and found this:

<http://www.hpcalc.org/details.php?id=167>

It was ported to hp 49g (I assume from the hp 48xx series), so it should work on the hp 50g. Also, the person who ported it is a *\*very\** active contributor to comp.sys.hp48, where there is much discussion regarding hp 35s and hp 50g. I would assume fuel calcs could be added easily.

comp.sys.hp48:

<http://groups.google.com/group/comp.sys.hp48/topics?lnk=gschg>

Cheers, Pal

### **Re: Aviation Programs**

*Message #15 Posted by **Vincze** on 19 Aug 2007, 6:59 p.m.,  
in response to message #14 by Pal G.*

Thank you very much my friend. No, I do not have HP50, but I do have HP 48GX, I just get actually, well not long ago. The program look very nice, but I have no idea how I would load that onto the 48. It has connector on unit, but I no have cable for it. Someone tell me old serial mouse cable can be used somehow, but he does not know how.

I wonder if someone here may know how that work?

### **Re: Aviation Programs**

*Message #16 Posted by **Vincze** on 19 Aug 2007, 1:04 p.m.,  
in response to message #8 by Maximilian Hohmann*

One more thing. I'm not sure I follow the formulas that you have to equate the values you have. It say you have 800 lbs remaining, with a burn rate of 700/hr. How is it you have 2.7 hours left of flying? Or is that something you key in and then it compute values below.

Either way, I would be interested to see formulas, as this looks very nice.

**\*\*EDIT\*\*** Never mind, I see what you are doing. You are calculating the  $B5 = B3 * B2 - B1$ , and then apply weight to litre conversion. Very nice.

This is where I wish 35s could handle variable longer than one character. It would be nice to be able to have solver, or program work like Pioneer series where you could

make variable name longer. When I play with 17Bii emulator, it nice that you can do this as it could handle the fuel components. I guess, if you make program though, you could do a line that say EQN Fuel Remaining, EQN Flt Time, etc. It be pain though as you would have to enter fuel flow each time, unless you fly same equipment all the time, and then that could be hard coded in. Still, TI Voyage look very nice. I never see one before. I would think PocketPC could do same thing, but not have QWERTY keyboard on PocketPC.

One other thing, I glad I not own plane you fly in that program as at 700 lbs an hour, that a lot. Mine only do about 105 on average. Sometime less, sometime more.

Again, thank you for sharing Max, it very enlightening.

*Edited: 19 Aug 2007, 1:24 p.m.*

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## HP Forum Archive 17

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**41CX repair advice.**

Message #1 Posted by [Egan Ford](#) on 16 Aug 2007, 7:10 p.m.

I just purchased a very good looking 41CX, but it is flaky. It took a while to get it to power on. It will not power on with the advantage ROM installed (my other 41CX does). After removing the advantage ROM I have to press enter a few times with the batteries out before it will power up again. Memory Lost is not reported after this however. My HP-IL adapter also does not work with the 41CX, I can power up, but get transmit errors. If I fail to get a refund from the seller, what do you all recommend for troubleshooting this device?

Thanks.

**Re: 41CX repair advice.**

Message #2 Posted by [Raymond Del Tondo](#) on 16 Aug 2007, 7:47 p.m.,  
in response to message #1 by Egan Ford

Most common problems are corroded battery contacts and contact springs, then the connection between the case halves (kwd zebra stripe) then a dried capacitor.

If it's not a hardware problem, just initiate a cold start.

Sometimes it also helps to clean the port contacts from dust with a Q-tip...

HTH

Raymond

**Re: 41CX repair advice.**

Message #3 Posted by [Egan Ford](#) on 16 Aug 2007, 9:09 p.m.,  
in response to message #2 by Raymond Del Tondo

Contacts all look clean.

41CX just decided to not power on anymore.

Cold start? How?

Thanks.

**Re: 41CX repair advice.**

Message #4 Posted by [gregp](#) on 16 Aug 2007, 10:36 p.m.,  
in response to message #3 by Egan Ford

Press On and <-



My 41CX started to freak out a few years ago. Can't remember what triggered it now. I press On and nothing happens. I press On and <- and the summation+ symbol is displayed along with BAT. I press a key and it changes to NULL (and BAT). The batteries are fresh and no BAT annunciator on my 41C with that same battery pack.

I tried what I could, but gave up. Sent it in to [fixthatcalc.com](http://fixthatcalc.com) and awaiting repair. Hopefully its fixable. If not, I'll cry. Bought it in college about 20 years ago and had served me very well up until the day it broke (2001-2002).

I picked up the 41C a couple of years ago, to try to take the place of the 41CX. Not the same as the CX, altho it came with a card reader, quad memory, advantage pac, and time module. The 41C still works. Best of all, got it free. Friend was moving across country and didn't need it anymore. Was digging around his full garage full of "junk" and saw the carrying case. At first glance, I nearly had a heartattack and ran over to it. Opened it up and saw what was better than a bar of gold. A couple other friends were rummaging around and they just stared at me. Good, no competition.

Just bought up a 35s (arrived Wed, 8/15). Compared to my 41C/CX and 15C, that thing is fast. (yeah, I've read the other threads on the 35s... good & bad). So far, I'm happy with it and will take that with me to work. Afraid of my lone 41C getting lost/stolen. I esp like the dec-hex-oct-bin conversions. 41C has the bin/hex in the adv pac.

Would be kinda nice if HP made a modern version of the 41C, with goodies from today while keeping the original flavor. Designed, engineered, and built by HP, not farmed out. Wish HP would bring all of that back in house.

**Re: 41CX repair advice.**

*Message #5 Posted by [Vincze](#) on 17 Aug 2007, 7:26 p.m.,  
in response to message #3 by Egan Ford*

My friend Egan, did you ever figure out what the problem was?

**Re: 41CX repair advice.**

*Message #6 Posted by [Egan Ford](#) on 17 Aug 2007, 7:47 p.m.,  
in response to message #5 by Vincze*

No, sending to [fixthatcalc](http://fixthatcalc.com).

**Re: 41CX repair advice.**

*Message #7 Posted by [Vincze](#) on 17 Aug 2007, 10:18 p.m.,  
in response to message #6 by Egan Ford*

You can always send to me and I use as nice paperweight. :)

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## HP Forum Archive 17

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**Equation suffix**

Message #1 Posted by [Vincze](#) on 16 Aug 2007, 1:24 p.m.

I'm not sure what this is called, so I apologize if title confusing. Is there a way on HP35s to show the result of a program with a suffix indicating the units it is being displayed in? Meaning, if program return 1000 and this represents km, can I display 1000 km somehow?

I see in manual that you can display text by using the EQN and the flag settings, but I am not sure if you can concatenate a variable result and text. If anyone knows how, please let me know as I am trying to write some programs for aeronautical calculations that I plan to share, but I would like to include this with the program.

**Re: Equation suffix**

Message #2 Posted by [Gene Wright](#) on 16 Aug 2007, 1:33 p.m.,  
in response to message #1 by Vincze

No, you can't concatenate them.

Sorry!

**Re: Equation suffix**

Message #3 Posted by [Vincze](#) on 16 Aug 2007, 1:43 p.m.,  
in response to message #2 by Gene Wright

átok ez! I say in Hungarian as it not nice. It okay Gene, not your fault calculator can't do what I want it to.

**Re: Equation suffix**

Message #4 Posted by [bill platt](#) on 16 Aug 2007, 2:01 p.m.,  
in response to message #1 by Vincze

However, if you are really clever with flag 10 and the PSE and/or STOP commands, you might be able to have a message stored as an equation in the program and that message would say "km" or something, and so the answer come up, and then you press r/s and the units (the message stored as equation) come up afterwards.

Just a thought.

BTW Gene and or somebody else started a thread which showed how many different small letters could be generated on the 35S--you may manage to parse them into an equation-as-message!

**Re: Equation suffix**

Message #5 Posted by [Vincze](#) on 16 Aug 2007, 2:12 p.m.,  
in response to message #4 by bill platt

Actually, I am doing that with the inputs so people don't have to memorize what silly variable letters mean,

and then PSE and then INPUT. With answer though, I would rather it be all on one line, that way, I can display two lines of information with Y and X reg.

### Re: HP-35s Equation suffix

Message #6 Posted by [Karl Schneider](#) on 16 Aug 2007, 2:12 p.m.,  
in response to message #1 by Vincze

Quote:

Is there a way on HP35s to show the result of a program with a suffix indicating the units it is being displayed in? Meaning, if program return 1000 and this represents km, can I display 1000 km somehow?

That's a reasonable thing to want, and I've wondered about it.

Concatenation of strings and conversion of numbers to strings are not possible on the HP-35s. You can display a text message such as "AIRSPEED (KT)" followed by the value, using the Equation functionality and appropriate flags.

The long-discontinued RPN HP-42S and HP-41 (with X-functions?) could do those things, and the RPL HP-48/49/50 series actually allow units to be appended to value for use in calculations and display.

-- KS

*Edited: 16 Aug 2007, 2:14 p.m.*

### Re: HP-35s Equation suffix

Message #7 Posted by [Vincze](#) on 16 Aug 2007, 2:32 p.m.,  
in response to message #6 by Karl Schneider

Quote:

...and the RPL HP-48/49/50 series actually allow units to be appended to value for use in calculations and display.

I have 48GX, and it take insane person to understand how to program that. I go insane first with 35s, then I will try and fall over that one.

### Re: HP-35s Equation suffix

Message #8 Posted by [Ed Look](#) on 16 Aug 2007, 2:43 p.m.,  
in response to message #7 by Vincze

It took me many, many weeks, maybe several months, a few days a week, a hour or two a day to finally get a program to actually successfully run on the 48G and 48G+. And, I could NOT have done it without the 48G Series Advanced Users' Reference guidebook. The DEBUG function on the 48G series machines helped greatly, too, of course.

The 35s was/is easy (easier?) for me only because as a college boy, I used a 34C, and in those days, I was more able to read and understand things better... and the abject need of programming longish physical chemistry calculations so that I could get at least three to five hours of sleep at night! So,

perhaps a little urgency might help you too, whatever it may be! :D

### **Re: HP-35s Equation suffix**

*Message #9 Posted by [bill platt](#) on 16 Aug 2007, 2:53 p.m.,  
in response to message #8 by Ed Look*

I found it very easy to write easy programs on the 48--as long as they were strictly or nearly strictly keystroke-saver type programs (no looping or conditionals)--it really isn't any different from RPN keystroke except that you save it to a variable with a name, and you have to decide whether to have internal or external variables.

Once you decide to have any sort of sophistication or I/O, then you have to learn the structured paradigm or RPL rather than merely using its keystroke analog.

You also have the ability to program entirely with algebraic objects rather than RPN equation representation--the algebraics are easier to read and debug and this is a great advantage of both the 48 (RPL) series as well as the 35s.

That being said, I use the RPN machines for Ad-Hoc as well as standard programs quite a lot.

I also have Hrastprogrammer's 41C emulator on the 48.

### **Re: HP-35s Equation suffix**

*Message #10 Posted by [Vincze](#) on 16 Aug 2007, 3:25 p.m.,  
in response to message #9 by bill platt*

I try someday. It would be interesting to see a simple 35s program converted to 48gx for simple keystroke saving. I do have advanced user manual and regular manual (I find online). Maybe there is easy example in one of those two books that I can follow.

Then again, learning to program 35s like getting earache in my eye, so I can only imagine what learning 48gx is like. ;)

### **Re: HP-35s Equation suffix**

*Message #11 Posted by [Raymond Del Tondo](#) on 16 Aug 2007, 2:56 p.m.,  
in response to message #6 by Karl Schneider*

Hello,

the HP-41 could display ALPHA messages without the X-Functions module, of course. The X-F added some more functions for manipulating ALPHA.

Slightly OT: There was an HP-41 module which featured unit-management, I think (but I'm not sure here) it was the Petroleum Fluids Pac.

Another module, the AECROM, added kinda 'expression evaluation' to the HP-41!

Raymond

### **Re: HP-35s Equation suffix**

*Message #12 Posted by [bill platt](#) on 16 Aug 2007, 3:05 p.m.,  
in response to message #11 by Raymond Del Tondo*

Quote:

---

Another module, the AECROM, added kinda 'expression evaluation' to the HP-41!

---

A FOCAL language parser--taking alphanumeric input and parsing to an ad-hoc RPN program?

### **Re: HP-35s Equation suffix**

*Message #13 Posted by [Jim Creybohm](#) on 17 Aug 2007, 11:32 p.m.,  
in response to message #11 by Raymond Del Tondo*

You are correct Raymond. The Petroleum Fluids pac does have unit management.

For example, you could convert from lbf/in<sup>3</sup>-Pa/m<sup>3</sup> and XEQ CON. interestingly, if you wanted to convert the inverse, you would XEQ INCON. (or acre\*ft-m<sup>2</sup>\*cm)

What a powerful tool for the budding engineer! It was miles ahead of the competition (TI, Casio, Sharp etc had nothing even close), and I am certain was the primary reason I made it through petroleum thermodynamics.

And I continue to use it today. The PC just seems so clunky.

---

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## HP Forum Archive 17

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### HP41CV Check X-Memory?

Message #1 Posted by [ems22](#) on 16 Aug 2007, 3:08 a.m.

Hello, I have a HP41CV with TimeModul, X-Functions and Card-Reader. I just bought a X-Memory-Modul at ebay. How can I check the function of this modul?

Greetings,

Edgar

### Re: HP41CV Check X-Memory?

Message #2 Posted by [Patrick Rendulic](#) on 16 Aug 2007, 7:03 a.m.,  
in response to message #1 by [ems22](#)

Install the X-Functions module without the X-Memory module.

Type: XEQ ALPHA EMDIR ALPHA, the calculator displays the content of the extended memory and leaves the number of available registers (= X) on the stack.

Install the X-Memory module and type again XEQ ALPHA EMDIR ALPHA. The display shows the new size of the extended memory (= Y).

You should have  $Y = X + 238$

*Edited: 16 Aug 2007, 7:14 a.m.*

### Re: HP41CV Check X-Memory?

Message #3 Posted by [Raymond Del Tondo](#) on 16 Aug 2007, 7:05 a.m.,  
in response to message #1 by [ems22](#)

Hello,

just perform EMDIR without the additional X-Mem module,  
note the amount of free registers will be returned to the X register.

Then turn off the HP-41, plug the module in,  
turn on the calc again, perform EMDIR again.

Then do  $X \leftrightarrow Y$ , then -, and you have total of free registers in the X-Memory module.

This amount should be between 234 and 238 registers initially.

HTH

Raymond

**Re: HP41CV Check X-Memory?**

*Message #4 Posted by [ems22](#) on 16 Aug 2007, 7:20 a.m.,  
in response to message #3 by Raymond Del Tondo*

Thank you very much.  
EMDIR without X-Memory: DIR EMPTY  
EMDIR with X-Memory: DIR EMPTY  
Is the X-Memory-Modul defect?

Greetings,  
Edgar

**Re: HP41CV Check X-Memory?**

*Message #5 Posted by [Les Bell](#) on 16 Aug 2007, 8:02 a.m.,  
in response to message #4 by ems22*

After XEQ EMDIR, the number of registers available is left in the X register, not the display.

Best,

--- Les  
[<http://www.lesbell.com.au>]

**Re: HP41CV Check X-Memory?**

*Message #6 Posted by [ems22](#) on 16 Aug 2007, 8:48 a.m.,  
in response to message #5 by Les Bell*

Thank you very much. I think I understood.  
I've got the following:  
MEMDIR with X-Functions: 124  
MEMDIR with X-Function + X-Memory: 362

So everything seems to be ok, or not?

Greetings,  
Edgar

**Re: HP41CV Check X-Memory?**

*Message #7 Posted by [Geir Isene](#) on 16 Aug 2007, 9:19 a.m.,  
in response to message #6 by ems22*

Fully OK

**Re: HP41CV Check X-Memory?**

*Message #8 Posted by [ems22](#) on 16 Aug 2007, 9:42 a.m.,  
in response to message #7 by Geir Isene*

Thanks again from Hamburg,

Edgar

---

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## HP Forum Archive 17

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### RPL Information overload

Message #1 Posted by [David Smith](#) on 15 Aug 2007, 10:46 p.m.

Ok, so I bought a 50g to play with, and I guess in a way to finish what I started when I bought my 28s so long ago. So here I am with **loads** of RPL info. I printed the entire 50g User's Guide, the first 120 pages of the 49G+ AUM (which covers RPL). I also have the 49g AUR and the Programming in System RPL book (which I assume will work for the 50g since it also covers the 49G). All together about 2,000 pages of information, much of which I assume will be redundant.

I wasn't looking for a new career, just trying to finally do something I had tried and failed at in the past (mostly due to a lack of motivation). But my question is this: How much of all this stuff really necessary? I feel more than a bit overwhelmed.

### Try this progression: 28s -> 48g -> 50g

Message #2 Posted by [allen](#) on 15 Aug 2007, 11:54 p.m.,  
in response to message #1 by David Smith

Greetings David! I can certainly see where going from a 28s to 50g would be a shocker! In one step you are skipping more than 15 years of HP calculator innovation (and stagnation if you include the dark years of Kinpo).

May I recommend learning the 48g before FULLY tackling the 50g? I believe this will bridge the RPL complexity gap as you follow the core RPL components through their natural evolution.

The most complete calculator in each family is 28s -> 48g -> 50g, but there is not a natural jump straight from 28 to 50. (I am purposely skipping the 48s, 48sx, 48g+, 48gx, 49g, and 49g+ in the chronology and maturity because by analogy:

1. the 49g/49g+ is to the 50g what the 28c is to the 28s,
2. also, the 48s is to 48g what the 28c was to the 28s,
3. you really don't need the extra expense of the 48SX/48g+/48gx to learn the RPL language for the 48 series calculator)

Others' opinions may differ, but I started RPL with the 48g and found it very easy to port the lessons learned both ways to the 28s and the 50g. If I had tried only both extrema, I fear I may have given up.

*Edited: 16 Aug 2007, 12:03 a.m.*

### Re: Try this progression: 28s -> 48g -> 50g

Message #3 Posted by [David Smith](#) on 16 Aug 2007, 6:24 p.m.,  
in response to message #2 by allen

Quote:

---

Greetings David! I can certainly see where going from a 28s to 50g would be a shocker! In one step you are skipping more than 15 years of HP calculator innovation (and stagnation if you include the dark years of Kinpo).

May I recommend learning the 48g before FULLY tackling the 50g? I believe this will bridge the RPL complexity gap as you follow the core RPL components through their natural evolution.

The most complete calculator in each family is 28s -> 48g -> 50g, but there is not a natural jump straight from 28 to 50. (I am purposely skipping the 48s, 48sx, 48g+,48gx, 49g, and 49g+ in the chronology and maturity because by analogy:

---

I am doing mostly financial stuff, so I have just purchased a 12c (longing for my original 11c, but, well, financial), and a 19b II (same problem.) I sold the 28S a long time ago, but nostalgia is starting to get expensive!

Anyway, if I am understanding you correctly I should go get a 48G to learn RPL before I try to tackle it on my 50G? It looks like I could get on at a reasonable price, and I just bought a printer that has auto duplex, so the manuals wouldn't be a problem.

Thanks to all for the doc links, I will look at them as well.

## Lexicography and Language Learning

*Message #4 Posted by [allen](#) on 17 Aug 2007, 12:32 a.m.,  
in response to message #3 by David Smith*

Quote:

---

Anyway, if I am understanding you correctly I should go get a 48G to learn RPL before I try to tackle it on my 50G?

---

That would be my recommendation because of it's centrality between your newest RPL and the one you learned back in the day. Again, others may have a different opinion. You can also use the integral TVM (TVMROOT) features of the 48g if your 12c is out of reach.. just bear in mind the treatment of annual/periodic interest rates are different for each HP model.

Best of luck in your financial project.. unfortunately the best financial calc (17bii) is neither RPL nor programmable. :(

Regarding your original question:

Quote:

---

How much of all this stuff really necessary?

---

These calculators are powerful enough (especially the 50g), that I am comfortable saying that these are solutions looking for problems. You can get into as little or as much of the RPL as you like. Most of it I find completely worthless. Really! HP advertises over 2300 built-in functions. Compare with studies in [Lexicography](#) (link has good references for numbers), that show one can have 75% coverage of an entire written language by using only 1000 words. (By contrast, the venerable 42s offered around 600 functions.)

Any thoughts from the forum on applying the [Nation/Waring](#) conclusions to deciding how many RPL 'words' are sufficient?? GRIN.

*Edited: 17 Aug 2007, 12:55 a.m.*

### **Re: Lexicography and Language Learning**

*Message #5 Posted by [Ed Look](#) on 17 Aug 2007, 1:16 a.m.,  
in response to message #4 by allen*

Fascinating!

I was under the impression that one needed more words in one's vocabulary to have the "coverage" of the language that the paper(?)in the link listed.

However, there are functional differences between a real, human language and a computer "language", which really is the use of words from one's language to name operations and conditions strictly for use in defining, broadly, algorithms.

As such, it should require "only so many" "words" to define any set of similar algorithms. Now, should a user need to define more algorithm types, then he needs more or new words.

Therefore, perhaps "most people" may only need to know a small set of RPL commands or functions, but as one needs to apply his 28S, 48S, 48G, 49G, or 50G to more types of problems or uses, then his need for a more comprehensive command of RPL grows, as well.

I mean, the occasional need by a scientist would require less of a knowledge of RPL than perhaps the more extensive need of a technical student to solve homework problems, etc.; but which differs from the more intensive need maybe of the engineer who may have a less wide but deeper set of applications.

Oh... don't let this out to kids in school; they're lazy enough as it is. If word gets out they only need x number of words to master English or Spanish or German 80%, then I suspect they will begin to study only 80% or less as hard as they might've otherwise! ;)

### **Re: Lexicography and Language Learning**

*Message #6 Posted by [Don Shepherd](#) on 17 Aug 2007, 1:22 a.m.,  
in response to message #4 by allen*

Quote:

\_\_\_\_\_

unfortunately the best financial calc (17bii) is neither RPL nor programmable. :(

\_\_\_\_\_

Oh, Hudendai! See Article 712. I wouldn't call the solver the world's best programming platform, but it does have some features that make it \*minimally\* acceptable. This is especially true for the original 17bii. The + solver has some issues.

### **Re: Lexicography and Language Learning**

*Message #7 Posted by [allen](#) on 17 Aug 2007, 8:12 a.m.,  
in response to message #6 by Don Shepherd*

Quote:

\_\_\_\_\_

I wouldn't call the solver the world's best programming platform,

I agree 100%.

I think it is the best financial calc, and explicitly not programmable- even the solver tricks aren't what I would call minimally acceptable- at least not for programming. A good example: if you try an amortization in the (all?) pioneer solver, the result is MUCH slower than the 12c. Should I need to program anything, it is easier to go to another (RPL) platform or 42s.

## Re: RPL Information overload

Message #8 Posted by **Tim Wessman** on 16 Aug 2007, 12:33 a.m.,  
in response to message #1 by David Smith

Wow. I can still remember downloading this file from hpcalc.org all those years ago.

<http://www.hpcalc.org/details.php?id=1771>

This is a nice little tutorial about programming. You'll learn more about the system and using it by doing these examples than you'd ever get by reading manuals. I ran through this tutorial back in . . . i think it must have been 8th grade. Later moved on to sysRPL and never really looked back.

TW

## Re: RPL Information overload

Message #9 Posted by **Will Hartung** on 16 Aug 2007, 1:33 a.m.,  
in response to message #1 by David Smith

No reason to master everything on day one.

I'd seriously punt on the SYS RPL stuff until you REALLY think you need it. User RPL is dangerous enough as it is.

When writing code, write lots of little functions. They're easy to debug and test. Just place a few bits on the stack, and work it until it's done. Then build up from there. You don't have anywhere near the memory constraints on these machines as you do on the normal calculators. They pretty much support "unlimited" everything.

Also, they have a really nice single stepping trace/debug mode built in. That's a wonder.

As with anything, just work on whatever application or utility you want rather than trying to use all of the features.

Developing on these machines I found very organic, and I never used a PC or anything to work on them -- just for transferring files. Some folks use tools to use PCs to edit or even use as a terminal to these things. I never bothered, easier to just flump on the couch and code away. But I never did any SYS RPL or assembly stuff. I can easily see folks doing that on a PC.

So, work on your application that you want. No reason to master it all -- just what you need.

## Re: RPL Information overload

Message #10 Posted by **Ed Look** on 16 Aug 2007, 11:46 a.m.,  
in response to message #9 by Will Hartung

That's the best way to get started. Unless you code every week with it, you'll forget some things, but like bike riding, you can't forget the basic approaches and structure. And this is where the AUR is most useful, as a reference guide for commands and structure.

### **Re: RPL Information overload**

*Message #11 Posted by [Chan Tran](#) on 16 Aug 2007, 3:24 p.m.,  
in response to message #10 by Ed Look*

As far as programmin in RPL the 50G is almost the same as the 48G/GX. And not too far from the 28C. I think you can pretty much run UserRPL programs for the 28c on the 50G.

---

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## HP Forum Archive 17

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### More about Checksum

Message #1 Posted by [Miguel Toro](#) on 15 Aug 2007, 9:16 p.m.

Hello,

I entered the insertion sorting routine as written by Gene Wright in Datafile V26 N4, in both HP 35s (CNA 72102361 and 72102362) to verify if I got the same checksums. They were different compared between them and compared to Gene's. I deleted one instruction at a time backwards until line I015: there, the checksums were exactly the same! The culprit in this case: line I016, putting '1' in the stack. Beginning with this instruction the checksums of both calculators disagreed. You could try and see if you obtain the same behavior:

```

I001 LBL I      ----> CK = 4254
I002 STO K
I003 IP
I004 STO B
I005 ISG K
I006 RCL K
I007 STO I
I008 RCL (I)   ----> CK = D522
I009 RCL I
I010 IP
I011 STO J
I012 RCL B
I013 x=y?
I014 GTO I026
I015 RDN      ----> CK = 5E0A
I016 1       ----> CK = 0B9E ('61) CK = 8136 ('62)
I017 -
I018 STO I
I019 x<>y
I020 RCL (I)
I021 x<=y?
I022 GTO I027
I023 STO (J)
I024 x<>I
I025 GTO I011
I026 RDN
I027 x<>y
I028 STO (J)
I029 ISG K
I030 GTO I006
I031 RTN

```

1.- The calculators have different content 2.- I made GTO .. in both before entering the program.

Regards,

Miguel

### Re: More about Checksum

Message #2 Posted by [Paul Dale](#) on 15 Aug 2007, 9:25 p.m.,  
in response to message #1 by Miguel Toro

Does a replacement of steps 15 and 16:

```

I015 RDN      ----> CK = 5E0A

```

I016 1 ---> CK = 0B9E ('61) CK = 8136 ('62)

with

I015 CLx  
I016 e^x

cause the checksums to match again?

I'm pretty confident that it is numbers that are causing the problems with the checksums and size calculations. This alternative code avoids the number. It should also be smaller and slower.

- Pauli

### Re: More about Checksum

Message #3 Posted by [Bruce Bergman](#) on 16 Aug 2007, 12:11 a.m.,  
in response to message #1 by Miguel Toro

One (1) is a rather mathematically "boring" number. I wonder if you substituted, say, nine (9) or 67 for that one line, would the checksums still diverge?

I'd try this myself, but I carelessly left my 35s at work... ;-o

thanks, bruce

### Re: More about Checksum

Message #4 Posted by [Ed Look](#) on 16 Aug 2007, 12:56 a.m.,  
in response to message #3 by Bruce Bergman

1 isn't SO boring!

It has four roots, for well, 1, thing... ;)

Hmmmm... how would I do that on a 35s?!

### Re: More about Checksum

Message #5 Posted by [Eric Smith](#) on 16 Aug 2007, 10:36 a.m.,  
in response to message #4 by Ed Look

Quote:

1 isn't SO boring! It has four roots

I don't understand your point. If memory serves, every positive real number has two real roots of any even positive integer order, and n complex roots of any integer order n.

### Re: More about Checksum

Message #6 Posted by [Paul Brogger](#) on 16 Aug 2007, 10:00 a.m.,  
in response to message #3 by Bruce Bergman

Maybe if someone knows something about 35s internals, (s)he could offer a more informed opinion. In my ignorance, I can only speculate whether the 35s' new capacity for vectors and complex numbers might be

related. If uninitialized (and unused) vector storage is incorporated in the checksum calculation for programs when simple numbers are being entered, that might explain how differing checksums result.

-- <appended>-----

FWIW (and in case it hasn't been made clear yet), the User Manual's example programs are *not* immune. The first three suspect programs from the manual that I entered (chosen because each includes at least one number entered on the stack) all came up with checksums that differ from those listed in the manual:

```
LBL S -- page 16-13 -- CK=DDC4
LBL F -- page 16-14 -- CK=8C04
LBL I -- page 16-19 -- CK=2159
```

*Edited: 18 Aug 2007, 11:05 a.m.*

## Re: More about Checksum

Message #7 Posted by [Bill \(Smithville, NJ\)](#) on 16 Aug 2007, 11:32 a.m.,  
in response to message #3 by Bruce Bergman

Hi Bruce,

Quote:

One (1) is a rather mathematically "boring" number

Sound like you have listened to the BBC series on numbers.

### [A FURTHER FIVE NUMBERS](#)

If you haven't heard the series, then I highly recommend it. There are three series on numbers:

Five Numbers, Another Five Numbers and A Further Five numbers.

While you are there, also check out the series on Electronic Brains.

[Electronic Brains](#)

Bill

## Re: More about Checksum

Message #8 Posted by [Paul Dale](#) on 19 Aug 2007, 4:54 p.m.,  
in response to message #3 by Bruce Bergman

[1 isn't boring!](#)

- Pauli

## Re: More about Checksum

Message #9 Posted by [Vincze](#) on 19 Aug 2007, 7:27 p.m.,  
in response to message #8 by Paul Dale

1 is not boring, but it is the loneliest number. ;)

Why would number throw checksum off though? That I not understand. Every didgit and keystroke I



would assume have an ascii code in the system, or something similar that it would be assigned. Why would a number on one person machine be different than another persons? I wonder though, if program typed in on one mode, and then typed in on different mode yield different checksum? Meaning, if you type in on one calculator in degree mode, and on different calculator in radian mode, I wonder if that be different. Or maybe with different base, although I not sure it would let you do the later. Hmm, maybe on some calculator, 1 is larger than on others. You know,  $1 + 1 = 3$  for very large value of 1.

---

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## HP Forum Archive 17

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### 48GX serial number - Build quality

Message #1 Posted by [Frank Rottgardt](#) on 15 Aug 2007, 5:11 p.m.

I am into buying a used 48GX for 50 USD. But the manuals are missing. I asked the seller to send me a picture of the serial number. I couldn't believe it. But if I'm right this calc must be one of the very first GX batches ever produced? Please confirm that this one is made year 1993 week 25.

Recently I read in this forum that 48 made before mid 1994 does not have a reinforced LCD (additional plastic sheet underneath display). So the risk that the LCD might break is somewhat higher compared to later models. Is that true?

When was the 48GX SOP in Singapore? June 1993 ?

[http://www.schweden-ferien-haus.de/images/serial\\_48GX.JPG](http://www.schweden-ferien-haus.de/images/serial_48GX.JPG)

### Re: 48GX serial number - Build quality

Message #2 Posted by [Randy](#) on 15 Aug 2007, 5:33 p.m.,  
in response to message #1 by [Frank Rottgardt](#)

Why worry about manuals when it is \$50?

While it is an early GX, the Museum lists 3321 as the earliest non-prototype GX's. Yes, the LCD lacks the reinforcing plate but that is a relative thing - you'd have to hit the screen for it to make a difference. Honestly, I don't think the margin of safety is that much better with the reinforcing plate simply because that is a mighty big, thin piece of glass. The real issue IMO is the fact that those early LCD's have lower contrast than later displays.

But for \$50, it's still a bargain.

### Re: 48GX serial number - Build quality

Message #3 Posted by [Frank Rottgardt](#) on 15 Aug 2007, 5:47 p.m.,  
in response to message #2 by [Randy](#)

Thanks Randy,

yes, 50 bugs is a strong argument. I really hope I can get hold of this baby. Tomorrow I should know.

I only have a 1990 28s LCD as reference. Will an early GX display have a similar contrast level or better/worse?

// Frank

### Re: 48GX serial number - Build quality

Message #4 Posted by [Seth Morabito](#) on 15 Aug 2007, 6:42 p.m.,

*in response to message #3 by Frank Rottgardt*

Good luck!!!

I have two 48GX's and one 48G myself. One of the GX's and the G are from 1994, made in Singapore, and the other GX is from Indonesia, made in 1999. The Singapore calculators are significantly nicer feeling, for what its worth. The Indonesia made GX has painted keys and the plastic is of very slightly different and poorer quality.

And I got all of them for under \$50 each, which makes me very happy indeed -- yes, they are out there, and if you're patient you can find good deals on G and GX's!

**Re: 48GX serial number - Build quality**

*Message #5 Posted by [Juan J](#) on 15 Aug 2007, 8:02 p.m.,  
in response to message #4 by Seth Morabito*

Hello,

From my experience, 48GX's made in Singapore before 1996 were solid and almost immune to static electricity.

48GX's made from 1997 on in either Singapore or Indonesia need frequent static electricity discharge. Otherwise, they reset themselves and you lose all memory contents.

My first 48GX's serial number was 3330S... After this I had one with serial number 3720S... and an Indonesian model. Both had this nasty behavior occurred when I least expected it, and it was not until when Luiz showed us how to make an ESD that I was able to get rid of that.

You are lucky. The 48 you got is a very good bargain.

**Re: 48GX serial number - Build quality**

*Message #6 Posted by [Randy](#) on 16 Aug 2007, 8:32 a.m.,  
in response to message #3 by Frank Rottgardt*

Worse. The 28 series used a black polarizer that provided better contrast than the 48's blue color. The GX and G+ finally switched to black in 2001 - to match the 49G.

**Re: 48GX serial number - Build quality**

*Message #7 Posted by [Chan Tran](#) on 16 Aug 2007, 4:31 p.m.,  
in response to message #6 by Randy*

I found my 48SX version C and 48GX version P are of very good quality but the display is low contrast especially the 48SX.

**Re: 48GX serial number - Build quality**

*Message #8 Posted by [Seth Morabito](#) on 16 Aug 2007, 8:02 p.m.,  
in response to message #7 by Chan Tran*

Yes. I think of all my calculators, my 42S and my 48SX have the worst contrast.

They're still quite usable, just not as good as what we have today.

**Re: 48GX serial number - Build quality**

*Message #9 Posted by [HrastProgrammer](#) on 17 Aug 2007, 1:11 a.m.,  
in response to message #6 by Randy*

I don't think that contrast is everything and I actually prefer the green LCD with blue pixels. When I was buying my three 48GXs few years ago, I asked for green LCDs because I like them much more than gray LCDs with black pixels.

Regarding Singapore vs. Indonesia quality: I am looking at 1997 SG HP-48G model and 1999 ID HP-48GX model, side by side, and I really cannot decide which one is of a better quality. Key paintings/moldings are different a little but I cannot say that SG keyboard is better or that SG model feels/is better overall ...

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## HP Forum Archive 17

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### **New toy, but no HP emulator yet**

Message #1 Posted by [Meindert Kuipers](#) on 15 Aug 2007, 2:59 p.m.

Last week I got my new toy: the Nokia N95. It has almost everything I would like in portable device, except that I did not find an emulator or simulator for an HP calc yet. My old Palm Treo at least had P41CX. Any tips, at least for something that talks RPN? The N95 uses Symbian and runs the S60 platform software.

Meindert

### **Re: New toy, but no HP emulator yet**

Message #2 Posted by [Gunnar Degnbol](#) on 15 Aug 2007, 4:26 p.m.,  
in response to message #1 by Meindert Kuipers

It runs Java midlets, so you can run [Calc](#), or my own [Stak](#). Calc has a lot more functions, but I think Stak is easier to use.

### **Re: New toy, but no HP emulator yet**

Message #3 Posted by [Dave Colver](#) on 15 Aug 2007, 4:30 p.m.,  
in response to message #1 by Meindert Kuipers

I rather like this one:

<http://midp-calc.sourceforge.net/Calc.html>

(Thanks to Nenad for pointing this out to me many years ago)

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## HP Forum Archive 17

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### WOODSTOCK Questions/Observations

Message #1 Posted by [Mike T.](#) on 15 Aug 2007, 1:54 p.m.

I don't remember noticing this mentioned here before but I recently noticed some 'odd' behaviour on my HP25 (s/n 1603\*\*\*\*\*).

An arithmetic operation that results in an overflow results in, as expected

' 9.9999999 99 '

However when a register operation results in an arithmetic overflow then, rather than the expected error message, the calculator displays

' 0F '

As my HP21 behaves in the same way I presume that this is intended, but as I don't have the manual I can't double check this. (I find it interesting is that unlike the normal error conditions the register value is updated and the error state is cleared if CHS is pressed).

The questions I have are

-Does the HP29C' behave in the same way..?

-Are there any other 'odd' error codes..?

-Does the HP29C return an error number as well as the error message..?

-How is the i register used to indirectly address store and (I assume) program locations..?

Thanks

Mike T.

### Re: WOODSTOCK Questions/Observations

Message #2 Posted by [Hal Bitton in Boise](#) on 15 Aug 2007, 3:38 p.m.,  
in response to message #1 by Mike T.

Hi Mike, My 29C just gives me "error" in the display when I attempt an operation that would overflow one of the registers. Any key clears the error message, and a review of the register reveals that the offending operation was not performed. There are no other odd error codes that I can see. On the 29C, register zero serves as the indirect register. Sto or Rcl (i) will access the register number (0 thru 29) stored in zero...outside that range gives an error. Register arithmetic will also work this way...Sto + (i) for instance. Registers 16 through 29 can only be accessed indirectly, and are volatile. 0 thru 9 stored in zero will go directly to the so named program label when GSB (i) is executed. If that label doesn't exist you get error in the display. And finally rapid reverse branching...If you store a negative number (<-99) in register zero and execute GSB (i), the program counter will go backwards from it's present location that many steps and resume operation from that point. If less than -99 is in zero when you try this...you guessed it...error in the display.

One more thing...there are ISZ and DSZ functions as well, which will increment or decrement reg zero by 1, skipping the next program step if the resultant contents of register zero is 0. These two commands can be invoked programmatically or manually from the keyboard. Best regards, Hal

## Re: WOODSTOCK Questions/Observations

Message #3 Posted by [Stefan Vorkoetter](#) on 15 Aug 2007, 3:41 p.m.,  
in response to message #1 by Mike T.

My HP 19C (same as the 29C, but with a printer), gives "9.9999999 99" on overflow, (e.g. 1 EEX 55 ENTER x) and "Error" on register overflow (e.g. 1 EEX 55 STO 1 STOx 1).

There's no error number, just the message "Error".

Regarding register "i", there isn't one. Executing STO i or RCL i uses register 0 as the indirection register. (i.e. STO i on the 19C/29C is equivalent to STO IND 00 on the 41C).

Executing GTO i or GSB i does one of two things:

- 1) If register 0 contains 0 to 9, branches to that label.
- 2) If register 0 contains -1 to -99, branches backward that many steps.

Stefan

## Re: WOODSTOCK Questions/Observations

Message #4 Posted by [Ricardo Guerreiro \(Argentina\)](#) on 15 Aug 2007, 10:04 p.m.,  
in response to message #1 by Mike T.

Hi:

My hp-29c behaves like the one of stefan (serial 1712xxxxxx)

bye, ricardo

## Re: WOODSTOCK Questions/Observations

Message #5 Posted by [Mike T.](#) on 16 Aug 2007, 7:43 a.m.,  
in response to message #1 by Mike T.

Many thanks to those who have already responded, hopefully I will be able to put this information to good use shortly - just out of interest has anyone tried this on an HP25/25C or HP21..?

Just for completeness and in case any one is interested I generated the register overflow using the following key sequence:

```
1
EEX
5
0
STO 0
STO x 0
```

Mike T.

## Re: WOODSTOCK Questions/Observations

*Message #6 Posted by [Katie Wasserman](#) on 16 Aug 2007, 8:52 p.m.,  
in response to message #5 by Mike T.*

The 25, 25C and 27 show "OF" on overflow during storage register arithmetic. This is documented in the manuals.

The 19C, 29C, 67 and 97 give "Error" which is also documented.

The 21 and 22 don't give any indication that you've overflowed a storage register and this is not documented in the owners manual.

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## HP Forum Archive 17

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### Radians Question

Message #1 Posted by [Vincze](#) on 15 Aug 2007, 9:59 a.m.

Have a question. If I take the Lat and Long of let's say LAX Airport(33deg 57min N, 118deg 24min w) enter into 35s and convert to RAD I get following.

```
33.57
->RAD
Answer = .585907
```

But if use longer manual formula of

$$(\text{LatDeg} + \text{LanMin}/60) * \text{PI}/180$$

I get:

$$(33+57/60) * \text{pi}/180 = .592539$$

Why are these not the same? I know the manual calculation is correct, so I am figuring that I am doing something wrong with the calculator. This seem only like small issue, but this translate into bigger issue when run through calculations that I need to do.

### Re: Radians Question

Message #2 Posted by [Dave Johnson](#) on 15 Aug 2007, 10:22 a.m.,  
in response to message #1 by Vincze

$$33.57 = 33 \text{ degrees and } 34.2 \text{ minutes } 33.57 * \text{pi}/180 = .585907$$

### Re: Radians Question

Message #3 Posted by [Vincze](#) on 15 Aug 2007, 11:18 a.m.,  
in response to message #2 by Dave Johnson

Okay, maybe I am entering information wrong. How should I enter 33deg 57 minutes N? I thought it would be 33.57

### Re: Radians Question

Message #4 Posted by [Vincze](#) on 15 Aug 2007, 11:23 a.m.,  
in response to message #3 by Vincze

Never mind, I figure out...

```
33.57
HMS ->
->RAD
Answer = .592539
```

Stupid Hungarian me.

### Re: Radians Question

Message #5 Posted by [Stefan Vorkoetter](#) on 15 Aug 2007, 12:01 p.m.,  
in response to message #4 by Vincze

Quote:

Stupid Hungarian me.

No, stupid calculator for having the key labelled "H.MS ->" instead of "-> H" like all other HP calculators.

Stefan

### OT: Labels (non-calculator)

Message #6 Posted by [Ed Look](#) on 15 Aug 2007, 12:19 p.m.,  
in response to message #4 by Vincze

Vincze, since you insist on using that label, I'll mention that there used to be a baseball player, a pitcher, Al Hrabosky, who called himself "The Mad Hungarian", in an effort to strike fear into opposing hitters. When he was younger and pretty good, he didn't need nor have the nickname. When he was older and less able, the "scary" name didn't help. But many fans remember him as The Mad Hungarian.

### Re: OT: Labels (non-calculator)

Message #7 Posted by [Vincze](#) on 15 Aug 2007, 12:43 p.m.,  
in response to message #6 by Ed Look

I guess I not follow you. I just trying to do calculations for aviation formulary. Am I doing something wrong?

*Edited: 15 Aug 2007, 12:51 p.m.*

### SIN on 35s not same as SIN in Excel

Message #8 Posted by [Vincze](#) on 15 Aug 2007, 1:36 p.m.,  
in response to message #7 by Vincze

Here a funny thing. I do find sin of say 100 on hp35s and I get .984808, but in MS excel, it come out as -.50637. Is something different in Excel?

### Re: SIN on 35s not same as SIN in Excel

Message #9 Posted by [Les Wright](#) on 15 Aug 2007, 1:42 p.m.,  
in response to message #8 by Vincze

the Excel worksheet function expects the argument to be in radians.

change your 35s to radians mode and check!

Les

**Re: SIN on 35s not same as SIN in Excel**

Message #10 Posted by [Vincze](#) on 15 Aug 2007, 1:57 p.m.,  
in response to message #9 by Les Wright

What if I already convert to radians though? Meaning:

```
33.57
HMS ->
->rad
sin
ANSWER = .010342
```

but Excel show .558469

If I take .010342 and ->rad I get .000180, which still wrong.

**Re: SIN on 35s not same as SIN in Excel**

Message #11 Posted by [Les Wright](#) on 15 Aug 2007, 2:10 p.m.,  
in response to message #10 by Vincze

[quote] What if I already convert to radians though? Meaning:

```
33.57
HMS ->
->rad
sin
ANSWER = .010342
```

You are taking the sine of an angle in radians but your calculator is still in Degree mode.

If you want the right answer with the keystrokes you have, put your calculator in Radians mode first--MODE 2 on the 35s. You get the right answer like magic.

Les

*Edited: 15 Aug 2007, 2:11 p.m.*

**Re: SIN on 35s not same as SIN in Excel**

Message #12 Posted by [Vincze](#) on 15 Aug 2007, 2:39 p.m.,  
in response to message #11 by Les Wright

I try it that way, but final outcome is not correct still. Let me illustrate what I have in Excel.

```
VARs:
LAT1 // Latitude 1
LON1 // Longitude 1
LAT2 // Latitude 2
LON2 // Longitude 2
```

```
=ACOS(SIN(Lat1)*sin(Lat2)+COS(Lat1)*Cos(Lat2)*Cos(Lon2 - Lon1))
```

All Latx and Lonx use (Deg+Min/60)\*pi/18 so if: [pre] Lat1 = 33 deg 57 min  
= 0.592539281 Lon1 = 118 deg 24 min = 2.066469834 Lat2 = 40 deg 38 min  
= 0.709185453 Lon2 = 73 deg 47 min = 1.2877621 [/pre]

Based on this, Excel calculate 0.623584645 Radians

I guess where I confused is I believe I need to convert all Lat and Lon from HMS to decimal (HMS->), yes? And then I thought to Radians with ->RAD. When I try in RAD mode, and just convert from HMS and not also to RAD, I still get wrong answer. I hope it just me not knowing how to use 35s, and me not be dummy about this.

**never mind I give up with dumb calculator. I to dumb to use.**

*Message #13 Posted by [Vincze](#) on 15 Aug 2007, 2:52 p.m.,  
in response to message #12 by Vincze*

I to dumb to use

**Re: SIN on 35s not same as SIN in Excel**

*Message #14 Posted by [Les Wright](#) on 15 Aug 2007, 2:55 p.m.,  
in response to message #12 by Vincze*

Listen, I don't know exactly what you are trying to do, but this seems to be an angular mode issue. One thing you need to know is that Excel trig functions accept radians as arguments, and the arc trig functions return radians. No exception. If you want to get the same results on your 35S, you have to make sure the MODE is set to RAD and that all of your angles are converted first to radians in both Excel and the calculator.

Am I missing something here? I think you believe there is a serious bug in the 35s trigonometrics. Apart from the cosine bug near 90 degrees, I don't think there are. I think you are simply getting bogged down in going back and forth between radians and degrees. This is, respectfully, a high school math issue, not a calculator or Excel issue. Sort that out and all of your results should fall into place.

**Re: SIN on 35s not same as SIN in Excel**

*Message #15 Posted by [Vincze](#) on 15 Aug 2007, 3:18 p.m.,  
in response to message #14 by Les Wright*

No, I know problem not with calculator, but with me. I too stupid to use it. I sorry to have bothered you all and thank you Les and others for wasting your times trying to help me.

*Edited: 15 Aug 2007, 3:29 p.m.*

**Re: SIN on 35s not same as SIN in Excel**

*Message #16 Posted by [Les Wright](#) on 15 Aug 2007, 2:58 p.m.,  
in response to message #12 by Vincze*

Quote:

When I try in RAD mode, and just convert from HMS **and**

**not also to RAD**, I still get wrong answer.

I have bolded your error.

Of course you have to convert your angles to radians if you are in radians mode.

I don't think the 35s is different from any other HP in this regard.

Les

### **Re: SIN on 35s not same as SIN in Excel**

*Message #17 Posted by **Les Wright** on 15 Aug 2007, 3:12 p.m.,  
in response to message #12 by Vincze*

Here is my final hint, and then I am going to let you wrestle with this yourself:

1. Put the calculator in radians mode
2. Enter LAT1
3. Convert it to decimal mode via HMS->
4. Convert those degrees via ->RAD
5. Store it in a variable or write down the result (which is LAT1) in radians.
6. Repeat 2 thru 5 for each of LAT2, LON1, LON2
7. Compute your desired angle with your formula. It is in radians, and should agree with Excel
8. If you want to see the result in degrees, execute ->DEG

Alternately, you can keep the calculator in degree mode and skip steps 4 and 8 and you will get the result in degrees.

For Excel to agree, compute everything in radians but change the result cell to =ACOS(SIN(Lat1)\*sin(Lat2)+COS(Lat1)\*Cos(Lat2)\*Cos(Lon2 - Lon1))\*180/PI

Les

*Edited: 15 Aug 2007, 4:09 p.m.*

### **Re: SIN on 35s not same as SIN in Excel**

*Message #18 Posted by **Stefan Vorkoetter** on 15 Aug 2007, 3:53 p.m.,  
in response to message #12 by Vincze*

There's a difference between converting to radians, and being in radian mode.

When the calculator is in radian mode, it expects all arguments to trig functions to be in radians, and it returns the answers to all arctrig functions in radians.

It does **not** automatically convert numbers you enter from degrees to radians, because it has no way of knowing that the numbers you are entering are in degrees.

So if you are in radian mode, you must convert all your degrees to radians

before using the trig functions on them.

The ->H.MS and H.MS-> keys have nothing to do with degrees vs. radians. They always convert between hours/minutes/seconds and decimal hours (or degrees/minutes/seconds and decimal degrees).

Since aviation formulas are generally intended to be used in degrees, just leave your calculator in degrees mode and do everything in degrees. Forget about radians.

In Excel, you still need to convert to radians, and then convert the answer back. Excel is permanently stuck in radian mode.

Stefan

### **Re: SIN on 35s not same as SIN in Excel**

*Message #19 Posted by [Alain Mellan](#) on 16 Aug 2007, 1:59 p.m., in response to message #18 by Stefan Vorkoetter*

Quote:

There's a difference between converting to radians, and being in radian mode.

That's actually an interesting problem. Why is this acting differently from the BIN/DEC/HEX mode? With these modes, it's changing the display of a number to a different base.

Same thing, it's still the same complex number whether we are in x+iy or r,theta display.

What if when we change mode, it does the DEG/RAD conversion? Would that be an improvement?

Any thoughts?

### **Re: SIN on 35s not same as SIN in Excel**

*Message #20 Posted by [Stefan Vorkoetter](#) on 17 Aug 2007, 11:50 a.m., in response to message #19 by Alain Mellan*

Because BIN/DEC/HEX mode and real vs. complex affect all numbers. Degrees vs. radians affects only angles. Consider calculating the value of  $2+\sin(45)$ . You'd enter:

```
2
ENTER^
45
sin
```

The calculator should obviously not convert the 2, since it's not an angle.

As for the 45, you might want the calculator to convert it from

degrees to radians if you're in radian mode, but how is it supposed to know that you've entered it in degrees? Perhaps you **meant** 45 radians!

Stefan

## Apology

*Message #21 Posted by **Vincze** on 16 Aug 2007, 9:31 a.m.,  
in response to message #1 by Vincze*

Someone send me e-mail telling me to stop posting such "ignorant" questions as I am dumbing down the group. I apologize for this, and that was not my intention. Because of this, I wish to apologize to group and let all know that I will not post any further questions unless they are considered "worthy", or unless I have "worthy" comment.

I am very sorry, but I wish to thank all of you who help me yesterday and in previous days. I sometime get stuck with manual (I wish they had Hungarian version) as I am very old school with things, and I know that makes me a bit slower than many of you.

Take care.

## Re: Apology

*Message #22 Posted by **Gene Wright** on 16 Aug 2007, 10:19 a.m.,  
in response to message #21 by Vincze*

I'd like to apologize to YOU for the ignorant person who sent you that email.

That is/was inexcusable.

We are all at varying levels of knowledge about a great many things.

Asking questions, particularly where a language difference exists, should always be welcome.

Certainly if a previous question or two have had a readily available answer in available manuals, it is always a good idea to read through the relevant manuals and other materials before asking a second or third question. That might have saved a couple of the questions you have asked, but is it that big a deal? To me, no.

But I too am guilty of asking questions here first and then thinking to go read the manual, so accuse me as well.

Again, I'm sorry that someone emailed you with such comments. Keep your chin up!

## Re: Apology

*Message #23 Posted by **Thor Lansen** on 16 Aug 2007, 11:03 a.m.,  
in response to message #21 by Vincze*

Do not worry about it, I was always told there isn't a stupid question, keep on asking, this is how we learn. What I think it deserves to be made public is the name of the "genius" coward who send you an e-mail instead of doing it on the board.

Regards, Thor

**Re: Apology**

Message #24 Posted by **Vincze** on 16 Aug 2007, 11:44 a.m.,  
in response to message #23 by Thor Larsen

I no say who it is, as I not stoop to that level. I also know what happen to snitch in Hungary, and I not want to be considered snitch.

Please know that it was not someone who posts answers to my question. It actually person who I never see before.

I know I not stupid, because I very successful business person. I have acquired many things in United States. I know I post sometime stupid questions, but I not used to programming calculator, so I not understand results sometime.

Anyhow, I go now so I not waste peoples time.

**Re: Apology**

Message #25 Posted by **Ed Look** on 16 Aug 2007, 11:54 a.m.,  
in response to message #24 by Vincze

Hey Vincze, don't leave!

And, don't apologize!!

There have been one or two posters here over the years that have some rather... well, STRONG opinions and are not very polite about telling others.

Believe me, over 99% of us don't mind your posts. In fact, some of them do make some of us think more. So, don't stop. Remember, your questions are from a thinking man about a bunch of basically well-thought out machines and how bad can that be, unless the critical person is so full of himself that he thinks he's smarter than most other posters here.

In fact, including yourself, this is one of the most intelligent groups of people who informally chat on the Internet on a prolonged basis! Forget about the stupid jerk who e-mailed you.

<Edit: consider this- I've just had to edit this post for grammar! Duh!>

*Edited: 16 Aug 2007, 11:59 a.m.*

**Re: Apology**

Message #26 Posted by **Vincze** on 16 Aug 2007, 1:44 p.m.,  
in response to message #25 by Ed Look

My friend Ed, I no leave. no worries.

**Re: Apology**

Message #27 Posted by **Howard Owen** on 16 Aug 2007, 11:11 a.m.,  
in response to message #21 by Vincze

To add to the chorus: the guy who told you to stop questioning is the ignorant one.

Here's a little secret: this place is full of folks with lots of knowledge that *most of their friends and family*



*aren't interested in. So when someone asks questions, we love to answer them!*

8)

So for heaven's sake, don't worry about being "worthy." You are actually a valuable contributor to this community.

Regards,  
Howard

### **Re: Apology**

*Message #28 Posted by [Ed Look](#) on 16 Aug 2007, 12:02 p.m.,  
in response to message #27 by Howard Owen*

Quote:

... Here's a little secret: this place is full of folks with lots of knowledge that *most of their friends and family aren't interested in. So when someone asks questions, we love to answer them!*

8)...

Ouch! I've been outed! Owwww! I want my blanket back, Snoopy!!

### **Re: Apology**

*Message #29 Posted by [bill platt](#) on 16 Aug 2007, 12:42 p.m.,  
in response to message #27 by Howard Owen*

(An hypothetical story):

Wife: "Uh, honey, why did I get notification that we have a P.O. Box now? Are you having an affair?"

Husband: "Uh, no of course not."

"Well then why the P.O. Box?!"

(Squirming and general discomfort and a pathetic attempt at some story about the need for fixed adresses etc)

"You are doing WHAT? Collecting CALCULATORS! The children need SHOES and you're on ebay buying old calculators? How boring!"

*Edited: 16 Aug 2007, 12:42 p.m.*

### **Re: Apology**

*Message #30 Posted by [Jim Creybohm](#) on 16 Aug 2007, 11:28 a.m.,  
in response to message #21 by Vincze*

Not necessary to apologize!

We need all types of people to post questions here. That way we all learn. Since my arrival here about 8 years ago, I have learned about cultures, some linguistic variations in spanish, and now some Hungarian.

Please don't let some little person make you think less of yourself or your questions. I try to read every one's questions, and a lot of answers (including Ebay). I do sometimes find some of the answers to be not nice, but overall, this is still a better place than 90% of the places on the Internet. And, if you stop posting, the jerks win.

My advice: please continue to post and make this forum the useful place that it is.

### Re: Apology

Message #31 Posted by [bill platt](#) on 16 Aug 2007, 11:50 a.m.,  
in response to message #21 by Vincze

Gene got to you first but I was going to say something similar. Welcome to the world of HP calculators and especially to this forum.

### Re: Apology

Message #32 Posted by [Chan Tran](#) on 16 Aug 2007, 8:33 p.m.,  
in response to message #31 by bill platt

Well can I ask a stupid question? I read but I am not sure that whether Sin(X) on the 35s and Sin(X) in Excell give the same result or not?

### Re: Apology

Message #33 Posted by [Vincze](#) on 16 Aug 2007, 8:51 p.m.,  
in response to message #32 by Chan Tran

Chan, my friend, I give short answer. Yes and No. :)

If I put calculator in RAD mode, then I get same result in Excel. It appear Excel convert on the fly to Radians. I never knew this. It makes me wonder what high level programing languages do as well, as I have never really tested either, but I would think it would be same as Excel.

### Re: Apology

Message #34 Posted by [Thomas Okken](#) on 16 Aug 2007, 10:26 p.m.,  
in response to message #33 by Vincze

Quote:

If I put calculator in RAD mode, then I get same result in Excel. It appear Excel convert on the fly to Radians. I never knew this. It makes me wonder what high level programing languages do as well, as I have never really tested either, but I would think it would be same as Excel.

In mathematics, the trigonometric functions are always defined in terms of radians. This is because radians are the most "natural" unit for those functions. For example, in radians,  $d(\sin(x))/dx = \cos(x)$ , while in degrees,  $d(\sin(x))/dx = \cos(x) * \pi / 180$ . High-level programming languages all follow this convention; this is true in BASIC, Pascal, C, C++, Java, and Excel, just to name the ones I'm personally familiar with.

This means that Excel doesn't **convert** its arguments to radians on the fly; it **treats** the arguments to its trigonometric functions **assuming they are in radians**. The only times when

arguments get converted "on the fly" is when you are using trigonometric functions **on calculators, while they are in DEG or GRAD modes.**

I think what got you confused was when you were trying to use the Great Circle Distance formula, where you actually have *\*two\** conversions to worry about, namely the conversion between degrees-minutes-seconds (which is used in navigation) and decimal degrees, and then the conversion between decimal degrees and radians. As long as the calculator is in DEG mode, all you need to do is the H.MS -> H conversion before applying sin or cos; if the calculator is in RAD mode, you need to do H.MS -> H, and then DEG -> RAD, before applying sin or cos.

- Thomas

### Re: Apology

Message #35 Posted by [Vincze](#) on 17 Aug 2007, 7:43 a.m.,  
in response to message #34 by Thomas Okken

Quote:

I think what got you confused was when you were trying to use the Great Circle Distance formula, where you actually have *\*two\** conversions to worry about, namely the conversion between degrees-minutes-seconds (which is used in navigation) and decimal degrees, and then the conversion between decimal degrees and radians. As long as the calculator is in DEG mode, all you need to do is the H.MS -> H conversion before applying sin or cos; if the calculator is in RAD mode, you need to do H.MS -> H, **and then DEG -> RAD, before applying sin or cos.**

Why, though, if you are in RAD mode, do you have to convert from DEG -> RAD? Is it because I am placing information that is in degrees? Meaning 35 degrees 24' 00"

### Re: Apology

Message #36 Posted by [Thomas Okken](#) on 17 Aug 2007, 10:44 a.m.,  
in response to message #35 by Vincze

Quote:

Why, though, if you are in RAD mode, do you have to convert from DEG -> RAD? Is it because I am placing information that is in degrees? Meaning 35 degrees 24' 00"

The calculator does not **know** if the number you enter is in degrees or radians. It is just a number. When the calculator is in DEG mode, the trigonometric functions **assume** that the value in the X register is in degrees (decimal degrees, not degrees-minutes-seconds). When the calculator is in RAD mode, they **assume** that the value is in radians.

- Thomas

### Re: Apology

Message #37 Posted by [Miguel Toro](#) on 16 Aug 2007, 8:34 p.m.,  
in response to message #21 by Vincze

Sometimes we take many things for granted and sometimes we need simple questions to help us rethink those things and discover something new. Worthy members of this community have given you (and me, by the way!) the best answer to your apology.

Keep those questions coming...I am learning too.

Regards,

Miguel

*Edited: 16 Aug 2007, 8:35 p.m.*

### **Re: Apology**

*Message #38 Posted by [Trent Moseley](#) on 16 Aug 2007, 9:46 p.m.,  
in response to message #37 by Miguel Toro*

Aren't we all still learning. Particularly when it involves the 35s with its improvements, shortcomings, and its deviations from past RPN models.

tm

### **Re: Apology**

*Message #39 Posted by [Ed Look](#) on 17 Aug 2007, 12:03 a.m.,  
in response to message #38 by Trent Moseley*

While we're still on the subject of apologies, I'd say the 35s is something HP shouldn't have to apologize for, either. I'd say they got it right for the most part (see threads about the checksum issue). It's very hard to be completely perfect.

### **Re: Apology**

*Message #40 Posted by [Les Wright](#) on 17 Aug 2007, 3:42 a.m.,  
in response to message #21 by Vincze*

I have to admit I was getting a little grouchy because your dilemma seemed so clear to me and I was at a loss as to try to explain it more clearly. Regrettably, I would not make a good high school math teacher.

That said, I think you have the right and privilege to post whatever you like of even passing relevance to the aims of the Forum. If someone doesn't want to read your stuff, they don't have to.

I have to scold you for this "stupid Hungarian" insult you heap on yourself whenever you bump up against something you don't know. I can't imagine it is a very pleasant experience to so harshly and inaccurately criticize yourself for something so human as not knowing everything. If I called myself a "moronic Canadian" everytime I bumped into something that stumped me, I would be so depressed from the self-abuse I wouldn't be able to get out of bed in the morning.

Take care of yourself, and enjoy the 35s.

Les

### **Re: Apology**

*Message #41 Posted by [Vincze](#) on 17 Aug 2007, 8:43 a.m.,  
in response to message #40 by Les Wright*

I not mind calling myself "stupid Hungarian". It my way of laughing at myself. It really no different than when I work on something and I struggle with it for hours and then finaly figure it out and say, "Vincze, you dumb a\*s".

Now if someone call me stupid Hungarian, yes that would hurt and diminish my self worth. I know I am only human, and I know that I not know everything, so until I know everything (which never will happen) I am a stupid Hungarian.

### **Re: Apology**

*Message #42 Posted by **Juan J** on 18 Aug 2007, 9:07 p.m.,  
in response to message #41 by Vincze*

Hello Vincze,

Lanczos, Eotvos, Von Neumann, Eugene Wigner and Edward Teller, notable physicists and mathematicians, as well as my longtime friend Philip, who taught me a thing or two about computers and life, come to my mind when I think about Hungarians. Yours is a land of remarkable, if not gifted people, so there is no such thing as a stupid Hungarian who should not post here.

You are anything but stupid, Vincze, and you should keep posting. For occasional posters like me in particular and all the other contributors in general it is good to read from people like you.

However, in the 1950s there was a "theory," so to speak, circulating amongst the non-Hungarian colleagues of some of the people I mentioned above: Hungarians are from Mars. The reasons: 1. They are very smart. 2. The Hungarian language is different from all the other languages in Central Europe (and presumably on Earth.) 3. They are like gypsies (the reason why they came from Mars in the first place.) You can find the whole story in "The curve of Binding Energy", by Roger (or it was Richard?) McPhee. The point is, beyond saying "stupid Hungarian" as a way to express one's inability to grasp the obvious, ther is no such thing.

Please keep posting and disregard the occasional idiot who e-mails you advising otherwise.

My two cents.

### **Re: Apology**

*Message #43 Posted by **Gerson W. Barbosa** on 18 Aug 2007, 9:23 p.m.,  
in response to message #42 by Juan J*

Quote:

2. The Hungarian language is different from all the other languages in Central Europe (and presumably on Earth.)

Isn't it akin to Finnish?

### **Re: Apology (languages)**

*Message #44 Posted by **Walter B** on 19 Aug 2007, 1:39 a.m.,  
in response to message #43 by Gerson W. Barbosa*

Quote:

---

Quote:

---

2. The Hungarian language is different from all the other languages in Central Europe (and presumably on Earth.)

---

Isn't it akin to Finnish?

---

Wise people claim there is some relationship between these two languages, and Japanese next. AFAIK Finnish, that must a pretty loose connection. But Vincze knows better for sure.

If you are looking for a *\*very\** special language in Europe, turn to the Basque people living in northern Spain and southwestern France. Their language is supposed to be a remainder of the oldest languages of this continent (for US-American readers: I'm talking about some *\*thousands\** of years :).

*Edited: 19 Aug 2007, 1:40 a.m.*

### **Re: Apology**

*Message #45 Posted by **Ren** on 23 Aug 2007, 11:30 a.m.,  
in response to message #42 by Juan J*

I had the pleasure of working for Zoltan Herger in 1989. (DAGS if you don't know who he is).

Based on my experience with him, my stereotype of Hungarians is:

Hardworking, Industrious, Pleasant, Watchful, Humorous, Freedom Fighter...

(Now if there are ANY Hungarians in this group that don't fit my stereotype, PLEASE leave me pleasantly ignorant!)

Ren

dona nobis pacem

### **Re: Apology**

*Message #46 Posted by **Vincze** on 23 Aug 2007, 4:02 p.m.,  
in response to message #45 by Ren*

---

Quote:

---

Hardworking, Industrious, Pleasant, Watchful, Humorous, Freedom Fighter...

---

I think most ethnic people are like this. One thing about Hungarians, is they really like jokes. They also take very seriously math and science. You may or may not know that we invent BASIC language, the ballpoint pen, atom bomb, and other things. Granted, these were not all invented in Hungary, but by Hungarians.

Also, most Hungarians are very giving. We give you shirt off our back if you need. Sometime people say this our downfall and we get taken advantage because of. With me, I don't see it that way. I rather give, and try and help person. Sure, someone may take

advantage of me sometime, but most time, I helping someone and not take advantage of me.

We also very proud of our food. It very bad manner if you offered food from Hungarian and you not take. Many time it best not to ask what is in food. ;)

**Re: Apology (edited to add missing part)**

*Message #47 Posted by [Vieira, Luiz C. \(Brazil\)](#) on 17 Aug 2007, 6:36 a.m.,  
in response to message #21 by Vincze*

Hi, Vincze;

(additional stuff) the most important words I forgot (writing in a rush has such effect... Sorry!). I would have answered to your posts promptly, as many others did and would have done, if the chance was given, without any additional comments or off-line e-mails. I actually did not read them in time to add something that other contributors had not yet add, so I just read them. Also, I do not own an HP35S (yet, at least), so I would never be sure if my answers were accurate. As others have already mentioned, we love helping people to use their HP calculators, and you are no exception at all. And thanks for your kind words, Hrast... (end of additional stuff)

I am not posting too very often here because of private, personal reasons. I really like this Forum's environment and neighborhood, people are friendly and handy... BUT not all of the ones that actually visit this forum (mostly read, seldom post) follow some simple, common decorum rules.

I wrote about this a few times before: I'm a guest here, both as a foreigner (I'm from Brazil, as I mentioned beside my name) and as a contributor (in fact, Dave Hicks is the only one that can tell 'I'm not a visitor' in this particular way...), so I believe I must behave accordingly. Even if it is only to deserve staying amongst all of these good people, sharing so too many good and important information. (In fact, I cannot think of behaving differently in real life, wherever I am, whoever I'm dealing with)

I'm also a teacher (some guys are also tired of reading about this, too...), and I cannot consider a dumb person the one that tries to learn. In fact, I tell my students: 'There is no such thing as a dumb question; there are, indeed, dumb people that cannot give a question the deserved answer and respectfull attention'. Well, sometimes I shorten this to lesser words, though...

Anyway, as you can see (and read) from the others who followed your post up (some of the current finest representatives of this forum's contributor staff), people here care for each other. Could it be better? I guess not. I myself feel I'm home here, no pun intended at all.

Now it is my time to go ahead and deal with my daily stuff. I just could not leave without posting this time.

Best regards.

Luiz (Brazil)

*Edited: 17 Aug 2007, 3:02 p.m. after one or more responses were posted*

**Re: Apology**

*Message #48 Posted by [HrastProgrammer](#) on 17 Aug 2007, 6:38 a.m.,  
in response to message #47 by Vieira, Luiz C. (Brazil)*

Hi Luiz ... Glad to see you here again :-)

**Re: Apology (edited to add missing part)**

Message #49 Posted by **Nenad (Croatia)** on 19 Aug 2007, 4:16 p.m.,  
in response to message #47 by Vieira, Luiz C. (Brazil)

Hi, Luiz-Claudio, nice to hear from you again here.

Vincze, my friend, summarizing up all the previous posts, you are simply not allowed to leave ... we will not let you go away.

**Re: Apology (edited to add missing part)**

Message #50 Posted by **Vincze** on 19 Aug 2007, 7:16 p.m.,  
in response to message #49 by Nenad (Croatia)

Thank you my friend Nenad. It is nice to see you again.

I take beating from calling myself stupid Hungarian, so I will no longer say that. I will call myself stupid American. ;) No, I just kidding, I think I smarter than stupid American... but maybe not smarter than smart American. I think I just dig hole for myself.

**Re: Apology (edited to add missing part)**

Message #51 Posted by **Ed Look** on 19 Aug 2007, 8:04 p.m.,  
in response to message #50 by Vincze

Quick! Use your 35s and calculate the depth of the hole and the amount of thrust needed to get you out! :D

**Re: Apology (edited to add missing part)**

Message #52 Posted by **Vincze** on 19 Aug 2007, 8:16 p.m.,  
in response to message #51 by Ed Look

I think my hole taking on water. ;)

**Re: Apology (edited to add missing part)**

Message #53 Posted by **Gerson W. Barbosa** on 19 Aug 2007, 8:33 p.m.,  
in response to message #50 by Vincze

Hello Vincze,

From some of your previous post, it's clear that most of your problems stem from the fact that your handbooks are written in English, rather than Hungary. You're right, manuals written in a language not our own sometimes look Greek to us (I wonder how the Greek would say that :-)

I hope the following expresses this feeling correctly :-)

*Once there was a freak  
Who was always up the creek.  
Surely knowledge-hungry  
Was this guy from Hungary.  
But, alas, his books were 'n Greek!*

Don't worry about the word *freak*. Once someone said we're all freaks here. My knowledge of English is not better than yours, but I think this shouldn't be considered offensive, quite the other



way around. I am just a guest here, like everyone else, but I ask you please to stay :-)

Best regards,

Gerson.

*Edited: 19 Aug 2007, 8:35 p.m.*

**Re: Apology (edited to add missing part)**

*Message #54 Posted by **Vincze** on 19 Aug 2007, 9:03 p.m.,  
in response to message #53 by Gerson W. Barbosa*

You know, I remember onetime being with Hungarian friend in America, and I overheard a couple who were Asian, talking their language, and I ask my friend, "I wonder if we sound as goofy to them as they sound to us?" It funny what we think is normal sounding and what not. Yes you are right, reading English is a bit challenging at times. I can talk it well, but writing and reading have always been hard for me. My wife keep asking me why I try and get MBA since I have done well in life, but I want American degree, not just MBA. I'm sure I could get MBA in Hungary very easily, but getting degree in USA very hard sometimes.

Anyhow, thank you for kind words my friend.

**Re: Apology (edited to add missing part)**

*Message #55 Posted by **Giancarlo (Italy)** on 20 Aug 2007, 8:49 a.m.,  
in response to message #54 by Vincze*

Hi Vincze.

Of course I fully agree with what others already said about the importance you ignore the \*real stupid\*

people that sent you that e-mail, AND you go on posting whatever question you may have,

and for a couple of reasons, at least:

1. often, those \*stupid\* questions make somebody else say to himself "that's what I would have liked to ask, but don't know if I ever would have the courage..."

So thanks to that Hungarian guy!"

2. you have not joined the forum since a long time, but did you notice how was lively and bright the debate after your inputs?

Now, Vincze, my friend (I hope you don't bother if I borrow your nice expression :-)) and my neighbour (well, almost...) please keep on contributing with your "thirst for knowledge" ;-)

Warmest regards.

Giancarlo

**Re: Apology (edited to add missing part)**

*Message #56 Posted by **Vincze** on 20 Aug 2007, 8:56 a.m.,  
in response to message #55 by Giancarlo (Italy)*

Giancarlo, my friend. I not mind at all you using my saying. We are all friends here, and I always think it nice to say to people.

I will continue posting. I not notice one thing you said though, that everything lively

after I post. I wonder why that is. I am just a humble man who want to be student of life. I know many things, but many I do not know. I assume when I die, and am blessed to meet my Maker, than maybe I will be gifted by Him, and know everything. Until then though, I am happy with only knowing a little.

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### European meeting?

Message #1 Posted by [Johnny Bjoern Rasmussen](#) on 15 Aug 2007, 4:33 a.m.

Am I right remembering someone sometime somewhere here mentioning a European meeting, regarding HP-calcs?

Thanks! Johnny

### Re: European meeting?

Message #2 Posted by [Raymond Del Tondo](#) on 15 Aug 2007, 6:33 a.m.,  
in response to message #1 by Johnny Bjoern Rasmussen

You certainly mean the HPCC conference which will be held on the 13th and 14th of October;-)

Raymond

### Re: European meeting?

Message #3 Posted by [Johnny Bjoern Rasmussen](#) on 15 Aug 2007, 8:25 a.m.,  
in response to message #2 by Raymond Del Tondo

That's not in europe, is it?

### Re: European meeting?

Message #4 Posted by [Johnny Bjoern Rasmussen](#) on 15 Aug 2007, 8:27 a.m.,  
in response to message #3 by Johnny Bjoern Rasmussen

I respond my self: Yes, it is in europe. I found more information on  
<http://www.hpcc.org/conferences/index.html>.

Thanks Raymond

### Re: European meeting?

Message #5 Posted by [Gene Wright](#) on 15 Aug 2007, 8:46 a.m.,  
in response to message #3 by Johnny Bjoern Rasmussen

It is in London. There are two HHC conferences this year, one in San Diego in late September, the other in London in October.

### Re: European meeting?

Message #6 Posted by [Vincze](#) on 15 Aug 2007, 9:27 a.m.,  
in response to message #5 by Gene Wright

Any ever come to midwest?

---

**Re: European meeting?**

*Message #7 Posted by [Jake Schwartz](#) on 15 Aug 2007, 5:27 p.m.,  
in response to message #6 by Vincze*

Quote:

\_\_\_\_\_

Any ever come to midwest?

\_\_\_\_\_

Please check the HHC2007 website at <http://holyjoe.net/hhc2007/> where you will find a list of virtually all previous English-language HP calculator-related conferences. A direct link to this chart is <http://holyjoe.net/hhc2007/conflist.html> if you are interested. You will find that one of the most popular sites to host the conference has been the Chicago-Area CHIP group, which hosted in 1980, 1989, 1990, 2001 and 2005. They also hosted special calc meetings in conjunction with the no-longer-held Summer Consumer Electronics Shows in Chicago nine times between 1986 and 1995. (The CES is now only held in January in Las Vegas.)

Interested in watching video of any of these? All meetings and conferences since 1986 have been videotaped and are available on DVD at <http://www.pahhc.org/video.htm> .

Jake

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### 48GX VS 50g VECTOR TREATMENT

Message #1 Posted by [Hal Bitton in Boise](#) on 15 Aug 2007, 2:57 a.m.

Hi folks.

I wonder if anyone can wax philisophically for a moment as to why the 50G maintains no (apparrant) distinction between vectors and complex numbers (visually or functionally), whereas the 48gx treats the two like apples and oranges...(putting them in different type brackets, and bestowing limited functionality upon vectors, etc).

I really like being able to use the  $\rightarrow V2$  command in the vector menu (on either machine) to input the real numbers in the bottom two registers directly as polar arguments, but it seems I'm penalized when I do it on the 48GX.

I'd be very interested to hear any thoughts or theories on this.

Best regards, Hal

### Re: 48GX VS 50g VECTOR TREATMENT

Message #2 Posted by [James M. Prange \(Michigan\)](#) on 15 Aug 2007, 6:32 p.m.,  
in response to message #1 by Hal Bitton in Boise

It could be that the 49 series CAS causes some differences in the ways that vectors or complex numbers are treated. Maybe experiment with different CAS modes.

Regarding whether  $\rightarrow V2$  builds a vector or a complex number, that's determined by flag -19; clear for vectors, and set for complex numbers.

For  $\rightarrow V2$  to treat the arguments as polar coordinates, the calculator has to be in a polar mode (either CYLIN or SPHERE), that is, flag -16 must be set.

Regards,  
James

### Re: 48GX VS 50g VECTOR TREATMENT

Message #3 Posted by [Hal Bitton in Boise](#) on 18 Aug 2007, 10:11 p.m.,  
in response to message #2 by James M. Prange (Michigan)

Thanks very much, James...

Flag 19 was the key I was looking for.

Best regards, Hal

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### HHC2007 HP Handhelds Conf News Update - New Video To Be Premiered

Message #1 Posted by [Jake Schwartz](#) on 14 Aug 2007, 8:29 p.m.

Hi,

The HHC2007 HP Handhelds Conference to be held September 29-30 at HP's facility in San Diego is further shaping up to be a blast. We now have commitments of at least four HP presenters from the calculator group and the number of registrants has recently passed the 55 mark. Also, we have just received a commitment from EDN Magazine's Steve Leibson to allow us to premier his new video: "Interview with Dave Cochran: A Keystone for the HP 9100 and HP 35 Calculators" In Steve's own words, "Dave Cochran....developed all of the algorithms for the HP 9100A/B desktop calculators in the late 1960s and was instrumental in developing the HP 35 hardware and software."

Please check out the continuing news updates on the main conference web page at <http://holyjoe.net/hhc2007/> , along with the growing list of "door prizes" which will be distributed at the end of the conference. Also, go to the "HP & HHC News" page and check out two new items: the information on the HP/Saltire "Data Streamer" device shown by Brian Maguire at last year's HHC2006 in San Jose; and the first color scan of the June 1981 article "Calcunuts" from the ill-fated Wall Street Journal Magazine, which featured our buddies Bill Wickes, Henry Horn, Valentin Albillo and numerous others. It's a trip down memory lane worth twice the price of admission :-)

See you there,

Jake Schwartz

### Re: HHC2007 HP Handhelds Conf News Update - New Video To Be Premiered

Message #2 Posted by [Will Hartung](#) on 15 Aug 2007, 12:05 a.m.,  
in response to message #1 by Jake Schwartz

When is the latest you can sign up for this thing? Do you have to be there both days? Can I just show up at the door one day with cash money?

I don't know if I'll be able to go at all, and if I do it may very well be a completely last minute thing.

### Re: HHC2007 HP Handhelds Conf News Update - New Video To Be Premiered

Message #3 Posted by [Eric Smith](#) on 15 Aug 2007, 12:35 p.m.,  
in response to message #2 by Will Hartung

AFAIK, people can show up at the door, though registering online (even with a low probability of attendance) is recommended.

You don't have to be present both days.

### Re: HHC2007 HP Handhelds Conf News Update - New Video To Be Premiered

Message #4 Posted by [Jake Schwartz](#) on 15 Aug 2007, 5:18 p.m.,

*in response to message #3 by Eric Smith*

Quote:

\_\_\_\_\_

AFAIK, people can show up at the door, though registering online (even with a low probability of attendance) is recommended.

You don't have to be present both days.

\_\_\_\_\_

Yep...you register online (to help us get a head count) and pay at the door. It won't be over \$50. for sure.

Jake

**Re: HHC2007 HP Handhelds Conf News Update - New Video To Be Premiered**

*Message #5 Posted by [Seth Morabito](#) on 15 Aug 2007, 1:39 a.m.,  
in response to message #1 by Jake Schwartz*

That reminds me...

How much does the conference cost for attendance? I can't find the price anywhere on the HHC 2007 website!

I'm already signed up to attend, I just want to know how much money to bring to pay for the darn thing :)

**Re: HHC2007 HP Handhelds Conf News Update - New Video To Be Premiered**

*Message #6 Posted by [Tim Wessman](#) on 15 Aug 2007, 2:25 a.m.,  
in response to message #5 by Seth Morabito*

It is generally 20-40 dollars to cover the cost of printing up the talks so everyone can have a copy.

Other than that, just the price of travel and your room. It is a great deal and a lot of fun.

TW

**Re: HHC2007 HP Handhelds Conf News Update - New Video To Be Premiered**

*Message #7 Posted by [Seth Morabito](#) on 15 Aug 2007, 2:57 a.m.,  
in response to message #6 by Tim Wessman*

Extraordinarily reasonable. I am looking forward to it!

**Re: HHC2007 HP Handhelds Conf News Update - New Video To Be Premiered**

*Message #8 Posted by [Gene Wright](#) on 15 Aug 2007, 7:54 a.m.,  
in response to message #7 by Seth Morabito*

I believe the fee will be between \$35 to \$50 this year.

An announcement should be made shortly. Keep in mind that this cost is truly the smallest component of the conference anyway...and that in most years, there is a small deficit.

The conference committee has a couple of surprises up our sleeves. Gene



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### ATAN2 on 35S

Message #1 Posted by [Vincze](#) on 14 Aug 2007, 4:07 p.m.

Can the 35s perform the ATAN2 function as a built in function? I have not found it and I am in need of it.

### Re: ATAN2 on 35S

Message #2 Posted by [Gene Wright](#) on 14 Aug 2007, 4:09 p.m.,  
in response to message #1 by Vincze

Not as a built-in function.

You'll have to use several lines of code.

Edited: 14 Aug 2007, 4:35 p.m.

### Re: ATAN2 on 35S

Message #3 Posted by [Thomas Radtke](#) on 14 Aug 2007, 4:12 p.m.,  
in response to message #1 by Vincze

You could construct a komplex number  $x+iy$  and apply ARG. This is what I do in my R > P implementation.

### Re: ATAN2 on 35S

Message #4 Posted by [Vincze](#) on 14 Aug 2007, 4:22 p.m.,  
in response to message #3 by Thomas Radtke

I don't think I follow you. For example, if  $X = 10$  and  $Y = 15$ , ATAN2 of those should be 0.982794.

So you say to do following in RPN:

```
i15 - ENTER -
10
ARG
```

When I do that, it yield 56.309932. Am I not understanding something?

### Re: ATAN2 on 35S

Message #5 Posted by [Thomas Radtke](#) on 14 Aug 2007, 4:28 p.m.,  
in response to message #4 by Vincze

Your calc is in DEG mode while you brain works in RAD ;-). Just do a ->RAD conversion.

### Re: ATAN2 on 35S

Message #6 Posted by [Vincze](#) on 14 Aug 2007, 4:33 p.m.,  
in response to message #5 by Thomas Radtke

okay... that make sense.

**MOD on 35S**

*Message #7 Posted by Vincze on 14 Aug 2007, 4:47 p.m.,  
in response to message #6 by Vincze*

Sorry, but I have one more question. Can 35s do MOD (Modular arithmetic)? Such as a float be x and I solve for MOD(x,2\*PI).

**Re: MOD on 35S**

*Message #8 Posted by Thomas Radtke on 14 Aug 2007, 5:27 p.m.,  
in response to message #7 by Vincze*

I suppose you have the remainder in mind. Have a look at Chapter 4-2.

(INT menu, 3Rmdr)

**Re: MOD on 35S**

*Message #9 Posted by Vincze on 14 Aug 2007, 5:33 p.m.,  
in response to message #8 by Thomas Radtke*

No, more like lets use simple clock example.

Let say start time is 20:00 on 24 hour clock, and you need to add 5 hours to that, but you wish to have wrap around math, so with normal math you state  $20:00 + 5:00 = 25:00$ , but that does not make sense on clock. With modular math, you would say  $20:00 + 5:00 \text{ mod } 24 = 1:00$ , meaning if you start at 8pm, and you need to add 5 hours to it, you would finish at 1am. In Excel the formula would be =mod(Start + End, 24).

This used in aviation to work out degrees and the like.

I will look at chapter you state and see if that give me a clue

*Edited: 14 Aug 2007, 5:35 p.m.*

**Re: MOD on 35S**

*Message #10 Posted by Thomas Radtke on 14 Aug 2007, 5:43 p.m.,  
in response to message #9 by Vincze*

That's just the usual modulo, same menu, 2INT/

**Re: MOD on 35S**

*Message #11 Posted by Vincze on 14 Aug 2007, 7:21 p.m.,  
in response to message #10 by Thomas Radtke*

That does not work. See for example.  $20:00 + 12:00 \text{ mod } 24 = 08:00$

If I enter the following on calculator:

20  
ENTER

```
12
+
24
INTG 2
```

answer is 1 which is not correct.

Time is easy to deal with, but when you dealing numbers that wrap around when reaching the modulus of  $2 * \text{PI}$ , it a little harder to deal with. For calculation that I am doing, I need to simulate the  $\text{Mod}(x,y)$  function.

*Edited: 14 Aug 2007, 7:48 p.m.*

**Re: MOD on 35S**

*Message #12 Posted by [Don Shepherd](#) on 14 Aug 2007, 8:11 p.m., in response to message #11 by Vincze*

It's INTG 3 (remainder)

**Re: MOD on 35S**

*Message #13 Posted by [Vincze](#) on 14 Aug 2007, 8:13 p.m., in response to message #11 by Vincze*

I think I figure out, at least with clock.

Here is what I do. Let say we have  $21:00 + 10:00 \text{ mod } 24 = 07:00$

35S work this way...

```
21
ENTER
10
+
24
/
INTG 5
24
*
```

which yield 7.

I have to now try this on other calculation that use strange mod and see if this will be correct. I guess I could make short program that could do this.

*Edited: 14 Aug 2007, 8:17 p.m.*

**Re: MOD on 35S**

*Message #14 Posted by [Karl Schneider](#) on 15 Aug 2007, 2:31 a.m., in response to message #13 by Vincze*

Quote:

Let say we have  $21:00 + 10:00 \text{ mod } 24 = 07:00$

The 35S works this way...

```
21
ENTER
```

```
10
+
24
INTG 3 (Rmdr)
```

which yields 7.

-- KS

**Re: MOD on 35S**

*Message #15 Posted by **Vincze** on 15 Aug 2007, 9:16 a.m.,  
in response to message #14 by Karl Schneider*

Yes, that a few steps shorter than mine.

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### more iMac rambling, this time a little more OT

Message #1 Posted by [Les Wright](#) on 14 Aug 2007, 12:12 p.m.

Fusion has allowed me to install a Linux virtual machine as well, and I have discovered Ubuntu. I find that Thomas Okken's Free42 precompiled Linux binaries run beautifully--both Motif and GTK versions. Alas, I haven't been able to compile his source code myself in that OS--I am assuming I am missing in Ubuntu some key packages and libraries. I know there is nothing wrong with the source code files--I happen to have an overly complete implementation of Cygwin (i.e., more packages than I will ever use) in my XP virtual machine and Thomas's code compiles beautifully there by simply typing `make` or `make -e BCD_MATH=1` in both `gtk` and `motif` subdirs. If anyone has any advice about compiling Thomas' source code in Ubuntu Linux 32-bit I would be grateful. Keep in mind I am a real Linux virgin, but still I would like to learn more. I have been able to compile the Free42 code in VC++ too, and it is indeed fun to tinker with some of the math algorithms. I am really liking this Ubuntu too--pretty spiffy for a free OS!

I have learned that my new iMac has an empty memory slot--the 1GB in situ. My Apple retailer has extra 1GB RAM in stock, and it is pretty cheap too! I am finding that 1GB is still a bit sluggish if I want to get good performance out of my XP virtual machine. It would be nice to have more RAM available to dedicate to the virtual machine. Unfortunately the 2GB sticks are still pretty expensive, so it will be a while before I upgrade to 3GB or 4GB.

The Free42 Mac widget is not bad, but I must say I prefer the appearance of the Windows and Linux versions.

With this new computer, I have been neglecting my new 35s!

Les

### Re: more iMac rambling, this time a little more OT

Message #2 Posted by [Thomas Okken](#) on 14 Aug 2007, 12:42 p.m.,

in response to message #1 by [Les Wright](#)

I'm not familiar with Ubuntu -- I use Fedora myself and I'm too stubborn to change, the hype be damned. ;-) However, if you send me the output from **make** I might still be able to figure out which packages are missing, though I wouldn't be able to tell you their exact names. The smart money is on missing development libraries and headers, though (in Fedora, those are typically recognizable by package names including the word **devel**) - - from what I recall of the few occasions I played with Ubuntu's Live CDs, development stuff is not part of the basic Ubuntu install.

The Free42 MacOS widget is missing some event handling code, which causes running programs on it to fail. Unfortunately, Jeff Dionne hasn't gotten around to fixing this yet, and I don't have a Mac so I can't do it either. Just so you know -- if you plan on running programs in Free42 on the Mac, I'd recommend compiling the Unix version for MacOS; it will run as an X client on the Mac desktop. If I remember correctly, it takes a little configuration twiddling to get the X server going (I don't think it is run by default), and to run the build, you'll need the Mac versions of gcc etc., available for free at [developer.apple.com](http://developer.apple.com); you may want to read [this document about porting Unix applications to MacOS](#) to get the big picture before you dive in.

- Thomas

## Re: more iMac rambling, this time a little more OT

Message #3 Posted by [Les Wright](#) on 14 Aug 2007, 2:34 p.m.,  
in response to message #2 by Thomas Okken

Thomas, I do have gcc in Ubuntu (needed it to configure VMware Tools), and it effectively compiles simple text based C programs, but when I get into anything graphical the compiler error output is inscrutable to me.

I know that Cygwin is not a real Linux, and that programs compiled there won't run on true Linuxes, but I have liked it since the distribution includes an absurd number of packages, so I just decided to install them all to be sure I have what I need. Maybe one day I will just spend the money for Red Hat, which seems expensive. I am having a heck of a time wrapping my brain around this--I thought many good Linuxes were free, but save Ubuntu and a basic version of Mandriva I am not having much luck here!

many thanks,

Les iMac 2.4GHz Intel w/1GB RAM

## Re: more iMac rambling, this time a little more OT

Message #4 Posted by [Kevin Kitts](#) on 14 Aug 2007, 2:58 p.m.,  
in response to message #3 by Les Wright

I've used both SUSE and RedHat in the past - but I think that their support for the free versions of Linux they provide has waned somewhat from the early years. They are putting more effort and resources into the versions that they sell to corporations - their "enterprise" versions. Who can blame them, I guess...

Ubuntu was founded by an "internet millionaire" - who, I think, has already made his fortune and, it seems, is starting to capture a little more of the spirit that linux started with. I've just gotten the latest Ubuntu CD but have not installed it yet. I couldn't believe that they don't even charge for shipping! That's not right - you know that they have mailing costs...

BTW, I have bootcamp on a Mac Pro laptop (you boot either windows XP or Mac - but not both at the same time). It is free from Apple and works great - very impressive piece of software.

## Re: more iMac rambling, this time a little more OT

Message #5 Posted by [Thomas Okken](#) on 14 Aug 2007, 3:08 p.m.,  
in response to message #3 by Les Wright

Hi Les,

Quote:

Thomas, I do have gcc in Ubuntu (needed it to configure VMware Tools), and it effectively compiles simple text based C programs, but when I get into anything graphical the compiler error output is inscrutable to me.

...but maybe not to me. Hey, I'm a pro. ;-) Feel free to capture the output in a text file and email it to me. Be sure to do it like this:

```
make -e BCD_MATH=1 2>&1 | tee logfile.txt
```

so you really will capture everything (standard output and standard error). The important bit is the **2>&1**, which merges the standard error stream (file descriptor 2) into the standard output stream (file descriptor 1). Welcome to the Unix command line! :-)

Re: Favorite Linux flavor: I use Fedora, which is Red Hat's free offering, and I believe they also use it as a test bed for their commercial distro, which means it tends to be bleeding-edge. I find it very developer-friendly. Newbies may find it less appealing, though. Anyway, like I said it is free; I just [download](#) the ISOs from one of the many mirrors every blue moon and burn my own CDs.

- Thomas

*Edited: 14 Aug 2007, 3:23 p.m.*

### **Re: more iMac rambling, this time a little more OT**

*Message #6 Posted by [Kelly Huckman](#) on 14 Aug 2007, 3:28 p.m.,  
in response to message #1 by Les Wright*

You'll need GTK+, possibly Motif/Lesstif to compile Free42.

Navigate to System > Administration > Synaptic Package Manager. Look for GTK+ and install it, then try to build.

### **Re: more iMac rambling, this time a little more OT**

*Message #7 Posted by [Les Wright](#) on 14 Aug 2007, 3:58 p.m.,  
in response to message #6 by Kelly Huckman*

In cygwin I find I like the GTK version better over the Motif, so I will look for that package tonight.

I decided to remove the Ubuntu virtual machine (for an unrelated reason) so I will need to reinstall it. I have both the 32-bit and 64-bit ISOs. Fusion will let me install both. I assume Free42 needs the 32-bit.

FWIW, the thing I like about Ubuntu is that the VMware tools permit seamless movement between it and the Mac OS. However, installing VMware tools in Ubuntu is a chore, though I did find one link that was spot on.

Kelly, if you have any luck compiling Free42 in your implementation of Ubuntu I would be glad to know it can be done.

Les

### **Re: more iMac rambling, this time a little more OT**

*Message #8 Posted by [Thomas Okken](#) on 14 Aug 2007, 4:15 p.m.,  
in response to message #7 by Les Wright*

Quote:

\_\_\_\_\_

I assume Free42 needs the 32-bit.

\_\_\_\_\_

I have compiled it successfully on an AMD x86-64 machine running Fedora 6, so I guess in principle you should be able to get it to work under 64-bit Ubuntu as well. If it doesn't work, you can always tell the compiler to generate 32-bit code; that code will also execute on a 64-bit machine. I'd say don't bother with the 32-bit OS unless you specifically need it for something.

- Thomas

**Re: more iMac rambling, this time a little more OT**

*Message #9 Posted by [Les Wright](#) on 14 Aug 2007, 4:28 p.m.,  
in response to message #8 by Thomas Okken*

Thanks Thomas!

I will do that, then.

When I get home tonight I will install the 64 bit version, try to add those packages like Kelly suggested, and see if I have any luck

The good thing about setting up a virtual machine in Fusion is that if I muck it up one just goes into the virtual machine folder on the Mac and delete the package in question. This is one thing I am liking about the Mac--it doesn't seem to splash system files all over the place in mysterious ways and things are easy to find to take off. Not so in windows--you often can't tell from file names what a DLL or EXE is for!

I have found that your precompiled Free42 Linux binaries run beautifully in Ubuntu, so I don't want to get fancy yet trying to do a Unix build for Mac OS. Maybe some day.

Fedora core is a huge download, BTW!

Les

**Re: more iMac rambling, this time a little more OT**

*Message #10 Posted by [Thomas Okken](#) on 14 Aug 2007, 4:51 p.m.,  
in response to message #9 by Les Wright*

Kelly's probably right; Free42 doesn't have any external dependencies other than GTK and Motif/Lesstif, so as long as the development packages for those toolkits are installed, you should be OK. Building the Motif version can require some Makefile twiddling because the exact set of libraries to be linked differs between the many Unix and X11 versions, but building the GTK version should cause no such problems.

Quote:

\_\_\_\_\_

Fedora core is a huge download, BTW!

\_\_\_\_\_

Yes, unless you have a decent broadband connection, you're probably better off buying their CDs -- the download page for which I gave you the link earlier also has links to companies that sell Fedora CDs at a reasonable price. If you *\*do\** have a good DSL or cable connection, you can grab the ISOs and install from them into a VM without even burning any CDs.

- Thomas

**Re: more iMac rambling, this time a little more OT**

*Message #11 Posted by [Thomas Okken](#) on 14 Aug 2007, 8:52 p.m.,  
in response to message #9 by Les Wright*



Quote:

---

one thing I am liking about the Mac--it doesn't seem to splash system files all over the place in mysterious ways and things are easy to find to take off. Not so in windows--you often can't tell from file names what a DLL or EXE is for!

---

True; the Macintosh Way has been, right from the first, that applications (and all their baggage) get installed in their own directories, while the System Folder was basically off-limits to anyone except Apple.

Even though I have had a major soft spot for Apple for a long time (i.e., since I bought my first Macintosh back in 1984), I'm not going to give Apple too much credit for this MacOS "tidiness" aspect, though. One of the main things that tends to make Windows (and to a lesser extent, also Unix) such a mess, is how applications are built using libraries, which in turn are potentially shared between several apps. MacOS is a latecomer to the whole notion of shared libraries... Once you start thinking about how to manage software installs/upgrades/uninstalls in a shared-library environment, you'll realize how very hard it is to get that right. Longtime Linux users can sing you sad, sad songs about failed attempts to upgrade their systems because of inter-package dependencies... Bottom line: Linux tries to cope but doesn't do so very well; Windows leaves the coping to third-party installers so Microsoft can always deflect the blame when things get messed up; and MacOS simply doesn't deal with the issue at all. Now that personal computers all have hundreds of megabytes of RAM, and many gigabytes of disk storage, and ridiculously fast CPUs, the whole notion of shared libraries actually starts to feel like a bit of an anachronism -- it solves a problem that isn't really a problem any more, and it introduces problems that no one has yet figured out how to solve.

My apologies to everybody for this 100% off-topic post. I will cease and desist on this thread, unless someone re-introduces the HP Calculator topic somehow. :-)

- Thomas

### **Re: more iMac rambling, this time a little more OT**

*Message #12 Posted by [Kelly Huckman](#) on 14 Aug 2007, 4:52 p.m.,  
in response to message #7 by Les Wright*

I actually don't have Ubuntu currently installed, but this thread has inspired me to load it up in Bootcamp. Burning the image as I type. I'll let you know if I have any luck, Les.

Edit: Yeah, just needed gtk+ to build. The package name for the gtk headers under the Synaptic package manager is libgtk2.0-dev.

*Edited: 14 Aug 2007, 8:38 p.m. after one or more responses were posted*

### **Re: more iMac rambling, this time a little more OT**

*Message #13 Posted by [gteague](#) on 14 Aug 2007, 5:34 p.m.,  
in response to message #12 by Kelly Huckman*

i downloaded the 64-bit ubuntu version 7.04 (feisty fawn--what a name!) from their website last night and created an os image using vmware fusion. i had quite the time getting the vmtools to install and i got a couple of error messages along the way, but i think perhaps the vmtools don't completely support 64-bit. i'm just happy the tools worked at all--vmware is the first emulator that i've run that has supported such niceties for any non-windows os.

i used to run a redhat server 24/7 and hosted my website on it until mac os x with its unix underpinnings arrived, so i no longer have to depend so much on a separate linux distro.

in any case, ubuntu runs great under vmware. i also have parallels and both virtualization products have their pros and cons, which is why i run both.

i have a 64-bit version of win xp coming from newegg (hopefully) this afternoon and i'm going to use it as my bootcamp os. i understand some 64-bit drivers are missing, but from the research i've done so far they are mostly minor--for laptop support and things like the brightness keys on the keyboard.

/guy

### **Re: more iMac rambling, this time a little more OT**

*Message #14 Posted by [Kevin Kitts](#) on 14 Aug 2007, 6:09 p.m.,  
in response to message #13 by [gteague](#)*

I've run the 64 bit version of SUSE Linux and found that it was really more trouble than it was worth. I didn't really see any performance improvement and while 99% of 32 bit software works just fine with the 64 bit linux there were just a very few compatibility issues that I ran into that made life difficult. I eventually went back to 32 bit linux.

I've heard of a lot of 64 bit driver issues with windows... you might consider 32 bit...

but if you do 64 bit linux and windows... let us know how it goes. Good Luck... ;-)

### **Re: more iMac rambling, this time a little more OT**

*Message #15 Posted by [gteague](#) on 15 Aug 2007, 7:27 p.m.,  
in response to message #14 by [Kevin Kitts](#)*

kevin: i could have just used your conclusion and saved myself about 14 hours of pain and frustration!

my bootcamp install of 64-bit xp pro was a very mixed bag indeed. i used the bootcamp assistant to burn a driver cd and partition off 20gb of my startup drive for windows. i then inserted my xp pro cd and told the assistant to install.

it booted into windows and started the setup process which took maybe 45 minutes. but once a last restart brought up the familiar windows desktop the problems started.

first problem was noticed when i inserted the windows drivers from apple on the cd the assistant had helped me burn. it said that it would only work on xp or vista 32-bit with sp2. i checked my system panel and, sure enough, my xp pro install was only showing as having sp1 installed in spite of the fact that newegg sold this as an sp2 version. i just got off the phone with them and they are allowing me to exchange my disk for one with sp2.

silly me, i thought it would be as easy as just downloading and installing the sp2 upgrade after tracking the 64-bit version down on the labyrith microsoft site, but no, even after that was accomplished, i was still unable to install the apple drivers.

well, most of you know the drill i went through then. took nearly 6 hours because i had no network on the windows install so i had to boot back and forth from mac to pc in order to make a slipstream cd. and roxio toast on the mac would not create a bootable cd, so i had to

get a free windows utility to finalize the cd as bootable. luckily i had a parallels vm image of xp so i was able to do most of the slipstream work on it or i would have had to boot back and forth quite a few times. also very helpful was that i had formatted the windows partition as fat32 so my mac could see the files.

but even after i did all that the drivers would not install automatically or manually. without networking it's not a fun experience hunting down drivers. back on my mac i searched forums for solutions but not a single driver i downloaded from intel and other places would work.

bottom line is that the 64-bit xp pro installs, boots and runs fine. but the 64-bit drivers needed are not to be found on a semi-casual search and without network and graphics drivers you might as well not bother.

so i'm going to put my tail between my legs and install a 32-bit version of windows and save the 64-bit for when vista forces more 64-bit driver development.

/guy

### **Re: more iMac rambling, this time a little more OT**

*Message #16 Posted by [Les Wright](#) on 14 Aug 2007, 9:57 p.m.,  
in response to message #13 by gteague*

guy, [this link](#) made everything very clear for the 32-bit installation. I assume the 64-bit install will allow similar installation of vmware tools? haven't tried....

thanks guys so much for developing this thread, even though it is a bit peripheral to the mandate of the Forum. I have learned tons that will save me hours of head scratching, and banging!

Les

*Edited: 14 Aug 2007, 9:58 p.m.*

### **Re: more iMac rambling, this time a little more OT**

*Message #17 Posted by [gteague](#) on 15 Aug 2007, 7:30 p.m.,  
in response to message #16 by Les Wright*

wow, great link wes! i sure wish i had that before i installed.

yeah, it took me awhile to realize that i would have to manually ungzip and compile/make on the vmtools, so i fumbled around there until i hit on the formula.

anyone wanting to install 64-bit ubuntu needs to print off the instructions at that link.

thanks,

/guy

### **Re: more iMac rambling, this time a little more OT**

*Message #18 Posted by [Les Wright](#) on 15 Aug 2007, 2:37 a.m.,  
in response to message #12 by Kelly Huckman*

Thanks Kelly.

I got the libgtk2.0-dev package + dependencies, installed (actually, the synaptic package manager did it for me), and Thomas' gtk version compiles beautifully, both binary and BCD versions.

Not so lucky with the Motif version. I got libmotif-dev and its dependencies, but still wild errors on attempted compilation. No luck when I try lessstif as well.

I do indeed like the gtk version better, but it is the principle of the thing. If Ubuntu is a reasonably functioning Linux, albeit free, it should be no hardship to find and install the right packages to compile the Motif version too.

If you have any luck let me know!

Les

p.s. I opted for the 64 bit version of Ubuntu. Could that explain it?

*Edited: 15 Aug 2007, 2:38 a.m.*

## **Re: more iMac rambling, this time a little more OT**

*Message #19 Posted by [Les Wright](#) on 15 Aug 2007, 3:16 a.m.,  
in response to message #18 by Les Wright*

Here is the output of make -e BCD\_MATH=1 in the Motif directory:

```
ln -s ../common/free42.h
ln -s ../common/core_commands1.cc
ln -s ../common/core_commands1.h
ln -s ../common/core_commands2.cc
ln -s ../common/core_commands2.h
ln -s ../common/core_commands3.cc
ln -s ../common/core_commands3.h
ln -s ../common/core_commands4.cc
ln -s ../common/core_commands4.h
ln -s ../common/core_commands5.cc
ln -s ../common/core_commands5.h
ln -s ../common/core_commands6.cc
ln -s ../common/core_commands6.h
ln -s ../common/core_display.cc
ln -s ../common/core_display.h
ln -s ../common/core_globals.cc
ln -s ../common/core_globals.h
ln -s ../common/core_helpers.cc
ln -s ../common/core_helpers.h
ln -s ../common/core_keydown.cc
ln -s ../common/core_keydown.h
ln -s ../common/core_linalg1.cc
ln -s ../common/core_linalg1.h
ln -s ../common/core_linalg2.cc
ln -s ../common/core_linalg2.h
ln -s ../common/core_math1.cc
ln -s ../common/core_math1.h
ln -s ../common/core_math2.cc
ln -s ../common/core_math2.h
ln -s ../common/core_main.cc
ln -s ../common/core_main.h
ln -s ../common/core_phloat.cc
ln -s ../common/core_phloat.h
ln -s ../common/core_sto_rcl.cc
ln -s ../common/core_sto_rcl.h
ln -s ../common/core_tables.cc
ln -s ../common/core_tables.h
ln -s ../common/core_variables.cc
ln -s ../common/core_variables.h
ln -s ../common/shell.h
ln -s ../common/shell_loadimage.cc
ln -s ../common/shell_loadimage.h
ln -s ../common/shell_spool.cc
ln -s ../common/shell_spool.h
```

```
ln -s ../common/skin2cc.cc
ln -s ../common/skin2cc.conf
ln -s ../common/keymap2cc.cc
ln -s ../common/bcd.cc
ln -s ../common/bcd.h
ln -s ../common/bcdfloat.cc
ln -s ../common/bcdfloat.h
ln -s ../common/bcdmath.cc
ln -s ../common/bcdmath.h
touch symlinks
g++ -MMD -Wall -g -I/usr/X11R6/include -fno-exceptions -fno-rtti -
DVERSION="\1.4.36\" -DBCDCD_MATH -c -o shell_main.o shell_main.cc
shell_main.cc:36:29: warning: X11/Xmu/Editres.h: No such file or directory
shell_main.cc:37:1: warning: "XK_MISCELLANY" redefined
In file included from /usr/include/X11/Xutil.h:56,
                 from /usr/include/X11/Intrinsic.h:57,
                 from /usr/include/Xm/Xm.h:56,
                 from shell_main.cc:19:
/usr/include/X11/keysym.h:52:1: warning: this is the location of the previous
definition
shell_main.cc:39:21: warning: X11/xpm.h: No such file or directory
shell_main.cc: In function \u2018int main(int, char**)\u2019:
shell_main.cc:506: error: \u2018XpmCreatePixmapFromData\u2019 was not declared
in this scope
shell_main.cc:538: error: \u2018_XEditResCheckMessages\u2019 was not declared
in this scope
shell_main.cc: In function \u2018void selProgButtonCB(_WidgetRec*, void*,
void*)\u2019:
shell_main.cc:1851: error: cast from \u2018void*\u2019 to \u2018int\u2019 loses
precision
shell_main.cc: In function \u2018void prefsButtonCB(_WidgetRec*, void*,
void*)\u2019:
shell_main.cc:2272: error: cast from \u2018void*\u2019 to \u2018int\u2019 loses
precision
make: *** [shell_main.o] Error 1
```

Thomas, I am suspecting that the compiler is not finding the desired X11 headers where it wants them. My Ubuntu Linux is missing some key ingredient here?

Les

### **Re: more iMac rambling, this time a little more OT**

*Message #20 Posted by [Les Bell](#) on 15 Aug 2007, 7:08 a.m.,  
in response to message #19 by Les Wright*

Les, I run Centos 5, rather than Ubuntu or Fedora, for reasons that aren't important here. The two missing header files your compiler is complaining about are installed from libXmu-devel-1.0.2-5 and libXpm-devel-3.5.5-3 (on RH/Fedora/Centos-style distributions, the -devel RPM packages contain the header files and libraries necessary to compile applications that use that subsystem).

You should look for similarly-named packages on Ubuntu and use Synaptic or apt-get to install them, and then you should be able to build Free42 successfully.

Best,

--- Les

[<http://www.lesbell.com.au>]

[Lots of Linux articles on my site, btw]

### **Re: more iMac rambling, this time a little more OT**

*Message #21 Posted by [Les Wright](#) on 15 Aug 2007, 8:34 a.m.,  
in response to message #20 by Les Bell*

I have alas installed all these by now and even though the header files are found the errors regarding the loss of precision typecasting error persist and the build still stops early.

weird.

Les

### **Re: more iMac rambling, this time a little more OT**

*Message #22 Posted by **Thomas Okken** on 15 Aug 2007, 11:48 a.m.,  
in response to message #21 by Les Wright*

Quote:

the errors regarding the loss of precision typecasting error persist and the build still stops early

Oops, I forgot to discuss those in my previous reply.

Those errors require changing **int** to **long** in shell\_main.cc, lines 1851 and 2272 -- 4 changes in total. The reason: in the 64-bit world, pointers are 8 bytes, but int apparently is still 4 bytes, so casting a pointer to an int causes 4 bytes to be chopped off. On 32-bit systems, the size of an int is usually the same as the size of a pointer, which is why I have been getting away with those casts until now.

I'm a bit surprised that gcc considers this loss of precision an error and not a warning (and, for what it's worth, this particular code would still work, despite the loss of precision, because those pointers I'm casting to ints actually happen to contain ints (see shell\_main.cc, lines 1568, 1579, 2143, 2201, 2254, and 2265)).

Anyway, try making those changes in lines 1851 and 2272 and let me know how it goes; if it works, then I'll change the code so it automatically uses long instead of int on 64-bit systems.

- Thomas

*Edited: 15 Aug 2007, 2:48 p.m. after one or more responses were posted*

### **Re: more iMac rambling, this time a little more OT**

*Message #23 Posted by **Les Wright** on 15 Aug 2007, 12:13 p.m.,  
in response to message #22 by Thomas Okken*

Thomas,

I won't get to test this until I get home tonight, but I will try the fix and get back to you.

Alternately, I will also set up 32-bit Ubuntu as a virtual machine to see if the errors turn up there.

As I mentioned before, in finding and installing the recommended packages the failure to find those headers has resolved.

Could it be that if I "fix" this code for 64-bit and shell\_main.cc compiles similar stoppages would occur when the compiler moves on to other source files? If I lot

of this happens it may be wise for me just to make 32-bit Ubuntu my choice.

I spent a few hours funding downloading and installing the various packages in 64-bit. Knowing where to look will save me time in 32-bit.

Les

P.S. As far as a free OS and programming environment go, I really like Ubuntu so far. I liked Cygwin too when I have played with it, but now being able to compile "real" Linux programs makes me feel like a slightly more accomplished amateur.

P.P.S Did I mention recently how much I love this computer? :)

*Edited: 15 Aug 2007, 12:17 p.m.*

### **Re: more iMac rambling, this time a little more OT**

*Message #24 Posted by [Les Wright](#) on 15 Aug 2007, 12:29 p.m.,  
in response to message #22 by Thomas Okken*

Thomas, is there perhaps a compiler directive or instruction or option that will generate only a warning here rather than an error? That would save you having to fix code that really isn't broken. Only the makefile would need to be a little different.

Les

### **Re: more iMac rambling, this time a little more OT**

*Message #25 Posted by [Thomas Okken](#) on 15 Aug 2007, 1:13 p.m.,  
in response to message #24 by Les Wright*

I'm not aware of any gcc option that turns the "loss of precision" error into a warning. It is possible that there may be more of those errors lurking in files other than motif/shell\_main.cc, but since you mentioned being able to build the GTK version, any problems would be limited to the source files in the motif subdirectory. I can't think of any reason why I would have used pointer/int casting anywhere in the Motif shell apart from the two places you stumbled into (I just took a quick look at the code and I couldn't find any); the only other place that springs to mind where I do tricky stuff with pointers is in the code that reads and writes the state file -- so if your GTK build starts and exits without crashing, and remembers programs and all variable types correctly, everything should be fine.

Generally speaking, you shouldn't have any need to keep a 32-bit image around if the 64-bit OS is working fine for you; even if you try to compile a program that has tons of 64-bit incompatibilities, you can always tell gcc to generate 32-bit code (using the **-m32** switch). That should work for Free42, too, if all else fails.

Just out of curiosity, I tried compiling on one of the 64-bit machines at work (Intel Xeon), and interestingly enough, the compiler only issued \*warnings\* for those two pointer-to-int casts (and only those two; there were no other warnings, although the link failed due to Motif/Lesstif not being present).

This machine runs CentOS 4.5; obviously gcc is configured a bit differently under Ubuntu. For what it's worth, `g++ --version` returns "g++ (GCC) 3.4.6 20060404 (Red Hat 3.4.6-8)".

- Thomas

*Edited: 15 Aug 2007, 1:17 p.m.*

### **Re: more iMac rambling, this time a little more OT**

*Message #26 Posted by [Les Wright](#) on 15 Aug 2007, 1:54 p.m.,  
in response to message #25 by Thomas Okken*

Quote:

---

I'm not aware of any gcc option that turns the "loss of precision" error into a warning. It is possible that there may be more of those errors lurking in files other than `motif/shell_main.cc`, but since you mentioned being able to build the GTK version, any problems would be limited to the source files in the motif subdirectory. I can't think of any reason why I would have used pointer/int casting anywhere in the Motif shell apart from even if you try to compile a program that has tons of 64-bit incompatibilities, you can always tell gcc to generate 32-bit code (using the `-m32` switch). That should work for Free42, too, if all else fails.

---

That could be worth trying too!

I suppose that one would simply adjust the Makefile so that calls to gcc or g++ include the `-m32` switch?

Les

### **Re: more iMac rambling, this time a little more OT**

*Message #27 Posted by [Thomas Okken](#) on 15 Aug 2007, 2:37 p.m.,  
in response to message #26 by Les Wright*

Quote:

---

I suppose that one would simply adjust the Makefile so that calls to gcc or g++ include the `-m32` switch?

---

Yes, just add it to CXXFLAGS.

I'm curious how much of a speed difference there would be between the 32-bit and 64-bit versions. Free42 only uses 8-byte integers in a small number of places (mainly for binary functions, i.e. the BASE menu), but if the compiler is smart enough to use the wider data path to speed up struct and array copy operations, there could be some benefit. And of course I know you're just chomping at the bit to write your first 2,147,483,648-byte program. ;-)

- Thomas



## Re: more iMac rambling, this time a little more OT

Message #28 Posted by [Les Wright](#) on 15 Aug 2007, 6:47 p.m.,  
in response to message #27 by Thomas Okken

It gets weirder!

I added the -m32 switch. The good news is that \*.o compilation is successful.

When the linker is invoked, there are a bunch of warnings from /user/bin/ld advising that the " i386 architecture of input file `shell\_main.o' is incompatible with i386:x86-64 output". I think this is okay--the compiler tells us we are making a 32-bit program in a 64-bit environment, right?

But this is where we hit errors:

```
core_commands2.o: In function `generic_loop_helper':
/home/shrinkiel964/free42/motif/core_commands2.cc:543:
undefined reference to `__divdi3'
core_commands5.o: In function
`docmd_basediv(arg_struct*)':
/home/shrinkiel964/free42/motif/core_commands5.cc:203:
undefined reference to `__divdi3'
bcdfloat.o: In function `BCDFloat':
/home/shrinkiel964/free42/motif/bcdfloat.cc:245:
undefined reference to `__moddi3'
/home/shrinkiel964/free42/motif/bcdfloat.cc:247:
undefined reference to `__divdi3'
/home/shrinkiel964/free42/motif/bcdfloat.cc:245:
undefined reference to `__moddi3'
/home/shrinkiel964/free42/motif/bcdfloat.cc:247:
undefined reference to `__divdi3'
collect2: ld returned 1 exit status
make: *** [free42dec] Error 1
```

Now this tells my tiny mind that there is some library dealing with modular arithmetic and integer division that it just can't find!

Funnily enough, when I add the -m32 directive to the gtk makefile, I get similiar undefined reference errors, only a lot more of them.

My next step is to change the Makefiles back and and try your original advice of changing those int declarations to long. I will report back!

Les

## Re: more iMac rambling, this time a little more OT

Message #29 Posted by [Les Wright](#) on 15 Aug 2007, 6:52 p.m.,  
in response to message #28 by Les Wright

Quote:

Funnily enough, when I add the -m32 directive to

the gtk makefile, I get similiar undefined reference errors, only a lot more of them.

---

Actually the difference is between the binary and decimal builds, not gtk and motif this time. The binary builds generate a boatload of undefined reference errors to `_divdi3` and `moddi3`, BCD build only a handful.

The diagnostics is interesting, eh?

Les

### **Re: more iMac rambling, this time a little more OT**

*Message #30 Posted by [Les Wright](#) on 15 Aug 2007, 7:08 p.m.,  
in response to message #29 by Les Wright*

Thomas, I went with your original fix.

Those four "int"s are changed to "long"s, and both binary and decimal motif versions compile beautifully.

I still like the gtk interface better, but I am grateful this could even be done!

Les

### **Re: more iMac rambling, this time a little more OT**

*Message #31 Posted by [Thomas Okken](#) on 15 Aug 2007, 7:52 p.m.,  
in response to message #28 by Les Wright*

It sounds like it's trying to link your 32-bit \*.o files to 64-bit libraries. The `_divdi3` and `_moddi3` are extended-precision integer functions, I'm guessing to do division and remainder on 64-bit integers -- operations that the 64-bit C library won't have since 64-bit CPUs have built-in functions for those.

I'm at home right now, meaning firmly in the 32-bit world :-D so I can only give generic (read: vague) advice on what needs to be done next. First, make sure you have 32-bit versions of all required libraries (I don't know about Ubuntu's filesystem layout, but IIRC, in Fedora the 64-bit libs are under `/usr/lib64` and the 32-bit libs are under `/usr/lib`. Also, you may have to tell the linker to *\*use\** those libraries in preference to the 64-bit ones; whether there is a switch for that (I don't think `ld` recognizes `-m32`, but maybe there's something else) or you need to use a `-L` switch to force it to look in `/usr/lib`, I don't know.

Good thing this is academic, I guess. I'll change shell\_main.cc so those two troublesome lines automatically use long instead of int when sizeof(int) < sizeof(void\*). I'll update the source package on my web page shortly.

UPDATE: It's done; the revised code now casts to a long, \*then\* casts to an int. The loss of precision is not a problem as long as it happens while casting between integer types. I updated the Free42 source package and the project history; I didn't release any new binary packages since this code change doesn't affect any of the existing release builds.

- Thomas

*Edited: 15 Aug 2007, 9:53 p.m.*

## Re: more iMac rambling, this time a little more OT

Message #32 Posted by **Thomas Okken** on 15 Aug 2007, 7:16 a.m.,  
in response to message #19 by Les Wright

Quote:

---

Thomas, I am suspecting that the compiler is not finding the desired X11 headers where it wants them. My Ubuntu Linux is missing some key ingredient here?

---

Yes, that's what it looks like. The warning about XK\_MISCELLANY being redefined is interesting but probably harmless; what's also noteworthy is that it indicates that at least \*some\* of the headers \*are\* found, but in a different location than specified by the -I directive; in the Makefile, CXXFLAGS has -I/usr/X11R6/include, but the compiler indicates that it has found X11/Xutil.h, X11/Intrinsic.h, Xm/Xm.h, and X11/keysym.h under /usr/include.

It looks like, the X headers no longer live under /usr/X11R6/include, and that some of them have been moved to /usr/include (which is automatically searched by the compiler and does not need to be explicitly specified using a -I option)... But not everything was moved there; the compiler is issuing a warning that it can't find X11/Xmu/Editres.h, which causes the error message about \_XEditResCheckMessages later on; also, it is issuing a warning that it can't find X11/xpm.h, which causes the error message about XpmCreatePixmapFromData.

You could try searching for Editres.h and xpm.h:

```
find / -name Editres.h -o -name xpm.h -print 2> /dev/null
```

...it will take a while, but if they exist, this will find them. The **2> /dev/null** bit suppresses the zillions of error messages that **find** will print whenever it tries to recurse into directories for which you do not have read permissions.

If Editres.h and xpm.h are found, you should change the -I option in the makefile to point to the directory they're in, or, to be precise, to the directory that contains X11/Xmu/Editres.h and X11/xpm.h. Note that you can use multiple -I options, if necessary.

If Editres.h and/or xpm.h are not found, you're missing some X11 development packages; I don't know how Ubuntu's X11 packages are structured, but you're probably looking for

something called "Miscellaneous Utilities" (containing Editres.h and the libXmu library) and "XPM" (containing xpm.h and the libXpm library). If in doubt, just install everything with X11 or XFree86 or Xorg in its name, and if that still doesn't work, Kelly or some Ubuntu expert should be able to answer these questions easily (Usenet Is Your Friend). :-)

UPDATE: Looks like the packages you need are **libxmu-dev** and **libxpm-dev** -- Google "Ubuntu libXmu" and "Ubuntu libXpm" and the first hit in each case is the relevant page at [packages.ubuntu.com](http://packages.ubuntu.com).

Hope this helps!

- Thomas

*Edited: 15 Aug 2007, 7:48 a.m.*

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## HP Forum Archive 17

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### 9825 assembler/ROM programming

Message #1 Posted by [Bohemia House](#) on 14 Aug 2007, 12:03 p.m.

Does somebody know how to program, to develop a new ROM for HP 9825 ???

### Re: 9825 assembler/ROM programming

Message #2 Posted by [Eric Smith](#) on 14 Aug 2007, 1:19 p.m.,  
in response to message #1 by [Bohemia House](#)

I don't recall there being an supported assembly development system for the 9825. It uses the same processor as the 9835 and 9845, so you could use the assembler ROM for those. However, the language interpreter on the 9825 is much different, so you'd have to figure out how to interact with it. US patents 4,075,679 and 4,437,156 might be helpful.

### Re: 9825 assembler/ROM programming

Message #3 Posted by [Klaus](#) on 15 Aug 2007, 2:23 a.m.,  
in response to message #2 by [Eric Smith](#)

The relative addressing of the 9825 is different from the 9835/45. You will find in the patent of the 9825 two modes of relative addressing selected by the CPU pin RELA. To quote one of the developers of the 9825:

Quote:

to answer your first question regarding the function of RELA, it's a hardware selection used to determine Absolute vs Relative addressing mode calculation, tied low in the hp9825 to accomodate code destined for rom's (allows access to any word within a page), the pin is tied high in hp9835/45 to accomodate relocatable code segments.

And to be quoted further:

Quote:

there is a binary that i wrote for the 9825 that implements a bpc assembler and reverse assembler that proved to be very useful at the time, also, after meeting up with steve i put some work into creating a macro package for TeX that aims to implement a modern assembler for the bpc source so that the listing files (that i have in paper form) can be reproduced

After a discussion about the 9825 on this forum, this developer contacted me and answered many of my questions. I think these details will eventually show up on hp9825.com. There is a useful simulator of the 9825 available from one of our forum members.

### Re: 9825 assembler/ROM programming

*Message #4 Posted by **Eric Smith** on 16 Aug 2007, 1:03 a.m.,  
in response to message #3 by Klaus*

Quote:

---

The relative addressing of the 9825 is different from the 9835/45.

---

IIRC, the 9825 does not have relative addressing, but rather uses the BPC in page addressing mode similar to the 21xx and 98x0.

Quote:

---

There is a useful simulator of the 9825 available from one of our forum members.

---

I must have missed the announcement? I've only seen Achim's hp9800e, which (AFAIK) doesn't simulate the 9825.

### **Re: 9825 assembler/ROM programming**

*Message #5 Posted by **Klaus** on 16 Aug 2007, 2:33 a.m.,  
in response to message #4 by Eric Smith*

Quote:

---

IIRC, the 9825 does not have relative addressing, but rather uses the BPC in page addressing mode similar to the 21xx and 98x0.

---

I think the patent mentions 2 modes of "relative" addressing (depending on the RELA-Signal), so I count that as "relative" addressing. Anyway, the addressing mode of the 9825 differs from the 9835/45, so I don't think you can use the Assembler ROM of the 9835 to create new commands.

And yes, I meant Achim's hp9800e, as far as I know, simulating the 9825 is on the TODO-list.

*Edited: 16 Aug 2007, 2:33 a.m.*

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## HP Forum Archive 17

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### HP-41C Handbook

Message #1 Posted by [HrastProgrammer](#) on 14 Aug 2007, 8:38 a.m.

I just found the following links (by accident):

<http://www.greendyk.nl/hp41c-manual/index.html>

<http://www.greendyk.nl/hp41c-card-reader/index.html>

Wow! Really impressive work ...

### Re: HP-41C Handbook

Message #2 Posted by [Howard Owen](#) on 14 Aug 2007, 8:54 a.m.,  
in response to message #1 by [HrastProgrammer](#)

Quote:

Wow! Really impressive work ...

I'll say! Those aren't scanned pages, but styled HTML that looks very, very close to the original.

I wonder they would mind me (or the museum) mirroring those pages?

Regards,  
Howard

### Re: HP-41C Handbook

Message #3 Posted by [Randy](#) on 14 Aug 2007, 10:30 a.m.,  
in response to message #2 by [Howard Owen](#)

That must have been done with an automated system, quite impressive.

I'd love to know what software was used. Extensive use of HTML frames but there is a fair amount of CSS used as well - all in all, a very curious mix.

Edit add PS: Even the HP red grid logo is done with a table instead of an image. It was out of proportion so I started looking. Perhaps it was a manual effort after all. The date shown in the page headers is 2004/2005.

*Edited: 14 Aug 2007, 10:34 a.m.*

### Re: HP-41C Handbook

Message #4 Posted by [Howard Owen](#) on 14 Aug 2007, 11:42 a.m.,  
in response to message #3 by [Randy](#)

If you back up to the top of the site, you'll find a change log for the manuals. It all sounds like a by-hand coding effort, and quite painstaking too. What people won't do for the love of these old machines!

Regards,  
Howard

**Re: HP-41C Handbook**

*Message #5 Posted by [Bohemia House](#) on 14 Aug 2007, 12:12 p.m.,  
in response to message #1 by HrastProgrammer*

It's a great page!!!

**Re: HP-41C Handbook**

*Message #6 Posted by [Thomas Okken](#) on 14 Aug 2007, 2:26 p.m.,  
in response to message #1 by HrastProgrammer*

Impressive, indeed. I was tempted at one point to give the HP-42S manual the same treatment, but as long as HP don't release those manuals into the public domain, there's the risk that such a project would never reach its intended audience. I notice that the word "permission" is conspicuously absent from Mr. Groenendijk's site.

- Thomas

**Re: HP-41C Handbook**

*Message #7 Posted by [Kevin Kitts](#) on 14 Aug 2007, 2:52 p.m.,  
in response to message #6 by Thomas Okken*

I actually found this site a year ago - I exchanged an e-mail or two with the person that created the documents - a very friendly guy. He was of the opinion that the fair use laws of the country that he resided in allowed the creation of these documents - but he would not release the documents in a way that could be easily downloaded for fear of violating the copyright laws of other countries.

I offer no opinion on any of the above as IANAL. ;-)

They are beautiful manuals though aren't they.

Any if you want to read them "offline" there are these things called "spiders" ;-)

**Re: HP-41C Handbook**

*Message #8 Posted by [Geir Isene](#) on 14 Aug 2007, 4:21 p.m.,  
in response to message #7 by Kevin Kitts*

... or simply [wget](#) :)

---

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## HP Forum Archive 17

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### Base of Natural Logarithms

Message #1 Posted by [Vincze](#) on 13 Aug 2007, 7:35 p.m.

Is there programmatic way to calculate the base of natural logarithms (or Euler Number) if the function of "e" were not available. I know what the formula is for "e", but how would one pro grammatically find this on say a 35s, or other similar calculator?

*Edited: 13 Aug 2007, 7:37 p.m.*

### Re: Base of Natural Logarithms

Message #2 Posted by [Brad Davis](#) on 13 Aug 2007, 8:10 p.m.,  
in response to message #1 by Vincze

Does the 35s not have  $e^x$ ?

You could use a series expansion.

### Re: Base of Natural Logarithms

Message #3 Posted by [Chuck](#) on 13 Aug 2007, 8:34 p.m.,  
in response to message #1 by Vincze

Do you want to have unlimited accuracy? or is this close enough?

$$\frac{848456353}{312129649} = 2.71828182845904523(4757)$$

That's close enough for most calculations.

Or use a simple loop to find the sum of  $1/n!$  as n goes from 0, 20. This gives 2.7182818284590452353(39784).

*Edited: 13 Aug 2007, 8:41 p.m.*

### Re: Base of Natural Logarithms

Message #4 Posted by [Lyuka](#) on 14 Aug 2007, 2:02 p.m.,  
in response to message #3 by Chuck

9242691/3400196 (within 7 digits, error <  $9.4e-14$ ) this is also enough for 35s.

49171/18089 (within 16 bit, error <  $1.02e-10$ ) may be used in a micro controller.

### Re: Base of Natural Logarithms

Message #5 Posted by [Katie Wasserman](#) on 13 Aug 2007, 8:39 p.m.,  
in response to message #1 by Vincze

This is a pretty simple program to write, just a few lines. You can also compute it in the equation solver in several different ways. But it doesn't need to be computed at all on this machine, it's now in the constants menu.

### Re: Base of Natural Logarithms (OT)

Message #6 Posted by [Chuck](#) on 13 Aug 2007, 8:58 p.m.,  
in response to message #5 by Katie Wasserman

Here's the problem I have with the programming required of some calculators. To do a loop from 1 to 20 of  $1/n!$  stored in a register, this is the best I can come up with ...

```
S001 LBL S
S002 -1.02
S003 STO I
S004 ISG I
S005 GTO S007
S006 RTN
S007 RCL I
S008 INTG
S009 !
S010 1/x
S011 STO+ E
S012 GTO S004
```

This seems like a ridiculous number of steps for a simple loop.

CHUCK

### Re: Base of Natural Logarithms (OT)

Message #7 Posted by [Paul Dale](#) on 13 Aug 2007, 9:57 p.m.,  
in response to message #6 by Chuck

One step less by running the loop backwards. Also better numerically.

```
E001 LBL E
E002 20
E003 STO I
E004 1
E005 RCL I
E006 !
E007 1/x
E008 +
E009 DSE I
E010 GTO E005
E011 RTN
```

- Pauli

### Re: Base of Natural Logarithms (OT)

Message #8 Posted by [Chuck](#) on 13 Aug 2007, 10:06 p.m.,  
in response to message #7 by Paul Dale

I now see that the STO+ was an unnecessary step (since the values remain on the stack), but why would backwards be better numerically? Non comprehendo.

### Re: Base of Natural Logarithms (OT)

Message #9 Posted by [Paul Dale](#) on 13 Aug 2007, 10:57 p.m.,  
in response to message #8 by Chuck

It is more stable backwards because you're adding like sized terms the whole time and generally maintaining full precision as well.

Going forwards starts with a 1 term and by the time you're near the end, most of the significant digits are beyond the precision of the sum.

The difference will likely be at most a digit or two in the last place but it doesn't take any extra effort to work from the small terms to the large.

- Pauli

### Re: Base of Natural Logarithms (OT)

Message #10 Posted by [Thomas Klemm](#) on 14 Aug 2007, 3:27 a.m.,  
in response to message #7 by Paul Dale

Use Horner's Method (p. 13-26 in the User's Guide) to avoid factorial:

```
E001 LBL E
E002 STO I
E003 1
E004 RCL/ I
E005 1
E006 +
E007 DSE I
E008 GTO E004
E009 RTN
```

```
20 XEQ E001
```

### Re: Base of Natural Logarithms

Message #11 Posted by [Thomas Klemm](#) on 14 Aug 2007, 5:23 a.m.,  
in response to message #5 by Katie Wasserman

Quote:

\_\_\_\_\_

You can also compute it in the equation solver in several different ways.

\_\_\_\_\_

I've tried to solve the following equation:

```
ABS(E^(Pi*i)+1)=0
```

I would have expected to get:

```
NO ROOT FND
```

Instead I got:

```
INVALID y^x
```

Any ideas why?

It seems that somehow E becomes 0, though this case (i.e. 0 with complex exponent) isn't mentioned in the user's guide as a possible reason for that message.

What a pity you don't get more information, or is there a way to find out what was the last value of E in case of an error?

However it works if 0 is replaced in the equation by 1E-11.

---

---

**Re: Base of Natural Logarithms**

Message #12 Posted by [Vincze](#) on 14 Aug 2007, 8:33 a.m.,  
in response to message #5 by Katie Wasserman

I know it is on calculator, but I just curious how the program would be written.

---

**Re: Base of Natural Logarithms**

Message #13 Posted by [Thomas Klemm](#) on 13 Aug 2007, 8:50 p.m.,  
in response to message #1 by Vincze

On the 35s:

- use the constants menu
- use the solver with  $\text{LN}(X) = 1$
- iterate the following steps a few times with initial value 1:

```
ENTER
LN
2
x<>y
-
*
```

- calculate  $(1 + 1\text{E-}6)^{1\text{E}6}$
- $\text{SINH}(1)+\text{COSH}(1)$
- ...

Just a few ideas.

*Edited: 14 Aug 2007, 3:03 a.m.*

---

**Re: Base of Natural Logarithms**

Message #14 Posted by [Thomas Okken](#) on 13 Aug 2007, 9:29 p.m.,  
in response to message #1 by Vincze

Erm, I'm not sure if I understand what you're asking here. You say that you know the formula for e, but you can't figure out how to write a program to compute that value?

$$e = 1 + 1/1 + 1/(1*2) + 1/(1*2*3) + 1/(1*2*3*4) + 1/(1*2*3*4*5) + \dots$$

Hint: if you number the terms like 0, 1, 2, 3, etc., then for all terms numbered 1 and greater, term  $n$  is a factor  $n$  smaller than the one before. Just keep summing until adding a term no longer changes your result; thanks to the limited precision of most calculators, that won't take long.

If you're going to ask for an actual program, I'm going to start suspecting you're a student asking us to do your homework. ;-)

- Thomas

---

**Re: Base of Natural Logarithms**

Message #15 Posted by [Vincze](#) on 14 Aug 2007, 8:41 a.m.,  
in response to message #14 by Thomas Okken

But formula is  $\lim_{n \rightarrow \infty} (1+1/n)^n$ . What I don't understand is how you deal with infinity. I guess you could loop a couple hundred times to deliver accuracy, but how was this calculated in past, when e not available.

I guess reason I ask is I try and better understand programming on HP calculator, so I thought this would be a good test to see how something like infinity be handled.

### **Re: Base of Natural Logarithms**

*Message #16 Posted by **Thomas Okken** on 14 Aug 2007, 9:34 a.m.,  
in response to message #15 by Vincze*

Dealing with infinity can be tricky, and there is no one answer for all situations. In the case of the series for e, the key insight is that the terms get progressively smaller as n increases, and that in fact, they shrink so quickly that you only need to sum a few in order to reach maximum precision.  $1/16! = 4.78e-14$ , which is too small to affect the value of e when working with 12-digit precision -- so after summing only 16 terms, you're done. If you're working with higher precision, you'll need more terms, of course.

You can work out in advance when the terms will become too small to affect the result any further, or you can simply compare each iteration's result to the previous one, and terminate the loop when there is no further change. And if you want the best possible accuracy, you can sum the series from smallest terms to largest (that requires working out which is the smallest term in advance), to minimize the effect of round-off error on the final result.

Note that the series for e (or generally speaking, for  $e^x$ , and the related series for sin and cos) have the nice property that the terms shrink very quickly, but this is not true for all series, like the notoriously useless  $\tan(x) = 1 - x/3 + x/5 - x/7...$  In such cases you'll have to look for a more clever approach.

- Thomas

### **Re: Base of Natural Logarithms**

*Message #17 Posted by **Vincze** on 14 Aug 2007, 10:02 a.m.,  
in response to message #16 by Thomas Okken*

Okay, but how you write program to do this? I no student in school, but I am student of life, and want to learn how to do something like this.

I try some programming but I still very green as you say in America, and still trying to grasp concept of RPN programming.

If this was in C, cobol, or assembler, I would know what to do, but I baffled with programming on 35s. Maybe it too simple and that my issue.

### **Re: Base of Natural Logarithms**

*Message #18 Posted by **Don Shepherd** on 14 Aug 2007, 10:11 a.m.,  
in response to message #17 by Vincze*

Vincze, you need to get the museum DVD. It has the manuals of almost all HP calculators, and you need to read the programming sections of those manuals. That will teach you how to program in RPN.

**Re: Base of Natural Logarithms**

Message #19 Posted by [Vincze](#) on 14 Aug 2007, 11:15 a.m.,  
in response to message #18 by [Don Shepherd](#)

But I have HP35s and its manual, but it not explain the programming and looping and loop testing, etc. If I want to loop something say 20 times, how would I control that in 35s and take final value and display? It talk about very little in manual. I have friend who has older version of CD's from here. What would be good manual to look at that explain this better than current 35s manual.

**Re: Base of Natural Logarithms**

Message #20 Posted by [Don Shepherd](#) on 14 Aug 2007, 12:48 p.m.,  
in response to message #19 by [Vincze](#)

Vincze, how can you say the 35s manual does not discuss programming and looping? Part 2 of the manual is about nothing but programming. Loops are described on pages 14-16 to 14-18. You really need to read these sections and play around with it.

**Katie Wasserman's "buggy little beast" sigma function**

Message #21 Posted by [Miguel Toro](#) on 14 Aug 2007, 8:00 p.m.,  
in response to message #1 by [Vincze](#)

You also could use this:

$$(IDIV(I,18)-1)/A = (1-IDIV(I,18))/A + 0*(E+1/I!STO E) + 0*(I+1STO I)$$

Solve for A  
I=0 R/S  
E=0 R/S

RCL E

or still:

$$(IDIV(I,18)-1)/A = (1-IDIV(I,18))/A + 0*(E/(20-I)+1STO E) + 0*(I+1STO I)$$

Solve for A  
I=0 R/S  
E=1 R/S

RCL E

Just amazing! enjoy.

Miguel

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## HP Forum Archive 17

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### converted 32sii program for 35s

Message #1 Posted by [gteague](#) on 13 Aug 2007, 7:25 p.m.

[mods, if this is inappropriate for the forum, please let me know]

going through the software archives to find some programs for my new 35s i came across this netmask calculator which will really help me as i'm taking my ccna test in the next month or two.

all i basically did was substitute 'goto line#' for the labels (original labels are noted to the right). i'm not enough of a programmer to condense it further although i see some possibilities using the indirect or index registers perhaps.

here is the original copyright notice:

This program is Copyright © 2001 by Borja Marcos and is used here by permission. This program is supplied without representation or warranty of any kind. Borja Marcos and The Museum of HP Calculators therefore assume no responsibility and shall have no liability, consequential or otherwise, of any kind arising from the use of this program material or any part thereof.

Overview: This is my first 32Sii program, so don't blame me ;-) It calculates the netmask from the number of bits. For example, 24 gives 255.255.255.000.

To run it, type the number of bits and "XEQ M". Enjoy it. Who said calculators aren't useful when you end college? ;-)

and here is the converted (for 35s) program:

```

001:   LBL M
002:   RPN
003:   STO B           'LBL M'
004:   0
005:   STO R
006:   STO M
007:   9
008:   STO E
009:   RCL B           'LBL A'
010:   8
011:   x>y?
012:   GTO M015
013:   8
014:   GTO M016
015:   RCL B           'LBL B'
016:   STO M           'LBL C'
017:   STO- B
018:   2
019:   RCL M
020:   y^x
021:   1
022:   -
023:   2
024:   ENTER
025:   8
026:   RCL M
027:   -
028:   y^x
029:   X
030:   RCL E
031:   10^x

```

```
032: X
033: STO+ R
034: 3
035: STO- E
036: RCL B
037: x>0?
038: GTO M009
039: RCL R
040: RTN
```

check:

```
LBL M
LN=129
CK=F049
```

/guy

---

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## HP Forum Archive 17

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**HP 10S**

Message #1 Posted by [DaveJ](#) on 13 Aug 2007, 6:04 p.m.

Anyone got the new 10S yet?

I like the big rubber feet on the bottom: <http://www.educalc.net/1200484.page> They claim it's available in Singapore already.

Dave.

**Re: HP 10S**

Message #2 Posted by [Raymond Del Tondo](#) on 13 Aug 2007, 7:29 p.m.,  
in response to message #1 by [DaveJ](#)

It seems the 10s is nothing more than a repackaged 8s,  
with additional solar panel.

I already have an 8s, so I won't waste another twenty bucks;-)

The 8s is a nice machine for the price,  
but virtually nothing compared to even a 35s,  
which costs about 3 times of an 8s,  
but is a hundred times more powerful.

And very important for me:

The 35s is the first 'HP'-like calc they made since about ten years IMHO... (except for the bugs;-)

Raymond

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## HP Forum Archive 17

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**HP 50G keys**

Message #1 Posted by [Vincze](#) on 13 Aug 2007, 12:42 p.m.

Just curious, as I have never had the pleasure to play with a 50G, but what are the 50G keys like? Do they have same feel as 48GX or are they mush, like?

**Re: HP 50G keys**

Message #2 Posted by [Chan Tran](#) on 13 Aug 2007, 12:48 p.m.,  
in response to message #1 by Vincze

Just got one yesterday. The keys are not bad and not so mushy but not as good as those on the 48S/G. The calculatr as a whole doesn't have the same quality as the 48 series.

**Re: HP 50G keys**

Message #3 Posted by [Seth Morabito](#) on 13 Aug 2007, 1:48 p.m.,  
in response to message #1 by Vincze

The 50g keys are very firm and clicky. They do not have the same feel as a 48 SX/GX however. The plastic feels different, and the key tops are not rounded.

I don't mind the keys, though I prefer the keys on the 35s. I hope that there is a new version of the 50g in the works that will use the 35s keys. If the 50g had a wide enter key and sloped 35s style keys, I think it would be my favorite (currently made) calculator. It's really a very nice product even as it is.

**Re: HP 50G keys**

Message #4 Posted by [Brad Davis](#) on 13 Aug 2007, 7:46 p.m.,  
in response to message #1 by Vincze

I've been using my 50g for a month or so now. To me, the keys feel similar to the 48G's (which are perfect, IMO), but harder. They're a bit too hard for my tastes, but I'm getting used to them. I have a big hairy equation that I use as a benchmark. It takes me 27 sec. on my 48G, but 30 on my 50g. It also takes 30 sec. on my 33s and its keys are about as hard as the 50g's. I doubt I'll ever be as fast with the 50g, although will probably get to 28-29 sec. after I use it longer.

It's such a darn nice calculator overall, though, that I think I'm willing to stick with it. I find myself using a lot more of its advanced features than I thought I would.

I agree that it doesn't have that same quality feel as the 48G, but time will tell if it is tough enough. My biggest quality gripe is the battery compartment cover. It's not a monumental disaster (28S for example), but opens way too easily. A little piece of tape secures it.

**Re: HP 50G keys**

Message #5 Posted by [Tim Wessman](#) on 13 Aug 2007, 11:11 p.m.,

*in response to message #4 by Brad Davis*

In my opinion, the major difference is the distance the key has to travel. On the 48, this distance is about a third less, and thus a much "snappier" feel on that compared to the 50g.

TW

### **Re: HP 50G keys**

*Message #6 Posted by [Brad Davis](#) on 14 Aug 2007, 12:46 p.m.,  
in response to message #5 by Tim Wessman*

I think you're right. I find myself pushing a key, finger moving toward the next one, and realizing that the previous one didn't register. That probably is more of a travel distance issue than stiffness.

BTW, where the heck did you get 1/3 less? Did you measure that? Now THAT would be some extreme calculator scrutiny, LOL.

### **Re: HP 50G keys**

*Message #7 Posted by [Hal Bitton in Boise](#) on 13 Aug 2007, 11:49 p.m.,  
in response to message #1 by Vincze*

Hi Vincze

The key detents on my 50G are a bit more subtle than on my 48GX, but still very nice...they actually feel about the same as the keys on my 15C.

All in all, the 50G seems a very good machine...some very powerful functionality topped off with a fantastic display. The ability to display the entire stack in textbook format is really nice...and as I've said before, this lets you build an equation right on the stack using RPN keystrokes...much easier (IMO) than the algebraic logic required in the equation writer environment.

Best regards, Hal

---

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## HP Forum Archive 17

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### quality vs. commodity

Message #1 Posted by [megarat](#) on 13 Aug 2007, 12:15 p.m.

Hey all,

I have a lingering question I'd like to throw to the group. It may seem trollish, but I'm actually hoping for a serious discussion.

It's the 21st century; you can get a seriously powerful computer that fits in the palm of your hand for less money than you'd spend on a one-way plane ticket; you can do some mind-boggling operations on a laptop, desktop, or cluster computer. In the past, HP made some calculators of astonishing quality, but nowadays you can pick up a surprisingly feature-rich calculator in the check-out line at Walgreens for only \$15, even though its quality might be wanting.

Here are my questions:

- (1) For those who routinely use calculators, how much is "that old-time HP quality" really necessary in their function?
- (2) Does anyone feel that they would be better-served if HP also served the commodity calculator market?

I.e., does the world need quality calculators anymore? Do *\*we\** need quality calculators anymore?

Sharp and Casio make some killer calcs in the sub-US\$20 price point, with a feature set that surpasses that of many classic HPs; I would love to see HP throw their hat in this arena: make an HP 32s equivalent -- complete with squishy keys, no constant memory, and a small photovoltaic panel, small and light and disposable, light on the memory and programming capacity (but with RPN, of course) -- for US\$20 or thereabouts. If they did this, I'd pick up a six-pack.

Right now HP seems to have a product line that doesn't know its target market. They're trying to maintain their reputation of creating industry-leading calculators, and ride that out for as long as they can, but realistically they've ceded the market to TI more than a decade ago, and honestly, the last HP calculator that shook the world was the 48sx (released circa 1990). By straddling the line between "quality" and "commodity", HP is looking schizophrenic and indecisive, as if they've lost their grip on reality.

I would love it if HP took a stand and created perhaps three lines of calculators: (1) Engineer-Grade: a serious piece of equipment, the calculator we're all lusting after, such as a true next-gen 42s with IO, the quality of yesteryear, more industrial engineering than you can shake a stick at, but costing >US\$200 since it's catering to such a small market. (2) Student-Grade: i.e., the 50g and its successors. ~US\$100. Nuff said. (3) Commodity-Grade: US\$25 or less. Equivalent in function to the Sharp EL-506W, with both algebraic and RPN. A calculator that, if the dog eats it, you would pick up a replacement at the pharmacy.

I'd buy one of the engineer-grade calcs for work, and a handful of commodity calcs to keep around the house. Even if HP didn't create an engineer-grade calculator, I'd be happy with that classic quality being a driving part of my nostalgia, as long as it meant that HP would be making lots of calculators for a long, long time.

Mind, I'm only a nerd, I don't have the access to the same market-research data that HP has, and my suggestions

above are ignoring HP's current breadwinners like the 12c so I'm not trying to claim that I think I know exactly what HP should do. That said, HP's current behavior in the calculator market is reminiscent of other "companies in trouble", e.g., SGI, so I'd just like to see them try something different, since the strategy of "desperately clinging to past success while producing new products of compromise" doesn't seem to work, for both the company and the customer.

(I also speculate that calculators are an endangered species -- that the market is going toward more generalized computing devices and that future school kids will have their classroom calculators as a software module in their mobile phones and MP3 players -- but that's a topic for another post.)

Cheers, -cam

### **Re: quality vs. commodity**

*Message #2 Posted by [Vincze](#) on 13 Aug 2007, 12:34 p.m.,  
in response to message #1 by megarat*

Isn't that not what HP been doing the past few years? Making commodity calculators? My honest opinion is I like to keep using favorite calculator for a long time, so it help if calculator is well built. You want a cheap HP calculator, then get a six pack of 30s or 9s, both under \$20. And what about cheap photo voltaic calculator that people keep talking about that HP making, that be out soon.

Personally, I do not think this wise direction for HP to go. Maybe they should make a few cheap calculators to sell to the masses, but they must also have quality calculator presence.

That just my two Hungarian forint, for what it worth.

### **Re: quality vs. commodity**

*Message #3 Posted by [Chan Tran](#) on 13 Aug 2007, 12:50 p.m.,  
in response to message #2 by Vincze*

If I buy a calculator it must be of good quality. Even with the simplest 4 function one, it's the quality that makes me use it. There are so many alternatives to a calculator, it doesn't make much sense to have a calculator of low quality.

### **Re: quality vs. commodity**

*Message #4 Posted by [Bruce Bergman](#) on 13 Aug 2007, 2:28 p.m.,  
in response to message #1 by megarat*

HP does have some of those commodity calcs, although they aren't truly HP models (they're rebranded). The 6s was solar, and aside from having an icky keyboard, it was something like \$6 in cost. I almost got a handful to give out as gifts at work, but it really wasn't all that great. The next closest would be the HP-8s. Not available in the USA (normally), but it is a low-end education calc that has some impressive features in a very small package. You can get one on eBay occasionally from overseas sellers for about USD\$25.

In answer to your question, though, I think quality is important to a certain degree. Very much so at the engineer-grade level. We expect it from HP, and the proof is in the pudding. I firmly believe that, even with the bugs in the HP-35s, it will outsell the HP-33s. Not because it has that many more features, but because of the quality. They took the time to address remarks from long-time HP users for years.

Commodity-wise, I'd like to see them make their OWN HP-8s (not a rebrand), with RPN built in, and then -- like you -- I'd buy a handful. That would be a good calc to just toss in the car, trailer, backpack, whatever. Mind you, the 35s is *\*almost\** to that point; I'm thinking of getting more. The 33s was overpriced for the

value, and I will not get any more of those.

Education-wise, I think the 50g and the 40gs models are truly great calcs. Could use a few tweaks here and there, but...awesome. Probably the first in years to give due credit to the HP-48xx family name. Maybe fix some things, produce some in different colors and they could (COULD) make a run on the education market again. Especially with the HP-35s in the secondary.

(As an aging HP calc user, I came to the conclusion last year that if I had ONE goal in my remaining life, it is to see HP calcs take back the predominant spot in the education market. Obviously, I can't control or help HP with the calcs, but I can certainly do all I can to push them in the education market, tell friends, profs, make deals, create web sites, offer help, etc.)

The quality will always need to be there, IMHO. Maybe not as much as in the heyday of HP dominance, but it needs to be there. I won't be interested in some crummy little calc. Like you said, if you want a cheap and reasonably powerful calc, TI and Casio both have them. And now with the new Ativa (?) brand from Office Depot, there are three low-end challengers. So I COULD go get one. Would I? Probably not. I'd rather pay a few bucks more for quality.

thanks, bruce

## **Re: quality vs. commodity**

*Message #5 Posted by [George Bradford](#) on 13 Aug 2007, 4:27 p.m.,  
in response to message #1 by megarat*

I would be served if HP delivered a solid RPN calculator in the commodity market. I'd buy them by the dozen and hand them out as gifts to every student (elementary, secondary, college) I know (nieces, nephews, mentees).

I believe HP has lost (at least) a generation of calculator users. One way to reverse this would be putting an RPN calculator into the hands of as many users as possible. RPN sells itself to serious math, science, engineering and finance users. But HP must do a better job delivering it to them. A low cost RPN machine would address this.

More RPN users = more HP customers. More HP customers = more HP research, development, improvement, advancement. And this would serve me and my personal interests.

The "stand alone" calculator has been threatened by PCs, PDAs, Handhelds, mobile phones and declining math literacy (in the USA). But the calculator has survived and in many ways thrived.

Today's calculators are more powerful and reliable than their ancestors. Future advancement in micro processing, battery technology and manufacturing will continue the calculator's evolution.

I believe there will always be a need for quality calculators. Certainly academics will demand them. Industry will as well. Particularly in fields requiring accurate math and analysis, top quality calculators will be necessary.

The great irony of technological progress is that the items that threaten the calculator (the PC, PDA, handheld, mobile phone, etc.) are disposable consumer goods. They are technologically obsolete the moment the consumer acquires them. It is accepted that they will be replaced by a "better" product in 2 - 3 years (if not sooner).

A quality calculator never needs to be electively replaced. I've used my HP 15c for over 20 years. I can't count how many PCs, Palm Pilots and mobile phones I've replaced during that time period. But my HP 15c is still dependable, accurate and capable of handling anything I throw at it.

I've purchased two of the new HP 35s machines. After a long downhill slide, it's a step in the right direction. A direction I hope HP pursues.

I'll be the first to admit that the HP 35s doesn't hold a match to the HP 15c. But I firmly believe the HP 35s is the absolute best scientific calculator currently manufactured and sold.

For me "that old time HP quality" is absolutely necessary.

Just my two cents....

### **Re: quality vs. commodity**

*Message #6 Posted by [Ed Look](#) on 13 Aug 2007, 4:44 p.m.,  
in response to message #5 by George Bradford*

I don't think this is specifically a HP problem, rather more of a general corporate mentality problem:

I don't think the board members, executives, and managers at HP pay much mind to the opinions published on this site. As someone has already posted, those of a like mind to us here have moved on in HP. In fact, what we might have recognized as HP is now Agilent, producing equipment more along the lines of things many of us might use. Unfortunately, calculators have been designated as a consumer item, not research equipment, not analytical equipment and so was retained by the "corporate-ized" portion that also retained the company name.

Until they return to the old American mentality from this current American mentality with respect to business, we will continue to see products that either trail or at most keep pace with the market, rather than lead it or define it.

So, things as they are, I'm happy they made a 35s, and not another 9s or some such (even the 33s really was a decent product given today's context, even if the visual design could have been... otherwise).

### **Re: quality vs. commodity**

*Message #7 Posted by [Dave Johnson](#) on 13 Aug 2007, 5:29 p.m.,  
in response to message #6 by Ed Look*

It is obvious to me that the corporate execs have listened to this site (and others). Of course they are really listening to some internal champions... The 35s would never come about unless there was a perceived need to return to their roots. Of course it had to be developed in the context of HP's position in the calculator market and could not be a tremendous capital investment. It appears they are on the right track focusing on the key characteristics, incorporation of the ENTER key in the classic location and maximizing the key stroke programming ability. If they had more resources I am sure some of the bugs would not be there, but part of our 'fun' is finding, dealing with these devices... Thank goodness they modified the algebraic system as their 33S was not usable (Try explaining to anyone why it is sometimes prefix and sometimes postfix and entering algebraic expressions as written). The benefits of RPN are all understood but if expressions can be viewed and edited, algebraic or function entry can be practical.

### **Re: quality vs. commodity**

*Message #8 Posted by [Vincze](#) on 13 Aug 2007, 7:19 p.m.,  
in response to message #5 by George Bradford*

Major problem. Current student see calculator as disposable item. They also see calculator come with Windows or Mac OS, so why buy.

I do not agree with that stand, but I think that is reality. We all know that computer not fit nicely in pocket, but phone or PDA do, so as student, why I need nice calculator? That problem we face. We all know that HP make very good calculator, and back in 1970's they were cutting edge, but let face it, calculator is "old school" as kids say now. Calculator go way of Atari, and other old school thing and only used when mandated. It sad but so true. I think in coming years, we may not see quality calculator. I think we see disposable calculator, graphing calculator, and financial calculator. Of those, I only think HP will be selling one of three.

### **Re: quality vs. commodity**

Message #9 Posted by [Kelly Huckman](#) on 13 Aug 2007, 9:06 p.m.,  
in response to message #5 by [George Bradford](#)

Speaking as a current EE student, I think I've seen perhaps 2 HP calculators besides my own, and they were both used by professors. On a certain AC circuits exam, the professor restricted calculators, but let the students come up to use his 32sII for the last problem. The students were bewildered by RPN, and scoffed at the calculator. I love the 35s, warts and all, but HP is going to have a tough time convincing current students to purchase a \$60 non-graphing calculator when they can get one from casio (that does definite integrals and is solar powered) for \$17.

There are typically two types of students currently. There are those who have \$15 calculators who would find the prospect of spending \$60 on a scientific HILARIOUS, and then there are those with TI 89s (soon to be NSpire CAS). From my vantage point, it seems that HP has all but lost the calculator war with the coming of the NSpire CAS. If they want to get back into the game, these are the two fronts that TI needs to attack on. Commodity RPN calculators to get the cheapos (better students, almost to a man) hooked and feature-rich, expensive graphing calculators with symbolic CAS for those willing to put down \$150 on a calc. It's going to be virtually impossible to convince a student to buy a 42s caliber scientific for \$150-200 if it doesn't have graphing capability. Why spend the same or more on a calculator that, upon first inspection, does less than the competitor's graphing solution?

It's only when they get out of school that students will want a nice portable solution like the 42s, but they're going to go to TI for a \$20 scientific because that's all they know. I would love for HP to come out with a new 42s so that I wouldn't have to spend \$400 on ebay for an end-all scientific, but it simply isn't good business at this point. The only people who would buy them are professionals with nostalgia. Kids would buckle over laughing at the prospect of paying graphing calculator prices for a scientific.

Quote:

\_\_\_\_\_

I believe there will always be a need for quality calculators. Certainly academics will demand them. Industry will as well. Particularly in fields requiring accurate math and analysis, top quality calculators will necessary.

\_\_\_\_\_

The sad truth is that this need is filled by TI. The 89 is a wonderful machine, and the NSpire looks amazing. If only they had an RPN mode the HP calculator division could finally fade away.

### **Re: quality vs. commodity**

Message #10 Posted by [John Limpert](#) on 13 Aug 2007, 4:38 p.m.,  
in response to message #1 by [megarat](#)

A large feature set does not equal usability. That's my main gripe with Japanese calculators. They are cheap and have plenty of features, but I find them difficult to use. It doesn't help when the manual is poorly written, set in tiny type, and printed on a large sheet of paper.



A quality keyboard and display are essential, as are legible markings on the keyboard. If the user interface sucks, I don't care how cheap it is.

Calculators are still important. The ability to run Mathematica on a laptop is irrelevant if you can't afford Mathematica or a good laptop.

### **Re: quality vs. commodity**

*Message #11 Posted by **Ed Look** on 13 Aug 2007, 4:45 p.m.,  
in response to message #10 by John Limpert*

... or do not want to lug a laptop around to some places, but still need some significant (mathematical) computing power.

### **Re: quality vs. commodity**

*Message #12 Posted by **DaveJ** on 13 Aug 2007, 5:54 p.m.,  
in response to message #1 by megarat*

Quote:

(1) For those who routinely use calculators, how much is "that old-time HP quality" really necessary in their function?

In my opinion, no. I just want something that has the intended functions I need and works they way I want expect it too. People talk about HP quality, but every one of my Casio's I've had for 20+ years are still working just great, so they can't be bad quality either.

Quote:

(2) Does anyone feel that they would be better-served if HP also served the commodity calculator market?

They are already trying to do this with the new 10S and other low end models.

Quote:

I.e., does the world need quality calculators anymore? Do \*we\* need quality calculators anymore?

Quality is hard to measure, and people's ideas of what quality is is different.

Quote:

Sharp and Casio make some killer calcs in the sub-US\$20 price point, with a feature set that surpasses that of many classic HPs; I would love to see HP throw their hat in this arena: make an HP 32s equivalent -- complete with squishy keys, no constant memory, and a small photovoltaic panel, small and light and disposable, light on the memory and programming capacity (but with RPN, of course) -- for US\$20 or thereabouts. If they did this, I'd pick up a six-pack.

A programmable calc requires a lot more development effort than a scientific calc, someone has to pay for that somewhere. And little things like extra memory easily add up in the final retail price.

I suspect HP aren't geared up as well as casio to churn out a good low end calcs like say the FX-991ES or EL-

506W.

Quote:

---

Right now HP seems to have a product line that doesn't know its target market. They're trying to maintain their reputation of creating industry-leading calculators, and ride that out for as long as they can, but realistically they've ceded the market to TI more than a decade ago, and honestly, the last HP calculator that shook the world was the 48sx (released circa 1990). By straddling the line between "quality" and "commodity", HP is looking schizophrenic and indecisive, as if they've lost their grip on reality.

I would love it if HP took a stand and created perhaps three lines of calculators: (1) Engineer-Grade: a serious piece of equipment, the calculator we're all lusting after, such as a true next-gen 42s with IO, the quality of yesteryear, more industrial engineering than you can shake a stick at, but costing >US\$200 since it's catering to such a small market. (2) Student-Grade: i.e., the 50g and its successors. ~US\$100. Nuff said. (3) Commodity-Grade: US\$25 or less. Equivalent in function to the Sharp EL-506W, with both algebraic and RPN. A calculator that, if the dog eats it, you would pick up a replacement at the pharmacy.

---

Maybe I'm strange, but my idea of an "engineer-grade" calc is *\*not\** a high end programmable one! I don't need programming on a daily basis at all, but I do need lots of good primarily functionally, sensible dedicated key, a nice easy to use solver, and a nice small case I can *\*really\** slip in my pocket.

I would love to see a low end calc specifically targeted at engineers, like say the way the Casio FX-61F was targeted at electronics engineers. There could be one for electronics, mechanical, surveyors etc.

Dave.

### **Re: quality vs. commodity**

*Message #13 Posted by [Frank Knight](#) on 13 Aug 2007, 9:03 p.m.,  
in response to message #1 by megarat*

I would think most recent grads would prefer matlab on a laptop or something equivalent than some old fashioned high priced calculator. But, it would be fun to run those focus groups, wonder if hp has. The HP Calculator may still have some lore left with the younger engineers/scientists and technical students

### **Re: quality vs. commodity**

*Message #14 Posted by [Kelly Huckman](#) on 13 Aug 2007, 9:11 p.m.,  
in response to message #13 by Frank Knight*

Quote:

---

The HP Calculator may still have some lore left with the younger engineers/scientists and technical students

---

Nope. Not at UTexas EE at least. As far as students here are concerned HP makes computers and printers.

### **Re: quality vs. commodity**

*Message #15 Posted by [Chris Haltiner](#) on 14 Aug 2007, 11:12 a.m.,  
in response to message #1 by megarat*

Quote:

\_\_\_\_\_  
(1) For those who routinely use calculators, how much is "that old-time HP quality" really necessary in their function?  
\_\_\_\_\_

Critical. The ability to quickly enter calculations, have confidence that all keystrokes registered, and that the result is correct is of the utmost importance. There is a reason I always have an HP calculator nearby at work, at home, and in my briefcase.

Quote:

\_\_\_\_\_  
(2) Does anyone feel that they would be better-served if HP also served the commodity calculator market?  
\_\_\_\_\_

I believe so. Mind share is market share.

Quote:

\_\_\_\_\_  
I.e., does the world need quality calculators anymore? Do \*we\* need quality calculators anymore?  
\_\_\_\_\_

I hope so. This is why the 35s is refreshing. Sure, I can use Excel or code to solve many problems, but sometimes the calculator can answer the question much faster. I find the calculator essential for meetings. (RPN is such a spoiler for the uninitiated that reach for your calculator...)

Quote:

\_\_\_\_\_  
make an HP 32s equivalent -- complete with squishy keys, no constant memory, and a small photovoltaic panel, small and light and disposable, light on the memory and programming capacity (but with RPN, of course) -- for US\$20 or thereabouts.  
\_\_\_\_\_

As is, I'm going to have to give each of my kids a 35s for RPN at a minimum.

Quote:

\_\_\_\_\_  
Right now HP seems to have a product line that doesn't know its target market.  
\_\_\_\_\_

Agreed. Although, I think the 35s may reflect a course change for the better.

Quote:

\_\_\_\_\_  
[m]y suggestions above are ignoring HP's current breadwinners like the 12c...  
\_\_\_\_\_

At least the 12c is holding its own.

I just wish there was a non-graphing HP calculator that combined the 35s and 12c in either form factor since I use both (and a 50g too--although that's overkill for my needs).

## **Re: quality vs. commodity**

*Message #16 Posted by [Frank Rottgardt](#) on 15 Aug 2007, 6:38 a.m.,  
in response to message #15 by [Chris Haltiner](#)*

Quote:

I just wish there was a non-graphing HP calculator that combined the 35s and 12c in either form factor since I use both (and a 50g too--although that's overkill for my needs).

I guess a 48 or 50 is an overkill for at least 80% of us. The rest is 5% professionals dealing daily with really HEAVY math, and 15% students going through all pleasures of engineering science the rest of us hardly remember. On college I really needed most of the functions on my 28s. Today (33s) graphing is not needed. I use the solver, trig, statistical functions and rather seldom the numerical integration.

But isn't it a real nice feeling to have a BIG calc around knowing one is prepared only in case of...?

### **Re: quality vs. commodity**

*Message #17 Posted by [Ed Look](#) on 15 Aug 2007, 12:02 p.m.,  
in response to message #16 by Frank Rottgardt*

Yeah.

I keep it either in my drawer or briefcase. ;D

Really though, this is because either at home or at work, it's going to be the 35s, 33s, or 32SII that's used most of the time!

But that is only about 75% true, seriously- there are times I need the 48G, G+, or 49G+ because of their superior STORAGE capabilities. That is, I often store lots of constants or need one of the big programs, like Chem48 by Arnold Moy, either because I am not near or don't have a reference book at the time.

Fortunately for me, most of my programming needs can be filled by a programmable scientific. However, I'll admit that now I've learned a little user RPL, programming a 48 or 49 series machine may be easier if I have a somewhat more complex program. But I still like the simplicity and convenience of RPN keystroke programming in the HP scientific programmables.

### **Re: quality vs. commodity**

*Message #18 Posted by [Frank Rottgardt](#) on 15 Aug 2007, 4:45 p.m.,  
in response to message #17 by Ed Look*

Quote:

However, I'll admit that now I've learned a little user RPL, programming a 48 or 49 series machine may be easier if I have a somewhat more complex program. But I still like the simplicity and convenience of RPN keystroke programming in the HP scientific programmables.

For me the opposite is true. My very first HP calc was the 28s. Hence User RPL became my natural mother tongue. Now, dealing with an 33s since some month ago, I have to learn the "simple" keystroke language.

### **Re: quality vs. commodity**

*Message #19 Posted by [Ed Look](#) on 15 Aug 2007, 4:56 p.m.,  
in response to message #18 by Frank Rottgardt*

Very interesting!

Perhaps it was just my prejudices; I had assumed that since the HP scientific programmables' programming methods required only one or just a few keystrokes per step, that it would be easier for everyone.

However, I learned FORTRAN first above any other programming method. Keystroke programming still seems easier than that. Maybe HP's old calculator manual was a better teaching instrument than my programming texts and professor. ;)

### **Re: quality vs. commodity**

*Message #20 Posted by [Frank Rottgardt](#) on 15 Aug 2007, 5:32 p.m.,  
in response to message #19 by Ed Look*

OK, the keystroke method actually is simple. But I need to get used to GTOs and the special loop programing.

The last time I used GOTO was in the early 80s when I teached myself BASIC on a C64. With RPL it is easier to handle subroutines which can be adressed simply by giving them real names, not only single characters or line numbers.

### **Re: quality vs. commodity**

*Message #21 Posted by [Ed Look](#) on 16 Aug 2007, 12:05 a.m.,  
in response to message #20 by Frank Rottgardt*

Others here disagreed, but I was struck by how FORTRAN-like User RPL was to a fair degree. Less so, except in the looping features, was the use of ISG and DSE in RPN keystroke programming. They really remind me of FORTRAN DO loops...

... and there's lots of GTO (GO TO) in FORTRAN...

... but most computer languages and programming methods share lots of commonality.

*Edited: 16 Aug 2007, 12:06 a.m.*

### **Re: quality vs. commodity**

*Message #22 Posted by [Tom Frank](#) on 16 Aug 2007, 1:49 a.m.,  
in response to message #15 by Chris Haltiner*

HP still makes the 12c...if one takes a look at the prices the 15c commands on eBay, it seems to me that they could reintroduce the 15c and be back in the game instantly.

Once you leave college, does anyone ever use the graphing functionality again? I've been an engineer for 22 years, and never felt the need to use such a capability (I've got a 48 and 49; foolishly replaced my 41cx), nor have I noticed any of our new hires using them. Unique to my experience, or common?

What I would like is a bigger, easier to read display (we're not all in our twenty's anymore). I like the idea of using OLED and a backlight keypad I read in the archives :-)

Off to order a 35...

## **Re: quality vs. commodity**

*Message #23 Posted by **Will Hartung** on 17 Aug 2007, 10:26 a.m.,  
in response to message #22 by Tom Frank*

*HP still makes the 12c...if one takes a look at the prices the 15c commands on eBay, it seems to me that they could reintroduce the 15c and be back in the game instantly.*

That's the interesting thing to me.

One thing about calculators, specifically mid-range calculators, is that, frankly, the technology curve has flattened out.

That fact that you can get a capable and powerful CASIO for \$15 just reinforces that.

The 12C is an anachronism. It's a "BMW" business calculator. I think that the only reason that the 12C costs as much as it does is because it can be sold for that much, and it can be sold for that much unrelated to its actual functionality.

It's valuable because of its history and the broad general knowledge surrounding it. I'm not in that field, but if you're selling a 25 year old calculator design (Now it PLATINUM!), there must be a lot of users to provide an ad hoc support network.

Materially, there's no reason a 12C should cost what it does. HP made its money back on the research, development, and tooling on that machine a LONG time ago. The real "cost" of a 12C is prestige and branding.

It's a fine calculator, but even HP sells competing ones for far less, yet the 12C is there on the shelves of every Office Mart in the US.

A run of 15Cs would sell quite quickly I think. There are a lot of Dads out there sending kids to college that cut their teeth on this calculator, and I think they could be made easily, and cheaply. Would it really be that hard to retool the 12C line to start stamping out some 15Cs?

While calculators can and do advance, we're at the stage where they don't need to. They're commodity items, many based solely on looks rather than functionality (witness the recent styling attempts from HP to appeal to a younger market).

Why not sell a 42S again? Beyond fixing any known bugs, what's wrong with the designs they already have on the shelves?

What is nice about the 35s is that it's got a handy size, and it's programmable with good storage. And it's keystroke programmable (or, at least, menu programmable). I've not seen one yet (it, alas, ISN'T on the shelf of every Office Mart in the US). But keystroke programming I think is more user friendly than RPL for most folks, as it's basically a macro language. "Watch me do this calculation."

My father, a 15C fan, laments his 48 over his old 15C and some Commodore calcs before that, specifically for that reason.

But basically, I don't see why HP couldn't sell the 15C today for \$30. They'd sell a bunch I'd think, and not just to collectors.

## **Re: quality vs. commodity**

*Message #24 Posted by **Walter B** on 18 Aug 2007, 4:38 p.m.,  
in response to message #23 by Will Hartung*

Hi Will,

I do not know how long you join this forum already. IF you are a seasoned member, THEN GOTO *next paragraph*. ELSE please scan the archives for keywords like "15C" or "42S" and you'll be drowned. To survive, you may filter using "bring back the 15C" or "42Sii" and the like. There were many extended (!) discussions about this topic, and I think almost every aspect has been covered at least once. Long story made short: It's not so easy for todays (!) HP to just resurrect any of the vintage calcs we all love so well, and to make money with it. Please proceed at *conclusion*.

*next paragraph*: Please accept my apologies for not remembering you. My brain is getting older every day :)

*conclusion*: IMHO it will be easier to use an existing platform of today and develop a new calc on this basis. The 35s may be a good mechanical platform (take the housing and keys without the print) to set up an advanced model. The 12C Anniversary may be another one but has 2 keys too less IMO. In either case, new displays are necessary to cope with the requirements and expectations of the "advanced" users of today.

Just my 20 Milli-Euros.

*Edited: 18 Aug 2007, 4:50 p.m.*

### **Re: quality vs. commodity**

*Message #25 Posted by [Ed Look](#) on 19 Aug 2007, 2:07 a.m.,  
in response to message #24 by Walter B*

Quote:

... new displays are necessary to cope with the requirements and expectations of the "advanced" users of today...

You mean kids...

### **Re: quality vs. commodity**

*Message #26 Posted by [Walter B](#) on 19 Aug 2007, 2:36 a.m.,  
in response to message #25 by Ed Look*

Even Nobel Prize winners have been kids once :)

Seriously: In the time of PDAs and mobile phones, LCDs featuring comparable resolution and briskness should go without saying with mid-range calculators, too. They will allow for state-of-the-art alphanumeric display of constants, matrices, equations etc. IMO the LCD of HP33s, recycled in HP35s, will be no more tolerable in an HP45s.

### **Re: quality vs. commodity**

*Message #27 Posted by [Karl Schneider](#) on 18 Aug 2007, 10:21 p.m.,  
in response to message #23 by Will Hartung*

Will --

Please read Walter B's post about the HP-15C and HP-42S.

There are two obstacles for resurrecting the HP-15C: Its microprocessor code and engineering documentation has probably been lost; also, its 7-segment display precludes alphanumerics -- a limitation that would not be tolerated by today's buyer of an upper mid-grade calculator.

The HP-42S is too complicated to resurrect as a calculator, with palmtop computers available and affordable.

That said, both calculators are examples of engineering excellence.

Quote:

---

That fact that you can get a capable and powerful CASIO for \$15 just reinforces that.

---

I suppose you mean the fx-115MS. I bought one to get an example of a "modern" product. I agree that it has an impressive amount of functionality for the price, but it's not very intuitive to use, or well-integrated. It's more like a learning aid for a schoolkid's "lesson *du jour*", rather than a tool for professionals and serious students.

### [My archived comments about the Casio fx-115MS](#)

Quote:

---

The 12C is an anachronism. It's a "BMW" business calculator.

---

What does that mean? BMW is still a leader in the automobile industry, although I can't stand their styling of recent years, which other manufacturers -- e.g., Honda/Acura -- have emulated. I've got an older, traditional-looking one.

Quote:

---

I think that the only reason that the 12C costs as much as it does is because it can be sold for that much, and it can be sold for that much unrelated to its actual functionality.

It's valuable because of its history and the broad general knowledge surrounding it. I'm not in that field, but if you're selling a 25 year old calculator design (Now it PLATINUM!), there must be a lot of users to provide an ad hoc support network.

---

The appeal of the HP-12C has been its compact size, desktop-oriented horizontal layout, and elegant appearance. Being a *de facto* standard for so many years certainly helps. It's admittedly not a good functional value for the money.

-- KS

*Edited: 18 Aug 2007, 10:40 p.m.*

### **Re: quality vs. commodity**

*Message #28 Posted by [DaveJ](#) on 19 Aug 2007, 1:26 a.m.,  
in response to message #27 by Karl Schneider*

Quote:

---

I suppose you mean the fx-115MS. I bought one to get an example of a "modern"



product. I agree that it has an impressive amount of functionality for the price, but it's not very intuitive to use, or well-integrated. It's more like a learning aid for a schoolkid's "lesson du jour", rather than a tool for professionals and serious students.

---

The FX-115ES has replaced the MS for some time now. Also known as the FX-991ES in some countries.

It's my current daily use calc and I find it superb. I love the "table" mode, which is basically a solver that can give you spreadsheet-like tabulated results of a range of values for a variable.

One of my major gripes with it is the lack of rubber feet, it just has plastic dimples which give it even less desk grip.

Dave.

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## HP Forum Archive 17

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### Programmable Calculators

Message #1 Posted by [Vincze](#) on 13 Aug 2007, 10:29 a.m.

I find nice site online that I do not see listed here in links. <http://www.rskey.org/index.html> is link to site. If you already know of site, I apologize, just I not see it listed so I am not sure if it new or not.

### Re: Programmable Calculators

Message #2 Posted by [Dave Boyd](#) on 13 Aug 2007, 1:27 p.m.,  
in response to message #1 by [Vincze](#)

It's not new, and hasn't been updated in a while, but you're right, it's a very nice site.

### Re: Programmable Calculators

Message #3 Posted by [Vincze](#) on 13 Aug 2007, 1:33 p.m.,  
in response to message #2 by [Dave Boyd](#)

I wonder why it not listed on this site. Maybe over site by Mr Hicks.

### Re: Programmable Calculators

Message #4 Posted by [bt\\_schmidt](#) on 13 Aug 2007, 9:08 p.m.,  
in response to message #1 by [Vincze](#)

Quote:

I find nice site online that I do not see listed here in links. <http://www.rskey.org/index.html> is link to site. If you already know of site, I apologize, just I not see it listed so I am not sure if it new or not.

Hi,

It's not new, but the [rskey.org](http://rskey.org) is a nice site and certainly something for [hpmuseum.org](http://hpmuseum.org) to consider adding to [Links to other sites](#).

I think it was also this site where I first came across the caution on powering up woodstock era (HP 21-29c) calculators w/o their batteries, [viz](#):

"Unfortunately, the construction of the [woodstock] calculators provided for the uneven heating of the batteries during charging, leading to premature battery wear. The design of the charging circuit also made it possible for the calculator to receive excessive voltage when a battery pack was not properly inserted, causing the calculator's sensitive MOS circuits to fail."

...although I don't think the above caution is unique to the [rskey.org](http://rskey.org) site.

...b

*Edited: 13 Aug 2007, 9:14 p.m.*

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## HP Forum Archive 17

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### HP50G Memory

Message #1 Posted by [Chan Tran](#) on 13 Aug 2007, 10:12 a.m.

Just got a 50G. Found out that the memory that matter most is limited to 240kB. I have the 48GX and with an expansion card I have a max of 256kB. So I can't create nor transfer a larger GROB on the 50G than on the 48GX no matter what I do.

### Re: HP50G Memory

Message #2 Posted by [hugh steers](#) on 13 Aug 2007, 10:20 a.m.,  
in response to message #1 by Chan Tran

is this some saturn architectural weirdness? i'm seeing 400k free under hpgcc.

### Re: HP50G Memory

Message #3 Posted by [Tim Wessman](#) on 13 Aug 2007, 12:38 p.m.,  
in response to message #2 by hugh steers

Yes, it is some saturn architectural weirdness. Saturn only has 5 nibble addressing, so it can only address 512k at once. Main RAM (HOME) is 256k, but part is used for stack, hidden directory, etc.

In HPGCC you are seeing main RAM, hidden ram (~90K - the leftover from the 128k bankj reserved for the ARM OS) and IRAM (port 1) turned into one contiguous block. It is a 512k RAM chip, but part is reserved for the ARM emulator so you never have the full 512.

TW

*Edited: 13 Aug 2007, 12:43 p.m.*

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## HP Forum Archive 17

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### sum list in 17bii solver equation

Message #1 Posted by [Don Shepherd](#) on 13 Aug 2007, 9:34 a.m.

I don't think this is possible, but is there any way to change the value of a sum list item within a solver equation?

### Re: sum list in 17bii solver equation

Message #2 Posted by [Vincze](#) on 13 Aug 2007, 9:37 a.m.,  
in response to message #1 by Don Shepherd

I have only played with a 17BII once, but I thought you could navigate though the list with the up and down arrows, and then delete the item and then reenter a new item for the changed value. Actually, I think you can just type over the item value that you wish to change.

### Re: sum list in 17bii solver equation

Message #3 Posted by [Peter A. Gebhardt](#) on 14 Aug 2007, 9:11 a.m.,  
in response to message #1 by Don Shepherd

Don,

I hope I understand your question correctly - did you try the following snippet?

Quote:

```
SIGMA( i: 1: n: L(step:<EXPRESSION>): 0*L(variable:G(variable)<OPERATOR>
<EXPRESSION> .... ) )
```

<OPERATOR> == \*,/,-,+ ... <EXPRESSION> == any valid expression in the solver context

Best regards,

Peter A. Gebhardt

### Re: sum list in 17bii solver equation

Message #4 Posted by [Don Shepherd](#) on 14 Aug 2007, 10:06 a.m.,  
in response to message #3 by Peter A. Gebhardt

Peter, I should have phrased my request better. By \*sum list\* I mean a named list associated with the Sum function from the main menu. You know, press Sum and start entering values in the list, and when you are done you can name the list. You can \*read\* these sum list items with the ITEM function in a solver equation, but you cannot \*write\* or update them within the solver, at least I have not been able to do that and I have a feeling you cannot do it.

L(ITEM(MYLIST:1):123) does not work.

### **Re: sum list in 17bii solver equation**

Message #5 Posted by [bill platt](#) on 14 Aug 2007, 10:26 a.m.,  
in response to message #4 by Don Shepherd

To be able to do that would be way too cool and would border on black magic! :-)

### **Re: sum list in 17bii solver equation --> 35s solver**

Message #6 Posted by [Katie Wasserman](#) on 14 Aug 2007, 12:23 p.m.,  
in response to message #5 by bill platt

True you can't do this on the 17bii but you \*can\* do it on the 35s with the expression fragment: 0x( aaa STO I + bbb STO (I)). aaa is the array index location, yyy is whatever you want to store in that array location. (You can, of course, you J and (J) if you'd like too.)

You can use this to control looping on the 35s too [there's more here](#).

Edited: 14 Aug 2007, 12:25 p.m.

### **Re: sum list in 17bii solver equation --> 35s solver**

Message #7 Posted by [bill platt](#) on 14 Aug 2007, 2:44 p.m.,  
in response to message #6 by Katie Wasserman

Holy cow, how did I miss that thread!

Nice work. When I read about the sto rcl inside the equation list I must admit I was excited too, but I hadn't thought of anything concrete--it was just a feeling like, "now \*that\* will be useful!"--and so it is!:-)

### **Re: sum list in 17bii solver equation**

Message #8 Posted by [Peter A. Gebhardt](#) on 14 Aug 2007, 1:17 p.m.,  
in response to message #4 by Don Shepherd

Don,

as Bill Platt already stated - sorry (currently?)not ...

Something Bob McGuire, Tony Hutchins any many other great contributors to this Forum already missed very much.

The only hope is, that HP at some future time would bring us a new type of financial calculator with the best of the HP19b/27s Solvers combined with the urgently needed enhancements requested so often already.

What I discovered playing around with the offered code snippet on an 200LX is, that

- loop variable "i" does show up in the custom menu, if used in an expression

- "i" is not the same as L(i, ...), so g(i) to supress it showing up on a custom menu doesn't work - so TWO VARIABLES "i" (or a second "instance" of ANY loop variable), are apparently possible!

Best regards,

Peter A. Gebhardt

**Re: sum list in 17bii solver equation**

*Message #9 Posted by [Don Shepherd](#) on 14 Aug 2007, 3:13 p.m.,  
in response to message #8 by Peter A. Gebhardt*

Peter, you are probably right.

As a programmer, the idea of 2 different variables with the same name makes me just want to go find a tropical island somewhere and get away from it all!

Katie's insights into the 35s solver are nothing short of brilliant. I'm still trying to comprehend it all.

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## HP Forum Archive 17

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**71A?**

Message #1 Posted by [Annie S.](#) on 13 Aug 2007, 7:51 a.m.

Does anyone know anything about the HP-71A? I know there's a B, but what happened to the A version?

I have searched this site and find no mention. I have searched the internet and find no mention. It has really piqued my curiosity. I'm hoping someone can shed some light! Thank you

**Re: 71A?**

Message #2 Posted by [Eric Smith](#) on 13 Aug 2007, 12:54 p.m.,  
in response to message #1 by Annie S.

There wasn't an A suffix. The project that resulted in the 71B never intended to call it 71A. There may have been other designations used during product development before 71B, but as far as I've ever heard, they did not include 71A.

The 75 story is more complicated. The 75 designation was going to be used for two variants, the 75C and 75D, with 8K and 16K of internal memory respectively. However, at release, only the 16K version was introduced, and given the 75C designation. At least one photo of a unit with the 75D designation slipped out.

The later 75D model was not part of that original plan. It was a 75C with the standard 16K of memory, with an added port for a bar code wand.

The 75 had at least one earlier pre-release designation, which IIRC was 1000CX, not related to the later palmtop with that designation.

**Re: 71A?**

Message #3 Posted by [Raymond Del Tondo](#) on 13 Aug 2007, 5:28 p.m.,  
in response to message #2 by Eric Smith

Hello,

IIRC, the manuals shipped with the HP-71B show the upper right corner of an 'HP-71'...without any additional character.

Maybe this could be taken as an indicator that at least they wanted to keep the option for another designation character?

Raymond

**Re: 71A?**

Message #4 Posted by [Matthias Wehrli](#) on 14 Aug 2007, 3:07 p.m.,  
in response to message #2 by Eric Smith

Addition here too.. there is also a HP-75CX... ;)



**Re: 71A?**

*Message #5 Posted by [Matthias Wehrli](#) on 14 Aug 2007, 3:07 p.m.,  
in response to message #1 by Annie S.*

To be a bit more exact....

Before the 71B got his name it was designed as a 44(C?). I have a nonworking unit where the mainboard is labeled 00044-xxxxx. As I said, unfortunately nonworking.

Matthias

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## HP Forum Archive 17

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### new 35s triggers hp nostalgia

Message #1 Posted by [gteague](#) on 12 Aug 2007, 10:38 p.m.

rec'd a 35s a couple of days ago and found my way to this forum. the display \*might\* be tilted a half-pixel down at the right, but it might be my imagination from reading all the posts on the topic. [g] also, my checksums match the book examples perfectly. my dislikes are not being able to use more than one character in variable names, how different input is going from rpn<>alg and back and the fact they didn't use the 2nd line for 'soft' functions ala the 27s.

that out of the way, i really like the overall quality, the tactile feedback of the keys, and i really like the form factor and the solid feel of the calculator. even i'm not old enough to have been able to afford the original hp35--my first hp calc was the hp55 with 49? program slots and some sort of multi-timer function. around 1975 or 1976 i'd say--i was in navy communications stationed at gtm. five or six hundred dollars was quite a sum from my pay as an e4 in the 70's!

but i was hooked after that. i helped a roommate build the ur pc--the altair 8800--and owned nearly every major scientific and programming calculator model from hp and ti from 1975 until today. ti's were of laughable quality compared to hp's for many many years and i was much saddened when the first hp calculator built in singapore or malaysia appeared--they just seemed like junk compared to the early hp models: 35/45/55/67 &c.

my reason for this much detail is that up until i came across this forum, i hadn't realized how much those 'junk' calculators were going to be treasured after hp went even further down the toilet. tragically, about 3-4 years ago i just tossed out about 4 or 5 old hp calculators including a 20s and and 32s or 32si and some other models i can't remember. all of them that thin, plastic form factor though, like the 27s.

i did save one from the trash though--my 27s. although it has two huge major flaws i still find it one of the most innovative and easy-to-use calculators hp has ever made, although i'm sure some would claim that its stretch to be all things at once was its downfall.

it has about as many business as scientific functions and a clock and timers and appointments. and an i/r printer link also. the big innovation though was a two-line display which used soft function keys which made having to dip into the reference manual nearly superfluous. it had a solver/equation writer which included let and get functions which let you write quite powerful program/equation lines. and a technical manual with further program examples was published with it.

and the warts? abysmal battery life--just a couple of weeks with alkaline batteries whether being used or not. the manual recommended mercury batteries, but never having found any, i'm not sure how much longer they would last. and the other problem was a dim, low-contrast display that was hard to read in any light. and i'm sure this wasn't just the sample i had, since, even today you can tell from the pictures that none of this model had a crisp display.

anyway, i noticed someone selling one of these on ebay for \$199! i'm glad i kept at least this one out of the batch i threw away.

so after owning all these calculators over the years, what would be my vision of an ideal calculator? the one in the hp 200lx palmtop computer. i've never seen one to even approach it, much less equal it. give me that calculator in

the form factor (or close to it) of the 35s and add symbolic manipulation (cas?) and i'd pay nearly any amount for it.

/guy

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## HP Forum Archive 17

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**HP 71B**

Message #1 Posted by [Vincze](#) on 12 Aug 2007, 9:43 p.m.

I so mad I could curse. Why it so hard to win anything on ebay? I want to buy a 71B, but I always get outbid.

Is there other place one can buy 71B or must one always get outbid on ebay and put up with it?

**Re: HP 71B**

Message #2 Posted by [George Bradford](#) on 12 Aug 2007, 10:50 p.m.,  
in response to message #1 by Vincze

Try Craigslist: <http://www.craigslist.org/about/cities.html>

I've had success finding used HP calculators at reasonable prices on Craigslist.

Just last week, after reading a discussion on this forum, I purchased an HP-17b for \$25. It was used but in excellent condition.

Good Luck!!!

**Re: HP 71B**

Message #3 Posted by [Raymond Del Tondo](#) on 13 Aug 2007, 12:39 a.m.,  
in response to message #1 by Vincze

> Why it so hard to win anything on ebay?  
> I want to buy a 71B, but I always get outbid.  
>

It's not hard to win on eBay.

You simply have to place a higher bid;-)

HTH

Raymond

**Re: HP 71B**

Message #4 Posted by [Reth](#) on 13 Aug 2007, 2:24 a.m.,  
in response to message #3 by Raymond Del Tondo

... and place the bid within the last 5 or so minutes ;)

**Re: HP 71B**

Message #5 Posted by [Maximilian Hohmann](#) on 13 Aug 2007, 3:11 a.m.,  
in response to message #4 by Reth

Hello!

Quote:

... and place the bid within the last 5 or so minutes ;)

Not minutes, but seconds... Or place a high enough bid early that nobody is going to outbid anyway, if you really desperately want the thing. Or bid on defective units that nobody else wants to buy and try to fix them (this is how I get most of my calculators).

Greetings, Max

### Re: HP 71B

Message #6 Posted by [Vincze](#) on 13 Aug 2007, 9:39 a.m.,  
in response to message #5 by Maximilian Hohmann

this really stink.

### Oooh! Off Topic eBay Bidding Secrets! Warning!

Message #7 Posted by [Howard Owen](#) on 13 Aug 2007, 4:20 a.m.,  
in response to message #1 by Vincze

Now that I've averted your attention ..

Placing a bid at the last possible moment is called "sniping." It's the only way to avoid the stupid herd mentality created by the modified auction setup that practically guarantees you will lose or else pay too much - thereby losing as well.

With sniping, you decide in advance what your maximum bid will be for the item in question. If the item is higher than that in the last minute of the auction *you don't bid*. Raising your bid at that point will pull you in to the eBay psychology that tends to favor sellers - who are the real customers of eBay. (What are buyers to eBay? *Products*.)

Placing a snipe bid in time can be tricky. If you bid too soon, some fool is apt to outbid you. If you wait too long, your bid won't be accepted. In the former case, you might also be tempted to raise your bid again. To avoid all these problems, I use a sniping service. There are several of these. The one I use is eSnipe, though I don't know if they are better or worse than any of the many other such services. (Google is your friend.) eSnipe takes a small percentage of the final auction value, only if you win. If I see something I want on eBay, I decide what I want to pay, and place a bid with eSnipe. I then forget about the whole thing until I get an email telling me what the result was. This is usually a week or more later, and always comes as a slight surprise - often a pleasant one. Using eSnipe, I have never lost a bid because someone else sniped faster than I did. If I lose, it's because someone outbid me *before* the end of the auction.

Nowadays I don't buy off eBay too often. When I was building my collection, I did a whole lot more, and eSnipe saved me lots of money toward the latter part of my spending spree.

Best of luck.

Regards,  
Howard

### Re: Oooh! Off Topic eBay Bidding Secrets! Warning!

Message #8 Posted by **Maximilian Hohmann** on 13 Aug 2007, 6:23 a.m.,  
in response to message #7 by Howard Owen

Hi!

Quote:

\_\_\_\_\_

To avoid all these problems, I use a sniping service.

\_\_\_\_\_

If the auction we are talking about here is the one I think it is, then it was on eBay Germany. The rules of eBay Germany explicitly forbid the use of sniping services. Using them anyway means willingly breaking the contract between seller and bidder, thereby committing fraud, which is a criminal offence in this country. Maybe difficult to prove, but illegal anyway, therefore I don't do it and therefore I am one of the "fools" who place their high bids early.

Greetings, Max

### **Re: Oooh! Off Topic eBay Bidding Secrets! Warning!**

Message #9 Posted by **Howard Owen** on 13 Aug 2007, 7:25 a.m.,  
in response to message #8 by Maximilian Hohmann

In my opinion, you aren't the fool. The guy that (inevitably) comes along and says "Well, gee, this guy must know something I don't!" and then places a bid \$100.00 above your already high bid has a much better claim to the dishonor. In my experience, he or she is always out there, somewhere. It's cool if you are a seller.

Regarding legality, sniping is *not* illegal in the U.S. I always log on to www.ebay.com, the U.S. eBay site. I therefore don't worry about the laws of other countries, at least insofar as the actual bidding goes, since the goods are being offered on a U.S. site to a U.S. customer. I admit that legal matters can get murky when dealing with varying national laws as regards commerce carried out on an international, yet casual basis, such as the Internet has allowed us to do on a large scale for the last 15 years or so. But I think I'm on pretty firm ground here.

Regards,  
Howard

### **Re: Oooh! Off Topic eBay Bidding Secrets! Warning!**

Message #10 Posted by **Eric Smith** on 14 Aug 2007, 8:28 p.m.,  
in response to message #9 by Howard Owen

There's a difference between eBay German saying that you can't use a "sniping service", and saying that you can't snipe. If they say you can't use a sniping service, that doesn't have anything to do with whether you can place a bid yourself in the last few seconds of an auction. Presumably they're not going to claim that you can't snipe, since a snipe is just a perfectly normal bid.

It also seems unlikely that they could ban using sniping software on your own computer, or that they would want to do so.

If they really wanted to ban sniping entirely, they could just program their servers not to accept any bids in the last 30 seconds of the auction. Guess what would happen?

I think they arguably have a legitimate basis for wanting to ban sniping services, as a security issue. They don't want you to give your eBay password to a third party.

**Re: Oooh! Off Topic eBay Bidding Secrets! Warning!**

Message #11 Posted by [Howard Owen](#) on 15 Aug 2007, 2:43 a.m.,  
in response to message #10 by Eric Smith

Quote:

\_\_\_\_\_

If they really wanted to ban sniping entirely, they could just program their servers not to accept any bids in the last 30 seconds of the auction. Guess what would happen?

\_\_\_\_\_

What, the sniping would move to the last 60 seconds? 8)

Quote:

\_\_\_\_\_

I think they arguably have a legitimate basis for wanting to ban sniping services, as a security issue. They don't want you to give your eBay password to a third party.

\_\_\_\_\_

Yes, it takes a certain puckering to give control of your bids to a third party. However, I haven't been abused by the service I chose. And I don't think that really would concern eBay too much unless it were a statistically significant problem. Even then, it would be self-correcting. People would learn.

No, I think ebay's dislike of sniping is due to the fact that it short-circuits their quite clever and millennially profitable con game on the buying public. To judge by my experience, it tends to hold down final auction values, which hits their bottom line directly. I'm wracked with regret and sorrow over that. 8)

Regards,  
Howard

**Re: Oooh! Off Topic eBay Bidding Secrets! Warning!**

Message #12 Posted by [Thomas Okken](#) on 13 Aug 2007, 10:35 a.m.,  
in response to message #8 by Maximilian Hohmann

Given an auction format where the auction will end at some predetermined time, sniping is the only logical approach from the buyers' perspective. Bidding significantly before the end of the auction only broadcasts your interest to everyone else, with the effect of raising the price.

Making sniping services illegal seems a bit childish -- I think if you really want to take the sting out of sniping, they should introduce a cooling-off period (dang, just like a "real" auction -- no way to patent \*that\* idea, I guess!), so that an auction would stay active for at least, say, 1 minute after the last bid.

Me, when I go to eBay, I always snipe, and I always do it by hand. If nothing else, it's more exciting that way. :-)

- Thomas

**Re: Oooh! Off Topic eBay Bidding Secrets! Warning!**

Message #13 Posted by [megarat](#) on 13 Aug 2007, 11:11 a.m.,  
in response to message #12 by Thomas Okken

I'd like to add that placing an early bid (albeit for only the minimum bid above the current value) can help you win the item in the possible event of a tie between bidders. To break ties, eBay defaults to the bidder who first bid in that auction.

Odds are slim it will do anything for you, but it's helped me win two auctions in the past, so if I really want the item I give it a small, early bid.

(I'm also a sniper, but I do it by hand. I keep two windows of the auction open: one with my bid set up and ready to deploy, the other of the auction itself, to gauge the available time left.)

-cam

### **Re: Oooh! Off Topic eBay Bidding Secrets! Warning!**

*Message #14 Posted by [Raymond Del Tondo](#) on 13 Aug 2007, 7:09 a.m.,  
in response to message #7 by Howard Owen*

Hi,

I have to admit that I never used a sniping service.  
I'm sure many eBayers do, as can be seen by their bid history.

But using a sniping service is one of the things which make the whole thing unfair,  
and pulls off the fun.

I know there are various other unfair methods used on eBay,  
but this is one of the worst IMHO.

'Sniping' an auction is not a problem in itself,  
and if you do, be man enough to do it by hand,  
not through an automated service!

Just my 2 Eurocents;-)

Raymond

### **Re: Oooh! Off Topic eBay Bidding Secrets! Warning!**

*Message #15 Posted by [Howard Owen](#) on 13 Aug 2007, 7:35 a.m.,  
in response to message #14 by Raymond Del Tondo*

Quote:

But using a sniping service is one of the things which make the whole thing unfair,  
and pulls off the fun.

Bidders who always top a reasonable bid because they think you must know something they don't take *all* the fun out of eBay, for me.

And as far as "fair" goes, eBay is set up to favor the seller. The site charges sellers a significant amount for access to all those buyers - that's you and me most of the time. The higher the final value of the auction, the more eBay rakes in as a percentage. That means it is in eBay's interest to pump up the final values. The fact that you can't retract a bid, and that you are encouraged to bid high both explicitly and implicitly is a huge tilt of the playing field in the direction of the seller, and it is quite deliberate. Far



from being unfair, sniping actually redresses the balance between buyer and seller, so that it becomes something closer to a real free market, instead of a phony one.

Regards,  
Howard

**Re: Oooh! Off Topic eBay Bidding Secrets! Warning!**

*Message #16 Posted by **Bill (Smithville, NJ)** on 13 Aug 2007, 8:38 a.m.,  
in response to message #15 by Howard Owen*

Hi Howard,

Quote:

\_\_\_\_\_

Bidders who always top a reasonable bid because they think you must know something they don't take all the fun out of eBay, for me.

\_\_\_\_\_

Of course, this begs the question "What constitutes a reasonable bid?"

I may think \$100 is a reasonable bid for a particular item - you may think \$25 is a reasonable bid and that my \$100 is outrageous. It all depends on which side you are on.

While there are times I may have *Bidders Regret* for not bidding high enough and losing out, I much prefer that to having *Purchasers Regret* for Bidding too high and actually winning an item I should have stayed away from.

Bill

**Re: Oooh! Off Topic eBay Bidding Secrets! Warning!**

*Message #17 Posted by **Howard Owen** on 13 Aug 2007, 8:39 p.m.,  
in response to message #16 by Bill (Smithville, NJ)*

The third or fourth 42S I bid for on eBay went for \$450.00 when I had placed a "can't top it" bid of \$440.00 or thereabouts. On the one hand, I was quite happy to have been outbid at that price, but on the other, I couldn't help but question the sanity of the bidder who won the auction. On reflection, I had to question my own sanity for placing such an outrageous bid, but that's the nature of the psychology on eBay. I eventually bought a very nice 42S for around \$250.00 - which is more in line with the average on eBay - by sniping the auction.

So when I call other bidders "idiots" for behavior like that, I'm doing so from the knowledge that I have been guilty of the same idiocy. I also know that the system eBay has set up tries to manipulate buyers into placing larger bids than they might otherwise. The thinking goes "If I bid higher than I know the item is worth, I'll probably win. And I probably won't have to pay my top price, anyway." My experience has shown me that this thinking is completely wrong on both counts. Sniping gets rid of the coercive psychology that tracking an auction on eBay engenders, and restores some sanity to the process.

Regards,  
Howard

**Re: Oooh! Off Topic eBay Bidding Secrets! Warning!**

*Message #18 Posted by **Thomas Radtke** on 13 Aug 2007, 7:42 a.m.,*

*in response to message #14 by Raymond Del Tondo*

Quote:

I know there are various other unfair methods used on eBay, but this is one of the worst IMHO.

Why?

People tend to forget that the highest bid "wins" the auction, not the last one. It may be seen as unfair if you place your bid according to the current highest bid and not to what the object is worth in your opinion. But then, \*that's\* unfair to those who cannot afford the prices resulting from bid wars.

*Edited: 13 Aug 2007, 7:43 a.m.*

### **Re: Oooh! Off Topic eBay Bidding Secrets! Warning!**

*Message #19 Posted by **Raymond Del Tondo** on 13 Aug 2007, 12:19 p.m.,  
in response to message #18 by Thomas Radtke*

> Why?

>

Because I place all my bids personally,  
or in other words: How it's meant to be;-)

> People tend to forget that the highest bid "wins" the auction,  
> not the last one.

>

That's what I wrote in my first posting;-)

However I still think using eBay sniper programs is simply cheating.

It's a difference if you place your bid personally,  
regardless if you do it a few seconds before the auction end,  
or if you let a machine do the job.

### **Re: Oooh! Off Topic eBay Bidding Secrets! Warning!**

*Message #20 Posted by **Maximilian Hohmann** on 13 Aug 2007, 7:43 a.m.,  
in response to message #14 by Raymond Del Tondo*

Hello!

Quote:

'Sniping' an auction is not a problem in itself,  
and if you do, be man enough to do it by hand,  
not through an automated service!

Good man :-)! In this case you really deserve your prey.

Occasionally, I have also done some 'manual sniping', but due to the nature of my job, I often can't be in front of the computer when the interesting auctions end. Which means that I have to bid early and see what comes out.

Greetings, Max

### **Re: Oooh! Off Topic eBay Bidding Secrets! Warning!**

Message #21 Posted by [Chan Tran](#) on 13 Aug 2007, 10:09 a.m.,  
in response to message #20 by Maximilian Hohmann

I don't think this is the place nor that Ebay would listen to my idea but I think.. If at the end of auction time, ebay would allow anyone to submit a higher bid for the next 1 minute or so and then if there is a bid in that amount of time then the auction is extended for another minute. It would not make the end of auction very long but let the true highest bidder win and ebay collects a higher fee.

### **Re: Oooh! Off Topic eBay Bidding Secrets! Warning!**

Message #22 Posted by [Vincze](#) on 13 Aug 2007, 10:19 a.m.,  
in response to message #21 by Chan Tran

I think you may open a bag of worms with that.

### **Winner's Curse**

Message #23 Posted by [bink](#) on 13 Aug 2007, 10:46 a.m.,  
in response to message #21 by Chan Tran

I also don't understand why eBay doesn't do that, since that is the norm with physical auctions.

Also, if the value of an item is uncertain, then theory suggests that bidders overpay in auctions. Basically, if you assume that individual estimates of value are normally distributed, then the highest bidder will have exceeded the true value of the item. This is known as the Winner's Curse.

[Winner's Curse - Richard Thaler - Great Book!](#)

### **Re: Oooh! Off Topic eBay Bidding Secrets! Warning!**

Message #24 Posted by [Garth Wilson](#) on 13 Aug 2007, 1:52 p.m.,  
in response to message #20 by Maximilian Hohmann

I've "sniped" (only by hand) a few times, as a way of making it like a sealed bid. Usually I don't get what I bid for, which is fine-- I made my decision and bid as much as it was worth to me, and I wasn't going to reconsider and bid more even if someone else outbid me. Making it like a sealed bid, we don't see each other's bids until it's too late to respond. I hate bartering.

### **Re: Oooh! Off Topic eBay Bidding Secrets! Warning!**

Message #25 Posted by [Eric Smith](#) on 13 Aug 2007, 5:05 p.m.,  
in response to message #14 by Raymond Del Tondo

Quote:

\_\_\_\_\_

But using a sniping service is one of the things which make the whole thing unfair,

\_\_\_\_\_

Your definition of "fair" must be much different than mine.

It is fair if the seller and auction system do not do anything to preclude every bidder having the same

opportunity. Everyone has the opportunity to (try) to place a bid in the last few seconds, whether they do it by means of a sniping service, sniping software on their own computer, or by "hand".

As far as I can tell, neither eBay nor the sellers do anything that prevents all bidders from having that opportunity.

It's possible that a particular bidder can't afford to pay a sniping service, or has a slow internet connection that makes placing a bid in the last few seconds unreliable. Neither situation would be the fault of eBay or the sellers.

### **Re: Oooh! Off Topic eBay Bidding Secrets! Warning!**

*Message #26 Posted by **Egan Ford** on 13 Aug 2007, 12:57 p.m.,  
in response to message #7 by Howard Owen*

I use AuctionSniper. I have tried manual sniping, but it is a complete waste of time and I do not like the excitement or the drama of constantly leapfrogging over another bidder. I set my max price and forget about it. It saves me a lot of time and money (mostly by losing by not getting emotional). Many call it cheating or unfair. Bottom line many snipe (look at the bid history of everything you've lost), and if you want to win you need to play their game too.

For more sniping info start here: [http://en.wikipedia.org/wiki/Auction\\_sniping](http://en.wikipedia.org/wiki/Auction_sniping)

Quote:

Analysis of actual winning bids on eBay (Yang and Kahng, 2006) suggests that winning bidders are more likely to have placed a single bid late in the auction, rather than placing multiple incremental bids as the auction progresses.

The Yang/Kahng paper has a lot of math (enjoy!) and can be had here:  
[http://arxiv.org/PS\\_cache/physics/pdf/0511/0511073v1.pdf](http://arxiv.org/PS_cache/physics/pdf/0511/0511073v1.pdf)

Vincze, you can always use EMU71 until you score a 71B. And do not forget to post a WTB. I usually try WTB first, many are interested in selling, but do not want to deal with eBay. I have found WTB to offer fair prices, most offer pricing below eBay current wins, others are much lower. Twice I ended up working out a trade that benefited both much more.

### **Re: Oooh! Off Topic eBay Bidding Secrets! Warning!**

*Message #27 Posted by **Vincze** on 13 Aug 2007, 1:19 p.m.,  
in response to message #26 by Egan Ford*

How can I use Emu71 without ROM. I thought I look at that and see that you must have ROM from unit.

### **Re: Oooh! Off Topic eBay Bidding Secrets! Warning!**

*Message #28 Posted by **HrastProgrammer** on 13 Aug 2007, 1:47 p.m.,  
in response to message #27 by Vincze*

Everything you need is here:

<http://membres.lycos.fr/jeffcalc/emu71.html>

**Re: Oooh! Off Topic eBay Bidding Secrets! Warning!**

Message #29 Posted by [Vincze](#) on 13 Aug 2007, 1:59 p.m.,  
in response to message #28 by [HrastProgrammer](#)

Wow, thank you! Now I just need to figure out how to use. It no look like an HP71B, but that okay.

If I understand correctly though, I should be able to enter BASIC program in it somehow?

**Re: Oooh! Off Topic eBay Bidding Secrets! Warning!**

Message #30 Posted by [Raymond Del Tondo](#) on 13 Aug 2007, 2:14 p.m.,  
in response to message #29 by [Vincze](#)

The keyboard mapping should be explained in the associated \*.doc file.  
To get started, you should take a look into the HP-71B manuals,  
which are available through the hpmuseum site.

For manual related questions, you could also drop me a mail...

HTH

Raymond

(Glad to be somewhat more on topic again;-)

**Re: HP 71B**

Message #31 Posted by [Alex L](#) on 13 Aug 2007, 6:33 p.m.,  
in response to message #1 by [Vincze](#)

There are deals to be had on the auction site. I purchased a 71B on that site last month for \$80, near-mint (only the slightest wear on the rubber feet), with case, manuals, template, etc, in box. Yes, really.

I am not yet willing to reveal my secrets, as I'm still looking, but I will hint:

In order to find the best deals, you must change how you look for them. I promise that searching for "HP Calculator" with default search settings is the worst possible way to find a deal.

Good luck!

**Re: HP 71B**

Message #32 Posted by [Vincze](#) on 13 Aug 2007, 7:23 p.m.,  
in response to message #31 by [Alex L](#)

No kidding, you look for "Hewlett calculator". If you not willing to share secret, then why even mention. I know I am stupid Hungarian, but...

**Re: HP 71B**

Message #33 Posted by [Howard Owen](#) on 13 Aug 2007, 8:47 p.m.,  
in response to message #32 by [Vincze](#)

Look for "Hewlett Hewlitt Hewllet" and so forth. That's an old trick. It often results in a buyer taking unfair advantage of a seller who has misspelled the name of his goods. Mis-categorized items are also

often good bargains. This is how Coburlinfaratu gets a lot of his deals.

Regards,  
Howard

**Re: HP 71B**

*Message #34 Posted by [Mark W Paris](#) on 13 Aug 2007, 11:19 p.m.,  
in response to message #33 by Howard Owen*

Good one! Coburlinfaratu -- a different, less clever and far less seemly moniker jumps into my mind when I see that name.

**Re: HP 71B**

*Message #35 Posted by [Howard Owen](#) on 14 Aug 2007, 9:29 a.m.,  
in response to message #34 by Mark W Paris*

[Coburlinfaratu](#)

Regards,  
Howard

**Re: HP 71B**

*Message #36 Posted by [Vincze](#) on 14 Aug 2007, 9:58 a.m.,  
in response to message #35 by Howard Owen*

I guess I don't understand joke about Coburlinfaratu. He evil?

**Re: HP 71B**

*Message #37 Posted by [Cameron Paine](#) on 14 Aug 2007, 10:36 a.m.,  
in response to message #36 by Vincze*

Vincze, only if you consider telling a grieving physicist's widow that you'll take that "junk" off her hands and sling her a couple of bucks for the funeral... and then offer the same well-loved item on eBay next week as "NIB" for \$^2 to be evil. ;-)

Forgive the idiomatic stuff. Your English is much better than my Hungarian.

Search this forum for "Coburlin" and you'll quickly get the joke. (I find Google's "site:" search directive to be very useful because it searches the active forum and the archives in one go.)

Howard, I can barely type I'm laughing so much. If you'd posted that picture before I must have missed it. Thanks for sharing.

Now, to bring this back on topic, what model calculator is the grieving "widow" in Howard's picture holding?

Cameron

**Re: HP 71B**

*Message #38 Posted by [Vincze](#) on 14 Aug 2007, 11:41 a.m.,*

*in response to message #37 by Cameron Paine*

Quote:

Now, to bring this back on topic, what model calculator is the grieving "widow" in Howard's picture holding?

Look like a 41C series to me.

### **Re: HP 71B**

*Message #39 Posted by [Howard Owen](#) on 14 Aug 2007, 11:51 a.m.,  
in response to message #38 by Vincze*

Yup. It's my 41-CX being clutched to the bosom of the eBay vampire's victim!

The base image is from a poster for "The Fearless Vampire Killers or 'Pardon Me, But Your Teeth Are in My Neck'". The lady in the poster is Sharon Tate.

Regards,  
Howard

### **Altered poster; Sharon Tate**

*Message #40 Posted by [Karl Schneider](#) on 15 Aug 2007, 2:21 a.m.,  
in response to message #39 by Howard Owen*

Quote:

The lady in the poster is Sharon Tate.

... who was murdered in 1969 in the infamous Charles Manson case. Manson is still imprisoned today, his life spared by some, um, "fortuituous timing".

[http://en.wikipedia.org/wiki/Charles\\_Manson](http://en.wikipedia.org/wiki/Charles_Manson)

### **Re: HP 71B**

*Message #41 Posted by [Mark W Paris](#) on 14 Aug 2007, 2:24 p.m.,  
in response to message #37 by Cameron Paine*

I didn't know the specifics -- I just knew he was a @\$#\*ing \$&\*%(@!

Speaking as a physicist, I've bored my wife with endless calculator trivia -- least of which is not their value.

### **Re: HP 71B**

*Message #42 Posted by [Alex L](#) on 14 Aug 2007, 12:36 p.m.,  
in response to message #33 by Howard Owen*

Look at ALL the search options. Manipulate them to your best advantage.

If you're lucky, you'll search in a way that few others use and you'll be able to snap up some great

deals before anyone else even knows they're there. The 71B I bought had a page view counter in the listing; when I viewed & bought it, the counter was at 00002. This requires some luck, too.

If you're really lucky, you'll find some searches that work even better than what I use. That's the other reason I'm not going to just spell it out... you may do better than I have!

Again, best of luck and best wishes.

**Re: HP 71B**

*Message #43 Posted by [Vincze](#) on 14 Aug 2007, 12:41 p.m.,  
in response to message #42 by Alex L*

I guess I just don't understand. Oh well.

**Re: HP 71B**

*Message #44 Posted by [Mark W Paris](#) on 14 Aug 2007, 2:26 p.m.,  
in response to message #42 by Alex L*

We should just keep a running list of everything on eBay and then snipe away.

Sniping, btw, is the only sensible way to approach the slime-filled arena of eBay.

**Re: HP 71B**

*Message #45 Posted by [Vincze](#) on 14 Aug 2007, 2:35 p.m.,  
in response to message #44 by Mark W Paris*

I guess because I am English challenged, I just do not understand what Alex L saying.

**Re: HP 71B**

*Message #46 Posted by [Mark W Paris](#) on 13 Aug 2007, 11:18 p.m.,  
in response to message #1 by Vincze*

I empathize with your frustration. I had some very good luck soliciting help from the good folks on this site.

Just be sure that if you place a wanted ad and you give your email address, don't assume that your potential benefactor will actually use it. Be sure and check back here daily to find out what a good samaritan might do for you. If his offer "expires" the vultures (wink) around here will scoop it up.

**Re: HP 71B**

*Message #47 Posted by [Peter A. Gebhardt](#) on 16 Aug 2007, 5:15 p.m.,  
in response to message #1 by Vincze*

Vincze,

What about looking for an 200LX on ebay (still plenty of them available!) and use "emu71" on it?

Quote:

Emu71 is a software emulator of the HP-71B machine. Main features: - runs under DOS or in a command box in Windows (95,98,2000,NT, ...). - text mode application consistent with the HP-



71B system look and feel. - can emulate any numbers of ROM or RAM modules. - very fast emulation engine written in optimized assembly language, - runs correctly even on slow 186 (e.g. HP200LX), 286 systems although at reduced speed. - FREEWARE: free for non commercial usage, (a short mail with your opinion to the author would be appreciated), - NEW: emulation of the HP-IL loop and 6 HP-IL devices (one video display, three mass storage units, one printer interface, one DOS interface), - NEW: direct access to LIF image file archives, - NEW: supports 43/50 lines video modes (very convenient!), - Optional control of external HP-IL loop from Emu71, and/or communication with an external HP-71B (Emu71 version available after registering to the author).

<http://www.hpcalc.org/details.php?id=3658>

Best regards

Peter A. Gebhardt

**Re: HP 71B**

*Message #48 Posted by [Vincze](#) on 16 Aug 2007, 8:36 p.m.,  
in response to message #47 by Peter A. Gebhardt*

I have emu71 on computer, and it okay, but it is not 71B. I want really want a 71B, as the hardware is what intrigue me most. Just like emulators are nice to see how something work, it just not the same. I guess it is the wow factor that is nice. I pull out my 15C, and I say WOW.

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## HP Forum Archive 17

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### **HP50G version 2.08**

Message #1 Posted by [Chan Tran](#) on 12 Aug 2007, 7:13 p.m.

I just got an 50g version 2.08 rom. Is it quite old stock?

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## HP Forum Archive 17

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### My First Five Minutes with a TI nSpire

Message #1 Posted by [Howard Owen](#) on 12 Aug 2007, 1:10 a.m.

I have a non-retail CAS version, sans desktop software. The user interface is striking. I haven't decided whether it's useful or not, yet.

### The Keyboard

The keyboard is guaranteed to repel a classic HP calculator enthusiast on first sight. There are two "banks" of keys. The primary bank contains the numeric keys, arithmetic, logarithmic trigonometric functions and exponential functions, plus a few others. These keys are oddly shaped, but arranged in a reasonable grid. They have a small amount of tactile feedback, or click, though nothing like what I would consider adequate. The keys are dark gray with the primary functions in white, and shifted (ctrl) functions in light gray. The latter legends have poor contrast, the former very good contrast. The keys are low-profile, rising from the surrounding case by about 1/8".

The *secondary* bank lives on the interstices of the grid formed by the primary bank's keys. The keys are small, round, and raised above the primary bank by about 1/8". All these keys have only one function labeled on them. Most of the keys are alphabetic characters from A-Z. These are colored *green* with white labels. The contrast is adequate. The keys that are not alphabetic are arranged outside the primary grid, and are colored very light gray with black labels. The contrast is again adequate in my opinion. These keys contain a grab-bag of functions such as single and double quotes, punctuation marks and some functions of mathematical significance such as =, <, >, EE, theta, pi and i. The tactile feedback of these keys is somewhat stiffer than the primary keys.

Above the two banks of keys are six "function" keys and a five-way navigation disk. The "function" keys have fixed functions, hence the quotes. The primary functions are esc, tab, ctrl, home, menu and <-.

Together, the two banks of keys are remarkably functional. The shape of the primary bank keys becomes clear when you consider that they fill out the space between the secondary bank keys. The result is that you can key the primary keys, or the secondary ones, with your eyes closed. The secondary keys serve as guides for the primary ones when using the latter. When keying the secondary bank, staying on the higher plane is easy using touch alone. I still don't know how well this arrangement will work in actual use, but I'm impressed that a new approach to a hand held calculator keyboard has been demonstrated on this new machine.

### The Display

Wow!

I think others have mentioned the original Macintosh when discussing this display. The comparison is apt. This grayscale LCD panel looks great. It's about one half inch taller and about the same width as the display on the 50G. And while the dark font on the 50g makes for better contrast, the grayscale screen and anti-aliased graphical elements on the nSpire are spectacular. This display will no doubt be the benchmark for devices of this type going forward.

### The Interface

This machine is targeted squarely at the educational market, and its user interface reflects that fact. The basic abstraction is the "document." This is a collection of applications, problems and notes that you access via a directory browser. Selecting a file with the five way navigation disk is intuitive if you are used to PC operating systems. Considering that students in the US and Europe are guaranteed to be familiar with this metaphor makes the choice seem logical. The similarities to PC interfaces extend to shortcuts for copy/paste and undo/redo. These are the same as the standard keystrokes in Windows, Gnome and KDE.

The document is presented in a series of tabs across the top. each tab is a "page" and each page can contain an application, a problem or a note. The applications are things like "Calculator," "Lists and Spreadsheets" and "Graphs and Geometry." Switching between pages is accomplished with ctrl-right and ctrl-left on the navigation disk. Paging is ctrl-down and ctrl-up on the same disk. Without ctrl, these functions scroll one character or line as the case may be.

My quick read on the interface is that it is limited enough to not suffer from clutter and confusion, but powerful enough to get the job done. The collection metaphor isn't new, but its application on this machine seems like a good choice.

## Programming

What programming? The user guide doesn't mention the word. The reference manual documents control structures and logic functions very similar to a structured BASIC, but I saw no applications of these in a quick browse of the user guide. There is quite a bit of discussion of automation, but all in the context of specific applications, such as the graphing slate. I can't tell yet if this is an effective pushing of programming into the background behind the real work the calculator is designed to do, or if it's just a gap in the docs. Time, and more effort on my part, will tell.

## Using the Applications

I haven't done much of this so far. As is typical for me, I'm more interested in the system aspects than the applications. But these apps look interesting enough to hold my attention for a while, so I'll probably have more to say on the topic later. The integration between applications and between the hand held and the PC desktop is supposed to be a prominent strength of the nSpire, so that will also spur me to look at that area.

## Sync Software

Nothing special here. There's a nice screen shot facility, and the usual backup/restore functions. One interesting thing is that the link software is bundled with a Java runtime. It's possible that this app could run on OSen other than Windows. As I say, I don't have the desktop CAS software. But if it too is in Java, there might be a hope of it being cross platform as well.

## Preliminary Conclusions

This machine is for real. None of the features I tried appear to be merely "gimmicks" to draw a buyer in. Stuff that looks gimmicky, like the keyboard, actually turns out to be well thought out and functional. There are a couple of new elements in the machine, and more existing features that haven't been applied to calculators before. I can't say for sure without getting up to speed on all the apps, but this machine may represent a genuine breakthrough in hand held calculation, at least for the educational market. At the very least, it is food for thought about what such a device can be.

Regards,  
Howard

## Re: My First Five Minutes with a TI nSpire

Message #2 Posted by [Don Shepherd](#) on 12 Aug 2007, 8:45 a.m.,  
in response to message #1 by Howard Owen

Howard, great review. Let me add a few points based on my experience with this calculator (the non-CAS version) about a month ago.

The keyboard. Yes, it's a piece of work all right. It is nice to not have to press a shift key to use alpha characters, but the keys are pretty tiny, and with my stubby fingers I often miskeyed entries. I think it just takes some getting used to. The intended market (high school kids) will probably find it easier than I did.

The display. I agree, it is very good. I had (and still have) trouble with the resolution. You really have to position it at just the right angle in order to see things, and it works best when you have a strong light source. At the conference I attended, I could barely see my screen because they turned the lights down in the classroom to use the viewscreen on the overhead projector, and in that dim light situation the unit was almost unusable. I hope TI comes up with a better version.

The interface. If you remember the [website](#) TI setup it shows a teenage girl dragging images around a \*screen\* by pointing with her finger. If they had actually built it that way, I agree that this would be some kind of revolutionary product. But the pointing and dragging is done with keys, not your finger, and my experience in doing this was that it kind of takes the fun out of it. It's going to be a really steep learning curve for kids to learn how to do that effectively, without getting frustrated because the click just didn't take. And kids don't have a lot of patience anyhow. A touchscreen would turn this into a revolutionary product. A TI rep at the conference mentioned that some research is occurring regarding using a mouse with the calculator. Short of a touchscreen, that would be a tremendous help.

Programming. Programming on this calculator is functions only. You don't \*run\* a program; you write a function, then invoke the function with the desired input parameters. You normally do this on the calculator page, using the menu command Function Logic in the Tools menu. You can include BASIC-like things like if..then and loops. Once defined, the user function can be invoked on the other types of pages (spreadsheet, geometry/graphing) as well. I think TI did programming this way because functions is something that high school students should learn, and this lets them quickly build their own functions and try them out. Pretty cool.

The NSpire is an interesting product. The integration of the four basic \*pages\* (calculator, geometry/graphing, spreadsheet, and notes) is great, and I think this calculator will be a terrific tool to help kids learn math.

## Re: My First Five Minutes with a TI nSpire

Message #3 Posted by [dbatiz](#) on 12 Aug 2007, 10:56 a.m.,  
in response to message #2 by Don Shepherd

As I read your comments, I imagined a blue tooth style mouse that may be used with the device. But the additional desk space, and carrying around another battery powered widget, made me think re-think things.

Imagine this, put an optical mouse sensor under the n-Spire itself. Then, as you use it, you can slide it on the desk, like a mouse, to make changes on screen.

I wonder how well that would work,

Very respectfully,

David

### **Re: My First Five Minutes with a TI nSpire**

*Message #4 Posted by **Don Shepherd** on 12 Aug 2007, 1:25 p.m.,  
in response to message #3 by dbatiz*

David, the NSpire is not a voyager-sized thing. It is a bit larger and heavier than the normal TI graphing calculators (83, 84, titanium, etc.), so I think using it as a mouse would tend to get tiring. It also would probably be difficult to look at the screen as it is moving!

Much better would be a stylus, to select an object on the screen and manipulate it, drag it, etc. The human finger would probably be too big to use this way, but a stylus would be great.

### **Re: My First Five Minutes with a TI nSpire**

*Message #5 Posted by **Vincze** on 13 Aug 2007, 10:52 a.m.,  
in response to message #1 by Howard Owen*

Forgive me for being ignorant, but why do we spend so much time talking about TI unit on an HP website?

### **Re: My First Five Minutes with a TI nSpire**

*Message #6 Posted by **Donald Williams** on 13 Aug 2007, 12:59 p.m.,  
in response to message #5 by Vincze*

Quote:

\_\_\_\_\_  
Forgive me for being ignorant, but why do we spend so much time talking about TI unit on an HP website?  
\_\_\_\_\_

I suppose doing such things is not in the true spirit of the forum. It states at the top of this page-

"This forum is for discussion of HP calculators including usage, repairs, sources of replacement parts, general information etc."

but lets face it, there are a lot of calculator enthusiasts reading this forum. At one time if you wanted to keep abreast of the best in calculator innovations then you only needed to discuss HP products. Currently TI and Casio are competing fiercely in the market place and are beginning to innovate themselves.

I am always curious about the other forum members experience with these devices. They tend to cut through the "hype" and share some good information. Unless Dave thinks this is an abuse, I hope it continues.

### **Re: My First Five Minutes with a TI nSpire**

*Message #7 Posted by **Vincze** on 13 Aug 2007, 2:53 p.m.,  
in response to message #6 by Donald Williams*

Oh, I not say it an abuse, it just puzzle me why such find discussion group about HP talk about TI. I agree that it good to know about competition, and I think that keep manufacturer honest, it just strange how much time this TI unit get on HP site. Maybe this my Hungarian practicality showing.

### **Re: My First Five Minutes with a TI nSpire**

*Message #8 Posted by **Maximilian Hohmann** on 13 Aug 2007, 6:04 p.m.,  
in response to message #7 by Vincze*

Hello!

Quote:

... it just strange how much time this TI unit get on HP site.

If HP had come out with such a thing, I'm sure it would get 100 times as much attention and feedback here (just look at the hundreds of postings about the 33s, that is a Mickey-Mouse-gimmick compared to this nSpire machine!). So lets hope that hp gets some nSpiration from it so that we can get some serious chatting started :-)) (but no RPL please, or the whole effort will be lost!)

Greetings, Max

### **Re: My First Five Minutes with a TI nSpire**

*Message #9 Posted by [Howard Owen](#) on 13 Aug 2007, 11:47 p.m.,  
in response to message #7 by Vincze*

Quote:

.. it just puzzle me why such find discussion group about HP talk about TI.

This machine strikes me as the first really new approach to portable mathematics in years. If the nSpire has staying power, then it will be part of the world view HP will have when they bring out their next innovation in calculators. Having recently seen the fruits of the current HP calculator group's efforts at recapturing some of their legacy in calculators, I have little doubt that they *will* try to innovate in the space. When they do, the results will inevitably be compared against the nSpire.

Besides, I'm a gadget head, and this is a cool gadget! 8)

Regards  
Howard

### **Re: My First Five Minutes with a TI nSpire**

*Message #10 Posted by [Norris](#) on 14 Aug 2007, 1:51 p.m.,  
in response to message #9 by Howard Owen*

Didn't HP already develop, and then ultimately reject, an innovative new handheld, the [HP Xpander](#) ?

How does the nSpire compare to the Xpander ? Both appear to lack initial vowels, but there must be other points of comparison as well.

*Edited: 14 Aug 2007, 1:52 p.m.*

### **Re: My First Five Minutes with a TI nSpire**

*Message #11 Posted by [Howard Owen](#) on 16 Aug 2007, 9:44 a.m.,  
in response to message #10 by Norris*

I've heard people compare the nSpire to the Xpander, but I don't know if the similarities are deeper than just being more PDA-like. The Xpander *was* aimed at the educational market,

though.

Regards,  
Howard

**Re: My First Five Minutes with a TI nSpire**

*Message #12 Posted by [Vincze](#) on 13 Aug 2007, 3:19 p.m.,  
in response to message #1 by Howard Owen*

Howard, where did you purchase the nSpire? Is it available at larger retailers as I would like to see one in person.

**Re: My First Five Minutes with a TI nSpire**

*Message #13 Posted by [Howard Owen](#) on 13 Aug 2007, 11:41 p.m.,  
in response to message #12 by Vincze*

[SchoolMart](#)

These are non-retail versions that come in very basic packaging, and manuals on CDR disks.

Regards,  
Howard

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## HP Forum Archive 17

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### A Sigma Function in the 35s Solver!

Message #1 Posted by [Katie Wasserman](#) on 12 Aug 2007, 12:27 a.m.

OK not really but close!

Although I said I was going to stop playing with this "buggy little beast" (thank you Nenad) I apparently have not.

In rereading Gene's review I was struck by the ability to store into variables within an equation and thought that I might see what could be done with this. A good exercise would be to try to fill the indirect array with data by just using the solver, then take this one step further and add a way to control the endpoints.

First we some way to keep the solver running indefinitely, this little equation works well:

$1/A = -1/A$   
(that's a unary -)

Using this, the ability to STO I, STO(I) and adding a stopping condition we get:

$(IDIV(I,N)-1)/A = (1-IDIV(I,N))/A + 0x(I+1 > I > (I))$

(Here the ">" represents the filled in ">" that you see when you press STO in an equation.)

Enter this and press SOLVE. Solve for A, enter the starting value for I and the ending value for N and the "buggy little beast" will fill the array locations I thru N with the values I thru N! Actually because the solver wants to confirm that it found a zero (by doing an extra iteration) and because of the way I wrote the equation it will start at I+1 and fill to N+2, but you can easily make the needed adjustments.

This opens up the possibility of doing all sorts of calculations in the equation solver that would normally be done with SIGMA on a 17BII (for example), even more when you consider that you have an array that can be read/write addressed. Here's a really serious challenge: write an equation that uses the solver to calculate a few hundred digits of pi.

*Edited: 12 Aug 2007, 12:43 a.m.*

### Re: A Sigma Function in the 35s Solver!

Message #2 Posted by [Don Shepherd](#) on 13 Aug 2007, 8:08 a.m.,  
in response to message #1 by [Katie Wasserman](#)

Katie, educate me here. I'm trying to better understand the internal behavior of the solver, especially the 17bii+ solver in relation to the 17bii solver, but I am intrigued by your 35s example.

How does your equation cause the solver to iterate from a specific starting point to a specific stopping point?

### Re: A Sigma Function in the 35s Solver!

Message #3 Posted by [Katie Wasserman](#) on 13 Aug 2007, 10:45 a.m.,  
in response to message #2 by [Don Shepherd](#)

The 17BII and 17BII+ have a Sigma function in the solver that forces it to specifically iterate over a defined interval (see below for more). There is no such function in the 35s. Solver iteration in the 35s is determined by the internals of how the solver works and is generally not controllable. On the other hand, you can trick the solver into running for a really long time by giving it an equation that it can't solve yet slowly converges, something like:  $INV(A) = -INV(A)$ .

However, the 35s does have a STO function that seems identical to the L() function in the 17BII and 17BII+, this allows for incrementing a variable: e.g., I+1 STO I. Using these two pieces we can get the solver to run while for an incredibly long time while incrementing a variable. If you tell it to solve:  $INV(A) = -INV(A) + 0x(I+1 \text{ STO } I)$ , solve for A and give it a starting value of I=0 and A=1, it will run for about 2400 iterations on the 35s. After that point the solver will end up solving the equation by coming up with  $A \approx 1E499$ . 2400 is pretty much all the iterations you'd ever want to do on this calculator -- it ain't that fast -- I'll call it a near-infinite number of iterations for our purpose.

Here's how the rest of it works ... if 'T' is not the target of the solver, then the solver will prompt for the starting value. That leaves just the ending value and the need to use this ending value as a way to halt the solver's near-infinite loop. In the equation I wrote above this is done by,  $1-IDIV(I,N)$ . This will have a value of 1 when 'T' is less than N and of 0 when I becomes N (and until 'T' becomes 2N). Using this on both sides of the "=" the equation becomes  $0 = 0$  when 'T' becomes N, thus achieving the stopping condition for the solver.

The other element in the equation is: I STO (I). This is just to demonstrate that the controlled loop can do something useful: fill addressable memory with incremental values. You could just have well specified:  $0x(I+1 > I + RAND > (I))$  to fill memory (from the initial value of I to N) with random numbers.

This is all pretty non-obvious stuff and I've just begun to experiment with it, but it's amazing what just the STO function in the solver opens up. You won't find anything about this in the manual (or anywhere else as far as I know).

I don't have a 17BII+ but on the 17BII you can do the same thing in the solver:  $INV(A) = -INV(A) + 0xL(I:I+1)$ . Start with I=0 and A=1, solve for A and RCL I when it finishes and you'll find that I has a value of about 2400, showing that this many iterations have been done. Unfortunately you can't 'STO (I)' on the 17BII because it has no way to write to an array (although you can read the items in a list from within the solver). Of course you would never really do this on the 17BII you'd use:  $X = \text{Sigma}(I:1:N:1, \text{whatever you want to do})$ . Note that 'Sigma' is the summation sign and 'whatever you want to do' will be evaluated N times and the results will be summed and returned in X.

*Edited: 13 Aug 2007, 11:23 a.m.*

## **Re: A Sigma Function in the 35s Solver!**

*Message #4 Posted by [Don Shepherd](#) on 13 Aug 2007, 1:03 p.m.,  
in response to message #3 by [Katie Wasserman](#)*

Wow!

It will take me a while to digest what you said. On first reading, I think I understand most of it, but I've got some playing around to do. You have really done some good work here, and I congratulate you.

I wish there was a book called "Everything you always wanted to know about the inner workings of the solver, but were afraid to ask." I'm still trying to figure out why the 17bii+ solver does not work like the 17bii solver (and it doesn't, believe me, especially with the sigma function).

Thanks Katie.

**Re: A Sigma Function in the 35s Solver!**

Message #5 Posted by **Thomas Klemm** on 14 Aug 2007, 11:43 p.m.,  
in response to message #1 by Katie Wasserman

Quote:

Here's a really serious challenge: write an equation that uses the solver to calculate a few hundred digits of pi.

When I first realized that we have about 800 registers to waste I was thinking what could I do that wasn't possible with my HP-11c?

Now with your challenge in mind I transcribed a C-program which uses the spigot algorithm for the digits of pi:

```
P001 LBL P      P018 FS? 0      P035 INT/
P002 STO N      P019 GTO P022     P036 DSE J
P003 4          P020 RCL(J)    P037 GTO P017
P004 INT/      P021 GTO P023     P038 ENTER
P005 STO I      P022 2E3      P039 CF 0
P006 CLx       P023 RCL* F    P040 RCL F
P007 STO D      P024 +          P041 INT/
P008 STO E      P025 1          P042 RCL+ E
P009 1E4        P026 RCL J      P043 STO P
P010 STO F      P027 ENTER     P044 VIEW P
P011 SF 0       P028 +          P045 x<>y
P012 14        P029 x<>y      P046 RCL F
P013 RCL* I     P030 -          P047 RMDR
P014 STO J      P031 RMDR     P048 STO D
P015 DSE J      P032 STO(J)    P049 STO E
P016 RCL D      P033 x<>y      P050 DSE I
P017 RCL* J     P034 LASTx     P051 GTO P012
```

40 XEQ P001

```
P=
 3141
 5926
 5358
 9793
 2384
 6264
 3383
 2795
 288      <<< mind the missing 0
4197
```

Though untested it should be possible to calculate a little more than the the first 200 digits. Using vectors could lead to even more digits.

But when I tried to write an equation for that algorithm I wondered how should I handle the inner and the outer loop? We can't use the solver within the solver, do we?

Probably I have to use a different approach then.

The C-program was taken from:  
Pi Unleashed.  
Jörg Arndt, Christoph Hänel

## Re: A Sigma Function in the 35s Solver!

Message #6 Posted by **Katie Wasserman** on 15 Aug 2007, 3:40 a.m.,  
in response to message #5 by Thomas Klemm

That's a pretty neat algorithm for pi and fits in a limited program space, nice work!

Like you mention it's at the expense of variable space and (I think) there's a risk of not working if there is a 99999... sequence somewhere in the first so many digits of pi that the program generates. (I know that the original Rabinowitz and Wagon program had this problem.)

However, the convergence is pretty fast and this might fit more easily into an solver equation than some more conventional methods. It's possible to simulate nested loops in the solver by doing something like:

```
(1-IDIV(C,N^2))*INV(A)=(IDIV(C,N^2)-1)*INV(A)
+ 0*
(C+1 STO C +
IDIV(C,N) STO I +
RMDR(C,N) STO J +
....
```

I and J could now be used as row/column indicies into a matrix (if only the 35s had matrices) or whatever.

I haven't yet tried to write an equation to solve for pi in the 35s solver, but some time ago I did it in the solver in the HP 200LX using a similar technique and storing/reading values from an list in the built-in Lotus 1-2-3 application. Look at the end of [this thread](#) to see how complicated it is. Without a better equation editor in the 35s I wouldn't want to try using this technique.

-Katie

*Edited: 15 Aug 2007, 3:45 a.m.*

## Re: 35s Sigma Function -- have you considered . . . ?

Message #7 Posted by **Paul Brogger** on 15 Aug 2007, 5:29 p.m.,  
in response to message #6 by Katie Wasserman

. . . what further enhancements *you* might suggest to solidify and/or expand this new-found usefulness of the 35s' SOLVE?

(I must admit I don't fully appreciate what this is all about. But I suspect that any feature which elicits such a positive response from K.W. deserves the full attention of the calculator cadre at H-P!)

*Edited: 15 Aug 2007, 5:35 p.m.*

## Re: 35s Sigma Function -- have you considered . . . ?

Message #8 Posted by **Katie Wasserman** on 16 Aug 2007, 1:04 p.m.,  
in response to message #7 by Paul Brogger

Paul,

I'm flattered by your comment but have to admit that this "hidden" solver functionality just adds up to little more than a curiosity. Because you can use the solver on a program, there's nothing that you can do within an equation that you can't do pragmatically; programs are also faster, more readable and more easily changed.

The only somewhat useful things I can think of given the ability to use STO in an equation are:

- (1) It provides a shortcut to re-typing an subexpression (not involving the target variable) that appears more than once in an equation.
- (2) You can store intermediate results and view these after the solver finishes. This might allow you study how your equation converges, see how errors accumulate or save side-effect results in a calculation.
- (3) Using a simple counter (C+1 STO C) allows you to determine the number of iterations the solver takes.

Of course all of the above are really just shortcuts, nothing that can't be programed.

-Katie

### **Re: 35s Sigma Function -- have you considered . . . ?**

*Message #9 Posted by **Paul Brogger** on 16 Aug 2007, 4:13 p.m.,  
in response to message #8 by Katie Wasserman*

Thank you for your thoughtful inclusion of a clear explanation.

I wonder whether H-P might be interested in including the feature (and maybe more straightforward nested looping) in all of their SOLVE-capable machines. Then, even the ones that aren't strictly "programmable" might have greater capability than they might have otherwise.

*Edited: 16 Aug 2007, 4:15 p.m.*

### **Re: 35s Sigma Function -- have you considered . . . ?**

*Message #10 Posted by **Stefan Vorkoetter** on 17 Aug 2007, 11:54 a.m.,  
in response to message #8 by Katie Wasserman*

Quote:

\_\_\_\_\_

(1) It provides a shortcut to re-typing an subexpression (not involving the target variable) that appears more than once in an equation.

\_\_\_\_\_

That strikes me as dangerous. How can you know that the instance of the sub-expression that does the STO gets executed before you use the STO'd value? Is there any guarantee that it executes from left to right?

Stefan

### **Re: 35s Sigma Function -- have you considered . . . ?**

*Message #11 Posted by **bill platt** on 17 Aug 2007, 12:44 p.m.,  
in response to message #10 by Stefan Vorkoetter*

In the 17b/19b/27s family, the direction of execution is spelled out clearly and the functions (L)et and (G)et are provided for this purpose. Katie is merely applying the same principle to the 35s--and it should be checked out but it just may work the same!

### **Re: 35s Sigma Function -- have you considered . . . ?**

*Message #12 Posted by **Katie Wasserman** on 17 Aug 2007, 1:09 p.m.,  
in response to message #11 by bill platt*

You're correct. Since the STO function is not documented there is now way to know for sure where it stands in order of precedence, nor even if it has the same precedence in all situations. My simple trial evaluations show that it has the lowest level of precedence and works left-to-right. But there's certainly no guarantee of this and it should be used with great caution.

(To take caution a step further, and given the checksum bug, it's even possible that STO might get different results each time the function is evaluated depending on the state of the machine.)

## **Re: A Sigma Function in the 35s Solver!**

*Message #13 Posted by **Thomas Klemm** on 20 Aug 2007, 7:48 p.m.,  
in response to message #6 by Katie Wasserman*

After playing a little more with the solver I realized that *SGN* could be used as well to count down. Due to the lack of a conditional branch within the solver I wanted to use two equations. First initialize the elements of the array to 2000 and then perform the inner loop.

Initialze registers I ... 0 to 2000:

```
0*(2000>(I))+SGN(I-1>I)/A+SGN(I)/A
```

Calculation of the inner loop:

```
0*(I+I-1>G)*  
(RMDR(D*I+(I)*1E4>D,G)>(I))*  
(IDIV(D,G)>D)  
+SGN(I-1>I-1)/A+SGN(I-1)/A
```

But alas the result was wrong!

It was only after a longer debugging session when I realized that *RCL (I)* doesn't behave as I had expected.

The following equation may be used for some tests:

```
0*(S+(I)>S)+SGN(I-1>I)/A+SGN(I)/A
```

Solve for A, set S=0 and I=10 and see what happens.

You might expect to find in S the sum of the values of the registers 0 - 10 but instead you get 11 times the value of register 10.

It seems that when recalling an indirect register from within an equation the index isn't updated for each iteration. Instead (I) refers always to the same register.

However when storing a value into an indirect register the solver behaves as expected. That's why the initialization with 2000 works fine.

You may call it a bug. On the other hand why would somebody want to do such a strange thing?

With this behavior of the solver I suspect it's quiet impossible to calculate a few hundred digits of pi. Or maybe it's only now that I realize the real dimension of your challenge.

## **Re: A Sigma Function in the 35s Solver!**

*Message #14 Posted by **Katie Wasserman** on 21 Aug 2007, 12:11 a.m.,  
in response to message #13 by Thomas Klemm*

Thomas,

You reached the same conclusion as I did after some further experiments -- recalling (I) or (J) is not predicable in the solver. When I suggested the "pi challenge" I wasn't sure if this problem could be overcome or not, but since then I haven't found a way around it. [I was getting very frustrated trying to write a sort function in the solver.] But there might be some hidden function like the G() function in the 17Bii solver that no one has found yet.

Gene, how did you know about the STO function, inside knowledge or did you just stumble upon it?

-Katie

### **Re: A Sigma Function in the 35s Solver!**

*Message #15 Posted by [Alain Mellan](#) on 21 Aug 2007, 1:25 a.m.,  
in response to message #14 by Katie Wasserman*

Quote:

But there might be some hidden function like the G() function in the 17Bii solver that no one has found yet.

In the beginning (before reading the manual :-), I didn't know how to enter the REGX, REGY, functions, so I tried RCL R, RCL E, RCL G, RCL X. And it worked. Same thing for example for SIN(X): instead of the easy way: SIN RCL X, use RCL S, RCL I, RCL N, (), RCL X. It works.

In other words, it seems EQN actually parses the command line edited under EQN mode. Maybe there are some hidden functions in there, for which there is no keyboard shortcut?

\*edit\*: I just tried G(REGX), and it didn't give me the usual SYNTAX ERROR!

\*edit 2\*: It seems A(REGX) is equivalent to RCL A \*

*Edited: 21 Aug 2007, 1:36 a.m.*

### **Re: A Sigma Function in the 35s Solver!**

*Message #16 Posted by [Katie Wasserman](#) on 21 Aug 2007, 9:19 a.m.,  
in response to message #15 by Alain Mellan*

G(X) is just an implied multiply of G times X in the 35s solver.

RCL whatever is simply the way to enter any variable in the solver.

The get, G(), function I was referring to is a special function in the 17bii solver (and several other HP calculators going back to the 27S) that recalls the value of a variable each time it's encountered. When used in combination with the let, L(), function it allows for side-effects in the solver. The 35s solver apparently has the L() function (in the form of STO) but not the G() function, or so it seems.

### **STO function in 35s Solver!**

*Message #17 Posted by **Gene Wright** on 21 Aug 2007, 10:10 a.m.,  
in response to message #14 by Katie Wasserman*

I did not stumble upon it.

---

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## HP Forum Archive 17

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### My New iMac--completely OT

Message #1 Posted by [Les Wright](#) on 11 Aug 2007, 9:16 p.m.

I thought the group would appreciate this.

I decided to cross that OS divide.

I splurged on a new 24 inch iMac. it is truly gorgeous.

I long hesitated because I use a lot of Windows software. But thanks to something called Fusion I am running a copy of XP has a virtual machine on the Mac, and it is even BETTER than on my clunky old Athlon machine.

I am a very happy fellow!

Les

### Re: My New iMac--completely OT

Message #2 Posted by [David Smith](#) on 11 Aug 2007, 10:48 p.m.,  
in response to message #1 by Les Wright

Congrats. Big screen ain't it.

Fusion is supposed to be good software. I've been using Parallels so long I probably won't change over. You'll appreciate the ability to run PC and Mac apps at the same time.

Have fun, Dave macaddicted

### Re: My New iMac--completely OT

Message #3 Posted by [Gerson W. Barbosa](#) on 11 Aug 2007, 10:57 p.m.,  
in response to message #1 by Les Wright

Hello Les,

Quote:

\_\_\_\_\_

I decided to cross that OS divide.

\_\_\_\_\_

Congratulations for daring! I tend to stay with what works -- this really means I stay with what I am used to... That's why I stay with RPN and HP calcs even though there might be better calcs around...

Enjoy your new toy!

Best regards,

Gerson.

---

**Re: My New iMac--completely OT**

Message #4 Posted by **Pal G.** on 12 Aug 2007, 1:07 a.m.,  
in response to message #1 by Les Wright

Welcome to the club. Once you go Mac, you never go back.

Do not forget:

<http://homepage.mac.com/mba/nonpareil/>

Cheers, Pal

---

**Re: My New iMac--completely OT**

Message #5 Posted by **Thomas Okken** on 12 Aug 2007, 1:39 a.m.,  
in response to message #4 by Pal G.

Quote:

\_\_\_\_\_  
Once you go Mac, you never go back.  
\_\_\_\_\_

I was a Mac user almost from the first -- since August 1984, to be exact -- but I defected to the Unix (SunOS) and Windows world nine years later... But that was mainly because I was frustrated that Apple wasn't moving MacOS to a Unix base; they finally did so with MacOS X, but that was 10 years later than necessary, in my opinion.

I've always kept fond memories of the Macintosh, though. Their UI has always been the best, and their hardware, while not cheap, is usually excellent also. Lately I've been ogling the Mac Mini... Looks like a nice machine, especially if I set it up with a KVM switch so I wouldn't even have to worry about migrating all my Windows and Linux stuff.

But then again, maybe I should spend the \$600 on a short vacation instead. ;-)

- Thomas

---

**Re: My New iMac--completely OT**

Message #6 Posted by **Etienne Victoria** on 12 Aug 2007, 11:58 a.m.,  
in response to message #1 by Les Wright

Hi Les,

Welcome to the world of happy computing, addicting design (both hardware & software) and durability!

Somehow Apple managed to keep something Hp has lost.

Etienne

Pb G4, 10.4.10, Aperture

*Edited: 12 Aug 2007, 12:00 p.m.*

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**Re: My New iMac--completely OT**

*Message #7 Posted by **Gene Wright** on 12 Aug 2007, 1:29 p.m.,  
in response to message #6 by Etienne Victoria*

Congrat's!

We're a 95%+ mac shop at work and just ordered 8 of the new 24" imacs to replace some G4 and G5 towers.

Using Parallels is very easy and just works.

Enjoy the new WORK machine. :-)

Gene 17" MBP w/3GB of ram

### **Re: My New iMac--completely OT**

*Message #8 Posted by **Les Wright** on 12 Aug 2007, 7:11 p.m.,  
in response to message #7 by Gene Wright*

Fusion is new and there may be some glitches to work out, but so far I am so impressed. My Windows XP virtual machine runs faster and more reliably so far than my original PC. The main hassle I had was activating XP on installation--I have a valid OEM copy from a computer I don't use--but even still the automated service at the Microsoft toll free number was quick and worked!

Fusion has something called the Unity mode where you can run Windows programs right on the Mac desktop on their own (i.e., out side of a Windows window), and they even minimize to the dock like real Mac programs! And drag and drop from mac to windows environments is excellent.

I have a USB hard drive chassis so getting my old PC files over is a cinch. My plan in the next few days is to sort that out.

Just wish the thing had a multimedia card reader and more USB ports, but I am sure a hub and an external reader can be had easily.

What have I been waiting for all this time?

Les

### **Re: My New iMac--completely OT**

*Message #9 Posted by **Gerson W. Barbosa** on 13 Aug 2007, 11:59 a.m.,  
in response to message #7 by Gene Wright*

Quote:

\_\_\_\_\_  
Enjoy the new WORK machine. :-)  
\_\_\_\_\_

I never meant to belittle those iMac machines when I referred to Les's as a toy. In fact, depending on how they are used, they can be either a TOOL or a TOY. By the way, I never played with one of them because I've never seen one with a Brazilian keyboard (I know the keyboard can be redefined, but I'd like to see tilde, cedilla and the rest printed on the keys). Besides, they are too pricey around here.

Gerson.

*Edited: 13 Aug 2007, 12:02 p.m.*

---

**Re: My New iMac--completely OT**

*Message #10 Posted by [Antonio Maschio \(Italy\)](#) on 13 Aug 2007, 9:59 a.m.,  
in response to message #1 by Les Wright*

Well, welcome into the Club.

I use an *emac* G4 1.42 GHz with Superdrive (I know, it's a very poor machine, compared to your Intel double processor), but Mac OS X Tiger is here. It's been two years, and I've never, NEVER, regretted that decision.

-- Antonio

P.S. posted with Safari.

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## HP Forum Archive 17

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**Go Texas Math!**

Message #1 Posted by [dbatiz](#) on 11 Aug 2007, 4:53 p.m.

My introduction to HP calculators was in the University of Texas Interscholastic League (UIL). I used to compete with my trusty HP 11c.

I doubt these tests would be a challenge to folks on this forum, but just for fun (and a chance to break in a new HP 35s), I provide the following link:

<http://www.texasmath.org/>

Click "Downloads", then Calculator "Application Tests".

Notice the cover art on the tests.

I'm working through them on my HP 50g.

Today, my speed is in the dumper, but my accuracy has improved. Considering the company here, please forgive me if I do NOT post my latest score.... ;) If anybody is interested, I'm sure I can dig up the rules for scoring these tests. Did anybody else do competitive math in school?

In Texas, competitive math starts in elementary school. I wish more states would have a UIL like program.

Very respectfully,

David

**Re: Go Texas Math!**

Message #2 Posted by [Dave Shaffer \(Arizona\)](#) on 11 Aug 2007, 6:43 p.m.,  
in response to message #1 by [dbatiz](#)

How long do the kids have to do this? A fixed time, or does quickness count, too? The credit for each (correct) answer must depend on the problem, too, since some of these are MUCH harder (well, as least more complicated) than others.

You also have to know some physics (or at least how gravity and constant acceleration work) for some questions, such as the ball bounce problem (as well as lots of conversion factors).

Did you bring your own calculator? Were you allowed to program it ahead of time for expected problems?

A pretty comprehensive set of questions.

IIRC, a previous contributor here (Ben Salinas) was one of the Texas school boy whizzes, and he LOVED his HP32 for this test.

## Re: Go Texas Math!

Message #3 Posted by [dbatiz](#) on 11 Aug 2007, 6:55 p.m.,  
in response to message #2 by Dave Shaffer (Arizona)

Yikes, the rules have changed. It seems they only grade as far as you got in the test. They award five points for correct answers and deduct 4 points for wrong/empty responses. Contestants are allowed 30 minutes to work on the test.

I wonder if the SILENT requirement would disqualify a 50g? Is there any way to disable the BEEP completely?

For detailed explanation, please see the link below:

[http://www.uil.utexas.edu/academics/elem\\_jrhigh/calc\\_appl.html](http://www.uil.utexas.edu/academics/elem_jrhigh/calc_appl.html)

Very Respectfully,

David

*Edited: 11 Aug 2007, 10:03 p.m.*

## Re: Go Texas Math!

Message #4 Posted by [Ben Salinas](#) on 12 Aug 2007, 3:10 a.m.,  
in response to message #1 by dbatiz

Yep... I did these.

To clarify scoring is as follows: Multiply the last number attempted by 5. Then subtract from this, the number missed (or left blank, up until the last one completed) multiplied by 9 (essentially, you get 5 for every one done correctly and minus 4 for each one missed, although it only goes up until the last one completed).

Each answer should have 3 significant figures (unless otherwise noted), so most people kept their scientific calculator on "SCI 2". (Problems involving dollars should be to the nearest cent and problems asking for integers should be, well, integers) Calculators did need to be cleared before the competition (I think).

To give you an idea of where people scored: The winning people in the state (definitely not me) would finish the test and miss just a few (if any). It was not unusual to see scores in the 350-390 range. (You can also compare your scores to those from around the state by looking at the scores posted on the above list)

Texas does have a very large academic competition league (UIL), which can be good or bad. While it gets some students interested in math, it also gets students caught up in competition math. Of course, without UIL, I would have never seen an HP calculator.

## Re: Go Texas Math!

Message #5 Posted by [allen](#) on 12 Aug 2007, 1:36 p.m.,  
in response to message #4 by Ben Salinas

I also got started with HP calculators because of Texas UIL math competition. Until our Algebra teacher invited us to a competition I was content with my TI-36X. After a terrible score on the first few tests (ironically missing from the link above), I started training with a 32sii borrowed from the school. I soon bought my own calculator. It is still sitting 1 meter from me in it's HP leather holster. :-)

Quote:

\_\_\_\_\_

...it also gets students caught up in competition math...

All math is competition math :-)

*Edited: 12 Aug 2007, 1:38 p.m.*

## Re: Go Texas Math!

*Message #6 Posted by [Bruce Bergman](#) on 12 Aug 2007, 12:20 p.m.,  
in response to message #1 by dbatiz*

Interesting links, guys! I had never heard of this before.

I found it particularly fascinating to go into the forums on that site and read what the younger crowd says about RPN versus AOS-type calculators, and how it helps their scores. Really enlightening.

One comment that occurred frequently, which disturbed me, was that they felt the TI calculators were more "accurate". In my experience, HP calcs were always the most accurate.

Another comment had be laughing AND shaking my head at the same time. This person wrote:

Quote:

P.S. Our sponsor is really old and has lots of HP32SII's just laying around. For those of you not in such a convenient situation, the old HP's cost around \$200 dollars on the internet. So taking cost into consideration, you can either go with a 33S, which I find unwieldy, or an algebraic notation calculator like a TI.

"lots of HP32SII's just laying around"?? Now that's my kind of school! ;-)

Anyhow, it's an interesting read. You can go directly to the forums by going here:

[RPN calcs opinion thread](#)

thanks, bruce

*Edited: 12 Aug 2007, 12:20 p.m.*

## Re: Go Texas Math!

*Message #7 Posted by [Vincze](#) on 12 Aug 2007, 9:51 p.m.,  
in response to message #1 by dbatiz*

David,

Thank you so much my friend for sharing. No offense but this seem like easy math from what I see. Was thus at university level? These seem like questions we do in secondary school in Hungary.

I do appreciate post though as I always find it fun to test mind.

## Re: Go Texas Math!

*Message #8 Posted by [dbatiz](#) on 12 Aug 2007, 10:06 p.m.,  
in response to message #7 by Vincze*

Vincze,

I became involved with the UIL in high school, grades 9-12. I've found study material for contests in the elementary school and middle school levels, grades 5-8. It is ran by the University of Texas, but the contests are for highschool and below.

I have family who were educated in Mexico. When they came to the States and enrolled in school, we backed them up 1 year so they could have time to learn English. They were surprised that the material, especially in math, seemed several years behind the Mexican schools.

IMHO I beleive US schools offer as much opportunity as any schools from any country, but the fewer kids have the desire to take advantage of it.

Very respectfully,

David

### **Re: Go Texas Math!**

*Message #9 Posted by **Vincze** on 13 Aug 2007, 8:50 a.m.,  
in response to message #8 by dbatiz*

Quote:

They were surprised that the material, especially in math, seemed several years behind the Mexican schools.

I agree 100% with that statement. I am shocked at how "scared" students are of math and science in United States. Yes, some school really push math and science, but vast majority of schools seem not to. This is a big shame because we are losing pace with the rest of the world in these areas.

### **Re: Go Texas Math!**

*Message #10 Posted by **Vincze** on 13 Aug 2007, 3:50 p.m.,  
in response to message #1 by dbatiz*

I give one page of test to my son who will be sophomore this year, and he do very good on it. I also test myself, and I make a couple of stupid mistakes on very simple problem, but do well on harder ones. Duh... ;)

### **Re: Go Texas Math!**

*Message #11 Posted by **Tony David Potter** on 14 Aug 2007, 1:11 a.m.,  
in response to message #1 by dbatiz*

Thanks to all that visited my site (<http://www.texasmath.org>)

Texas is one of the few states that has academic contests between schools (in addition to athletics) and both here are governed by the UIL (University Interscholastic League, <http://www.uil.utexas.edu>)

The Calculator Applications contest evolved from the Slide Rule contest that UIL developed in response to World War II demand for mathematicians and engineers. The UIL considers the Calculator Applications contest to be a predominately engineering contest, hence all the involved physics word problems and surveying-type geometry problems.



The current incarnation of the test is a thirty minute, seventy problem test. Students are only graded on what they attempt, that is, problems skipped past the last problem attempted aren't counted wrong. Scoring is five times the last number attempted minus seven times each problem skipped or missed up to that point.

When I first started competing in this contest, I used an 11C. Since becoming a coach, I've indoctrinated dozens of kids into using 32SII's, 33S's, and just purchased my first 35S a few weeks ago. Students have told me of their "frustration" trying to use "other" calculators after training on the HP's, and I've given plenty of 48's (graciously donated from members on here) as "graduation presents" so they could continue to benefit from RPN (and return my 32SII's so I can teach the next batch.)

In additon to coaching Calculator Applications, I also coach UIL Number Sense and Mathematics, as well as work with students in the American Mathematics Contests (had my first USAMO qualifier last year), the Junior Engineering Technical Society TEAMS contest, and the Trig\*Star contest hosted by the National Society of Professional Surveyors. I enjoy teaching students to "think outside the box" that modern education has forced them into.

I'm glad people found my site interesting. If you have any questions, let me know.

Tony David Potter

### **Re: Go Texas Math!**

*Message #12 Posted by [Chan Tran](#) on 14 Aug 2007, 10:16 a.m.,  
in response to message #11 by Tony David Potter*

Taking a look at one test and I found that the algelbaric calculator can do just as well if not better (I am talking about the advanced model that let you enter the expression as is) for the problem where they just ask you to evaluate an expression. For the word problem I think the RPN or RPL calculator would be much faster. The reason is that I would not have to write down any expression in order to solve the problem. The RPN calc allows you to solve for the small part at a time.

### **Re: Go Texas Math!**

*Message #13 Posted by [Ben Salinas](#) on 14 Aug 2007, 4:22 p.m.,  
in response to message #12 by Chan Tran*

The general consensus among competitors (and this is not shared by everyone) is that the calculations can usually be solved faster by using RPN because you don't have to think about parentheses. Some of my classmates who prefered using their TI-89 (and used it very well) tried the test and had a great deal of trouble because of how deep the parentheses go.

Once I got my 49g+, I would occasionally try using the algebraic mode there (which autocompletes parentheses), but I still haven't become used to that calculator.

Earlier in this thread there was a link to a thread on the TexasMath forum in which a few students (one of which I know, I think) stated they prefered using their 89's, so this is not an opinion shared by all.

### **Re: Go Texas Math!**

*Message #14 Posted by [James M. Prange \(Michigan\)](#) on 15 Aug 2007, 7:31 p.m.,  
in response to message #12 by Chan Tran*

Well, where it's a matter of evaluating a given algebraic expression, with the RPL models you could just enter and EVAL an "algebraic object". To be sure, to enter it from the command line, one may have to add some parentheses, and of course all multiplications must be explicit. On the 48/49 series,

setting flag -53 makes the calculator display extra parentheses that normally wouldn't be needed due to precedence rules.

Also, on the 48/49 series, you can view an expression in "equation writer" format, to check whether it matches the the given expression. But using the equation writer to enter the expression would probably be too slow, at least on the 48 series. For that matter, on the 49 series, expressions on the stack can be displayed in "Textbook" format.

Of course, for a "word" problem using an RPL model, an RPN sequence would typically be fastest because an algebraic expression wouldn't have to be developed.

Regards,  
James

**Re: Go Texas Math!**

*Message #15 Posted by [Chan Tran](#) on 20 Aug 2007, 7:31 a.m.,  
in response to message #14 by James M. Prange (Michigan)*

And the problems that I encounter would generally be word problem although most are relatively simple.

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## HP Forum Archive 17

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**35s SEED**

Message #1 Posted by [Thomas Radtke](#) on 11 Aug 2007, 12:25 p.m.

It appears that zero is not a valid SEED value to the random number generator. I haven't found anything in the manual about it to be a special case. Any other value seems to work.

Sorry if this has been answered already somewhere or the answer is obvious.

**Re: 35s SEED**

Message #2 Posted by [Walter B](#) on 11 Aug 2007, 12:29 p.m.,  
in response to message #1 by Thomas Radtke

AFAIK, zero tells the calc it may take a start value on its own. Don't remember where I read it, however.

Edited: 11 Aug 2007, 12:29 p.m.

**Re: 35s SEED**

Message #3 Posted by [Thomas Radtke](#) on 11 Aug 2007, 12:29 p.m.,  
in response to message #2 by Walter B

Ah ok, I must have missed it, thanks a lot, Walter!

Edit: Found it, silly me :-(

Edited: 11 Aug 2007, 12:32 p.m.

**WALTER: Re: 35s SEED**

Message #4 Posted by [Vincze](#) on 12 Aug 2007, 9:55 p.m.,  
in response to message #2 by Walter B

Guten Abend, oder auch guten Morgen ihnen Walter, what does AFAIK mean. I sorry for being dumb Hungarian and not knowing all web sayings.

**Re: WALTER: Re: 35s SEED**

Message #5 Posted by [Ed Look](#) on 12 Aug 2007, 10:14 p.m.,  
in response to message #4 by Vincze

Hahaha!

You do not know not because of your ethnicity; you do not know because you probably are old like most of the rest of us!!

Ask a kid, preferably an adolescent or teenager- they'll tell you "AFAIK" means "as far as I know".

Don't worry. I learned some of this from others on the Internet, some from my children.

One warning though, be prepared for the embarrassing feeling that comes when your youngest one tells you with that hint of disgusted, disdainful, superiority only a child can express.

(Funny, I never dared to do that to MY father!)

### Re: WALTER: Re: 35s SEED

Message #6 Posted by [Vincze](#) on 13 Aug 2007, 11:46 a.m.,  
in response to message #5 by Ed Look

Hmmm, I not consider 38 old. ;)

### Re: WALTER: Re: 35s SEED

Message #7 Posted by [Dave Shaffer \(Arizona\)](#) on 13 Aug 2007, 5:29 p.m.,  
in response to message #6 by Vincze

"Hmmm, I not consider 38 old. ;)"

But your kids (and other teenagers) do!

### Re: 35s SEED (& previous implementations)

Message #8 Posted by [Karl Schneider](#) on 11 Aug 2007, 4:50 p.m.,  
in response to message #1 by Thomas Radtke

SEED is the function name used by Pioneer-series (e.g, HP42S and HP-32S/SII) models onward for setting the seed value for generating pseudo-random numbers. The random-number generator and seed-setting were made available in the HP-11C introduced in late 1981, implementing those functions as "RAN#" and "STO RAN#". The HP-15C added "RCL RAN#", which allowed the user to retrieve the current seed value, which was most likely the value produced by "RAN#" or stored using "STO RAN#".

I noticed that the HP-35s manual mentioned that its random-number generator met a test stated in a 1981 book. I wondered if material in the book provided the basis for the HP-11C/15C function. While the HP-35s gives the same random numbers as the HP-42S for a given seed value, those numbers do not match the ones provided by the HP-11C and HP-15C. 12-digit versus 10-digit mantissas might account for the differences.

With all that having been stated, SEED and RAND are seldom-used functions that don't really deserve their prominence on the HP-35s keyboard, although they are clearly grouped with the other functions for probability and statistics.

-- KS

*Edited: 11 Aug 2007, 11:29 p.m. after one or more responses were posted*

### Re: 35s SEED - Long (but I hope interesting, with a little theory)

Message #9 Posted by [Andrés C. Rodríguez](#) on 11 Aug 2007, 8:03 p.m.,  
in response to message #8 by Karl Schneider

Pseudo-random number generators were a "hot topic" some decades ago. The ability to use a randomized variable was a desirable feature to be used in software, from games to simulators to statistics methods (such as MonteCarlo). However, for such random features, there were some concerns: how to implement them, and how "good" they are at, well, randomness.

At that time, hardware resources were scarce and expensive, and sophisticated functions may be prohibitive in terms of execution time. One of the preferred models was the congruential generator, which takes a seed (a number between 0 and 1) and generates the next number in a pseudo-random sequence, by means of a multiplication, an addition and a fractional-part operation.

If the random-sequence numbers are called  $s(1), s(2)...s(i)$ , the generator works as:

$$s(i+1) = \text{FRAC} \{s(i) * A + B\}$$

In the HP25 and HP41 application programs manuals, there were programs with examples for such generators, because those calculators lack an internal random function.

A classic RPN program looked like

```
LBL "RANDOM"
RCL 0      ; recall the seed or the last number in the sequence
9821
x          ; multiply by A
.211327
+          ; add B
FRAC      ; take fractional part...
STO 0     ; ...keep it as the next number in the sequence...
RTN      ; and return it in X to the user convenience.
```

So a program to simulate a dice was as simple as

```
LBL "DICE"
XEQ "RANDOM"
6
x          ; multiply by six to obtain a number from 0 to 5.999
1
+          ; add one to offset it to the 1 to 6.999 range
INT       ; finally, just keep the 1 to 6 integer value
RTN
```

And a MonteCarlo example which slowly converges to Pi looked like

```
LBL "PI MC" ; Pi by MonteCarlo
0
STO 1      ; Initialize iterations counter
STO 2      ; Initialize hits counter
LBL "LOOP"
XEQ "RANDOM" ; Obtain two random numbers between 0 and 1
XEQ "RANDOM" ; and use them as the components of a vector,
R > P      ; obtain the vector module
1
STO + 1    ; Increment the iterations counter...
x > y?     ; and, if the vector module is less than one,
STO + 2    ; ...increment the hits counter too.
RCL 2
RCL 1      ; Obtain the hits to iterations ratio...
/          ; ...which should converge to Pi / 4,
4          ; as you may notice, thinking about the raindrops
x          ; falling on a square tile of unit side.
VIEW X     ; Show the current approximation and
GTO LOOP   ; ...keep looping!!
```

Note that these programs intend to be clear to understand, and are not optimized for speed.

The random number generation was one important part of Donald Knuth's "The Art of Computer Programming, Vol II: Seminumerical Algorithms". There, Knuth shows how a frequent mistake was to "choose a random method to create random numbers". He dramatically illustrates the point, presenting a program that does a lot of complex permutations and operations on a number to obtain the next in a pseudo-random sequence... only to show that the program soon falls in a very short sequence which repeats itself forever. Hardly random, indeed.

Then he goes a long way presenting methods to assess the "goodness" of a random number generator routine; the most powerful (and very hard to understand) was the Spectral Test, which HP claims to pass with the abovementioned routine included in the HP41 Standard Pac.

Later calculator models incorporated built-in pseudo-random functions, which also depend on an initial value, called the seed. However, for the same seed, we get the same sequence; this may be good for debugging and testing purposes, but not desirable in true operation. The same happened in the BASIC computers of those years, and hence a RANDOMIZE statement appeared, which initializes the seed with a so-considered random value, unknown to the user, and so attaining an acceptable random behaviour. In HP calculators, a value of 0 for the seed causes a similar initialization. The "randomized" seed is usually taken from some timer or counter inside the processor, which value changes very rapidly all the time, and which is not correlated to the program operation.

For real randomness, some die-cast engineers resort to auxilliary circuits that sampled the thermal noise of a diode junction or similar devices. Thermal noise circuits are as close as "random" as we may meet in a whole life.

### **Re: 35s SEED - Long (but I hope interesting, with a little theory)**

*Message #10 Posted by [Palmer O. Hanson, Jr.](#) on 11 Aug 2007, 9:31 p.m.,  
in response to message #9 by [Andrés C. Rodríguez](#)*

Quote:

For real randomness, some die-cast engineers resort to auxilliary circuits that sampled the thermal noise of a diode junction or similar devices. Thermal noise circuits are as close as "random" as we may meet in a whole life.

My memory tells me that Knuth introduced the subject with a statement something like this:

ANYONE WHO USES NUMERICAL METHODS TO GENERATE RANDOM NUMBERS IS IN A STATE OF SIN

### **Re: 35s SEED - Long (but I hope interesting, with a little theory)**

*Message #11 Posted by [Andrés C. Rodríguez](#) on 11 Aug 2007, 9:37 p.m.,  
in response to message #10 by [Palmer O. Hanson, Jr.](#)*

Knuth's introduction to the subject includes such statement, which in fact is a quote from John Von Neumann, dated 1951.

All my previous post was improvised and from memory, but for this quote I needed to look for the actual book which, fortunately, rests just a couple of meters from my PC.

### **and yet another rand# generator**

*Message #12 Posted by [Bram](#) on 13 Aug 2007, 4:48 a.m.,  
in response to message #9 by [Andrés C. Rodríguez](#)*

Quote:

Pseudo-random number generators were a "hot topic" some decades ago.

It surely was. Back then I used the following routine on my HP-29C:

```

LBL 0
RCL 0
Exp(x)
Exp(x)
FRC
STO 0
RTN

```

It could cope with a starting value of zero and it's about the shortest I could come up with, although it does take some time to perform.

Many years later I discovered that it is not quite a uniform distribution between 0 and 1, but it would do for the applications in question.

## Re: 35s SEED - Long (but I hope interesting, with a little theory)

Message #13 Posted by **Mike T.** on 14 Aug 2007, 10:28 a.m.,  
in response to message #9 by Andrés C. Rodríguez

See below for a very similar random number generator for the HP25/25C , HP33C/E, or HP10C.

(I think I originally saw this routine in the HP97 user manual - but I could be wrong as it is over 20 years since I last used an HP97.)

```

01 - .
02 - 5
03 - 2
04 - 8
05 - 4
06 - 1
07 - 6
08 - 3
09 - f PSE
10 - 9
11 - 9
12 - 7
13 - x
14 - f FRAC
15 - GTO 09

```

Mike T.

---

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## HP Forum Archive 17

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### some burning questions with the 35S

Message #1 Posted by [andrewj](#) on 11 Aug 2007, 12:09 p.m.

So a couple (or several) outstanding questions:

1. Can you predict the screen alignment problem based on the serial number? I have an unopened HP35S with serial number CNA 72500597 purchased online from Walmart 8/2/07, and I wonder if I should return it. 2. Does anyone know if the 35S now being sold online at hp.com have the screen alignment problem? 3. I've heard about the faceplates with the liter typo. Does anyone know if that correlates with the screenplate problem?

### Re: some burning questions with the 35S

Message #2 Posted by [Walter B](#) on 11 Aug 2007, 6:58 p.m.,  
in response to message #1 by [andrewj](#)

1. No
2. No
3. AFAIK this typo was on Gene's pre-release calculator only. No sold HP35s had this typo anymore.

HTH

### Re: some burning questions with the 35S

Message #3 Posted by [Steve Fennell](#) on 11 Aug 2007, 8:13 p.m.,  
in response to message #1 by [andrewj](#)

I have 72500763 purchased from Buy.com on 21-July. There is a slight tilt up to the right which is really only noticeable when the LCD has all numbers active. In fact I didn't notice myself until I read about it here.

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## HP Forum Archive 17

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### Question for Thomas Okken. A Free35 Simulator?

Message #1 Posted by [Namir](#) on 11 Aug 2007, 8:27 a.m.

Thomas,

You gave us the wonderful Free42 simulator. How about a Free35 simulator (free or for pay)? Such a piece of software will allow folks to save and load their programs very easily.

Namir

*Edited: 11 Aug 2007, 8:28 a.m.*

### Re: Question for Thomas Okken. A Free35 Simulator?

Message #2 Posted by [Thomas Okken](#) on 11 Aug 2007, 11:47 a.m.,  
in response to message #1 by [Namir](#)

Hi Namir!

Quote:

How about a Free35 simulator (free or for pay)?

Short answer: Sorry, no.

Long answer: The HP-42S is a truly excellent calculator, and I consider the 1000+ hours it took me to write Free42 to be time well spent; partly because it means that I will always have a virtual HP-42S available to me, even after all the real ones have given up the ghost or ended up sitting unused in collectors' display cases, and also because the fact that many other people are able to use Free42 on their PCs and PDAs gives me a warm and fuzzy feeling. (I'm tempted to say "proud", but living in the USA has given me a mild allergy to that word, so I'll settle for "happy" instead. <g>)

I have been asked to write simulators for other HP models before, but unfortunately, with every new simulator I would have to start almost from scratch...

An HP-35s simulator would probably be less work than Free42 was, but it would still amount to hundreds of hours of research and coding, and that doesn't seem worthwhile, just to simulate a calculator that is inferior to the HP-42S in almost every way. It would take a \*lot\* of donations to make me seriously consider such a project. :-)

- Thomas

### RPN2 Engine

Message #3 Posted by [Namir](#) on 11 Aug 2007, 12:03 p.m.,  
in response to message #2 by [Thomas Okken](#)

Thomas,

Thank you for your answer. I know writing emulators takes a lot of time and effort. A few years ago I wrote one for the HP-67 and I am in the process of developing RPN2 which is an VBA/Excel-based application that implements a programmable RPN engine that supports module-type of labels and paged variables (i.e. variables with namespaces). The RPN2 interpreter also supports matrices, vectors, numerical variables, flags, and string variables. I intend RPN2 to compete with RPL, because you can write libraries that have their own set of variables (named or numbered) and their own labels that don't clash with other routines or the main module that use same names (with different namespace).

While the RPN2 runs as an Excel application it makes good use of spreadsheets to store single variables, vectors, and matrices. Also the RPN2 implementation makes use of Excel commands to manipulate matrices and manage variables.

Namir

*Edited: 11 Aug 2007, 12:03 p.m.*

### **Re: RPN2 Engine**

*Message #4 Posted by [Thomas Okken](#) on 11 Aug 2007, 5:50 p.m.,  
in response to message #3 by Namir*

Hi Namir,

Have you thought about a stand-alone command-line version of this engine? That would give **bc** a run for its money...

- Thomas

### **Re: RPN2 Engine**

*Message #5 Posted by [Paul Dale](#) on 12 Aug 2007, 4:53 p.m.,  
in response to message #3 by Namir*

Sounds a bit like you're recreating the effort that went into the OpenRPN project's \*fix interpreter :-)

- Pauli

### **Re: Question for Thomas Okken. A Free35 Simulator?**

*Message #6 Posted by [Les Wright](#) on 12 Aug 2007, 8:30 p.m.,  
in response to message #2 by Thomas Okken*

Namir,

I have to agree with Thomas. The Free42 simulator does just as much as 35s simulation could and more. I would far rather see Thomas dedicate his simulator program energies to what he does now--a vigilant and quick response to all bug reports (at least mine) and an attitude of continuous improvement.

For me, Free42 is the best HP calculator simulator out there for Palm OS, among other things. I run it on my Palm XT in the ARM version, and even the old 68K version performs fairly well (certainly faster than the real 42s) on my now obsolete Sony Clie. (I really like Power48 too, but that is a work in progress and I believe Robert Hildinger has gotten busy and I think that project is on hold indefinitely.)

35s is a decent calculator, and certainly an improvement over some of HP's recent work, but it isn't so excellent that it deserves simulation. The 42S had it all except for lightning speed (though it was still much faster than the 15C or 41), and is well worth of being perpetuated in Thomas's excellent simulation.

Les

*Edited: 12 Aug 2007, 8:31 p.m.*

**Re: Question for Thomas Okken. A Free35 Simulator?**

*Message #7 Posted by [Chan Tran](#) on 13 Aug 2007, 8:20 a.m.,  
in response to message #6 by Les Wright*

I don't see myself using the 35s emulator. Other emulators including the 42s would be a better emulator to use. The 35s is a good calculator because it's one that you can buy a real unit, new and not for a lot of money. I found myself using the 48 emulator a lot often.

---

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## HP Forum Archive 17

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### HP 35s on sale in Switzerland

Message #1 Posted by [Juergen Keller](#) on 11 Aug 2007, 5:32 a.m.

Besides cheese, chocolate and mountains, you get now also the amazing HP 35s in Switzerland:  
[HP 35s at taschenrechner.ch](#)

Pricing: CHF 129.- (which is around USD 108.-(!) at the current exchange rate)  
 French manual versions in stock,  
 German available end of August,  
 English end of September.

A colleague ordered the calculator on Aug, 6, and received it on Aug, 9; serial no. 72100162(!), boxed with French manual. I also got my hands onto this HP 35s, and I must say, it's by far the best new calculator since a long, long time! The only flaw is a hardly noticeable misalignment of the display.

Regards, Juergen

### Re: HP 35s on sale in Switzerland

Message #2 Posted by [Thomas Radtke](#) on 11 Aug 2007, 7:10 a.m.,  
 in response to message #1 by Juergen Keller

Quote:

\_\_\_\_\_

The only flaw is a hardly noticeable misalignment of the display.

\_\_\_\_\_

The underlying flaw is a careless design and implementation. It's full of bugs and missing features. The fraction insanity (you always have to enter an improper fraction), the inability to compose/decompose polar coordinates from/to stack are just two design flaws that immediately come to mind.

Of course, the hardware has problems, too, not just the misalignment. The glare is horrible, the annunciators unreadable, the color scheme is not well elaborated...

I'm glad I haven't sold my 32SII :-)

### Re: HP 35s on sale in Switzerland

Message #3 Posted by [Juergen Keller](#) on 11 Aug 2007, 11:26 a.m.,  
 in response to message #2 by Thomas Radtke

Thomas,

you have to be realistic: time has changed, and you will never see such well designed and high quality calculators as we had many years ago. Today, nobody (except some HP enthusiasts) would pay CHF 600.- (!) for an HP-41C as I did in 1982. And yes, I'm also happy that I didn't sold my HP-41C :-)

But when you look at the calculators that HP produced over the last years, the 35s is really a substantial progress, and it makes me hope that there will be even better HP calculators in the future! Personally, I do not want to goof on the 35s because I respect HP's efforts to get back on the right track :-)

Juergen

### **Re: HP 35s on sale in Switzerland**

*Message #4 Posted by **Thomas Radtke** on 11 Aug 2007, 11:53 a.m.,  
in response to message #3 by Juergen Keller*

I'm sure you're right with everything you wrote. But then, where does the road lead to when the 35s is the best machine that can be produced? I very much hope for a 35sII, considering all the flaws mentioned here.

### **Re: HP 35s on sale in Switzerland**

*Message #5 Posted by **Juergen Keller** on 11 Aug 2007, 2:39 p.m.,  
in response to message #4 by Thomas Radtke*

A 35sII would be great! I think it will depend on two things:

- 1) HP has to get new confidence that they can do good business with calculators
- 2) HP has to remember that people go for brands providing an extra value (like good design, outstanding quality, valuable support, ...)

Unfortunately, many management guys only want short-term profit to fill their own pockets. But that's definitely not what the calculator business is about. If you are a student and you (or your father) buys you an HP calculator and you say "WOW, this calculator is amazing!", then there is a good chance that you will later buy an HP laptop, computer or PDA, just because you already know that HP produces cool and useful stuff, not that crap you find everywhere.

Probably the most important reason why we can't buy calculators like the good ol' HP devices anymore is the "Geiz ist geil" (don't know how to translate that to English, something like "stinginess is cool") attitude of most people. As long as the price is more important than quality, usability etc. the companies will continue to produce crap predetermined for the bin.

Amen!

Juergen

### **Re: HP 35s on sale in Switzerland**

*Message #6 Posted by **Maximilian Hohmann** on 11 Aug 2007, 3:39 p.m.,  
in response to message #5 by Juergen Keller*

Hello!

Quote:

Probably the most important reason why we can't buy calculators like the good ol' HP devices anymore is the "Geiz ist geil" (don't know how to translate that to English, something like "stinginess is cool") attitude of most people. As long as the price is more important than quality, usability etc. the companies will continue to produce crap predetermined for the bin.

Well, I think we have had this discussion before (maybe not here?), but still: Yes, the "masses"

seem to care more about low prices than quality. But there is a growing (!) market for high-price quality products as well. And there is a lot of money to be earned with high-quality stuff, even if the production numbers are low. Just look at Porsche in Germany: With a production run in the order of magnitude of thousands of (very expensive) cars per year, they were finally able to buy out Volkswagen who sell (medium/low end) cars by millions...

So nobody tells me that there is no profit in quality products, if one really wants to make them. I myself prefer to buy good expensive stuff (so long as I can afford it) that lasts for so many more years, that in the end it turns out to really save money. Be it Cameras, Computers (Apple :- ) , shoes or washing machines.

So faced with the decision to buy a high-quality 400\$ all-metal hp-35s or the bug ridden 50\$ plastic thing that it has turned out to be, I would always buy the former. In fact, I am not going to buy this 35s as it is now other than for 10 Euros on eBay (not to use it, but for completing my collection), and therefore, hp is not going to make any money at all from me. Nothing or 400\$? HP, the choice is yours!

Greetings, Max

*Edited: 11 Aug 2007, 3:41 p.m.*

### **Re: HP 35s on sale in Switzerland**

*Message #7 Posted by [Juergen Keller](#) on 12 Aug 2007, 6:16 a.m.,  
in response to message #6 by Maximilian Hohmann*

Quote:

But there is a growing (!) market for high-price quality products as well.

Let's hope that HP decides to (re-)enter this market!

Quote:

So faced with the decision to buy a high-quality 400\$ all-metal hp-35s or the bug ridden 50\$ plastic thing that it has turned out to be, I would always buy the former.

Me, too. As Frederick Henry Royce (one of the founders of Rolls-Royce) said: *"The quality will remain long after the price is forgotten."*

One additional note to Apple: I really like their innovative, well-designed products, but their products have "flaws", too. Greenpeace says: *"[...] So why do Macs, iPods, iBooks and the rest of their product range contain hazardous substances that other companies have abandoned? A cutting edge company shouldn't be cutting lives short by exposing children in China and India to dangerous chemicals."*

So as always in life, there is not only black and white but many gradations in between...

Juergen

### **Re: HP 35s on sale in Switzerland**

*Message #8 Posted by [Frank Rottgardt](#) on 12 Aug 2007, 6:19 p.m.,  
in response to message #6 by Maximilian Hohmann*

Quote:

---

I myself prefer to buy good expensive stuff (so long as I can afford it) that lasts for so many more years, that in the end it turns out to really save money. Be it Cameras, Computers (Apple :- ) , shoes or washing machines.

---

The tricky thing about this is that one hardly dare to spend many bugs on stuff you can be damn sure will be old and pretty useless trash in about three years time when better stuff will be available for half the money. So many times I tend to buy the second best stuff from less known (but not bad for that) brands for less money.

And if there would be more producers offering (decent) scientific RPN-calculators I would not hesitate a second to betray HP. In the end its "bang for the bug" which I put first on my list as long as quality doesn't drop below a certain level. Competition is the best engineer and brings products forward.

### **Re: HP 35s on sale in Switzerland**

*Message #9 Posted by **Larry Holmes** on 12 Aug 2007, 6:22 p.m.,  
in response to message #6 by Maximilian Hohmann*

I've worked for HP. They do, or at least, they did, consider all the things which are mentioned here and elsewhere. But, as with most companies "these days", when considering what to do with their development dollars, there are many competing choices. With pressure from shareholders on the board to make high profits, this gets passed down to senior managers, and on down the line to every employee. This produces the mindset which we have seen for quite some time now, that is, low selling prices mean everything, and, we must compete with others on their level, rather than set standards for THEM to compete against.

Another important consideration is: which project will produce the greatest return on our investment? Their thinking would then be: "why should I put those dollars into a "low volume" product when I can put them somewhere else and have higher volumes, higher margins, and thus, more income and profits? My performance evaluations and bonuses are not determined by what the board expects to happen in the future; they are determined by what the balance sheet says I am doing NOW. So, I will choose that which produces the best results for me, and not for HP's customers; I won't be around when all this impacts the "future".

I have always believed that a company will reflect the values and especially, the profession and orientation of its leaders, right down to the "lowest" employee. If the company's leaders and managers are accountants, for example, the company will be run mostly by what happens to the balance sheet near term. If they are of another profession, the company will be run to satisfy different values. The founders of HP were both PhD engineers, so HP was mostly and engineering company; most of their original product lines were, in fact, made FOR engineering and similar applications. Once HP began entering mass markets, with high volumes and lower profit margins combined with lower revenues due to much lower selling prices per unit, it was inevitable that changes would come about. And the HP we have today is very big in computers, which seems to get most of the attention, even though they still make a lot of engineering instrumentation, etc.

When HP was founded, and up to the time when Bill and Dave retired, HP was run by, and thus dominated by, engineers. They tended to think more like we do here, and that is what

made HP successful. Once they were gone, the professional managers and accountants began to have more and more influence, hence, their professions and their values became HP's driving forces, which are much different from the high quality, perfectionistic values which drive the "engineering types", such as myself. That is when HP began straying away from its core values, and more toward what was being taught in business management classes in universities, etc., which is where most of the new people at HP come from. Throughout the electronics industries, this change happened. (Look at Microsoft, for example; they don't innovate much and certainly don't produce software that meets the requirements being suggested for HP calculators, yet, they are almost worshiped by professional managers for their success in spite of this....).

I don't know if the current management of HP is more like engineers or more like "managers" (not to debase management; it is necessary, but it is not the same thing at all as LEADERSHIP. A bank needs a financial manager more than an engineer....). I quit following HP when the F person became president, and sent HP down the path to oblivion. I hope HP learned from that and will veer back toward the kinds of decisions and attitudes that originally made them so successful! I am sure we all do, as there really isn't another company in this market, and many others, who can do what HP could do if they had the right leadership. Perhaps the 35s is the first try at returning to their roots; if so, I applaud it, and will try to understand what made them do what they did with the 35s. Since HP is "populated" by new individuals, it may take them a while, but if they are pursuing the founder's values, more or less, they will get there.

We can only hope...

### **Re: HP 35s on sale in Switzerland**

*Message #10 Posted by [Frank Rottgardt](#) on 12 Aug 2007, 7:34 p.m.,  
in response to message #9 by [Larry Holmes](#)*

Hi Larry,

that you say is so true! Most founders of today's big player companies were engineers or scientists with a vision they wanted to become reality rather than business men.

Customers will be pretty much aware of real innovative products and willing to spend some extra money. Old proven logic says that one first has to SPENT money before you actually can EARN money. Today too many companies try to cut down investments and to maximize income. An equation which always will prove being wrong in the long run when this strategy starts to kill the innovative spirit of a company.

Even if I try to save my bugs, I am still willing to pay some extra dollars on things if I can see a real value in it. The old-fashioned HP calculators of the 70s and 80s were such things giving you that extra-value. Innovations like the solver, numerical integration, matrices, complex number math etc were something an engineer really wanted to have. All that combined in a functional yet nice and rigid case with an excellent keyboard made us customers open our wallet wider than any marketing expert could imagine.

There is a saying: "You can always make an engineer becoming a good business economist, but never an economist becoming a good engineer"

### **Re: HP 35s on sale in Switzerland**

*Message #11 Posted by [Thomas Radtke](#) on 12 Aug 2007, 7:40 a.m.,  
in response to message #5 by [Juergen Keller](#)*



My hope is based on the assumption that a redesign, which takes probably less effort than the 32S to 32SII transition, can be done quite cheaply. And there's time for an extensive beta test :-).

Oh, I have a second hope: A trade-in of the 35s for the new model :^)

Now, is that asked too much?

## Re: HP 35s on sale in Switzerland

Message #12 Posted by [Nenad \(Croatia\)](#) on 11 Aug 2007, 7:26 a.m.,  
in response to message #1 by Juergen Keller

Juergen,

Quote:

\_\_\_\_\_

Pricing: CHF 129.- (which is around USD 108.-(!) at the current exchange rate)  
... I also got my hands onto this HP 35s, and I must say, it's by far the best new calculator since a long, long time! The only flaw is a hardly noticeable misalignment of the display.

\_\_\_\_\_

Reading the post of Thomas I must point out that there is always a second opinion. For only CHF 129.- you get a nice HP calculator, with a decent colour scheme, proper ENTER key, tactile key feedback, still in production, that we have been seeking for here in moHP for a long time.

If it didn't have any bugs, what would have we been looking for? Up to now, nobody came out with a bug finding that the HP35s incorrectly calculates something (except those COS very near 90 deg)...

## Re: HP 35s on sale in Switzerland

Message #13 Posted by [Raymond Del Tondo](#) on 11 Aug 2007, 8:03 a.m.,  
in response to message #12 by Nenad (Croatia)

> Up to now, nobody came out with a bug finding that the HP35s  
> incorrectly calculates something (except those COS very near 90 deg)...

>  
According to other threads, the checksum for programs doesn't seem to be reliable.

Actually, I suspect it to be a pointer or counter problem,  
at least the first example in the programming 'learning module'  
yields the correct checksum.

And that reminds me of a 49g+ bug, where port 2 objects  
will be partially overwritten under certain circumstances.

Or of an early, but long lasting and severe 49g bug,  
which caused a memory leak when copying port objects to main RAM.

As you wrote, the 35s looks and feels much better  
than most of the crap from the last eight or nine years.

But it wasn't only me who hoped that they'd debug  
the anniversary calculator at least to a certain level:-)

### **Re: HP 35s on sale in Switzerland**

*Message #14 Posted by [Frank Boehm \(Germany\)](#) on 11 Aug 2007, 5:17 p.m.,  
in response to message #13 by Raymond Del Tondo*

> But it wasn't only me who hoped that they'd debug the anniversary calculator at least to a certain level:-)

Well, they failed on the first one as well 8)

Every complex electronic product should be produced with Flash EEPROMs, but I guess the engineer guys haven't been asked when planning this calculator...

### **Re: HP 35s on sale in Switzerland**

*Message #15 Posted by [Walter B](#) on 11 Aug 2007, 7:09 p.m.,  
in response to message #14 by Frank Boehm (Germany)*

25 years ago, when I worked for an US-American company, I saw quite some production posters. One of them said, IIRC: "Quality means to do it right the first time."

### **Re: HP 35s on sale in Switzerland**

*Message #16 Posted by [Frank Knight](#) on 13 Aug 2007, 7:06 p.m.,  
in response to message #13 by Raymond Del Tondo*

Better enjoy as-is and buy them till HP can get some revenue to pay for the investment. It's a bona fide miracle and a tribute to everyone here along with the calculator toting geeks everywhere that this thing was even produced. Pretty unprecedented at this price. Look at Schwinn bicycles prices vs. when some got them new in the 60's. If we want the next gen of something else, this one will need to sell! Guess the mainstream retailers won't put them on the shelf since not a mainstream graphic calc and costs half as much as one but 6x a standard scientific.

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## HP Forum Archive 17

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### Conjugation on the HP-35s

Message #1 Posted by [Karl Schneider](#) on 11 Aug 2007, 5:27 a.m.

As many of us know, the HP-35s offers easy entry of new complex numbers from the keyboard, but is missing basic functionality for manipulating or disassembling complex numbers, or for assembling them from previously-obtained values.

Here's a reasonable workaround for the complex-conjugate function (i.e., negation of the imaginary component):

The product of a complex number and its conjugate is its magnitude squared,

$$ZZ^* = |Z|^2$$

$$\text{So, } Z^* = |Z|^2 / Z$$

With a complex number in the x-register,

```
ENTER
ABS
x2
x<>y
/
```

will give its complex conjugate.

*Edited: 11 Aug 2007, 5:50 a.m.*

### Re: Conjugation on the HP-35s

Message #2 Posted by [Jeff O.](#) on 11 Aug 2007, 2:42 p.m.,  
in response to message #1 by [Karl Schneider](#)

Karl,  
Very nice. The best I had come up with so far was:

```
ENTER
ARG
->RAD
i2
*
ex
/
```

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## HP Forum Archive 17

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### More Results with Rodger's Test

Message #1 Posted by [Palmer O. Hanson, Jr.](#) on 10 Aug 2007, 10:39 p.m.

I have been intrigued with the possibilities of Rodger's calculator tests using back-to-back reciprocals and the square of the square root. I have now completed the tests on all of the programmables in my possession. The following table combines my new results with those in the table I previously published. The table also includes a corrected entry for the square root test with my Model 100 where, inexplicably, I somehow managed to forget to include the ABS part of the equation in my previously published result. Finally, the table includes two entries in the square root squared column for the H-P machines and for some others where the results for the square root multiplied by the square root are not the same as the square root raised to the second power using exponential techniques.

|            | Reciprocal |        | Square of the Square Root  |            |
|------------|------------|--------|----------------------------|------------|
|            | Sum        | Zeroes | Sum                        | Zeroes     |
| HP-67      | 6.134E-06  | 397    | 3.2127E-05<br>3.2167E-05   | 206<br>202 |
| HP-33C     | 6.134E-06  | 397    | 3.2127E-05<br>3.2167E-05   | 206<br>202 |
| HP-38C     | 6.134E-06  | 397    | 3.2127E-05<br>3.2147E-05   | 206<br>204 |
| HP-41      | 6.134E-06  | 397    | 3.2127E-05<br>3.2137E-05   | 206<br>205 |
| HP-11C/12C | 6.134E-06  | 397    | 3.2127E-05<br>3.2137E-05   | 206<br>205 |
| HP-28S/32S | 6.803E-08  | 389    | 3.1267E-07<br>3.1367E-07   | 204<br>204 |
| HP-33s     | 6.803E-08  | 389    | 3.1267E-07                 | 204        |
| TI-55      | 3.362E-07  |        | 3.494E-06                  |            |
| TI-57      | 7.115E-07  | 404    | 7.0811E-05<br>1.234234E-04 | 22<br>9    |
| TI-59      | 6.894E-09  | 402    | 3.843E-07                  | 22         |
| TI-66      | 6.644E-09  | 401    | 8.7646E-08                 | 22         |
| TI-95      | 6.204E-09  | 396    | 3.1987E-08                 | 199        |
| TI-80      | 6.204E-09  | 396    | 3.1777E-08                 | 200        |

|               |                |            |                         |            |
|---------------|----------------|------------|-------------------------|------------|
| TI-81         | 6.204E-09      | 396        | 3.1777E-08              | 200        |
| TI-82         | 7.353E-10      | 386        | 5.7932E-09              | 142        |
| TI-83+        | 0              | 500        | 0                       | 500        |
| TI-85         | 7.353E-10      | 386        | 5.7932E-09              | 142        |
| TI-86         | 7.353E-10      | 386        | 3.0483E-09              | 211        |
| TI-89 Auto    | 0              | 500        | 0                       | 500        |
| TI-89 Approx  | 7.353E-10      | 386        | 3.0483E-09              | 211        |
| CC-40         | 8.09E-10       | 424        | 1.492E-09               | 415        |
| TI-74         | 8.09E-10       | 424        | 3.33E-10                | 419        |
| Model 100     | 1.9564E-09     | 300        | 8.2061E-09              | 84         |
| Durabrand 828 | 0<br>6.672E-08 | 500<br>408 | 0<br>8.9125E-07         | 500<br>22  |
| Sharp PC-1201 | 6.134E-06      |            | 3.2127E-05              |            |
| Sharp PC-1261 | 0<br>6.134E-06 | 500<br>397 | 0<br>3.2126E-05         | 500<br>207 |
| fx-7000G      | 0              | 500        | 2.7E-09<br>6.878104E-08 | 498<br>22  |
| fx-7700GBus   | 0              | 500        | 2.7E-09<br>8.9829E-08   | 498<br>24  |

### Some Comments:

For the HP-33C, HP-38C, HP-41 and HP-11C/12C the results for the reciprocal test and the square root test are the same and are equal to Rodger's expected values. The square root test results are the same whether one uses  $\text{sqr}(i)\text{x}\text{sqr}(i)$  or  $(\text{sqr}(i))^2$ . The results when using the sequence  $\text{sqr}(i) 2^y x$  are not quite equal to the expected value and are different for the different machines. For the HP-33C absolute differences of  $1\text{E}-07$  from the square root - squared result occur at 39, 62, 65 and 91. For the HP-38C absolute differences occur at 39 and 65. For the HP-41 and HP-11/12 the only absolute difference occurs at 39. I suspect that this implies some evolution in the exponential function as the ten digit hp product line matured. I wondered if the higher density of differences was maintained over a larger range so I tested my HP-67 and HP-41 over the range from 1 to 10,000. There were 66 differences with the hp-67 but only 25 with the hp-41. There were only six numbers for which the difference occurred on both machines: 39, 3446, 6221, 6430, 7421 and 7560. One of the things that impressed me during the exercise was just how slow those old machines were. Doing the sum of the errors and counting the errors for the exponential test over the range from 1 to 500 took eighteen minutes on my HP-67. It took only 30 seconds to run the same program on my hp 33s.

It is possible to use the TI-59 (which uses thirteen digits without rounding and has the famous multiplication anomaly) to emulate the ten digit HP machines for the square root case. All one has to do is perform the EE-INV-EE function after each mathematical operation. If you do so you will find that the emulated ten digit machine yields

a sum of 3.2127E-05 (the correct value) with 206 zeroes when doing the square root times the square root, but yields a sum of 3.2227E-05 (an incorrect value) and 205 zeroes when doing the square root raised to the second power using the  $y^x$  function. The difference comes from different results when the input integer is 423 where the square root of 423 times the square root of 423 yields 423 but the square root of 423 raised to the second power yields 422.9999999. Doing the calculations without the final EE-INV-EE sequence will yield 422.9999999505 which rounds to 423 with the square root times the square root calculation but 422.9999999498 which rounds to 422.9999999 for the square root raised to the second power calculation.

The CC-40 and TI-74 (base 100 machines) yield the same result for the reciprocal test but different results for the square root test. I suspected that the difference would occur at only four input values in a manner similar to that seen with the second square root tests with the HP machines. It turns out that is not the case. There is another interesting phenomena in these machines. For both machines the sum when running the square root test from 1 to 99 is the same as when running from 1 to 500, or when running from 1 to 999.

A user can get the non-zero sums in the second line for the Durabrand 828 by transferring each intermediate result to a memory location before using it again. For example, for the reciprocal case use the sequence  $1/i \rightarrow M : 1/M \rightarrow M : S + \text{Abs}(i - M) \rightarrow S$ . This process essentially changes the result to that which would be obtained with a twelve digit machine which truncates rather than rounds. One caution: It turns out that there are two versions of the Durabrand 828 out there. One version, the version that I have, provides sixteen digit arithmetic. The other version, which I don't have, does NOT provide sixteen digit arithmetic. Since I don't have that version I can't say what the results would be with it.

The Sharp PC-1201 yields the correct results for ten digit machines. But when I changed the sequence for the square root test from square root squared to square root  $y^x 2$  the sum is zero.

With the Sharp PC-1261 a user can use a technique similar to that described above for the Durabrand 828 to yield the non-zero sums on the second line. This essentially changes the machine to a ten digit machine with rounding at each calculation. But, the sum for the square root test is in error by 1E-09 due to a non-zero result when  $i = 10$ .

For the two Casio machines the first square root results (2.7E-09 for each machine) were obtained using the formula  $\text{Abs}(i - (\text{Sqr}(i) \times (\text{Sqr}(i))))$ . The only non-zero values occur at 207 (1.8E-09) and 327 (9E-10). The second square root results were obtained using the formula  $\text{Abs}(i - (\text{Sqr}(i))^2)$ .

## Re: More Results with Rodger's Test

Message #2 Posted by **Bruce Bergman** on 11 Aug 2007, 12:21 a.m.,  
in response to message #1 by Palmer O. Hanson, Jr.

Um. Dude, you have too much time on your hands.

Impressive! But too much time. ;-)

thanks, buce

## Way too much time

Message #3 Posted by **Palmer O. Hanson, Jr.** on 11 Aug 2007, 9:37 p.m.,  
in response to message #2 by Bruce Bergman

Quote:

Um. Dude, you have too much time on your hands.

Impressive! But too much time. ;-)

thanks, bruce

At 78, no longer able to play tennis or golf due to back surgery and arthritis, and unwilling to settle for bocce, I do have time on my hands.

I had hoped to use some of it this summer workng with the hp-35s, but with all the bugs, I think I'll wait.

**Re: Way too much time**

Message #4 Posted by **Bruce Bergman** on 12 Aug 2007, 12:07 p.m.,  
in response to message #3 by Palmer O. Hanson, Jr.

Palmer, don't get me wrong -- I am impressed as all get out about what you posted. Truly, it's breadth is amazing.

I just wish \*I\* had that kind of time to play with my calcs. It must've been fun... :-)

thanks, bruce

**Re: More Results with Rodger's Test**

Message #5 Posted by **Egan Ford** on 11 Aug 2007, 12:34 p.m.,  
in response to message #1 by Palmer O. Hanson, Jr.

Quote:

I have been intrigued with the possibilities of Rodger's calculator tests using back-to-back reciprocals and the square of the square root.

Do you have a link for the tests?

**Re: More Results with Rodger's Test**

Message #6 Posted by **Palmer O. Hanson, Jr.** on 11 Aug 2007, 9:49 p.m.,  
in response to message #5 by Egan Ford

You can search Archive 17 for "More on Testing Calculators and Computers" of 9 May 2007 or go to

<http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv017.cgi?read=113412#113412>

There was some earlier material which should be in Archive 17 but I haven't been able to locate it.

**Re: More Results with Rodger's Test**

Message #7 Posted by **Xerxes** on 12 Aug 2007, 10:02 a.m.,  
in response to message #6 by Palmer O. Hanson, Jr.

On some Basic programmable Casios there is a not documented command. MODE 10 means rounding (default mode) and MODE 11 truncating for arithmetical operations.

| Reciprocal test | MODE 10  |     | MODE 11   |     |
|-----------------|----------|-----|-----------|-----|
| FX-730P         | 2.38E-08 | 498 | 6.672E-08 | 408 |
| Z-1GRA          | 4.47E-09 | 495 | 6.644E-09 | 401 |

| Square test | MODE 10       | MODE 11        |
|-------------|---------------|----------------|
| FX-730P     | 4.956E-07 469 | 1.34165E-06 26 |
| Z-1GRA      | 3.326E-08 478 | 1.18235E-07 30 |

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## HP Forum Archive 17

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### HP 35s musings

Message #1 Posted by [Donald Williams](#) on 10 Aug 2007, 7:50 p.m.

I got off the 35s bandwagon rather early. When I saw check sums and line entries, I know the drill. I finally found my old HP 65 code pads, but before I got very far, I decided that this was a piece of nostalgia I could do without.

I did work through most of the manual and had an overall favorable impression of the calculator. However the lack of I/O left me with no means of saving my work. Lets face it, the batteries will go dead sooner or later. This is of course of no concern to many but it was important to me and possibly a few others.

Just before giving up, I had the idea of somehow acquiring the emulator. My reasoning was if I kept the emulator and calculator synchronized then in a "round about way" I had achieved backup. Tedious yes, but no more tedious than code pads, check sums and lines. This proved impossible since apparently mere mortals cannot buy or possess the emulator.

The 35s was laid aside. Having come into sudden cash wealth from a recent 60th birthday (they really feel sorry for you when you get this old) I ventured into other calculator venues.

I am currently exploring another device. (I will not mention the name anymore, because I now realize I probably sound like I am on the payroll. I'm not). This vendor sells an emulator application. Not cheap either. Almost the same cost as the calculator. The interesting thing about the emulator is the key code editor. As you use the virtual calculator the editor creates a key code file. If I chose to share a program, function, list, or whatever, I could just forward a keystroke file to the recipient. Likewise they could do the same for me. You can easily load the file and even single step the key strokes and watch the emulator highlight the keys as they execute. (Some people are shaking their heads saying "where has this guy been", but be patient, this is all new to me).

So what am I trying to say?

If I had an HP 35s emulator that created keystroke files I think the following would be true.

1. I would have a "form" of backup without I/O. If I maintain the emulator, which to me is no more demanding than creating a paper trail.
2. I could easily exchange programs, data, lists, etc using keystroke files. I think this is actually less error prone than typing posts.
3. Paper documentation, check sums, and lines would become moot.

The present 35s emulator may be capable of this but I don't know. Can anyone tell me?

If this capability were somehow made available I would be an aficionado rather than a detractor

### Re: HP 35s musings

Message #2 Posted by [Chuck](#) on 10 Aug 2007, 8:19 p.m.,  
in response to message #1 by [Donald Williams](#)

I thought about an online keystroke capture the day I got my 35s. Thought I'd give it a go when I get back to work (in six weeks), but hopefully someone will beat me to it. :)

CHUCK

**Re: HP 35s musings**

*Message #3 Posted by [Nenad \(Croatia\)](#) on 11 Aug 2007, 4:49 a.m.,  
in response to message #1 by Donald Williams*

Hi, Donald,

Supporting your opinion, I think that we may have a similar situation with calculators where simulators or emulators already exist, e.g. with HP42s. This is also a machine with no input, other than its keyboard. AFAIK, excellent Thomas Okken's Free42 simulator behaves pretty the same way as the real machine does.

Though I have never tried to do this with HP42s/Free42, maybe it would be also possible in a combination of HP41CX/ttCalc (also a simulator).

*Edited: 11 Aug 2007, 4:52 a.m.*

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## HP Forum Archive 17

[ [Return to Index](#) | [Top of Index](#) ]**Games on 35s, 48gx or 15c***Message #1 Posted by [Vincze](#) on 10 Aug 2007, 7:29 p.m.*

Okay, I promise this last question topic. My nephew come to stay night tonight and he very inquisitive boy. Are there any fun game I can program on one of three calculators listed above for him. I think I remember seeing someplace games for 15c, but I do not have any. I would love to let him use new 35s, but I doubt game have been figured out yet for that.

**Re: Games on 35s, 48gx or 15c***Message #2 Posted by [allen](#) on 10 Aug 2007, 7:46 p.m.,  
in response to message #1 by Vincze*

See this [link for some great 48gx games](#) (hpcalc).. Kids these days won't tolerate the MOONLANDER 'games' from years past. Get the arcade games. I Especially recommend ICECUBE. I have not beaten it in 10 years.

**Re: Games on 35s, 48gx or 15c***Message #3 Posted by [Wayne Brown](#) on 10 Aug 2007, 7:46 p.m.,  
in response to message #1 by Vincze*

If you visit [hpcalc.org](http://hpcalc.org) you'll find a lot of software for the HP48GX, including a whole section on games.

**Re: Games on 35s, 48gx or 15c***Message #4 Posted by [Vincze](#) on 10 Aug 2007, 7:50 p.m.,  
in response to message #3 by Wayne Brown*

It look like I have to load somehow. Do they not have simple game I can enter on keyboard? Or is it true that there some way to take serial mouse cable and hook up to 48gx to transfer program?

**Re: Games on 35s, 48gx or 15c***Message #5 Posted by [allen](#) on 10 Aug 2007, 8:16 p.m.,  
in response to message #4 by Vincze*

Your nephew will certainly not be impressed with HP calculators if you show him a game you can type in 5 minutes. If you dont already have a a serial cable (e.g. from Samson cables), I'd recommend impressing him with your HP math skills and not HP programming skills.

**Re: Games on 35s, 48gx or 15c***Message #6 Posted by [Gerson W. Barbosa](#) on 10 Aug 2007, 9:31 p.m.,  
in response to message #1 by Vincze*

No one liked this. Most likely your nephew won't either. Anyway, here it is:

<http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv014.cgi?read=68346>

Edited: 10 Aug 2007, 10:06 p.m.

## Re: Games on 35s, 48gx or 15c

Message #7 Posted by [Vincze](#) on 11 Aug 2007, 7:07 p.m.,  
in response to message #6 by Gerson W. Barbosa

You all right. My nephew tell me this boring! :) oh well, I think it is fun. I try and write space lander maybe tomorrow on 35s.

## Re: Games on 35s, 48gx or 15c

Message #8 Posted by [Paul Dale](#) on 12 Aug 2007, 4:50 p.m.,  
in response to message #1 by Vincze

Here is one game for the 35s which I submitted to the software library last week (but which isn't up yet). Apologies in advance for the length. The program is formatted to fit an 80 column printout.

I wrote this for my children to play which they will do next time the "I'm bored" comes out...

No checksums since they are wrong. No LN either since it is bogus too. The actual size is just under 8kb.

- Pauli

A dragon has kidnapped the beautiful princess and you are tasked with her rescue. You will have to brave all manner of nasty beasts on your quest.

The quest is a series of meet monster, kill or run away from monster cycles. When you kill a monster you will usually gain some treasure and possibly a magic item. You might also get healed. The difficulty of the monsters generally increases with your abilities. Once you defeat the dragon, you win the game. If you've accumulated sufficient treasure, you'll marry the princess as well.

When displaying numbers they are viewed via registers:

```
E = experience (your total and current earnings)
H = hit points (both damage and your total)
G = gold
L = level
S = spells
```

Periodically you'll be asked one of two questions:

```
"attack or flee"      (0=ATK 1=FLEE)
"sword or spell"     (0=SWD 1=SPELL)
```

In each case enter a zero number and press R/S for the first and enter a non-zero number and press R/S for the second. By default a zero will be entered for you so you only actually need to press R/S in that case.

|       |     |      |      |            |       |      |       |      |
|-------|-----|------|------|------------|-------|------|-------|------|
| D001  | LBL | D    | D238 | GTO        | D381  | D475 | XEQ   | D065 |
| D002  | ALL |      | D239 | XEQ        | D075  | D476 | XEQ   | D029 |
| D003  | XEQ | D702 | D240 | x<y?       |       | D477 | RCL   | M    |
| D004  | SF  | 10   | D241 | GTO        | D393  | D478 | XEQ   | D067 |
| D005  | XEQ | D639 | D242 | x>y?       |       | D479 | /     |      |
| D006  | STO | M    | D243 | GTO        | D345  | D480 | +     |      |
| D007  | XEQ | D639 | D244 | eqn        | TITAN | D481 | 2.5   |      |
| D008  | STO | N    | D245 | PSE        |       | D482 | -     |      |
| D009  | XEQ | D639 | D246 | [16,10,50] |       | D483 | IP    |      |
| D010  | STO | O    | D247 | [2,16,20]  |       | D484 | FS?   | 1    |
| D011* | XEQ | D063 | D248 | [1,22,25]  |       | D485 | XEQ   | D509 |
| D012  | RCL | H    | D249 | GTO        | D399  | D486 | x<=0? |      |

|       |               |       |                  |       |            |
|-------|---------------|-------|------------------|-------|------------|
| D013  | x>=y?         | D250* | XEQ D078         | D487  | XEQ D071   |
| D014  | GTO D110      | D251  | x<y?             | D488  | GTO D533   |
| D015  | XEQ D057      | D252  | GTO D333         | D489* | eqn MISSED |
| D016  | x<=y?         | D253  | x>y?             | D490  | PSE        |
| D017  | GTO D081      | D254  | GTO D387         | D491  | GTO D535   |
| D018  | RCL K         | D255  | eqn ENT          | D492* | XEQ D069   |
| D019  | XEQ D057      | D256  | PSE              | D493  | /          |
| D020  | XEQ D069      | D257  | [9,10,40]        | D494  | XEQ D073   |
| D021  | RCL H         | D258  | [2,6,10]         | D495  | +          |
| D022  | y^x           | D259  | [2,15,25]        | D496  | IP         |
| D023  | *             | D260  | GTO D399         | D497  | x<=0?      |
| D024  | XEQ D063      | D261* | eqn GIANT BAT    | D498  | GTO D071   |
| D025  | -             | D262  | PSE              | D499  | RTN        |
| D026  | x>=y?         | D263  | [1,2,0]          | D500* | 0.9        |
| D027  | GTO D110      | D264  | [1,4,0]          | D501  | *          |
| D028  | GTO D088      | D265  | [1,0,12]         | D502  | RTN        |
| D029* | RANDOM        | D266  | GTO D399         | D503* | XEQ D067   |
| D030  | *             | D267* | eqn GOBLIN       | D504  | -          |
| D031  | INTG          | D268  | PSE              | D505  | RTN        |
| D032  | XEQ D071      | D269  | [1,8,0]          | D506* | XEQ D067   |
| D033  | +             | D270  | [1,8,0]          | D507  | +          |
| D034  | RTN           | D271  | [1,2,15]         | D508  | RTN        |
| D035* | STO A         | D272  | GTO D399         | D509* | XEQ D057   |
| D036  | CF 10         | D273* | eqn SKELETON     | D510  | XEQ D029   |
| D037* | eqn REGY*RAND | D274  | PSE              | D511  | +          |
| D038  | INTG          | D275  | [1,8,2]          | D512  | XEQ D065   |
| D039  | +             | D276  | [1,8,0]          | D513  | +          |
| D040  | DSE A         | D277  | [2,1,18]         | D514  | FS? 4      |
| D041  | GTO D037      | D278  | GTO D399         | D515  | GTO D517   |
| D042  | SF 10         | D279* | eqn GIANT RAT    | D516  | RTN        |
| D043  | X<>Y          | D280  | PSE              | D517* | XEQ D063   |
| D044  | Rv            | D281  | [1,6,0]          | D518  | XEQ D069   |
| D045  | RTN           | D282  | [1,6,0]          | D519  | XEQ D029   |
| D046* | XEQ D633      | D283  | [1,1,13]         | D520  | +          |
| D047  | XEQ D035      | D284  | GTO D399         | D521  | XEQ D057   |
| D048  | +             | D285* | eqn DWARF        | D522  | +          |
| D049  | RTN           | D286  | PSE              | D523  | RTN        |
| D050* | XEQ D069      | D287  | [2,8,0]          | D524* | XEQ D071   |
| D051  | XEQ D029      | D288  | [1,10,1]         | D525  | STO- L     |
| D052  | XEQ D071      | D289  | [1,2,20]         | D526  | eqn ZOT!   |
| D053  | -             | D290  | GTO D399         | D527  | PSE        |
| D054  | RTN           | D291* | eqn GIANT SPIDER | D528  | XEQ D067   |
| D055* | XEQ D063      | D292  | PSE              | D529  | XEQ D069   |
| D056  | GTO D029      | D293  | [2,8,4]          | D530  | +          |
| D057* | 10            | D294  | [1,10,8]         | D531  | RCL H      |
| D058  | RTN           | D295  | [1,4,17]         | D532  | XEQ D035   |
| D059* | 3             | D296  | GTO D399         | D533* | STO- D     |
| D060  | RTN           | D297* | eqn ZOMBIE       | D534  | XEQ D613   |
| D061* | 100           | D298  | PSE              | D535* | RCL D      |
| D062  | RTN           | D299  | [3,8,0]          | D536  | x<=0?      |
| D063* | 20            | D300  | [1,6,2]          | D537  | GTO D568   |
| D064  | RTN           | D301  | [2,5,8]          | D538  | RCL B      |
| D065* | 8             | D302  | GTO D399         | D539  | FS? 3      |
| D066  | RTN           | D303* | eqn GHOST        | D540  | XEQ D492   |
| D067* | 4             | D304  | PSE              | D541  | STO Q      |
| D068  | RTN           | D305  | [10,8,50]        | D542* | XEQ D055   |
| D069* | 2             | D306  | [2,4,-1]         | D543  | RCL+ F     |
| D070  | RTN           | D307  | [2,16,30]        | D544  | RCL N      |
| D071* | 1             | D308  | GTO D399         | D545  | XEQ D067   |
| D072  | RTN           | D309* | eqn DAEMON       | D546  | /          |
| D073* | 0.5           | D310  | PSE              | D547  | -          |
| D074  | RTN           | D311  | [8,8,20]         | D548  | XEQ D057   |
| D075* | XEQ D069      | D312  | [1,8,2]          | D549  | -          |
| D076  | +             | D313  | [2,11,26]        | D550  | FS? 2      |
| D077  | RTN           | D314  | GTO D399         | D551  | XEQ D503   |
| D078* | XEQ D069      | D315* | eqn GNOME        | D552  | x<0?       |
| D079  | -             | D316  | PSE              | D553  | GTO D565   |
| D080  | RTN           | D317  | [3,10,0]         | D554  | RCL C      |
| D081* | RCL K         | D318  | [1,8,1]          | D555  | XEQ D046   |
| D082  | -9            | D319  | [1,7,18]         | D556  | FS? 0      |
| D083  | RCL+ H        | D320  | GTO D399         | D557  | XEQ D500   |
| D084  | 10220         | D321* | eqn BASILISK     | D558  | INTG       |
| D085  | *             | D322  | PSE              | D559  | x<=0?      |
| D086  | x>=y?         | D323  | [6,8,4]          | D560  | XEQ D071   |
| D087  | GTO D110      | D324  | [2,10,10]        | D561  | STO- J     |
| D088* | XEQ D067      | D325  | [1,13,24]        | D562  | eqn OUCH!  |
| D089  | XEQ D029      | D326  | GTO D399         | D563  | PSE        |
| D090  | XEQ D065      | D327* | eqn SLIME        | D564  | XEQ D613   |
| D091  | +             | D328  | PSE              | D565* | DSE Q      |
| D092  | RCL O         | D329  | [5,10,20]        | D566  | GTO D542   |
| D093  | XEQ D059      | D330  | [1,4,0]          | D567  | GTO D425   |

|       |            |       |                  |       |                  |
|-------|------------|-------|------------------|-------|------------------|
| D094  | /          | D331  | [4,8,12]         | D568* | eqn KILLED!      |
| D095  | +          | D332  | GTO D399         | D569  | PSE              |
| D096  | IP         | D333* | eqn DEVIL        | D570  | XEQ D067         |
| D097  | x<=0       | D334  | PSE              | D571  | XEQ D069         |
| D098  | XEQ D071   | D335  | [10,8,30]        | D572  | RCL E            |
| D099  | STO+ I     | D336  | [1,10,5]         | D573  | y^x              |
| D100  | STO+ J     | D337  | [2,14,24]        | D574  | RCL* P           |
| D101  | XEQ D071   | D338  | GTO D399         | D575  | RCL* B           |
| D102  | STO+ H     | D339* | eqn BARBARIAN    | D576  | STO+ K           |
| D103  | STO+ L     | D340  | PSE              | D577  | XEQ D608         |
| D104  | XEQ D050   | D341  | [4,12,16]        | D578  | XEQ D059         |
| D105  | STO+ M     | D342  | [1,10,2]         | D579  | RCL E            |
| D106  | XEQ D050   | D343  | [1,7,13]         | D580  | y^x              |
| D107  | STO+ N     | D344  | GTO D399         | D581  | XEQ D029         |
| D108  | XEQ D050   | D345* | eqn VAMPIRE      | D582  | STO+ R           |
| D109  | STO+ O     | D346  | PSE              | D583  | XEQ D057         |
| D110* | RCL H      | D347  | [8,10,10]        | D584  | /                |
| D111  | XEQ D623   | D348  | [2,12,8]         | D585  | IP               |
| D112  | RCL K      | D349  | [1,15,24]        | D586  | STO+ K           |
| D113  | XEQ D608   | D350  | GTO D399         | D587  | XEQ D618         |
| D114  | RCL J      | D351* | eqn OOZE         | D588  | RANDOM           |
| D115  | XEQ D613   | D352  | PSE              | D589  | 0.1              |
| D116  | RCL L      | D353  | [12,10,30]       | D590  | RCL* E           |
| D117  | XEQ D628   | D354  | [1,6,0]          | D591  | x>y?             |
| D118  | FS? 4      | D355  | [5,9,14]         | D592  | XEQ D645         |
| D119  | GTO D693   | D356  | GTO D399         | D593* | XEQ D057         |
| D120  | XEQ D065   | D357* | eqn MOLD MONSTER | D594  | 1/x              |
| D121  | XEQ D067   | D358  | PSE              | D595  | RANDOM           |
| D122  | *          | D359  | [2,8,0]          | D596  | x>=y?            |
| D123  | XEQ D059   | D360  | [1,2,0]          | D597  | GTO D011         |
| D124  | XEQ D071   | D361  | [3,3,10]         | D598  | eqn HEAL         |
| D125  | RCL+ H     | D362  | GTO D399         | D599  | PSE              |
| D126  | *          | D363* | eqn OGRE         | D600  | RCL I            |
| D127  | x>y?       | D364  | PSE              | D601  | STO J            |
| D128  | x<>y       | D365  | [5,12,10]        | D602  | RANDOM           |
| D129  | XEQ D029   | D366  | [2,8,8]          | D603  | 0.3              |
| D130  | STO E      | D367  | [1,10,21]        | D604  | +                |
| D131  | XEQ D067   | D368  | GTO D399         | D605  | IP               |
| D132  | x^2        | D369* | eqn GIANT SNAKE  | D606  | STO+ L           |
| D133  | x<y?       | D370  | PSE              | D607  | GTO D011         |
| D134  | GTO D199   | D371  | [4,8,8]          | D608* | x<> E            |
| D135  | x=y?       | D372  | [2,8,4]          | D609  | VIEW E           |
| D136  | GTO D369   | D373  | [1,5,15]         | D610  | PSE              |
| D137  | XEQ D065   | D374  | GTO D399         | D611  | x<> E            |
| D138  | -          | D375* | eqn TROLL        | D612  | RTN              |
| D139  | x<y?       | D376  | PSE              | D613* | x<> H            |
| D140  | GTO D171   | D377  | [6,10,40]        | D614  | VIEW H           |
| D141  | x=y?       | D378  | [1,6,6]          | D615  | PSE              |
| D142  | GTO D357   | D379  | [2,9,22]         | D616  | x<> H            |
| D143  | XEQ D067   | D380  | GTO D399         | D617  | RTN              |
| D144  | -          | D381* | eqn ELEMENTAL    | D618* | x<> G            |
| D145  | x<y?       | D382  | PSE              | D619  | VIEW G           |
| D146  | GTO D160   | D383  | [10,12,30]       | D620  | PSE              |
| D147  | x=y?       | D384  | [1,12,10]        | D621  | x<> G            |
| D148  | GTO D267   | D385  | [2,16,17]        | D622  | RTN              |
| D149  | XEQ D078   | D386  | GTO D399         | D623* | x<> L            |
| D150  | x<y?       | D387* | eqn WYVERN       | D624  | VIEW L           |
| D151  | GTO D279   | D388  | PSE              | D625  | PSE              |
| D152  | x>y?       | D389  | [7,12,16]        | D626  | x<> L            |
| D153  | GTO D261   | D390  | [1,8,8]          | D627  | RTN              |
| D154  | eqn KOBOLD | D391  | [2,14,28]        | D628* | x<> S            |
| D155  | PSE        | D392  | GTO D399         | D629  | VIEW S           |
| D156  | [1,4,1]    | D393* | eqn DRAGON       | D630  | PSE              |
| D157  | [1,6,-1]   | D394  | PSE              | D631  | x<> S            |
| D158  | [1,0,13]   | D395  | [24,20,100]      | D632  | RTN              |
| D159  | GTO D399   | D396  | [1,20,30]        | D633* | CF 10            |
| D160* | XEQ D075   | D397  | [2,30,29]        | D634  | eqn [0,0,1]*REGX |
| D161  | x<y?       | D398  | SF 4             | D635  | eqn [0,1,0]*REGY |
| D162  | GTO D285   | D399* | STO B            | D636  | eqn [1,0,0]*REGZ |
| D163  | x>y?       | D400  | Rv               | D637  | SF 10            |
| D164  | GTO D273   | D401  | STO C            | D638  | RTN              |
| D165  | eqn ORC    | D402  | Rv               | D639* | XEQ D063         |
| D166  | PSE        | D403  | XEQ D046         | D640  | RANDOM           |
| D167  | [1,12,4]   | D404  | STO D            | D641  | SQRT             |
| D168  | [1,8,3]    | D405  | STO P            | D642  | *                |
| D169  | [1,3,17]   | D406  | RCL E            | D643  | IP               |
| D170  | GTO D399   | D407  | XEQ D059         | D644  | RTN              |
| D171* | XEQ D067   | D408  | /                | D645* | XEQ D069         |
| D172  | +          | D409  | +/-              | D646  | XEQ D067         |
| D173  | x>y?       | D410  | INTG             | D647  | XEQ D029         |
| D174  | GTO D188   | D411  | ABS              | D648  | XEQ D071         |

|       |                 |       |                   |       |                    |
|-------|-----------------|-------|-------------------|-------|--------------------|
| D175  | x=y?            | D412  | STO E             | D649  | -                  |
| D176  | GTO D315        | D413  | RCL B             | D650  | x=0?               |
| D177  | XEQ D075        | D414  | XEQ D633          | D651  | GTO D666           |
| D178  | x<y?            | D415  | STO B             | D652  | x<y?               |
| D179  | GTO D339        | D416  | Rv                | D653  | GTO D673           |
| D180  | x>y?            | D417  | STO F             | D654  | x=y?               |
| D181  | GTO D327        | D418  | Rv                | D655  | GTO D680           |
| D182  | eqn GNOLL       | D419  | STO G             | D656  | FS? 3              |
| D183  | PSE             | D420  | GTO D428          | D657  | RTN                |
| D184  | [4,10,4]        | D421* | CF 4              | D658  | SF 3               |
| D185  | [1,10,1]        | D422* | eqn GOT AWAY      | D659  | eqn MAGIC HELMET   |
| D186  | [1,6,17]        | D423  | PSE               | D660  | PSE                |
| D187  | GTO D399        | D424  | GTO D593          | D661  | XEQ D071           |
| D188* | XEQ D078        | D425* | RCL J             | D662* | 1e3                |
| D189  | x<y?            | D426  | x<=0?             | D663  | *                  |
| D190  | GTO D297        | D427  | GTO D690          | D664  | STO+ R             |
| D191  | x>y?            | D428* | eqn 0=ATK 1=FLEE  | D665  | RTN                |
| D192  | GTO D291        | D429  | PSE               | D666* | FS? 0              |
| D193  | eqn GIANT LEECH | D430  | CLSTK             | D667  | RTN                |
| D194  | PSE             | D431  | STOP              | D668  | SF 0               |
| D195  | [2,8,4]         | D432  | x=0?              | D669  | eqn MAGIC SHIELD   |
| D196  | [1,8,4]         | D433  | GTO D449          | D670  | PSE                |
| D197  | [1,6,11]        | D434  | FS? 4             | D671  | XEQ D069           |
| D198  | GTO D399        | D435  | GTO D421          | D672  | GTO D662           |
| D199* | XEQ D065        | D436  | XEQ D057          | D673* | FS? 1              |
| D200  | +               | D437  | RCL* E            | D674  | RTN                |
| D201  | x<y?            | D438  | XEQ D069          | D675  | SF 1               |
| D202  | GTO D233        | D439  | RCL* N            | D676  | eqn MAGIC SWORD    |
| D203  | x=y?            | D440  | -                 | D677  | PSE                |
| D204  | GTO D321        | D441  | RCL+ H            | D678  | XEQ D057           |
| D205  | XEQ D067        | D442  | XEQ D061          | D679  | GTO D662           |
| D206  | -               | D443  | /                 | D680* | FS? 2              |
| D207  | x<y?            | D444  | RANDOM            | D681  | RTN                |
| D208  | GTO D222        | D445  | x>=y?             | D682  | SF 2               |
| D209  | x=y?            | D446  | GTO D422          | D683  | eqn MAGIC ARMOUR   |
| D210  | GTO D375        | D447  | eqn CAUGHT YOU!   | D684  | PSE                |
| D211  | XEQ D078        | D448  | PSE               | D685  | XEQ D067           |
| D212  | x<y?            | D449* | RCL L             | D686  | GTO D662           |
| D213  | GTO D363        | D450  | x=0?              | D687* | eqn MARRY PRINCESS |
| D214  | x>y?            | D451  | GTO D458          | D688  | PSE                |
| D215  | GTO D351        | D452  | eqn 0=SWD 1=SPELL | D689  | RTN                |
| D216  | eqn BUGBEAR     | D453  | PSE               | D690* | eqn YOU DIED!      |
| D217  | PSE             | D454  | CLSTK             | D691  | PSE                |
| D218  | [6,8,15]        | D455  | STOP              | D692  | GTO D702           |
| D219  | [1,6,4]         | D456  | x<>0?             | D693* | eqn BEAT DRAGON    |
| D220  | [4,9,20]        | D457  | GTO D524          | D694  | PSE                |
| D221  | GTO D399        | D458* | XEQ D055          | D695  | XEQ D061           |
| D222* | XEQ D075        | D459  | RCL H             | D696  | x^2                |
| D223  | x<y?            | D460  | XEQ D069          | D697  | RCL R              |
| D224  | GTO D309        | D461  | /                 | D698  | x>=y?              |
| D225  | x>y?            | D462  | +                 | D699  | XEQ D687           |
| D226  | GTO D303        | D463  | RCL M             | D700  | eqn YOU WIN!       |
| D227  | eqn GIANT       | D464  | XEQ D067          | D701  | PSE                |
| D228  | PSE             | D465  | /                 | D702* | CLVARS             |
| D229  | [6,12,30]       | D466  | +                 | D703  | CLSTK              |
| D230  | [2,10,12]       | D467  | IP                | D704  | CF 0               |
| D231  | [1,12,23]       | D468  | FS? 1             | D705  | CF 1               |
| D232  | GTO D399        | D469  | XEQ D506          | D706  | CF 2               |
| D233* | XEQ D067        | D470  | RCL G             | D707  | CF 3               |
| D234  | +               | D471  | x>y?              | D708  | CF 4               |
| D235  | x>y?            | D472  | GTO D489          | D709  | CF 10              |
| D236  | GTO D250        | D473  | eqn HIT           | D710  | RTN                |
| D237  | x=y?            | D474  | PSE               |       |                    |

## Re: Games on 35s, 48gx or 15c

Message #9 Posted by [Katie Wasserman](#) on 13 Aug 2007, 8:35 p.m.,

in response to message #8 by [Paul Dale](#)

WOW! A 700 step program on a calculator that you couldn't have had for more than a month. I'm really impressed with your programming effort, efficiency in entering most of the constants as vectors and your use of just one alpha label.

Did you code this directly on the calculator, on a spreadsheet or on paper first? Or perhaps, you are one of the lucky ones that has the emulator that HP won't release?

(I'm also very reluctant to enter such a long program into my machine since I don't yet trust that it will not need a reboot to reset some bug I step on -- like the vector input problem.)

-Katie

## Re: Games on 35s, 48gx or 15c

Message #10 Posted by [Paul Dale](#) on 13 Aug 2007, 8:54 p.m.,  
in response to message #9 by Katie Wasserman

Quote:

WOW! A 700 step program on a calculator that you couldn't have had for more than a month. I'm really impressed with your programming effort, efficiency in entering most of the constants as vectors and your use of just one alpha label.

Thanks, I've had my 35s for just over two weeks now.

Vectors seem to use the same amount of memory as a single numeric constant so they seemed like a natural way to go. Plus there aren't a lot of stack levels so I saved a lot of STOs this way. I also coded subroutines for the common constants since a call takes three bytes as opposed to 38 for an inline constant and the calculator is definitely fast enough to not care most of the time. I did trial building the constants up e.g. 2 is built from 1+1, 4 from 2^2 etc. This slowed things too much even though it saved a decent amount of memory.

The alpha labels are pretty much irrelevant except as entry points for humans to remember, we can address (almost) any line in calculator memory via a GTO or XEQ statement so a program doesn't care. See if you can guess which steps are not directly addressable.

Quote:

Did you code this directly on the calculator, on a spreadsheet or on paper first?

Some on the calculator at first but that proved too painful so I wrote an assembler that let me ignore the line numbering difficulties and wrote it as a text file on my laptop. Couldn't run it there of course and it took a few iterations between laptop and calculator to get right.

If anybody wants the assembler *source code* or the game's slightly commented source, I'm happy to email either directly. Both are larger than I'd like to post to the forum. The assembler is written in C, has little error checking but is adequate for what I wanted.

Quote:

Or perhaps, you are one of the lucky ones that has the emulator that HP won't release?

I wish :-)

- Pauli

As for the unreachable steps question I posed earlier, if you have an unlabelled program at the start of program memory you cannot branch to any step there in. Or at least, I'm not aware of how to do so.



**Re: Games on 35s, 48gx or 15c**

*Message #11 Posted by [Pal G.](#) on 16 Aug 2007, 10:21 a.m.,  
in response to message #10 by Paul Dale*

"If you've accumulated sufficient treasure, you'll marry the princess as well"

This sounds about right! <grin>

...

I would love to see your assembler code and your 35s commented code. I do not have an hp 35s yet, but I am studying CS and would like to study your efforts.

Please send to green chile 505 at yahoo dot com

Thank you, Pal G.

*Edited: 16 Aug 2007, 10:26 a.m.*

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## HP Forum Archive 17

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### HP41 Question

Message #1 Posted by [Vincze](#) on 10 Aug 2007, 7:23 p.m.

Sorry for all questions. I keep seeing reference about wand reader or bar code reader for HP 41 series. Is this for a specific application, like supermarket or something for recording information, or does it serve other purpose?

### Re: HP41 Question

Message #2 Posted by [allen](#) on 10 Aug 2007, 7:39 p.m.,  
in response to message #1 by Vincze

It is to save time typing in key strokes... The wand is used to enter programs into the memory. There are other uses such as points of sale.. If you have the MoHP dvd, there are some good manuals.. I'd recommend looking at the WAND manual, The PLOTTER Pac manual, and lastly the printer module. With these three items, you can create, read, and print your own bar codes. You may be interested in the [Paper keyboard](#) that can emulate the keyboard entry with only the bar code reader.

Edited: 10 Aug 2007, 7:41 p.m.

### Re: HP41 Question

Message #3 Posted by [Dave Colver](#) on 10 Aug 2007, 7:43 p.m.,  
in response to message #1 by Vincze

It can be used as a program input device, programs were published as very long barcodes  
The device was a barcode 'pen' where the user provided the movement across the barcode, whereas supermarket scanners self scan using a mittor and a laser.

[Picture here](#)

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## HP Forum Archive 17

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### Calculation Radioactive Isotope decay rate

Message #1 Posted by [Vincze](#) on 10 Aug 2007, 7:07 p.m.

I hope someone can help me with this. I have programmers working on something for work, and I need to check their work. I know how to calculate the radioactive isotope decay rate, but I hoping someone can help me program it into my calculator so I can solve for faster. I have 48gx and 35s, 15c, and 28C that I can use. I prefer not use 28c because I have not fixed battery problem yet and I do not feel like losing program after I power it off.

I define formulas for you, but first let me define variables:

$A_i$  = initial activity/radioactivity of isotope  $t$  = elapsed time (hours)  $A$  = current radioactivity (what we solve for)  $H$  = half-life of radioisotope (hours)

Formulas:

$$A = A_i(1/2)^{t/H}$$

$$t = (H \ln (A/A_i))/(\ln (1/2)) \ll - \ln \text{ be natural logarithm}$$

I sorry if this overly complicated, as I can do manually, but I would like to program and I am not sure how.

### Re: Calculation Radioactive Isotope decay rate

Message #2 Posted by [Juan J](#) on 10 Aug 2007, 10:02 p.m.,  
in response to message #1 by Vincze

Hello Vincze,

You can use the 48's solver. Press [Right Shift] [Enter] to activate the Equation writer. Enter the first equation; When you're done, press [Enter] to save it to the stack. Then save it as a function, typing a name, such as Activ: ['] [Alpha] [Alpha] ACTIV [STO]

Repeat the process for the second equation, and save it: ['] [Alpha] [Alpha] TIME [STO]

Now go to to the Solver menu, using [Right Shift] [SOLVE] You will see a menu: use the cursor keys to select SOLVE EQUATION and press [Enter] You will get the HP Solve screen, which will prompt you to select an equation. Look for ACTIV and press [Enter] The variables will be created automatically and you can start entering values. After you complete data entry, use the arrow keys to set the cursor in the variable you want to solve and press SOLVE.

The procedure is the same for the other equation.

Hope this helps.

### Re: Calculation Radioactive Isotope decay rate

Message #3 Posted by [Vincze](#) on 11 Aug 2007, 7:06 p.m.,

*in response to message #2 by Juan J*

Juan, thank you so much my friend for the help. I know how to program solver but I wonder how it might be done with program to run. I still try and figure out program of calculator, and sometimes it confuse me. I guess solver is easier and for most case, do just fine, as I can solve for any variable, but it would be nice to see how to program the same problem.

Thank you again though.

## **Re: Calculation Radioactive Isotope decay rate**

*Message #4 Posted by **Oswaldo Rodriguez** on 12 Aug 2007, 12:34 p.m.,  
in response to message #1 by Vincze*

Vincze

One of the beauties of RPN and keystroke programming is that you program just as you would work out the problem. For Radioactive Decay, I prefer to use the integral form of first order reactions. All radioactive decay follows first order kinetics, which means that the following equations apply...

$$\text{rate} = k \cdot [A]$$

upon integration you obtain

$$[A]_t = [A]_0 \text{Exp}(-k \cdot t)$$

where  $[A]_0$  is the initial concentration  $k$  is the rate constant which can be found by  $\text{Ln}(2)/\text{half life}$   $t$  is the time of reaction and  $[A]_t$  is the amount left after time  $t$  has passed by.

For the HP 28c and the 48gx the programming is the same. Using local variables "a" for  $[A]_0$ , "b" for half life and "c" for time you can enter the program as follows.

```
<< -> a b c << 'a * EXP ( - ( LN(2) / b ) * c ) ' >> >>
```

save it as 'decay' then enter the values into the stack and press 'decay' from the user menu.

for this program the values have to be  $[A]_0$  , half life and time in that order into the stack.

if you do not want to use local variables a shorter program would be

```
<< 2 LN SWAP / * NEG EXP * >>
```

save it as 'dacey' or any name you want to give it then enter  $[A]_0$ , time and half life into the stack in that order. The program will return the amount left over. This last program should also work for the 35s, even though I do not have one, I believe you just need to change SWAP for  $x \leftrightarrow y$  and NEG for  $+/-$ .

Good luck

Sorry I had to edit to fix the formatting

*Edited: 12 Aug 2007, 9:37 p.m.*

## HP Forum Archive 17

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### Repairing the 9820 printer platten -- Thanks!

Message #1 Posted by [Tony Duell](#) on 10 Aug 2007, 1:34 p.m.

I would like to post a public 'Thank You' to David Smith and Katie Wasserman.

Some time ago I asked about repairing the platten roller in an HP9820 internal printer (same mechanism as in a 9810), and they both suggested 3M 'Cold Shrink', a material I'd never heard of before.

Recently I got round to ordering some from RS Components (this is not Radio Shack, it's a large industrial components distributor in the UK). I discovered that the smallest diameter that RS sell is, in fact the same Cold Shrink as the next size up, but the kit also includes a couple of rubber sleeves that you put on first. It's this kit that's ideal for this platten.

After dismantling the printer and cleaning off the goo, force the 2 rubber sleeves onto the original spindle (so that they touch -- a single longer sleeve would be better, but that's what you get). Then clamp the spindle in a vice, put the Cold Shrink over it, and start pulling out the 'support helix'. When you've put about half the length down, cut it round with a knife, slide the remainder over the bit you've just put on, then pull out the rest of the 'support helix'. In the end you have the spindle covered by the rubber sleeves and two layers of the Cold Shrink.

Then all (!) you have to do is trim it to length. I put the spindle in a lathe, and while turning the lathe by hand used a sharp knife, guided by the toolpost, to cut it. If you do it that way, don't even think of turning it 'by power' unless you want bits of knife embedded in you!

Anyway, the result is a roller of almost exactly the right diameter, which grips the paper well.

Pity I've now got printhead problems, but that's another story..

### Re: Repairing the 9820 printer platten -- Thanks!

Message #2 Posted by [Vincze](#) on 10 Aug 2007, 7:34 p.m.,  
in response to message #1 by Tony Duell

So is the cold shrink like a rubber material?

Also, for those who have thermo printers for like 28C, 29C, 19B, 48GX, etc, is it easy to find thermo paper for it or must one look for surplus. Meaning, can I go to office supply super store and get paper?

### Re: Repairing the 9820 printer platten -- Thanks!

Message #3 Posted by [marais](#) on 11 Aug 2007, 1:58 p.m.,  
in response to message #2 by Vincze

Hi Tony, thanks for this report! I have a similar problem and might give it a try this winter. Regards, and keep the good work up,

Andreas

**Re: Repairing the 9820 printer platten -- Thanks!**

*Message #4 Posted by [Katie Wasserman](#) on 11 Aug 2007, 2:05 p.m.,  
in response to message #2 by Vincze*

Quote:

can I go to office supply super store and get paper?

Yes. Not all stores have this in stock, but you can get it from their web sites. Any thermal 2-1/4" x 85' roll should work fine, I've been using the [NCR brand](#) .

**Re: Repairing the 9820 printer platten -- Thanks!**

*Message #5 Posted by [Vincze](#) on 11 Aug 2007, 7:09 p.m.,  
in response to message #4 by Katie Wasserman*

Thank you so much Miss Katie. I hear many wonderful things about how you great HP collector. :)  
Now I wish I can buy printer without someone outbidding me.

Your friend, Vincze.

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## HP Forum Archive 17

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### 35s checksum problem

Message #1 Posted by [Lyuka](#) on 10 Aug 2007, 10:05 a.m.

Hi, folks.

This would have never be mentioned before, HP 35s may have a checksum calculation problem.

I bought two HP 35s, one for office use, others for home use, of which serial number differs at last two digit (CNA 721049xx).

Then I wrote program (to solve transmission line parameters) and entered it into each calculators, to find the same program shows different checksum.

It seems to be HP 35s' problem, since the line length, calculation result, and line by line comparison shows no difference.

For confirmation of the problem, I wrote very simple program as shown below.

```
LBL G
1.4
LBL C
1.4
LBL K
```

One shows,

```
LBL G, LN= 9, CK= D23F
LBL C, LN= 9, CK= 18BC
```

The other shows,

```
LBL G, LN= 9, CK= 7886
LBL C, LN= 9, CK= 18BC
```

While using (include programming) the first one, its checksum had been changed to the different value, as

```
LBL G, LN= 9, CK= 5966
LBL C, LN= 9, CK= 1427
```

How about your 35s?  
(Please allow my poor English.)

### Re: 35s checksum problem

Message #2 Posted by [bill platt](#) on 10 Aug 2007, 11:41 a.m.,  
in response to message #1 by [Lyuka](#)

Miner are different:

```
G-->535D
C-->532C
K-->2436
```

Entering another program doesn't change the sums, nor does changing to Hex.

### Re: 35s checksum problem

Message #3 Posted by **Katie Wasserman** on 10 Aug 2007, 12:43 p.m.,  
in response to message #2 by bill platt

Mine are different from the others already mentioned too:

C = 700E  
G = 8A28

Looks like the checksum is no longer a useful function.

Am I the only person here that feels like this is the buggiest calculator HP has made since the 49G. The nicer keyboard and more usable memory aside, everything else about this machine seems to be a giant step backwards.

It's time to stop playing with the 35s until there's a decent version released. Every time I pick it up to try something on it I run into another bug, it's just no fun. (OTOH, the Casio fx-9860G Slim looks like it might be a fun machine to program.)

*Edited: 10 Aug 2007, 6:56 p.m. after one or more responses were posted*

### Re: 35s checksum problem

Message #4 Posted by **Paul Brogger** on 10 Aug 2007, 1:12 p.m.,  
in response to message #3 by Katie Wasserman

Quote:

It's time to stop playing with the 35s until there's a decent version released.

Am I the only person who doubts that there *will* be release of "a decent version"? They stuck with the 33s, and the 35s and 50g represent further development, but it's hard to believe this is worth the company's time.

The 35s seems part of the recent wave of nostalgia that includes rebuilding "The Garage". I wonder how much effort (and how much money) they'll be devoting to support *this* symbolic reminder of past glory?

*Edited: 10 Aug 2007, 1:28 p.m.*

### Casio fx-9860G Slim

Message #5 Posted by **Donald Williams** on 10 Aug 2007, 1:30 p.m.,  
in response to message #3 by Katie Wasserman

I have had it for 3 days now and am becoming quite fond of the device. If you are a power user with a requirement for complex matrices you will be disappointed. I am a "light weight", just give me a good solver and a programming environment for the rest of my needs, and I am happy. The calculation "history" is a new experience for me, and I really like that feature.

### Re: 35s checksum problem



*Message #6 Posted by **Bruce Bergman** on 10 Aug 2007, 3:03 p.m.,  
in response to message #3 by Katie Wasserman*

I tend to agree with you, Katie.

What's perhaps most frustrating for me is that HP doesn't appear (or won't) include beta testers in the production process. Yeah, I get the whole thing about company proprietary information, keeping secrets and making sure the competition doesn't find out about new calcs, but THIS fiasco is exactly why they need to break out of that mold. Hopefully Sam can wield some power in this and sees the value in having more folks beta test future calcs, even if only to look for bugs. I'm quite sure that had 20 of us in this group had the calc for two weeks, we would have found **\*\*ALL\*\*** of these bugs and given back to HP a really valuable contribution in terms of quality.

Lessons from the software world need to be applied here. Beta testing is good. Especially with more and more complex systems.

\* \* \*

I still like this calc. I will play with it and enjoy it, but it has lost some of the "shine" due to these bugs. I just hope they fix them and listen to the truly enthusiastic users.

You know, this reminds me of something Disney did a while back. Let me tell you a story...

After Disney killed the Electric Light Parade, they needed to replace it with something similar but new and fresh. They hired a Hollywood guy to create "Light Magic" in 1997, a parade with even more lights, and kind of themed after fairies.

They had a one night premier for cast members only. It didn't go over so well. A lot of cast members disliked it, and thought it wasn't up to standard. The cast members suggested that the Annual Passholders (AP's) check it out. Disney considered.

A week later, they offered Annual Passholders a chance to view the parade. My wife and I went up to Anaheim and saw it twice on the night it was first out. Disney gave out comment cards and asked for input. Aside from written comments, AP's \*lined up\* outside the customer relations building to complain about the parade. It was HORRIBLE. It was whiny, the music sucked, there was no story, no tie-in to old Disney characters and some of the fairies were downright evil and scary looking. Literally, children cried when it went by. Some people were just stunned. With an overwhelming majority of dedicated AP's complaining, Disney decided to delay the opening by six weeks to "make repairs".

The parade opened six weeks later, with virtually no changes (!), and was panned in the press. People hated it. It lasted all of three months before it was killed, and the Disney head who created it was fired. Now, you can barely find mention of "Light Magic" anywhere in Disney-dom. It has been blacklisted. It was incredibly painful for Disney.

The lesson here was that Disney failed to realize who their TRUE fans were and they didn't let them HELP. No one is more dedicated to Disney than the AP's. These are the people who spend hundreds and thousands of dollars every year on passes. They talk up Disney with friends, family and anyone who will listen. Like my wife and I, we would visit Disneyland 2-3 times a month. Some people we know go every other DAY.

These people truly are the hardcore Disney fanatics. Probably not one naysayer in the group. Yet when that same fan base said "wow, this parade really sucks! I mean REALLY!", Disney discounted it. They had -- at their ready disposal -- almost everything they needed to fix the parade, but were too proud to call upon outside help.

Suggestions were coming in left and right. Those were the same suggestions that made it into the New Electric Light Parade three years later (that everyone loves now, BTW). But instead of taking advantage of those who love Disney and are working FOR them, they chose not to. Greed, pride, whatever. It could have been different.

Now, to be fair, HP has never said they WANT input from us hardcore types prior to release. But it would seem to make a lot of sense. Don't stress about 20 more people knowing about a new calc because they have a pre-release version -- JUST DO IT. I don't think we'd be in this situation today had HP given some hardcore users an opportunity to test out the HP-35s prior to announcement.

Anyhow, I somehow climbed up on a soapbox, so now I'd better get off... ;-)

thanks, bruce

### **Re: 35s checksum problem**

*Message #7 Posted by **Vincze** on 10 Aug 2007, 5:45 p.m.,*

*in response to message #6 by Bruce Bergman*

I think you sum it up very well Bruce. This is very sad for HP users. HP either need to decide if they wish to stay in calculator market, or just get out. Don't sell junk, because we don't want junk. Don't follow Bill Gates model and rush to market with lots of bug and expect users to like it. Take time and bring quality to market with everything. With product, with feel, with instruction book, and yes, even with packaging.

### **Re: 35s checksum problem**

*Message #8 Posted by **Nenad (Croatia)** on 11 Aug 2007, 5:43 a.m.,*

*in response to message #3 by Katie Wasserman*

Katie,

Quote:

---

Am I the only person here that feels like this is the buggiest calculator HP has made since the 49G. The nicer keyboard and more usable memory aside, everything else about this machine seems to be a giant step backwards.

It's time to stop playing with the 35s until there's a decent version released. Every time I pick it up to try something on it I run into another bug, it's just no fun.

---

As an admirer of your excellent posts, this time I would have to disagree. You are right, this is obviously a serious bug. IMHO, your words quoted above show an anger of a perfectionist against the obviously too early released HP35s.

However, may I suggest to put it this way? Checksum function, though very important, did not exist on the HP35 (there was even not any sum there to be checked;). Further on, the same applies to HP67 (my dearest), HP41, ... The checksum came out with later sophisticated models, as a very practical way to find out if the program was correctly input (meaning identically to the pattern), or not.

Would it be better, once we are sure that the checksum function on HP35s is incorrect, to check the correctness of the program by means of a real life test example, supplied by the program? A computer science specialist of your format would certainly say: "No way. You cannot pass through all the branching combinations in a program by a single test example". An engineer in me says: "I would be

happy to know that this program works correctly for the presented example, as I expect that my particular problem would not differ too much of it". All in all this is how it was done when there was not a checksum available at all.

Meanwhile, I am happy to see the ENTER key in the right place, nice click keyboard, two line display (mine is not slanted), RAD indicator on the display, etc. If we look again at our posts during the last three or four years, almost all of us here were thinking that after HP48GX even the ENTER key would never come back to its place.

What I can see from what you said, despite the strong bad feelings you have against your machine, you still keep on playing with your brand new, still in production, nice looking, but sometimes strange behaving, HP35s.

Let us love this buggy little beast (at least until the new one comes)! You may check my biography to see how I did this since 1978.

### **Re: 35s checksum problem**

*Message #9 Posted by **Bruce Bergman** on 11 Aug 2007, 10:59 a.m.,  
in response to message #8 by Nenad (Croatia)*

I do love this calc, but...

The lack of a checksum function for programs was one of the major complaints about the 33s. You couldn't tell if your program was entered correctly or not. HP obviously listened and brought it back in the 35s, but I'd submit that this is truly a very important part of the calc.

thanks, bruce

### **Re: 35s checksum problem**

*Message #10 Posted by **Brian Healy** on 11 Aug 2007, 3:58 p.m.,  
in response to message #9 by Bruce Bergman*

Has anyone established that the programs are giving incorrect results with differing checksums?

For me, the apparent checksum bug is no problem at all. All of my programs are written myself, and I always test them by solving a few different problems whose results I know. I never bother with checksums.

While not perfect, I think the 35s is a significant step in the right direction. I remember posts from a couple of years in the past where several people confidently predicted there would never be a large enter key again, that there would never be a successor to the 33s. Well, here it is, and many of the 33s complaints were addressed. Overall I am happy with the 35s, (but I won't be selling my 42s or 32sii on ebay).

With that said, it would have been better for HP to delay release until HP had identified these bugs and corrected them. There is less tolerance for these bugs after the bad taste that the 33s left in everyone's mouth. This is not the first HP to be released with bugs, and hopefully they will be corrected in time.

### **Re: 35s checksum problem -- short list of bugs**

*Message #11 Posted by **Katie Wasserman** on 11 Aug 2007, 2:42 p.m.,  
in response to message #8 by Nenad (Croatia)*

Nenad,

You're a better person than I! I'm not sure that I can

Quote:

---

love this buggy little beast

---

because I don't trust it to show me the correct results. I also feel like HP has made a semi-conscious decision to not put the time/money needed into properly engineering this and has left it up to us, the HP fans, to do the testing for them at no cost (even better they make money by selling to us).

If I define "bug" \*very\* conservatively to be: something that causes the calculator to display a wrong or misleading result and that I (personally) can reproduce, here's a short list:

- (1) in a program:  
VIEW (I)  
PSE  
this will show the wrong value of I
- (2) X<>(J)  
will show INVALID(I) if J has an invalid address in it.
- (3) the checksum bug (the circumstances leading to this error are still unknown)
- (4) SYNTAX ERROR when entering vectors that are valid (the circumstances that lead to this error are still unknown).  
This one bothers me the most because it requires at least a memory variable clear to correct, maybe a full memory clear.
- (5) the cosine near 90 miscalculation
- (6) in a program:  
"RADIX."/"RADIX," display change based on the display mode.

Note that these are all bugs that have nothing to do with differences between the calculator and the manual.

-Katie

*Edited: 11 Aug 2007, 10:21 p.m. after one or more responses were posted*

## **Re: 35s checksum problem -- short list of bugs**

*Message #12 Posted by **Nenad (Croatia)** on 11 Aug 2007, 4:29 p.m.,  
in response to message #11 by Katie Wasserman*

Katie,

you said:

Quote:

---

Nenad,

You're a better person than I!

---

This is simply not true! I personally know this when you sent me a piece of something to repair something else, what I did without a problem;) You are a real friend! Thanks again, this time in public.

Your previous post stating the 6 (up to now) bugs found in our lovely "little beast" proves this once again. It must be appreciated when you approach the buggy 35s problem without any negative feelings, but just stating pure facts.

I am sure that if HP invent produced an excellent calculator (say HP45s) in all aspects (not to point them out again) and releases it after a year of beta testing by 99 posters to the moHP, the 100th poster would come out with a bug finding. This proves something about the competence of our community here.

### **Re: 35s checksum problem -- short list of bugs**

*Message #13 Posted by [Paul Dale](#) on 12 Aug 2007, 4:41 p.m.,  
in response to message #11 by Katie Wasserman*

I'll add two more bug to the list.

The LN= display is bogus for programs that contain inline numbers (& possibly for equations).

Also insertion of a label at the end of a 999 step program isn't allowed.

- Pauli

### **Re: 35s checksum problem**

*Message #14 Posted by [Ed Look](#) on 10 Aug 2007, 10:39 p.m.,  
in response to message #2 by bill platt*

Forgive me. Let me see if I can succinctly state the issues with the checksum (just so I can understand any ramifications) :

The checksum for a particular program varies from unit to unit for the 35s model.

The checksum for the same program further changes after the program is run.

\*

Now let ask, aside from identification and verification of the similitude of the program (either on different 35s units or on the same one after execution on the calculator), does this affect any other function on the calculator?

### **Re: 35s checksum problem**

*Message #15 Posted by [Seth Morabito](#) on 10 Aug 2007, 12:10 p.m.,  
in response to message #1 by Lyuka*

Lyuka, here are the results after keying in the same programs on my two HP35s calculators:

First 35s: CNA 72101944

LBL G, LN= 9, CK= 10D7  
LBL C, LN= 9, CK= ADAE

Second 35s: CNA 72104162

LBL G, LN= 9, CK= 8A28  
LBL C, LN= 9, CK= D6F8

Very interesting. This seems like a real bug!

### Re: 35s checksum problem

Message #16 Posted by [Paul Brogger](#) on 10 Aug 2007, 12:45 p.m.,  
in response to message #15 by Seth Morabito

CNA 72102370

LBL G -> LN=9 CK=8A28  
LBL C -> LN=9 CK=D6F8

[snide]Now, what was that checksum to be used for?[/snide]

(I still love the calc, but this will make more difficult the sharing of any significant programming.)

*Edited: 10 Aug 2007, 12:50 p.m.*

### Re: 35s checksum problem

Message #17 Posted by [Kevin Kitts](#) on 10 Aug 2007, 12:53 p.m.,  
in response to message #16 by Paul Brogger

Strange... I've been following along all the examples in the HP User Guide that came with the calculator (up through chapter 11) - and the checksums have always matched the examples...

### Re: 35s checksum problem

Message #18 Posted by [Paul Brogger](#) on 10 Aug 2007, 1:03 p.m.,  
in response to message #17 by Kevin Kitts

Have you CLEARED ALL before each program entry? I wonder if the presence of other program(s) is what affects the checksums?

### Re: 35s checksum problem - another test

Message #19 Posted by [Gene Wright](#) on 10 Aug 2007, 1:17 p.m.,  
in response to message #18 by Paul Brogger

I would like to ask people who will take the time to do so to key in the indirect data register packing program from this learning module:

[indirect register packing program](#)

and see if the checksum matches what is in the module. In addition to seeing if the checksums come out the same, you'll get a chance to play with a really fun program, even if I say so myself. :-)

The checksum for this program is the same on different machines that I have tried it on.

In my 35s review for datafile:

[35s review](#)

I note on page 11 that MEM does not change at times when I think it should.

Perhaps this is related?

Gene

P.S. I too get a different checksum for the short program shown here. But, I get the same checksum for the indirect data register packing program on different machines.

### **Re: 35s checksum problem - another test**

*Message #20 Posted by [Dave Johnson](#) on 10 Aug 2007, 1:48 p.m.,  
in response to message #19 by Gene Wright*

I have 2 HP-35s calcs (3 if you include the one I sent to Germany with my son...)

I entered the indirect register packing program and it appears to function perfectly, but does not have the same checksum. It reports 42C8 versus the expected C4F6.

Serial # CNA 72101735

I will try it on my second unit when I get a chance.

I entered and double checked the program in my second calculator. It works fine but yields a checksum of 1A09...I only utilized the EQN key to enter the stack register functions...

The second calc serial number is # USA 72103834

I cleared both calculators and entered the program from scratch - This yielded E9F8 on both. I had a simple program that did some register calcs and one sub call to a line number and if I enter that program on its own has a checksum of 90F4 but if it is entered after the indirect access routine it has a checksum of 85D0.

*Edited: 12 Aug 2007, 11:16 a.m.*

### **Re: 35s checksum problem - another test**

*Message #21 Posted by [Paul Brogger](#) on 10 Aug 2007, 1:56 p.m.,  
in response to message #19 by Gene Wright*

On CNA 72102370 I get LN=338 and CK=E9F8. (It appears to run fine.)

What's dismaying, of course, is that I don't *really* know now whether I've made some subtle mistake in entry, or whether the checksum is truly different. We don't really know whether I've provided any useful diagnostic information.

It kinda' pulls the rug out from beneath the whole program sharing process, doesn't it?

Bummer!

(I'll perform a line-by-line comparison of the program and the listing again . . . )

-- Edited-----

It still looks & acts fine, and I still get CK=E9F8 (FWIW).

*Edited: 10 Aug 2007, 2:20 p.m.*

### **Re: 35s checksum problem - another test**

*Message #22 Posted by **Gene Wright** on 10 Aug 2007, 2:21 p.m.,  
in response to message #21 by Paul Brogger*

Paul, that is VERY strange. I have a version of this program just prior to release that gave a checksum of E9F8. Hard to believe that is coincidence.

### **Re: 35s checksum problem - another test**

*Message #23 Posted by **Paul Brogger** on 10 Aug 2007, 2:28 p.m.,  
in response to message #22 by Gene Wright*

Well it is a deterministic machine. We just don't know all the influences that "determine" the checksum. (To state the obvious, apparently there's at least one more factor involved than we'd expect!)

FWIW,

I entered the program from top to bottom, and noticed a different checksum.

Reviewing it, I found one of the equations had been entered "IDIV(REGT-3,3)". (I don't remember whether it was the IDIV or RMDR equation, however.)

I corrected that, and got CK=E9F8. I can find no obvious mistakes remaining.

Checking on one possible source of confusion, I changed one of the equation minus operations to the unary minus (the "+/-" key). That changed the checksum, but also gave me a SYNTAX ERROR upon execution. I changed it back, and still have E9F8.

I deleted the only other program in the machine, and that didn't change Program Y's checksum. Neither did any of the CLEAR options (other than ALL, of course).

Again, FWIW.

*Edited: 10 Aug 2007, 2:36 p.m.*

### **Re: 35s checksum problem - another test**

*Message #24 Posted by **bill platt** on 10 Aug 2007, 10:13 p.m.,  
in response to message #23 by Paul Brogger*

"Deterministic machine"

Aha. That should be true.

Sometimes I really don't believe that anymore with windose machines though ;-)



**Re: 35s checksum problem - another test**

Message #25 Posted by [Lyuka](#) on 10 Aug 2007, 2:42 p.m.,  
in response to message #21 by Paul Brogger

It seems that the inline number affect the checksum to go wrong.

Other test programs, which use no inline numbers, like as shown below, shows the same checksum, so far.

LBL K, LN=57, CK=D0B7

```
LBL K
CLx
ENTER
ENTER
ENTER
-
*
SIN
+
COS
SQRT
1/x
x^2
LN
10^x
Y^x
PI
/
RTN
```

*Edited: 10 Aug 2007, 3:09 p.m. after one or more responses were posted*

**Re: 35s checksum problem - another test**

Message #26 Posted by [Paul Brogger](#) on 10 Aug 2007, 2:54 p.m.,  
in response to message #25 by Lyuka

Interesting . . .

I formerly entered the four vectors (on lines Y032, Y034, Y036, Y071) into the program using only the "[" key.

Now I've changed all four entries to EQN, then [], then the numerals and commas.  
Result: LN=338 CK=0978.

Gene: Does your "EQN" annunciator show when scrolling past any of the four vector entry lines?

*Edited: 10 Aug 2007, 3:01 p.m.*

**Re: 35s checksum problem - another test**

Message #27 Posted by [Gene Wright](#) on 10 Aug 2007, 3:03 p.m.,  
in response to message #26 by Paul Brogger

EQN only shows up for lines that use the stack registers, like REGT.

That would be lines:

```
Y012
Y018
Y024
```

Y051  
Y064  
Y066  
Y068

which agrees with the keystroke instructions on page 4 of the learning module.

There is no need to use EQN for lines Y032, Y034, Y036 and Y071. These can be directly keyed without the EQN key.

### **Re: 35s checksum problem**

*Message #28 Posted by **Paul Brogger** on 10 Aug 2007, 4:22 p.m.,  
in response to message #27 by Gene Wright*

Right -- I know there is no "need" to use EQN. But in entering numbers (or, it turns out, vectors) directly on the stack, one may use EQN or not. (You may remember that on the 33s one may save a number of bytes by using EQN rather than direct numeric entry in programs.)

Regardless, in light of what Lyuka has just reported, it would be interesting to note whether everyone gets the same checksum (0978) by using EQN for the four vector entry lines (Y032, Y034, Y036, Y071) rather than simple direct entry.

It's a long shot, but what else have we got? Discovering certain rules of entry (like using EQN wherever possible) that would guarantee consistent checksums would be a useful workaround until H-P comes out with a spruced-up version.

-- Edited (again) -----

Just in case, a couple more points of comparison:

Entering programs G & C as shown in Lyuka's original problem report, but using EQN for each "1.4" line, I get:

LBL G -> LN=9 CK=0A3A

LBL C -> LN=9 CK=C145

*Edited: 11 Aug 2007, 5:09 a.m.*

### **Re: 35s checksum problem -- EQN didn't help**

*Message #29 Posted by **Paul Brogger** on 11 Aug 2007, 5:16 a.m.,  
in response to message #28 by Paul Brogger*

As indicated above I'd briefly hoped, assuming the problem was indeed related to directly-coded numerics within programs, that coding those as EQNs would somehow fix things.

I substituted EQNs for each of the four vector "direct-entry" lines in the indirect register packing program on two different machines, and got different results. The checksums differed also for the trivial programs "G" and "C" in the post that started this thread, when treated the same way.

Apparently, EQN is not going to help here.

*Edited: 11 Aug 2007, 5:18 a.m.*

**Re: 35s checksum problem - another test**

*Message #30 Posted by **Paul Dale** on 12 Aug 2007, 4:39 p.m.,  
in response to message #25 by Lyuka*

Quote:

It seems that the inline number affect the checksum to go wrong.

I pointed out last week or the week before that inline numbers make the size go wrong...

- Pauli

**Re: 35s checksum problem - another test**

*Message #31 Posted by **Miguel Toro** on 11 Aug 2007, 12:38 a.m.,  
in response to message #21 by Paul Brogger*

I cleared the memory of both my calculators and enter the program, ten lines at a time and they never differed. I have got the same checksum as Paul.

CNA 72102361 and CNA 72102362 both LN=338 CK=E9F8.

It seems that it has something to do with memory management.

**Re: 35s checksum problem - another test**

*Message #32 Posted by **Miguel Toro** on 10 Aug 2007, 3:30 p.m.,  
in response to message #19 by Gene Wright*

In my CNA 72102361:

LBL Y  
LN = 338  
CK = 3EA9

Regards,

Miguel

*Edited: 10 Aug 2007, 3:43 p.m.*

**Re: 35s checksum problem - another test**

*Message #33 Posted by **Seth Morabito** on 10 Aug 2007, 5:44 p.m.,  
in response to message #19 by Gene Wright*

Hi Gene,

When I enter the indirect data register packing program, I get the following

LBL Y  
LN= 338  
CK= C174

At first I wondered if spaces made any difference, so I changed line Y068 from:

```
Y068 REGTx[0,0,1]
```

to:

```
Y068 REGTx[ 0, 0, 1 ]
```

But of course that changed the LN as well, from 338 to 342. So I don't think that has anything to do with the checksum problem.

Very odd indeed. HP, help!

### **Re: 35s checksum problem**

*Message #34 Posted by **Mark W Paris** on 13 Aug 2007, 11:57 p.m.,  
in response to message #18 by Paul Brogger*

Quote:

Have you CLEARED ALL before each program entry? I wonder if the presence of other program(s) is what affects the checksums?

I don't think this is the issue. The examples in the manual seem to be reproduced no matter the location in memory nor the label.

Still looking...

### **Re: 35s checksum problem**

*Message #35 Posted by **Alain Mellan** on 10 Aug 2007, 6:23 p.m.,  
in response to message #16 by Paul Brogger*

Quote:

[snide]Now, what was that checksum to be used for?[/snide]

Digital Rights Management?

Make sure you can't copy my programs.

We want DRM-free calcs :-)

-- alain.

### **Re: 35s checksum problem**

*Message #36 Posted by **Paul Brogger** on 10 Aug 2007, 6:41 p.m.,  
in response to message #35 by Alain Mellan*

Well, yes. As noted elsewhere, random checksums do tend to inhibit accurate duplication.

We'll have to get in touch with Steve Jobs. iTunes rights protection issues? Solved by H-P. (Invent.)

## Re: 35s checksum problem

Message #37 Posted by [Miguel Toro](#) on 10 Aug 2007, 6:46 p.m.,  
in response to message #1 by Lyuka

Hi,

I would like to know if someone has the same checksum as me, entering the [TVM routine](#). CK=7940

Thanks,

Miguel

## Re: 35s checksum problem

Message #38 Posted by [Jeff O.](#) on 11 Aug 2007, 11:17 a.m.,  
in response to message #37 by Miguel Toro

I get CK=D073. Example results match yours exactly.

## Re: 35s checksum problem - Test

Message #39 Posted by [Miguel Toro](#) on 11 Aug 2007, 1:34 p.m.,  
in response to message #38 by Jeff O.

Hi Jeff,

Could you please try these, if you still have TVM on your calculator:

1.- Recalculate Checksum.

- a) Clear all variables (direct and indirect variables).
- b) Erase the last RTN of the program and reenter it.
- c) read the checksum (mine = 23A5).

if that does not work:

2.- Machine reset and recalculate.

- a) Push the reset button in the back hole of the calculator.
- b) As previous Erase last RTN and reenter it.
- c) Read the checksum.

When I entered TMV in both my, 35s the checksum was different (23A5 and 7940 respectively). I made a machine reset (it is not destructif) and after that, erasing the last instruction made them to recalculate and show the same checksum. Once reentering the last instruction (line T038 RTN) both showed the same checksum = 23A5)

Thanks for your help,

Miguel

## Re: 35s checksum problem - Test

Message #40 Posted by [Jeff O.](#) on 11 Aug 2007, 7:06 p.m.,  
in response to message #39 by Miguel Toro

The checksum of your program stubbornly remained D073 after each of the actions you requested. Do you have any other programs in your calculators?

**Re: 35s checksum problem - Test**

*Message #41 Posted by [Miguel Toro](#) on 11 Aug 2007, 8:32 p.m.,  
in response to message #40 by [Jeff O.](#)*

In one I only have it, in the other I added Gene's program (CK=E9F8)and the checksums for the tmv remained the same in both calculators. I thought I was into something but I think the mistery is deeper...

Thanks Jeff.

**Re: 35s checksum problem**

*Message #42 Posted by [Mark W Paris](#) on 13 Aug 2007, 11:59 p.m.,  
in response to message #37 by [Miguel Toro](#)*

Can someone repost the "TVM routine?"

Thanks.

**Re: 35s checksum problem**

*Message #43 Posted by [Jeff O.](#) on 14 Aug 2007, 7:54 a.m.,  
in response to message #42 by [Mark W Paris](#)*

[Accurate TVM for HP 35s by Miguel Toro](#)

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## HP Forum Archive 17

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### HP Program Development Link for the 50G???

Message #1 Posted by [Chan Tran](#) on 10 Aug 2007, 8:25 a.m.

Editing user RPL with a text editor alone is rather difficult because of the special characters used in the HP calculators. I wonder if I can use the PDL software I have for the 48 series to edit User RPL programs for the 50G?

### Re: HP Program Development Link for the 50G???

Message #2 Posted by [Dave](#) on 10 Aug 2007, 10:30 a.m.,  
in response to message #1 by Chan Tran

Not sure about using the old PDL, but try [THIS](#) .

### Re: HP Program Development Link for the 50G???

Message #3 Posted by [Larry Holmes](#) on 12 Aug 2007, 5:52 p.m.,  
in response to message #2 by Dave

Any chance there is something like this in English?

### Re: HP Program Development Link for the 50G???

Message #4 Posted by [Dave](#) on 12 Aug 2007, 9:26 p.m.,  
in response to message #3 by Larry Holmes

Install and run it, and you can change to English in the menus. If you see any errors in the translation, please post them in this thread.

### Re: HP Program Development Link for the 50G???

Message #5 Posted by [Chan Tran](#) on 13 Aug 2007, 12:57 p.m.,  
in response to message #4 by Dave

I downloaded it. It works quite well but I can't transfer the program to the calculator. I just can't connect to the calculator.

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## HP Forum Archive 17

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### hp 49g+ and hp 38G talking

Message #1 Posted by [Antonio Maschio \(Italy\)](#) on 10 Aug 2007, 3:05 a.m.

Hi,

I recently came across a hp 38G and I wonder whether it and my hp 49g+ they can share documents through the SEND and RECV commands.

I tried without success, but there's a chance I didn't manage things correctly.

Any help?

-- Antonio

### Re: hp 49g+ and hp 38G talking

Message #2 Posted by [Marcus von Cube, Germany](#) on 10 Aug 2007, 9:46 a.m.,  
in response to message #1 by Antonio Maschio (Italy)

As a side note: I'm back! :-)

To my knowledge, the 38g and 49g can't talk directly to eachother, at least not without some SysRPL programming. I once had the idea to make my 50g and 39g/40g(s) talk to eachother for the exchange of lists or matrices.

IIRC, the only success I had was to send something from the 40gs that arrived as a binary string on the 50g, using XModem or Kermit. So you definitely need some glue logic in SysRPL to let either side recognize the other sides data formats.

With help of a PC and some manual cut&paste, you may have more success.

Marcus

*Edited: 10 Aug 2007, 9:47 a.m.*

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## HP Forum Archive 17

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### **Thomas Radtke, where are you? Remember this? Prophetic!!**

Message #1 Posted by [Ed Look](#) on 10 Aug 2007, 1:05 a.m.

Thomas, do you remember making this post?

<http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv013.cgi?read=46365#46365>

You are the man who predicted the future!

(There was once a non-Windows PC game called "Crisis in the Kremlin" that had you playing the General Secretary of the Communist Part of the Soviet Union [you could choose to be Khrushchev, Brezhnev, or Gorbachev] and try to forestall the eventual collapse of the U.S.S.R. The amazing thing was that this game came out way before most even thought that the Soviet Union would ever implode! You must be as prescient as one of those game authors!)

*Edited: 10 Aug 2007, 1:07 a.m.*

### **Re: Thomas Radtke, where are you? Remember this? Prophetic!!**

Message #2 Posted by [Walter B](#) on 10 Aug 2007, 1:16 a.m.,  
in response to message #1 by Ed Look

Where did the image go? Please repair.

### **Re: Thomas Radtke, where are you? Remember this? Prophetic!!**

Message #3 Posted by [Thomas Radtke](#) on 10 Aug 2007, 3:54 a.m.,  
in response to message #1 by Ed Look

Sorry for the broken link, here it is

<http://freenet-homepage.de/thradtke/hp35s.jpg>

So, they changed a lot of things, I couldn't foresee. Always in motion the future is, you know ;-)

### **Re: Thomas Radtke, where are you? Remember this? Prophetic!!**

Message #4 Posted by [Ed Look](#) on 10 Aug 2007, 7:20 a.m.,  
in response to message #3 by Thomas Radtke

Aw, come on! It's remarkably similar! Don't you think so?

### **Re: Thomas Radtke, where are you? Remember this? Prophetic!!**

Message #5 Posted by [Thomas Radtke](#) on 10 Aug 2007, 7:29 a.m.,  
in response to message #4 by Ed Look

Well, yes, I'll sue the heck out of HP for... oh wait, that would make me responsible for the missing P  
<> R conversion! \*harrumph\* Erm, that T.R. must have been a different person, for sure.

**Re: Thomas Radtke, where are you? Remember this? Prophetic!!**

Message #6 Posted by **Walter B** on 10 Aug 2007, 7:38 a.m.,  
in response to message #3 by Thomas Radtke

Hallo Thomas,

danke für das Bild. Beeindruckend! Leider kann ich viele der geschifteten Funktionen nicht lesen. Kannst Du sie etwas deutlicher machen? Oder gab's früher schon eine Funktionsliste?

(thx for the image. Impressing! However, I can't read all functions. Is/was there a clearer information available?)

**Re: Thomas Radtke, where are you? Remember this? Prophetic!!**

Message #7 Posted by **Thomas Radtke** on 10 Aug 2007, 8:20 a.m.,  
in response to message #6 by Walter B

Thanks, Walter :-) I had a concept in mind, but no list of functions. About the lables, I don't remember them any more. The model has gone bye bye a few month ago.

However, my only intention was to design something that retains some classic elements (topmost display, beveled bottom edge) but look modern enough to sell these days. BTW, the keys should reproduce the 32SII keys. After using the 35s now for quite some hours, I find their style superior. Especially with the color scheme used, the 35s letters and "down shift" fuctions are hard to read. HP should have made them yellow / white for better reflection.

**Re: Thomas Radtke, where are you? Remember this? Prophetic!!**

Message #8 Posted by **Vincze** on 10 Aug 2007, 1:19 p.m.,  
in response to message #6 by Walter B

Walter, bist Sie Deutsch? Sie sprichst es bestens.

**\*\*EDIT\*\*** I just realize that I very bad. I should have said in English what I say. I apologize. I say "Walter, are you German? You speak it very well"

*Edited: 10 Aug 2007, 7:13 p.m. after one or more responses were posted*

**Re: Thomas Radtke, where are you? Remember this? Prophetic!!**

Message #9 Posted by **Walter B** on 10 Aug 2007, 4:56 p.m.,  
in response to message #8 by Vincze

Vincze, please tell me the Hungarian word for "yes" to double my knowledge of your language. You are right.

**Re: Thomas Radtke, where are you? Remember this? Prophetic!!**

Message #10 Posted by **Vincze** on 10 Aug 2007, 5:15 p.m.,  
in response to message #9 by Walter B

Ah, that easy.. it is igen. And igen tessék is yes please, and köszönöm, nem is no thank you.

Always good to be polite.

**\*\*Edit\*\*** one other is "igaza van Vincze" or you are right Vincze. ;)

*Edited: 10 Aug 2007, 5:50 p.m.*

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## HP Forum Archive 17

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### Got 50G. Now what do I do?

Message #1 Posted by [David Smith](#) on 9 Aug 2007, 9:28 p.m.

Well it looks like I have an actual collection starting. Bought a 17BII+, promptly found this site, and discovered I couldn't stop my Amazon shipment. Had the bug for a calculator with all the bells and whistles and bought the 50G (with some Amazon store credits it was actually pretty cheap). Well I gotta say it's got more bells and whistles than I could ever hope for. But being the self-aggrandizing individual I am I can't very well send it back (or to anyone else, so don't ask).

So now what do I do? I would love to learn how to program the beast (er, device), even with basic business stuff beyond TVM. But I have no clue where to go to get references. Anyhow any clues as to where I can go to get more info would be appreciated.

Thanks.

### Re: Got 50G. Now what do I do?

Message #2 Posted by [Ed Look](#) on 9 Aug 2007, 9:55 p.m.,  
in response to message #1 by David Smith

I'd recommend, only after truly getting the hang of it with the user's manual, to look up or download the HP-48G Series Advanced User's Reference Manual, or AUR, as we lovingly call it here (one site I know it's available on: <http://www.hpcalc.org/hp48/docs/misc/hp48gaur.zip>).

This great manual originally from HP was the way I learned anything at all about (user) RPL programming and much fuller use of my 48G and 48G+. (As it turns out, RPL programming is somewhat intuitive, if you've had any experience with any computer programming language.)

Having a book-form copy is much better, in my opinion, and it appears to still be available from [www.calcpro.com](http://www.calcpro.com) for \$30 USD. (Same as I paid for it from there a few years ago!)

*Edited: 9 Aug 2007, 10:01 p.m.*

### RE: Got 50G now what.

Message #3 Posted by [Ralph](#) on 9 Aug 2007, 11:11 p.m.,  
in response to message #2 by Ed Look

I agree with the last post. I still use my 48 AUR. I also picked up a guide book on plotting and graphics years ago that was helpful. It's on my desk at work so I can't help much on the title.

I prefer the book over the PDF version because it seems more handy to me.

Spend some time at [hpcalc.org](http://hpcalc.org), here and [comp.sys.hp48](http://comp.sys.hp48) for lots of info.

I think based on my observations the HP users community has a better defined base of people and sites for information. For the other calculators the people are helpful but there isn't much substance there beyond

flashy websites and games.

**Re: RE: Got 50G now what.**

*Message #4 Posted by [Chan Tran](#) on 10 Aug 2007, 7:54 a.m.,  
in response to message #3 by Ralph*

HP has a new AUR for the 49G and 48GII posted on their website which I think is closer to the 50G than the AUR for the 48G/GX.

**Re: RE: Got 50G now what.**

*Message #5 Posted by [Ed Look](#) on 10 Aug 2007, 11:39 a.m.,  
in response to message #4 by Chan Tran*

I'm not too sure, although I confess I haven't seen it, that this newer 49G AUR is as comprehensive or complete with respect to its coverage of RPL programming as the older 48G Series one.

**RE: Got 50G now what.**

*Message #6 Posted by [Ralph](#) on 11 Aug 2007, 7:08 a.m.,  
in response to message #5 by Ed Look*

I downloaded a copy of it but for some odd reason in my little mind I like a hard copy book. I'm odd that way. Tried reading E-books several times before but like real paper.

**Re: Got 50G. Now what do I do?**

*Message #7 Posted by [Larry Holmes](#) on 12 Aug 2007, 6:29 p.m.,  
in response to message #1 by David Smith*

There is an excellent "tutorial" book on ebay; I cannot remember the name of the author, but it is usually posted for sale there, for about \$20 I believe. I will try to find out the particulars and post them here, though you could go to ebay and do a search for it. It was originally meant for the HP48 series, but it is very good for the 50 also. I have a copy also, so I can find out the information from there, as soon as I find it (it got "put away" somewhere devious when we moved last fall.....)

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## HP Forum Archive 17

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### Yet Another 35s Bug

Message #1 Posted by [Katie Wasserman](#) on 9 Aug 2007, 4:47 p.m.

Here's a really obvious one:

```
1000
STO J
x<>(J)
```

You'll get an "INVALID (I)" error message!

While:

```
RCL(J)
```

Shows the correct error message: "INVALID (J)"

### Re: Yet Another 35s Bug

Message #2 Posted by [Vincze](#) on 9 Aug 2007, 4:51 p.m.,  
in response to message #1 by [Katie Wasserman](#)

How do you do x<>(J)? Is it just the X<>Y?

### Re: Yet Another 35s Bug

Message #3 Posted by [Paul Brogger](#) on 9 Aug 2007, 4:55 p.m.,  
in response to message #2 by [Vincze](#)

It's

x<> == yellow-shifted RCL key

followed by

(J) == decimal point key

### 35S Yet another bug

Message #4 Posted by [Ralph](#) on 9 Aug 2007, 7:40 p.m.,  
in response to message #3 by [Paul Brogger](#)

It's Latin I think. I is used for J

It's like Visual Basic 6's error message telling me I'm out of ram when in fact I'm trying to save to a floppy and haven't put it in the drive.

More exactly I think they planned on only one indirect pointer and added J later. BTW I'm happy they did.

---

## Re: Yet Another 35s Bug

Message #5 Posted by [Gregg Bergman](#) on 11 Aug 2007, 7:14 p.m.,  
in response to message #1 by Katie Wasserman

Maybe not so obvious:  
While in a program.

```
A001 LBL A
A002 1000
A003 STO J
A004 x<>(J)
A005 RTN
```

Shows the correct error message: "INVALID (J)"

---

## Re: Yet Another 35s Bug

Message #6 Posted by [Katie Wasserman](#) on 11 Aug 2007, 10:39 p.m.,  
in response to message #5 by Gregg Bergman

This is even more disturbing.

---

## Re: Yet Another 35s Bug

Message #7 Posted by [Larry Holmes](#) on 12 Aug 2007, 5:55 p.m.,  
in response to message #1 by Katie Wasserman

I wonder if this has to do with the use of J instead of I in engineering parlance, to represent the imaginary part of a complex number? Is it possible that, by using a different paradigm, this could make sense, and not really be an error? I am not sure how to do that just yet; I plan to buy a 35s and go through some of the errors, etc., to examine these kinds of possibilities, but don't have much to say right now, except to mention ideas like this one.

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## HP Forum Archive 17

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### **OT: PeterP email address**

Message #1 Posted by [Egan Ford](#) on 9 Aug 2007, 2:55 p.m.

PeterP,

Can you send me your email address? I think the one registered with this forum is old and bounces. Thanks.

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## HP Forum Archive 17

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### 17b2+ solver and the GCD/LCM formula (Don?)

Message #1 Posted by [Gene Wright](#) on 9 Aug 2007, 12:25 p.m.

Back in February, Don posted the reply below about the GCD/LCM formula from the 27s/19b Technical applications book not working on the 17b2+ model.

Did anyone ever figure out why that did not work? I know there had been an issue with the sum of digits formula which was worked out, but did anyone figure this one out?

The GCD portion seems to work, but the LCM portion diverges.

Gene

=====

unsuccessful with lcm/gcd and factor program Message #9 Posted by Don Shepherd on 20 Feb 2007, 12:57 a.m., in response to message #5 by Bruce Bergman

Bruce, I entered the two solver equations from the 27s/19b applications book for finding lcm/gcd and prime factors, and neither would work on the 17bii+. I double-checked to make sure I entered them correctly, but they do not give correct results. So I'm thinking maybe there are some differences in capability between the solver in the 27s/19b and 17bii+. Don't know, but disappointing.

### Re: 17b2+ solver and the GCD/LCM formula (Don?)

Message #2 Posted by [Bruce Bergman](#) on 9 Aug 2007, 2:20 p.m.,  
in response to message #1 by Gene Wright

Don can pipe in here, but I think he didn't get it working either. Both of us spent a fair amount of time scratching our heads on why they didn't work. From what I understand, they work perfectly on the 17bii (not the + model), but for whatever reason, they don't fly on the + model.

Don and I have had several conversations about this. There appears to be either some flaws or design choice differences in the 17bii+ solver application. It doesn't behave exactly like the 17bii. You can tweak some of the programs and it does fine, but it does need tweaking. I don't know that I'd call it a bug, per se, but it behaves differently.

Don has examples of the SOD program for both models. He can probably explain more. Also, check article 712 for some additional data.

thanks, bruce

### Re: 17b2+ solver and the GCD/LCM formula (Don?)

Message #3 Posted by [Peter A. Gebhardt](#) on 9 Aug 2007, 3:03 p.m.,  
in response to message #1 by Gene Wright

Besides the differences of the 17bII+ to the earlier models in handling G(et) and L(et), some other potential reasons could apply:

1. Ambiquity in "Evaluation Order" (see top of p.22 in 27s/19b TM)
2. Differences in 17bII+ ROMs

I'll try it out on serial #CNA42903649 and report later.

Best regards

Peter A. Gebhardt

(9:23pm GMT+1): Tried it - failed with LCM too. I keyed in the equation as in manual. GCD started iterating. Then I solved a "dummy" equation:  $a*b*a1*b1*z=0$  first. GCD calculated correctly. LCM still failed "iterating". Got rid of "=if(...)" by replacing "=" with "-" to put all G & L terms on one side of the equation. Tried again as described above - same "no go" result for LCM!

*Edited: 9 Aug 2007, 3:24 p.m.*

### **Re: 17b2+ solver and the GCD/LCM formula (Don?)**

*Message #4 Posted by [Don Shepherd](#) on 9 Aug 2007, 3:43 p.m.,  
in response to message #1 by Gene Wright*

Gene, Bruce is right. I could never get the lcm/gcd program or the prime factor program (both from the 27s/19b Technical Apps Manual) to work on the +. There was some discussion by several folks about how the solver on the + does not really work like the solver on the original bii, and that is true. The recommendation was that if you want it to work like it really should, get a bii, which I did. And both equations work fine on the bii.

As to why they don't work on the +, I often wondered about that, but I never discovered the answer, at least explained to my satisfaction. I remember writing a little routine on the + and it would not give the obvious answer, but I can't remember exactly what that was (I guess I don't save things that DON'T work!).

I will say that the bii solver works as a programmer would expect it to. It is also faster than the + at solver equations containing the sigma function.

### **Re: 17b2+ solver and the GCD/LCM formula (Don?)**

*Message #5 Posted by [Peter A. Gebhardt](#) on 9 Aug 2007, 3:56 p.m.,  
in response to message #4 by Don Shepherd*

Sigh ...

So we can only "pray" that the "new & improved" HP17bII plus does come with a functioning solver in place (I would like to see the full-fledged 19BII solver in "sheep's clothes" ... - "I have a dream" ... )

Best regards

Peter A. Gebhardt

### **Re: 17b2+ solver and the GCD/LCM formula (Don?)**

*Message #6 Posted by [Thomas Okken](#) on 9 Aug 2007, 4:32 p.m.,  
in response to message #5 by Peter A. Gebhardt*

What's the difference between the 17BII solver and the one in the 19BII? I thought they were identical (or so [Craig Finseth's site](#) claims).

Thanks!

- Thomas

**Re: 17b2+ solver and the GCD/LCM formula (Don?)**

*Message #7 Posted by [Peter A. Gebhardt](#) on 9 Aug 2007, 4:59 p.m.,  
in response to message #6 by Thomas Okken*

Thomas,

The differences are the "missing" functions like RAND, TRIGs etc., the TVM(.) functions (with 5 variables like the ones in EXCEL) and Rectangle/Polar conversion. The interface of the Solver to the PLOT routines in the 19bII, is not applicable to the 17bII+ "plus", because of different screen/LCD characteristics.

Otherwise - you are right here - there are no differences to the SOLVER logic according to Finseth.

Sorry, that I was somewhat unspecific in my comment. Hope I covered it all, because I draw my knowledge mainly from the 27s/19b & 200LX manuals and from Coffin's "An Easy Course in Using the HP 19BII".

Best regards

Peter A. Gebhardt

**Re: 17b2+ solver and the GCD/LCM formula (Don?)**

*Message #8 Posted by [Thomas Okken](#) on 9 Aug 2007, 8:17 p.m.,  
in response to message #7 by Peter A. Gebhardt*

Hi Peter,

Thanks for clearing that up! I was worried with the 17BII I would be missing something. :-)  
But trig functions on a business calculator? That's neat. I wonder, is that a nod to the geeks in finance, or are there actual financial applications for those functions?

- Thomas

**Re: 17b2+ solver and the GCD/LCM formula (Don?)**

*Message #9 Posted by [Peter A. Gebhardt](#) on 10 Aug 2007, 3:10 a.m.,  
in response to message #8 by Thomas Okken*

Thomas,

Yes there could be financial applications, like using them for "on the fly" calculation of the "weights" for a Gaussian Quadrature in numerical integration and other stochastic applications.

<http://www.voidware.com/gaussint.htm>

Best regards

Peter A. Gebhardt

*Edited: 10 Aug 2007, 3:13 a.m.*

**Re: 17b2+ solver and the GCD/LCM formula (Don?)**

*Message #10 Posted by [Don Shepherd](#) on 9 Aug 2007, 4:32 p.m.,  
in response to message #5 by Peter A. Gebhardt*

OK, this simple solver formula demonstrates the erroneous behavior of the solver on the hp-17bii+:

$A=0x\sigma(I:1:10:1:L(S:S+I))$

Enter the formula into the solver, press CALC, do a Clear Data (to insure S is 0), press A softkey, it will (correctly) say that A=0, then press RCL S, it will show S=110. The correct answer is (or should be) S=55, which is what you get if you run it on the 17bii.

As to how S gets to be twice what it should be, I don't know!

**Re: 17b2+ solver and the GCD/LCM formula (Don?)**

*Message #11 Posted by [Bruce Bergman](#) on 9 Aug 2007, 6:43 p.m.,  
in response to message #10 by Don Shepherd*

Don and I had some discussions about why this was happening. I don't know enough about the internals of the 17bii+, but I first noticed the unusual behavior doing the Sum Of Digits program. If you just changed around the variables, used another L() and G(), it seemed to work.

I suspect there is some difference in how variables are represented (or accessed) in the bii versus the bii+ models. I don't know if the 17bii behaves the same as the 19bii in this regard. It would be interesting to get the following calcs lined up and run the same programs on each:

19b 19bii 17b 17bii 17bii+ (and the new silver 17bii++?)

If we could somehow document the differences in how the solver functions on each machine, at least we could hand that out as a cheatsheet for those trying for portability amongst that family. I know it would have saved me a big headache a year or so ago...

thanks, bruce

**Re: 17b2+ solver and the GCD/LCM formula (Don?)**

*Message #12 Posted by [Vincze](#) on 9 Aug 2007, 7:44 p.m.,  
in response to message #1 by Gene Wright*

Gene, can you post original formula. I would like to see what it is to analyze what might be problem. I have been unable to find it in the archives.

**Re: 17b2+ solver and the GCD/LCM formula (Don?)**

*Message #13 Posted by [Don Shepherd](#) on 9 Aug 2007, 8:14 p.m.,  
in response to message #12 by Vincze*

Vincze, this is the formula that works on the hp-17bii, but not on the hp-17bii+. It calculates the sum of the

digits of input n:

```
sod=sigma(i:0:log(n):1:mod(n:10)+0*L(n:div(n:10)))
```

**Re: 17b2+ solver and the GCD/LCM formula (Don?)**

*Message #14 Posted by [Vincze](#) on 10 Aug 2007, 7:59 a.m.,  
in response to message #13 by Don Shepherd*

Thank you. I guess if I understood english better I would know what GCD/LCM mean. Can someone please explain.

Can you explain also the different parts of the formula. Also, what are the colons for?

**Re: 17b2+ solver and the GCD/LCM formula (Don?)**

*Message #15 Posted by [Don Shepherd](#) on 10 Aug 2007, 8:05 a.m.,  
in response to message #14 by Vincze*

Vincze, GCD is greatest common divisor, and LCM is least common multiple. The GCD of two numbers is the largest number that divides into the numbers evenly, and the LCM is the smallest number that is a multiple of both numbers.

You need to look at the HP-17bii+ manual, which is on the museum DVD and probably HP's site, to understand the formula.

**Re: 17b2+ solver and the GCD/LCM formula (Don?)**

*Message #16 Posted by [Vincze](#) on 10 Aug 2007, 9:33 a.m.,  
in response to message #15 by Don Shepherd*

Thank you... okay, I understand what greatest common divisor and least common multiple are. I was just not aware of the abbreviations.

**Re: 17b2+ solver and the GCD/LCM formula (Don?)**

*Message #17 Posted by [Vincze](#) on 10 Aug 2007, 3:48 p.m.,  
in response to message #15 by Don Shepherd*

So I don't understand one thing. How does SOD tell me GCD or LCM, or is this part of another program that do that?

BTW, I ask friend if I can buy 17BII that he let me borrow. He tell me to go do something to myself that I don't think is possible. ;-)

*Edited: 10 Aug 2007, 3:50 p.m.*

**Re: 17b2+ solver and the GCD/LCM formula (Don?)**

*Message #18 Posted by [Don Shepherd](#) on 10 Aug 2007, 4:00 p.m.,  
in response to message #17 by Vincze*

The SOD (sum of digits) program has nothing to do with GCD or LCM. GCD/LCM is another solver program, available on the museum DVD in the HP 27S/19B Technical Applications manual.

**Re: 17b2+ solver and the GCD/LCM formula (Don?)**

Message #19 Posted by **Vincze** on 10 Aug 2007, 5:08 p.m.,  
in response to message #18 by Don Shepherd

Okay... I thought I was going stupid or something.

**Re: 17b2+ solver and the GCD/LCM formula (Don?)**

Message #20 Posted by **Peter A. Gebhardt** on 10 Aug 2007, 8:11 a.m.,  
in response to message #14 by Vincze

Vincze,

GCD == Greatest Common Denominator (Größtes gemeinsames Vielfaches)

LCD == Least Common Denominator (Kleinstes gemeinsames Vielfaches)

The colons (:) are delimiters to separate the parameters of the function call properly - like in f(a,b, ...,z).

Best regards,

Peter A. Gebhardt

PS: Excuse me for offering a German translation as well, but I suppose German could have been part of your education, because of the historical relations between Hungary and Austria.

**Re: 17b2+ solver and the GCD/LCM formula (Don?)**

Message #21 Posted by **Vincze** on 10 Aug 2007, 9:45 a.m.,  
in response to message #20 by Peter A. Gebhardt

Guten Morgen Peter und danke. Es ist mir bekannt welche Deutsch, aber nicht jene menge noch mehr. {I hope I said that correctly;} I guess I remember more than thought I did. }

I have not used it for very long. An older man in village where I grew up spoke it, and I learned from him and others. Believe it or not, many people now speak English, at least in larger cities like Budapest. Main language is still Hungarian, but most people know enough English.

**Re: 17b2+ solver and the GCD/LCM formula (Don?)**

Message #22 Posted by **Vincze** on 10 Aug 2007, 12:02 p.m.,  
in response to message #13 by Don Shepherd

When I try on 28C, it says invalid equation. Friend have 17BII and I try there and same issue.

You have equation as:

$sod = \sum_{i=0}^{\log(n):1:\text{mod}(n:10)+0} L(n:\text{idiv}(n:10))$

Does it need to be  $sod = \sum_{i=0}^{\log(n):1:\text{mod}(n:10)+0} L*(n:\text{idiv}(n:10))$

Actually, after it says error, it goes right after sigma and flash on the left (

Edited: 10 Aug 2007, 12:15 p.m.

## Re: 17b2+ solver and the GCD/LCM formula (Don?)

Message #23 Posted by [Peter A. Gebhardt](#) on 10 Aug 2007, 12:21 p.m.,  
in response to message #22 by Vincze

Vincze,

According to Graig Finseth, the 28c DOES NOT have L() & G() commands available in it's solver  
- only the 27s, 19b, 17b, (the palmtops) 95,100,200LX.

Sorry for you :-((

Quote:

---

For the 28c:

RPL28:

Similar to algebraic, except that different keystrokes are used:

<value> stores the value in the variable <value> '<name>' STO stores the value in the  
variable Shift-<name> solves for the variable '<name>' RCL recalls a value from the  
variable '<name>' EVAL recalls a value from the variable and evaluates it

---

For the "Business Line":

Quote:

---

Algebraic:

This solver is similar to TVM5, except that it has been generalized to handle any  
equation.

<name> stores the value in the variable STO <name> stores the value in the variable  
<name> (2nd in a row), solves for the variable RCL <name> recalls a value from the  
variable

The solvers on the 17BII, 19B, 19BII, and -27S also have L(et) and G(et) functions.

The solvers on the -17B, 17BII, -18C, 19B, and 19BII do algebraic simplification: this  
feature was removed from the -27S in order to save space.

The solver on the 17BII / 19B / 19BII is the best one of the set.

---

<http://www.finseth.com/hpdata/solvers.html>

Why it doesn't work on the 17bII is not clear to me. I tried your first equation on an 200LX (my  
reference, because I don't possess any other "reference" besides a 17bII+) and it works fine. The  
200LX solver is being regarded as a perfect clone of the 19bII solver.

Best regards

Peter A. Gebhardt

*Edited: 10 Aug 2007, 12:57 p.m. after one or more responses were posted*

**Re: 17b2+ solver and the GCD/LCM formula (Don?)**

*Message #24 Posted by **Vincze** on 10 Aug 2007, 12:31 p.m.,  
in response to message #23 by Peter A. Gebhardt*

On 17BII, it look like Error right after Sigma. Do I just spell Sigma out, or is the symbol someplace that I need to enter? I apologize for being such stupid Hungarian.

*Edited: 10 Aug 2007, 12:33 p.m.*

**Re: 17b2+ solver and the GCD/LCM formula (Don?)**

*Message #25 Posted by **Peter a. Gebhardt** on 10 Aug 2007, 12:40 p.m.,  
in response to message #24 by Vincze*

Vincze,

Never ever regard yourself as stupid when asking questions - there are no stupid questions - only stupid answers!

Your suspicions are right: Very often we post Solver programming examples (for the business line) using "sigma" instead of the greek symbol for sigma.

So pls. press the right-most soft-menu button (alpha) 4 times (when in EDIT mode on the 17bII) and you wil see the required symbol.

Best regards

Peter A. Gebhardt

**Re: 17b2+ solver and the GCD/LCM formula (Don?)**

*Message #26 Posted by **Vincze** on 10 Aug 2007, 12:50 p.m.,  
in response to message #25 by Peter a. Gebhardt*

Thank you so much my friend! It now work.

Again, I sorry for dumbing down group. I know you say I no stupid, but I wish I was smart like rest of you. I am more programmer, and not as fancy with math and physics. My Papa was big shot physics person. Back in 1970's men come for him to have him help them with something very secret. Papa would not help them and they bound him up, and my mother up and laid them on train tracks. They kept asking for his help, and he say NEM! to them. So they kill Papa and my mother by driving train very slowly over them. He was very smart man, but I swore that I would not go into physics because of what happen to him. Computer science seem more safe that physics and nuclear things.

Thank you again for putting up with me. I consider you all very good friends.

---

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## HP Forum Archive 17

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### HP 35s on sale in the UK

Message #1 Posted by [Matt](#) on 9 Aug 2007, 11:08 a.m.

[Here](#)

[And here with EU shipping](#)

[And also here](#)

So that's about £60, which is about \$120!  
Do the American's here think the 35s is worth \$120?

### Re: HP 35s on sale in the UK

Message #2 Posted by [Ed Look](#) on 9 Aug 2007, 12:33 p.m.,  
in response to message #1 by Matt

Perhaps! the HP-32SII back when it was still manufactured was sold for \$70 USD (although I got mine for for \$60 ; ) ).

Now, the 35s is clearly superior to the 32SII in terms of number of storage registers and programming space, but remarkably very similar in most other ways.

If we account for inflation, and I am no expert at the rates, and accounting for the functional improvement, and that a full featured forearm length graphing calculator from any company costs well over \$100 USD, I am surprised HP did not recommend between \$80-\$90 USD for it... though I am very happy they did recommend it for \$60!

### Re: HP 35s on sale in the UK

Message #3 Posted by [frank skipwith](#) on 9 Aug 2007, 1:01 p.m.,  
in response to message #1 by Matt

The price of £60 or \$120 seems to include shipping and Value Added Tax (VAT) at 17.5%. If you strip these costs out for a fair comparison the price comes out at about \$94 which is still high compared to the USA

But In the UK everything is expensive! Petrol (Gas) costs about \$2 per Litre, a small 2 bedroom house will cost \$400,000 (a lot more in London), a New Ford Focus basic model costs around \$25,000 Most electronic goods seem to be twice the US price, If it costs \$50 dollars in the USA it usually seems to cost £50 pounds in the UK

### Re: HP 35s on sale in the UK

Message #4 Posted by [Ed Look](#) on 9 Aug 2007, 2:07 p.m.,  
in response to message #3 by frank skipwith

There may be a bit of marketing psychology here; imported stuff in any country seems to cost more.

(Unfortunately, too many things have to be imported which used to have a domestic source.) I suppose the cost of farming out the manufacturing of (in this case) HP-35s's may save HP in costs over manufacturing it in the U.S., even if shipping and other importing costs are avoided.

### **Re: HP 35s on sale in the UK**

*Message #5 Posted by **Dave Shaffer (Arizona)** on 9 Aug 2007, 5:30 p.m.,  
in response to message #4 by Ed Look*

Quote:

imported stuff in any country seems to cost more.

Everybody except those of us in the USA seem to get screwed! Since the 35S is, in fact, imported to the USA, it's VERY hard to argue that shipping cost is the reason. It can't cost that much more to run a boat or airplane to any point on the globe. Moreover, it doesn't make much sense to "import" it first to the US and then "import" it AGAIN to the next country on the list.

I think we Americans have low taxes and tariffs compared to just about anybody else. The true effect of this on our economy is debatable - i.e. do we gain or lose because the Chinese now make almost everything we use? Prices are better, but we lose jobs and experience. I guess that's why we have Republicans (free trade, damn the social costs) and Democrats (damn free trade, to preserve jobs) - a somewhat simplified view, but not too far off.

We're now rather far off-topic, but I'd be interested in hearing from non-US folks their perception on their country's balance between taxes, tariffs, and social costs. i.e. do you feel it "worth it" to pay twice as much for your HP 35S because there is a great social umbrella protecting your society?

### **Re: HP 35s on sale in the UK**

*Message #6 Posted by **Les Bell** on 9 Aug 2007, 8:21 p.m.,  
in response to message #5 by Dave Shaffer (Arizona)*

This kind of thing is traditionally down to "transfer pricing". In other words, the US head office charges international subsidiaries a high "wholesale" price. The intention originally was that international subsidiaries should have low margins and hence low profit, to avoid paying high tax rates, and the real profit is effectively repatriated tax-free.

In practice, international subsidiaries and distributors have to show a healthy profit anyway these days, so we get slugged twice.

Best,

--- Les

[<http://www.lesbell.com.au>]

### **Re: HP 35s on sale in the UK**

*Message #7 Posted by **James Biddlecombe** on 10 Aug 2007, 4:50 a.m.,  
in response to message #6 by Les Bell*

Well I'm in the UK and wouldn't pay the prices they are charging here on principle. I'll either get one sent over from the US with the cheapest postage I can or get somebody to bring one back for me. Even if pay \$20 postage it's still cheaper. I was almost thinking of starting another thread on here to see who has the world's most expensive 35s advertised. I think the UK dealers

must be in with a reasonable chance of winning!

In fact I hope most people buy from the US, so when HP see the low foreign sales they might just realised that people are fed up getting constantly fleeced. As someone has mentioned earlier, they are not made in the US so there is no transport cost specific to the UK, taxes are a fraction of the extra cost, etc.

As for the calculator itself it looks great, although the criticism of the way the base conversion works does concern as me since the functions I use the most on a daily basis as percentages and decimal/binary/hex conversions.

Cheers, James.

### **HP 35s at 60 USD, 60 GBP, 60 EUR**

*Message #8 Posted by **Nenad (Croatia)** on 9 Aug 2007, 3:14 p.m.,  
in response to message #3 by frank skipwith*

Quote:

\_\_\_\_\_

If it costs \$50 dollars in the USA it usually seems to cost £50 pounds in the UK

\_\_\_\_\_

Yes, that's the point. It's always 60 of something. I've received mine here for a total of 60 EUR;)

This reminds me of a scene in the film "Dogs of War" w. Christopher Lambert in the title role. After the leader of the team selects the weapons (necessary for a coup-d-etat in an African country) to buy from a weapons dealer, they agreed the price as follows.

Leader: "Is this still 100,000?"

Dealer: "Certainly, as always. 100,000 pounds"

Leader: "No, I thought 100,000 marks"

Dealer: "OK, let it be 100,000 dollars"

Leader: "OK"

### **Re: HP 35s on sale in the UK**

*Message #9 Posted by **AJ** on 10 Aug 2007, 12:25 p.m.,  
in response to message #1 by Matt*

Now i have some sympathy with this thread but not a massive amount as I am afraid most of us live in this thing called the real world.

In reality you can pick the HP35s up today in the UK for £54.95,(less in some cases as I hope some other UK buyers will mention) given that it came out about 5 minutes ago I am sure this will be down to around £49.95 within a week or too as online etailers begin to compete on price. Strip out the 17.5% VAT and you are talking £42.5 or \$85 equivalent based on the exchange rates that are currently working in our favour in the UK. Now I know this is still more than the US but this is for many many reasons and I have listed but a few below.

1. A little thing called economy of scale - the total UK market is around the size of California's. It costs more per product to ship in small amounts than it does in large amounts and if the disty in the US is buying 100 times more than the disty in the UK - I'm guessing he's going get a better price.

2. In the EU we have implemented a 2 year warranty, this costs money (quite a lot of money in the case of some recent HP calculators...)
3. In the EU we have had to implement WEEE regulations and ROHS regulations again all at a cost.
4. The cost of fuel in the UK is about the equivalent of liquid gold in the US.
5. The distribution channel in the EU is very different to that in the US, we have a longer supply chain in Europe, this means more logistical costs are added, the reasons for this I don't have time to go into here but you have to accept this and that without the longer supply chain the product wouldn't be available in many EU countries at all.
6. The RRP in the UK has not fluctuated with Currency exchanges, what had an RRP of £60 when it was 1.5\$ to the pound still has an RRP of £60 when it is \$2 to the pound, and will still have a RRP of £60 when it is \$1.5 to the pound again.
7. The internet dealers you quoted are all HP enthusiasts and calculator specialists it seems a little unreasonable to compare their sell prices to Walmart and Staples in the US, their prices are based on volumes sold and ironically the more UK buyers buy in the US the worse this will be.
8. Transfer pricing - I am sure this is true to and makes up an element of the extra cost. At the end of the day The US sets the base price for it distributors based I am sure on what it believes makes the best business sense not on a one price for all strategy.
9. BECAUSE EVERYTHING IS CHEAPER IN THE US, ALWAYS HAS BEEN AND ALWAYS WILL BE.

So James - you buy your product in the States, support the US economy and not your own, avoid paying the legally due VAT, and thus help to sustain the very thing it is you are complaining about!!!

I hope yours arrives in pieces having been bounced across the Atlantic for 3 weeks by a US carrier charging you \$35 for the privilege and HP Europe refuse to help you. Still at least you may have saved a tenner.

Rant over - nerve ending repaired ;-)

AJ

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## HP Forum Archive 17

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### HP 35s List of Known Bugs

Message #1 Posted by [Stefan Vorkoetter](#) on 9 Aug 2007, 10:28 a.m.

I've seen mention of several 35s bugs so far. Has someone compiled a comprehensive list?

Stefan

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## HP Forum Archive 17

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### HP 35s Display Realignment

Message #1 Posted by [Stefan Vorkoetter](#) on 9 Aug 2007, 10:27 a.m.

Has anyone opened up their 35s and fixed the display alignment? Is it possible? How do you open it?

Is the misalignment caused by the display being misaligned in the case (which should be fixable), or by the segments being misaligned on the LCD's glass?

Stefan

### Re: HP 35s Display Realignment

Message #2 Posted by [Dave](#) on 9 Aug 2007, 10:44 a.m.,  
in response to message #1 by [Stefan Vorkoetter](#)

[See this post](#). Or do a search and you'll find a couple of others.

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## HP Forum Archive 17

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### 28C corrosion

Message #1 Posted by [Vincze](#) on 9 Aug 2007, 9:03 a.m.

On way into work today, I saw some people setting up for a garage sale. I stop and asked if they minded if I looked while they were setting up. I came across a HP 28C calculator that was for sale. It was marked \$30. I tried to turn it on, but it did not come on right away. I fiddled with it a bit and it finally came on with the message Memory Lost. I ask the guy if he would sell it for \$15, and he said sure because it only worked some of the time. I took the batteries out and I saw why it only worked some of the time as there was white powder on battery from some corrosion. I figure I could fix it.

Since battery compartment is strange for the 28C, what is the best way to get the corrosion out of there. I would think that a paste of baking soda and water would help neutralize the buildup, but moisture may get into case of calculator, and I don't think that would be a good thing.

Has anyone dealt with this before, and if so, how.

### Re: 28C corrosion

Message #2 Posted by [Ed Look](#) on 9 Aug 2007, 10:23 a.m.,  
in response to message #1 by [Vincze](#)

It's never too easy, but most leaked electrolytes are water soluble and while they may either be decidedly acidic or basic (alkaline), there is no real need to neutralize it.

I just take a wet but not dripping piece of paper towel and take my time with wiping out the crust. It should dissolve. But be sure to get the stuff stuck in corners, cracks, etc. A toothpick may be soft enough on the plastic and hard enough to dislodge the leaked material.

Also, be sure to wipe the metal contacts as clean as you can with the wet paper towel.

And for the sake of the metal, visibly dry the battery compartment well and then leave the battery door off and let the compartment dry for at least several hours or overnight.

If you are worried about the corrosiveness or toxicity of the leaked chemicals, you can wear thin rubber gloves, but that's not really necessary- just don't eat the stuff and wash your hands afterward!

### Re: 28C corrosion

Message #3 Posted by [Vincze](#) on 9 Aug 2007, 10:50 a.m.,  
in response to message #2 by [Ed Look](#)

Quote:

\_\_\_\_\_

If you are worried about the corrosiveness or toxicity of the leaked chemicals...

\_\_\_\_\_

I'm not so worried about that with my hands or the like, but I would think I need to neutralize the

chemicals so they do not continue to crud up the metal in there, or have you not had issues with that?

Thank you again Ed!

**Re: 28C corrosion**

*Message #4 Posted by [Ed Look](#) on 9 Aug 2007, 1:33 p.m.,  
in response to message #3 by Vincze*

No real need to worry about that- it's like the argument with antibacterial hand soap, whether it's really necessary. The real answer is that it's not, for washing away germs is as good as killing them on your skin (and let's not even go into the whole issue of antibiotic resistance).

Besides, you can't really determine exactly how much dried electrolyte you have in the battery compartment, so you may respond with too little or too much base/acid (depending on whether the electrolytic paste was acid or base) and you then have the same problem again.

Most of this stuff is at least moderately soluble in water, so wiping away with a wet paper towel, then finally wiping with a good clean wet one, before drying is all you need. But water is corrosive for most metals, especially ferrous ones, so drying is very necessary.

And in the future, if there is more crud, it means that either your new batteries are leaking or there is stuff from behind the battery compartment you couldn't see the first time, which would require the more radical step of performing calculator surgery and opening the case.

**Re: 28C corrosion**

*Message #5 Posted by [Vincze](#) on 9 Aug 2007, 1:43 p.m.,  
in response to message #4 by Ed Look*

Quote:

\_\_\_\_\_  
...which would require the more radical step of performing calculator surgery and opening the case.  
\_\_\_\_\_

And from looks of case, it does not look like it would be easy to open. In fact, I don't see any clues as to how it may even be opened.

Okay my friend, I will try your method and report what happens. For \$15, I can't complain.

**Re: 28C corrosion**

*Message #6 Posted by [Dave Colver](#) on 9 Aug 2007, 8:04 p.m.,  
in response to message #1 by Vincze*

I'd use 'just-damp' cotton buds (erm sticks with little cotton balls on the end?) to swab out the battery compartment - they just have the reach. Careful they dont shred though...

Hope this helps

Dave

**Re: 28C corrosion**

*Message #7 Posted by [allen](#) on 9 Aug 2007, 10:25 p.m.,  
in response to message #1 by Vincze*



Every person with an HP calculator in their collection should treat the battery terminals with DeoxIT® GOLD or similar product from CAIG Industries. I treat my calcs with this to prevent corrosion.. very effective. -- Apply it with one of the 5-6cm lint free brushes you can get from the same company.. don't mess with cotton swaps and baking soda.

*Edited: 9 Aug 2007, 10:27 p.m.*

**Re: 28C corrosion**

*Message #8 Posted by [Vincze](#) on 10 Aug 2007, 8:00 a.m.,  
in response to message #7 by allen*

Where do you find this stuff?

**Re: 28C corrosion**

*Message #9 Posted by [allen](#) on 10 Aug 2007, 6:35 p.m.,  
in response to message #8 by Vincze*

On their [website](#)

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## HP Forum Archive 17

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### 3x3 matrix operations for the HP-12C Part II

Message #1 Posted by [Kalevipoege](#) on 9 Aug 2007, 3:25 a.m.

I posted the Cramer's rule for the HP-12c on February 2005. <http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv014.cgi?read=68690>

Now I have played with matrices and the HP-12C again.

My old 12C can find the inverse of the 3x3 matrix and pretty quickly too.

Here is my procedure. You may wonder that there is no GTO command in this program. Yes, that's true. It wasn't necessary.

```

01 RCL 5      21 RCL 8      41 RCL 8      61 /
02 RCL 9      22 *          42 *          62 R/S
03 *          23 RCL 5     43 -          63 RCL 5
04 RCL 6      24 RCL 7     43 RCL 0     64 RCL 8
05 RCL 8      25 *          45 /          65 RCL 2
06 *          26 -          46 R/S         66 STO 8
07 -          27 RCL 3     47 RCL 4     67 RDN
08 RCL 1      28 *          48 RCL 7     68 STO 5
09 *          29 +          49 RCL 1     69 RCL 1
10 RCL 6      30 STO 0     50 STO 7     70 *
11 RCL 7      31 RCL 6     51 RDN       71 X<>Y
12 *          32 RCL 9     52 STO 4     72 STO 2
13 RCL 4      33 RCL 3     53 RCL 3     73 RCL 4
14 RCL 9      34 STO 9     54 *         74 *
15 *          35 RDN       55 X<>Y     75 -
16 -          36 STO 6     56 STO 1     76 RCL 0
17 RCL 2      37 RCL 5     57 RCL 6     77 /
18 *          38 *          58 *
19 +          39 X<>Y     59 -
20 RCL 4      40 STO 3     60 RCL 0

```

User instructions:

Store elements of matrix A in row order into registers R<sub>1</sub> through R<sub>9</sub>. C=A<sup>-1</sup>. Press R/S to calculate c<sub>11</sub>.

Press R/S to calculate c<sub>21</sub>. Press R/S to calculate c<sub>31</sub>. Press R/S to calculate c<sub>12</sub>. Press R/S to calculate c<sub>22</sub> etc.

You can press RCL 0 to find the determinant of A.

### Re: 3x3 matrix operations for the HP-12C Part II

Message #2 Posted by [Antonio Maschio \(Italy\)](#) on 9 Aug 2007, 5:22 a.m.,  
in response to message #1 by Kalevipoege

WOW!

-- Antonio

## 3x3 matrix operations for the HP-12C Part II

Message #3 Posted by [Kalevipoe](#) on 10 Aug 2007, 2:46 a.m.,  
in response to message #1 by [Kalevipoe](#)

Back to Cramer's rule for the HP-12C. In matrix form  $AX=B$ . Here is my new program listing for solving X. This one is three program steps shorter than the earlier listing and it works smoother too.

```

01 0          21 RDN          41 RCL n          61 *
02 STO 0      22 STO 4      42 *            62 +
03 RCL 1      23 RDN          43 RCL i          63 RCL 0
04 RCL 2      24 i            43 RCL 8          64 X=0?
05 RCL 3      25 RCL 8      45 *            65 GTO 71
06 RCL n      26 RCL 9      46 RCL 5          66 /
07 STO 3      27 RCL PV      47 RCL PV          67 R/S
08 RDN        28 RCL 7      48 *            68 RCL 0
09 STO 2      29 PV          49 -            69 CHS
10 RDN        30 RDN          50 RCL 1          70 GTO 02
11 STO 1      31 STO 9      51 *            71 RDN
12 RDN        32 RDN          52 -            72 /
13 n          33 STO 8      53 RCL i          73 LST X
14 RCL 4      34 RCL 4      54 RCL 7          74 GTO 02
15 RCL 5      35 *            55 *
16 RCL 6      36 X<>Y          56 RCL 4
17 RCL i      37 STO 7      57 RCL PV
18 STO 6      38 RCL 5      58 *
19 RDN        39 *            59 -
20 STO 5      40 -            60 RCL 2

```

User instructions:

Store elements of matrix A in row order into registers R<sub>1</sub> through R<sub>9</sub>. Store elements of column vector B into registers n, i and PV. Press [ f ] [ PRGM ] [ R/S ] to calculate x<sub>1</sub>. Press [ R/S ] to calculate x<sub>2</sub>. Press [ R/S ] to calculate x<sub>3</sub>. Press [ RCL ] 0 to display the determinant of matrix A.

*Edited: 10 Aug 2007, 5:53 a.m.*

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## HP Forum Archive 17

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### **I think I know what the faceplate "issue" is**

Message #1 Posted by [Miguel Toro](#) on 8 Aug 2007, 6:50 p.m.

This is my second HP 35s. I have not really used it until now. When I took it out of the package it was fine, but the faceplate detached slowly day after day. There, where it is detached it is where exactly the little ground spring is. They said that the issue was in some few units. I think this is one of them.

[http://farm2.static.flickr.com/1423/1054405913\\_3db36f7b21.jpg?v=0](http://farm2.static.flickr.com/1423/1054405913_3db36f7b21.jpg?v=0)

### **Re: I think I know what the faceplate "issue" is**

Message #2 Posted by [Vincze](#) on 8 Aug 2007, 8:45 p.m.,  
in response to message #1 by Miguel Toro

Miguel, my friend. That is very strange. I think that in other thread though they have the answer with the Liter to Liter conversion, but maybe you are correct.

### **Re: I think I know what the faceplate "issue" is**

Message #3 Posted by [sjthomas](#) on 8 Aug 2007, 9:12 p.m.,  
in response to message #2 by Vincze

Quote:

\_\_\_\_\_

I think that in other thread though they have the answer with the Liter to Liter conversion,

\_\_\_\_\_

I think that was just in a pre-production unit.

---

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## HP Forum Archive 17

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### HP Resumes Selling 35s

Message #1 Posted by [George Bradford](#) on 8 Aug 2007, 2:17 p.m.

Just checked HP's websites and discovered they were selling the 35s again.

The HP Home Website has the 35s listed "In Stock: Ships within 24 hours if order is placed before 10pm (EST)."

The HP SMO site lists the HP 35s as "In Stock: usually ships within 24 hours."

### Re: HP Resumes Selling 35s

Message #2 Posted by [lindguini](#) on 8 Aug 2007, 2:59 p.m.,  
in response to message #1 by [George Bradford](#)

I also noticed that the 35s is shipping again from HP. By the way, coupon code SV1063 will get you \$10 off \$50 at the HP store (good through 8/15). I ordered one this morning.

### Re: HP Resumes Selling 35s

Message #3 Posted by [Palmer O. Hanson, Jr.](#) on 10 Aug 2007, 2:28 a.m.,  
in response to message #2 by [lindguini](#)

Quote:

I also noticed that the 35s is shipping again from HP. By the way, coupon code SV1063 will get you \$10 off \$50 at the HP store (good through 8/15). I ordered one this morning.

I tried to enter the code to save the ten dollars. The response was "Invalid Code" . What am I not doing properly?

### Re: HP Resumes Selling 35s

Message #4 Posted by [lindguini](#) on 10 Aug 2007, 1:12 p.m.,  
in response to message #3 by [Palmer O. Hanson, Jr.](#)

Code SV1063 is only good at the HP Home Store. It may not work if you're trying to order through HP Small and Medium Business Store.

### Coupon code did not work for me today

Message #5 Posted by [Steve Leibson](#) on 10 Aug 2007, 2:58 p.m.,  
in response to message #4 by [lindguini](#)

I tried the home store online. It refused the coupon code. I think I'll wait for the calculator to show up at Fry's.

### **Re: HP Resumes Selling 35s**

Message #6 Posted by **Vincze** on 8 Aug 2007, 3:26 p.m.,  
in response to message #1 by George Bradford

Does anyone know yet what they changed or fixed?

### **Re: HP Resumes Selling 35s**

Message #7 Posted by **George Bradford** on 8 Aug 2007, 3:30 p.m.,  
in response to message #6 by Vincze

As soon as I receive the one I ordered today from HP, I will compare it to the one I received previously from SC. If there are any differences, I will post them here.

### **Re: HP Resumes Selling 35s**

Message #8 Posted by **lindguini** on 8 Aug 2007, 4:03 p.m.,  
in response to message #6 by Vincze

Based on all the forums and debates I've read, I think too many people have gotten their hopes up that HP pulled the 35s from shipment in order to physically inspect each device for display alignment, serial number decal alignment, or to correct alleged functional bugs. This is not practical. At best, I believe HP performed a visual "through the blister pack" inspection to weed out any faceplates that had the "convert liter to liter" errant conversion marking posted elsewhere in this forum and found on only a handful of early units. This would be the cosmetic defect HP spoke of.

The calculators are not worth enough for HP to perform individual inspections of display alignment, etc. If HP was correcting this problem, they would have pulled ALL stock, trashed them, and waited for a new production run from China that fixed these problems. That can't happen in one, two, or three weeks.

Expect HP to continue shipping product with 721x and 725x serial numbers. At some point in the future, I'm sure they'll address the minor manufacturing issues that some people have noticed. Remember the 33s decimal point? They did finally improve this after many complaints but it took at least a year after production started on that model.

### **Re: HP Resumes Selling 35s**

Message #9 Posted by **Paul Brogger** on 8 Aug 2007, 6:48 p.m.,  
in response to message #8 by lindguini

I wonder whether, with the use of polarized or laser light and/or a polarizing filter (or *whatever*), they might have performed a non-invasive check of display alignment? Any ideas?

I could NOT tell, by looking through the packaging at a turned-off display, whether my second unit was mis-aligned, and so gave up & opened the thing.

### **Re: HP Resumes Selling 35s**

Message #10 Posted by **Jeff Kearns** on 8 Aug 2007, 9:20 p.m.,  
in response to message #9 by Paul Brogger

Well... what is straight or crooked?

### **Re: HP Resumes Selling 35s**

*Message #11 Posted by **Paul Brogger** on 9 Aug 2007, 10:29 a.m.,  
in response to message #10 by Jeff Kearns*

It's fine.

(Sorry -- I didn't mean to keep you in suspense.)

### **Re: HP Resumes Selling 35s**

*Message #12 Posted by **andrewj** on 8 Aug 2007, 10:46 p.m.,  
in response to message #8 by lindguini*

Now I wonder how the "fixed" units that are supposed to ship at the end of August from Samson Cables, how these will compare to the ones now being sold at hp.com!

### **Maybe a Scratch n Dent sale?**

*Message #13 Posted by **Ralph** on 8 Aug 2007, 11:56 p.m.,  
in response to message #12 by andrewj*

If they have enough with the cosmetic flaw. If it sits in my toolbox at work cosmetics mean ???

---

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## HP Forum Archive 17

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### Chances of a bug-fixed 35s?

Message #1 Posted by [Bruce Bergman](#) on 8 Aug 2007, 2:07 p.m.

This is merely for discussion -- I'm not proposing anything, nor am I planning on returning my new 35s. ;-)

What do you think the chances are that HP will be releasing a cleaned up version of the 35s? Just the software bugs, not anything like keyboard, labeling or display issues?

There have only been a handful of bugs, but the list is growing, and I suspect we haven't seen the last of them. The 33s had a couple of bugs too, and I believe they cleaned them up about a year later, about the time they fixed the period/comma issue.

Another discussion topic: who does HP rely on for testing these calcs? I mean, they can't cover all the bases strictly using automated testing or regression testing -- you'd think they have to send them to actual users for beta testing and then fix bugs as they are found. With the possible exception of Gene Wright, I don't know of anyone who got a "beta" model to test, so that leads me to believe the test group (if there is one) is miniscule. You'd think HP would want to get together a group of hard-core users and have them test out the next new version, under non-disclosure of course, to get a good coverage...

Musings from a slow Wednesday...

thanks, bruce

### Re: Chances of a bug-fixed 35s?

Message #2 Posted by [Vincze](#) on 8 Aug 2007, 3:23 p.m.,  
in response to message #1 by [Bruce Bergman](#)

I nominate us for test group on any new calculator.

\*\*EDIT\*\* Wait. This is a short post so I should be able to take my time and not sound like a stupid Hungarian who can not speak English very well. Let me try this again.

I nominate all of us for the test group on any new calculators that HP manufactures.

That's better. :)

*Edited: 8 Aug 2007, 3:25 p.m.*

### Re: Chances of a bug-fixed 35s?

Message #3 Posted by [Raymond Del Tondo](#) on 9 Aug 2007, 3:09 a.m.,  
in response to message #2 by [Vincze](#)

This is the case since the embarrassing 49g (FHB;-)



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## HP Forum Archive 17

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### HP 48GX ON key

Message #1 Posted by [Marco Luna](#) on 8 Aug 2007, 10:03 a.m.

Hi, I have a HP 48GX that helped me throw collage so you must have an idea how please I'm with this calculator. For several reasons I had to put it away for a couple of years and now that I need it I found that my ON/CANCEL key isn't working. I have already try the key test and failed. The only way I can make it work is If I apply a lot of pressure and in some times work and others doesn't. I leave in Mexico and HP had told me that they do not have services for calculators. I believe that if I open it and clean the pad the problem is going to be solve, but... I don't know how to open it or if it's a good idea. Can some one help me. GRACIAS!

### Re: HP 48GX ON key

Message #2 Posted by [Vincze](#) on 8 Aug 2007, 12:11 p.m.,  
in response to message #1 by Marco Luna

Good afternoon Marco. Have you tried to adjust contrast on calculator? Maybe it reset itself when sitting so long and need to adjust contrast. I believe I remember reading that if you turn on and then hold ON and + (plus key) it make contrast darker, and ON and - (minus key) it make it lighter.

Also, stupid question, but have you tried new battery? Does the ((\*)) stay lit on the display?

### Re: HP 48GX ON key

Message #3 Posted by [Marco Luna](#) on 10 Aug 2007, 12:40 p.m.,  
in response to message #2 by Vincze

Vincze,

Its not the contrast, actually is in excellent setting (you are correct ON + plus key it make it darker and the other way around). The problem is that some times it works fine the button (ON/CACEL) and some time it doesn't respond at all. I haven't figured it out if a lot of pressure makes or not a difference. Batteries are new and the clac except this problem is working fine. Thanks for your reply.

### Re: HP 48GX ON key

Message #4 Posted by [bill platt](#) on 8 Aug 2007, 12:32 p.m.,  
in response to message #1 by Marco Luna

Try gently pressing on the faceplate just above the "F" key, and then press "ON". If this makes it work, then do a search of the Archives here to learn more about it.

regards,

Bill

### Re: HP 48GX ON key

*Message #5 Posted by [Marco Luna](#) on 10 Aug 2007, 12:48 p.m.,  
in response to message #4 by bill platt*

Bill,

It doesn't make any differences. Thanks!

**Re: HP 48GX ON key**

*Message #6 Posted by [Massimo Gnerucci \(Italy\)](#) on 8 Aug 2007, 1:44 p.m.,  
in response to message #1 by Marco Luna*

Hello Marco,  
have a look at [this](#) thread too...

Greetings,  
Massimo

**Re: HP 48GX ON key**

*Message #7 Posted by [Marco Luna](#) on 10 Aug 2007, 12:47 p.m.,  
in response to message #6 by Massimo Gnerucci (Italy)*

Prego Massimo,

It was very helpful, know I have to find courage to open my HP. I will let you know how did it went.

**Re: HP 48GX ON key**

*Message #8 Posted by [Massimo Gnerucci \(Italy\)](#) on 10 Aug 2007, 1:18 p.m.,  
in response to message #7 by Marco Luna*

Ciao Marco,  
actually you don't have to open it up: just check if the metal bezel around the ON key is loose or bent  
so that it stuck the key down.

Greetings,  
Massimo

*Edited: 10 Aug 2007, 1:19 p.m.*

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## HP Forum Archive 17

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### **should I return the HP35S from Walmart and wait for one from Samson Cables?**

Message #1 Posted by [andrewj](#) on 8 Aug 2007, 9:21 a.m.

I just received the HP-35S after ordering it from Walmart on August 2, 2007 (after reading the New York Times article).

After reading posts about the misaligned screen, I wonder if I should return the Walmart one and reorder it from Samson Cables? (I haven't opened the box yet.) Is the misaligned screen in all the ones shipped from Walmart or just an isolated few? Or do people think the misaligned screen is blown out of proportion?

### **Re: should I return the HP35S from Walmart and wait for one from Samson Cables?**

Message #2 Posted by [Kevin Kitts](#) on 8 Aug 2007, 11:44 a.m.,  
in response to message #1 by [andrewj](#)

It seems very likely that the misaligned screen problem happens in differing amounts. The mis-alignment on my unit was so small that it did not really bother me - all of the "annunciators" at the top are still visible.

It seems the range of misalignment ranges from none to bad in a somewhat random manner. I bought my unit directly from HP, for example. I don't think a clear pattern has emerged that units bought from certain vendors (or even serial number ranges) has yet really emerged.

In short, it's a crap shoot. Unless you want to wait a few months for HP to re-release the 35s - I'd say open it and take a look and see what you've got. You may find that it is just fine. If you find that it is bad I think Walmart and/or HP will take it back and give you a new one once they correct the manufacturing problems.

Good Luck,

Kevin

### **Re: should I return the HP35S from Walmart and wait for one from Samson Cables?**

Message #3 Posted by [Paul Brogger](#) on 8 Aug 2007, 1:21 p.m.,  
in response to message #2 by [Kevin Kitts](#)

Right -- keep your packaging & receipt, but go ahead & play with it. (Check with them to be sure, but I think you have 90 days for a return.)

I got one of mine from Wal-Mart -- it's absolutely fine.

Besides, if H-P has suspended sales, who knows when it will be available again?

### **Re: should I return the HP35S from Walmart and wait for one from Samson Cables?**

*Message #4 Posted by [andrewj](#) on 8 Aug 2007, 10:43 p.m.,  
in response to message #3 by Paul Brogger*

I wonder...now that it's in stock again at hp.com, if these "newer" units will have the faceplate issue resolved. Alas, if I were to open up the one I have from Walmart, it may be difficult to return!

**Re: should I return the HP35S from Walmart and wait for one from Samson Cables?**

*Message #5 Posted by [Ed Look](#) on 8 Aug 2007, 11:50 a.m.,  
in response to message #1 by andrewj*

Unless it's really a huge slant up to the right (or left, though I haven't heard of any of those) and bothers you no end, I'd keep it. I got mine via Buy.com and there is an ever so slight misalignment up toward the upper right corner, but as many say, it's really only noticeable if you run the self-test and all the annunciators show up on the screen. In fact, I didn't even notice it until I read the posts in this forum!

I have a slightly different problem, though, my case is slightly defective: the upper strap inside when the case is right side up came incompletely sewn onto the case on the left.

**Re: should I return the HP35S from Walmart and wait for one from Samson Cables?**

*Message #6 Posted by [Ren](#) on 8 Aug 2007, 11:50 a.m.,  
in response to message #1 by andrewj*

WHAT!!!???

You are willing to give up a 35s (Red Dot) for a 35s (bland!).

B^)

Ren

dona nobis pacem

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## HP Forum Archive 17

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### HP35s Radix, bug

Message #1 Posted by [Nenad \(Croatia\)](#) on 8 Aug 2007, 10:56 a.m.

In another thread Katie suggested RADIX. or RADIX, to be used for instructions whose line numbers are to be referred to from other instructions (GTO, XEQ or similar) to avoid these being deleted. This is a nice proposal, in Katie's brilliant style.

However, trying this revealed me a (stupid) bug that a user who uses dot as a radix could never figure out. However, the first thing I do when I receive a HPcalc is to change the radix dot (.) into radix comma (,) and to enable thousands separator (dots, not commas). This is how we write numbers here.

The BUG: if in RADIX. mode you switch to PRGM and select DISPLAY or MODE RADIX, everything is normal. The program step is RADIX. or RADIX,

If you do the same in RADIX, mode when you select 6, (meaning RADIX,) the program instruction entered becomes RADIX. instead of RADIX,

In preselected RADIX, mode when you select 5. (requiring RADIX.) you obtain RADIX, in program listing.

Yes, yes, I know that this is a completely useless information, but I really cannot think about this as a feature rather than a bug.

This would, hopefully, be my contribution to the bug hunting season.

### Re: HP35s Radix, bug

Message #2 Posted by [Katie Wasserman](#) on 8 Aug 2007, 11:46 a.m.,  
in response to message #1 by [Nenad \(Croatia\)](#)

Nenad,

Interesting find, bug, whatever.

Another way to state this that would not qualify it as a bug is: the calculator is treating "RADIX" as a function of one argument, the radix point. It then shows the radix point in whatever notation you've selected.

But the manual presents them as separate commands (not functions) "RADIX," and "RADIX." so that's what you would expect to see on the display regardless of the display mode. I agree with you, it's a bug!

-Katie

Edited: 8 Aug 2007, 11:47 a.m.

### Re: HP35s Radix, bug

Message #3 Posted by [Miguel Toro](#) on 8 Aug 2007, 12:32 p.m.,  
in response to message #1 by [Nenad \(Croatia\)](#)

Interesting. And it seems like it is just a display bug, the instruction does what it is intended to do: so if you entered "RADIX," even if it is displayed "RADIX." it executes a "RADIX," as expected.

I also use "," as decimal separator.

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## HP Forum Archive 17

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### 35s vs. 33s speed for identical programs

Message #1 Posted by [ECL](#) on 7 Aug 2007, 5:10 p.m.

I wrote a program for my 33s that computes area moment of inertia and centroid for composite cross-sections based on n rectangular elements.

I keyed this in on my new 35s, and was surprised to find the 35s slower. I'm an engineer, but know very little about electronic hardware.

Any thoughts?

If anyone would like a program listing of it, I can post later.

ECL

### Re: 35s vs. 33s speed for identical programs

Message #2 Posted by [Gene Wright](#) on 7 Aug 2007, 5:21 p.m.,  
in response to message #1 by [ECL](#)

The 35s is slower than the 33s in some areas.

This is discussed in the free 35s review from Datafile. Find it on [hpc.org](http://hpc.org)

It appears that there is a speed penalty for some looping AND when numbers are entered on the stack...possibly due to the new data types of vectors and complex numbers (37 bytes put on the stack compared to 12).

### Re: 35s vs. 33s speed for identical programs

Message #3 Posted by [bill platt](#) on 7 Aug 2007, 5:22 p.m.,  
in response to message #1 by [ECL](#)

Someone else mentioned this in an earlier thread--and it was suggested that the additional features (vectors, complex) may increase the overhead demands on the processor.

### Re: 35s vs. 33s speed for identical programs

Message #4 Posted by [Howard Boardman](#) on 7 Aug 2007, 7:01 p.m.,  
in response to message #1 by [ECL](#)

Yes please post your program. Thanks

### Re: 35s vs. 33s speed for identical programs (LONG - code li

Message #5 Posted by [ECL](#) on 8 Aug 2007, 12:45 p.m.,  
in response to message #4 by [Howard Boardman](#)



Here is the code listing (as requested) for the area moment of inertia and horizontal neutral axis for a composite body that is discretized with rectangles:

I001 LBL I

I002 SF 10

I003 EQN IXX and Neutral Axis **\*\*enter the text as an eqn\*\***

I004 CF 10

I005 CLVARS

I006 INPUT N

I007 INPUT B (note: I have omitted line numbers from here on)

INPUT H

RCL H

2

/

RCL +T

RCL B

RCL \* H

\*

RCL +Q

STO Q

RCL B

RCL H

\*

RCL +R

STO R

1

RCL +V

STO V

RCL Q

RCL / R

```
RCL - C
X^2
RCL *A
RCL + I
STO I
RCL T
RCL H
2
/
+
RCL Q
RCL / R
-
X^2
RCL *B
RCL *H
RCL H
3
Y^X
RCL *B
12
/
+
RCL + I
STO I
RCL Q
RCL / R
STO C
RCL B
```

RCL \* H

RCL + A

STO A

RCL T

RCL +H

STO T

RCL V

RCL N

X>Y?

GTO I007

I= **\*\*This is the value of composite Ix for your cross-section\*\***

C= **\*\*This is the location of Xbar, ie the X neutral axis\*\***

RTN

LN=220 CK=704D

Here is an example for an I-beam:

XEQ I

ENTER

**\*\*screen will read: IXX AND NA (hit R/S to continue)\*\***

N=3 **\*\*number of sections\*\***

R/S

B=5 **\*\*width of bottom flange\*\***

R/S

H=0.25 **\*\*height of bottom flange\*\***

R/S

B=0.5 **\*\*width of web\*\***

R/S

H=8 **\*\*height of web\*\***

R/S

B=3 **\*\*width of upper flange\*\***

R/S

H=0.25 **\*\*height of upper flange\*\***

R/S

(Program halts to VIEW the area moment of inertia, units length<sup>4</sup>)

R/S

(Program halts to VIEW the location of the x centroidal axis)

R/S

The result should be

I = 54.6660 (units = length<sup>4</sup>)

C = 3.9063 (units = length, measured from base)

Enjoy! I realize that this may now be shortened a bit, particularly in light of the new programming capabilities gained with the 35s. In progress!

### Re: 35s vs. 33s speed for identical programs (LONG - code li

Message #6 Posted by [Les Wright](#) on 8 Aug 2007, 4:01 p.m.,  
in response to message #5 by ECL

Can you edit your post to put [pre] [/pre] around the code listing? This will shorten listing and make code more readable. You can also put in the occasional line number (say every tenth one) to help one to check entry errors.

Les

*Edited: 8 Aug 2007, 4:05 p.m.*

### code redone

Message #7 Posted by [Ralph](#) on 9 Aug 2007, 8:01 a.m.,  
in response to message #6 by Les Wright

I think this is more readable. I transcribe my programs in a spreadsheet. Makes line numbering easy.

```

I001  LBL  I
I002  SF  10
I003  IXX AND NEUTRAL AXIS
I004  CF  10
I005  CLVARS
I006  INPUT N
I007  INPUT B
I008  INPUT H
I009  RCL  H
I010  2
I011  /
I012  RCL+ T
I013  RCL  B
I014  RCL  * H
I015  *
```

```
I016 RCL+ Q
I017 STO Q
I018 RCL B
I019 RCL H
I020 *
I021 RCL+ R
I022 STO R
I023 1
I024 RCL+ V
I025 STO V
I026 RCL Q
I027 RCL/ R
I028 RCL- C
I029 X^2
I030 RCL* A
I031 RCL+ I
I032 STO I
I033 RCL T
I034 RCL H
I035 2
I036 /
I037 +
I038 RCL Q
I039 RCL/ R
I040 -
I041 X^2
I042 RCL* B
I043 RCL* H
I044 RCL H
I045 3
I046 Y^X
I047 RCL* B
I048 12
I049 /
I050 +
I051 RCL+ I
I052 STO I
I053 RCL Q
I054 RCL/ R
I055 STO C
I056 RCL B
I057 RCL* H
I058 RCL+ A
I059 STO A
I060 RCL T
I061 RCL+ H
I062 STO T
I063 RCL V
I064 RCL N
I065 X>Y?
I066 GTO I007
I067 VIEW I
I068 VIEW C
I069 RTN
```

I added the view commands (67 and 68)

*Edited: 9 Aug 2007, 8:18 a.m.*

## Re: 35s vs. 33s speed for identical programs

Message #8 Posted by [Gerson W. Barbosa](#) on 7 Aug 2007, 7:05 p.m.,  
in response to message #1 by ECL

Even though someone has provided a 35s-optimized version, the HP-35S is about 2.5 times slower than the HP-33S in [Xerxe's Benchmark](#). When running the HP-32S/SII/33s version the HP-35s is even slower. It appears everytime new features are added to the same hardware there is a decrease in performance (HP-32S -> HP-32SII, HP-48G -> HP-48GX, for instance).

Quote:

---

If anyone would like a program listing of it, I can post later.

---

It would be great. Better yet you might want to submit it to the Software Library (HP-33 section), where it would be permanent and easier to find. BTW, once I wrote a similar program for the HP-49G/G+. It defaults to Portuguese but there's a command to change all messages and screens to English:

<http://www.hpcalc.org/details.php?id=4446>

Gerson.

### Re: 35s vs. 33s speed for identical programs

Message #9 Posted by [Bruce Bergman](#) on 7 Aug 2007, 7:09 p.m.,  
in response to message #8 by Gerson W. Barbosa

Someone seriously needs to do a tear-down on this puppy and see if it is underclocked, and if so, why. It might be possible to bump it.

Just a thought.

### Re: 35s vs. 33s speed for identical programs

Message #10 Posted by [Gerson W. Barbosa](#) on 7 Aug 2007, 7:21 p.m.,  
in response to message #9 by Bruce Bergman

I was expecting the HP-35s to be slower than the HP-33s, but not that slower. I would say underclocking makes a bit of sense but it seems the battery life expectancy is the same in both specs...

### 35S slower

Message #11 Posted by [Ralph](#) on 7 Aug 2007, 11:05 p.m.,  
in response to message #10 by Gerson W. Barbosa

I found that the 41/42 benchmark was a little faster than the 33S. I have a little trig program that doesn't do much math and it is almost in lock step when run side by side with the 33S. I'm guessing my little tiny amount of math programming is not complex enough to show the true difference.

I have a little stat based program I think I will see if I can convert to see the differences there if any. That'll be a pain to convert as I relied heavily on the two index pointers, I&J. I'm off for another week due to arm surgery so I need something to take my mind off Daytime TV. I wrote it first for the 41C and it is very slow there. But I could not use the built in deviation command on the 41C because my number of samples and the possible deviation of samples was too small and I had to do it longhand. It's not bad on the 35S.

I don't use mine for complicated calculations so I don't see the speed loss to the degree others may.

*Edited: 7 Aug 2007, 11:57 p.m.*

### Re: 35S slower

Message #12 Posted by [Gerson W. Barbosa](#) on 8 Aug 2007, 12:29 a.m.,  
in response to message #11 by Ralph

Quote:

I found that the 41/42 benchmark was a little faster than the 33S.

I hadn't remembered it was you who wrote the 35s version, despite of the recent thread about the 35s benchmark test. Sorry!

Quote:

---

I have a little trig program that doesn't do much math and it is almost in lock step when run side by side with the 33S.

---

Isn't it the other way around? The program in the link below, which contains mostly basic operations like multiply and divide runs much slower on the HP-35s.

<http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv017.cgi?read=118993>

Regards,

Gerson.

*Edited: 8 Aug 2007, 12:33 a.m.*

### **35S slower**

*Message #13 Posted by **Ralph** on 8 Aug 2007, 9:33 a.m.,  
in response to message #12 by Gerson W. Barbosa*

It should be but my particular program is two little calculations and 90% screen output so the speed difference is lost under the display outputs and pauses. The stat program has a nice lump of number crunching done on four sets of data so the speed difference will definitely show.

One thing about processing speed is that it gets lost in significance if the machine spends time waiting for operator interaction. The more interactive the application, the less the speed factors in.

Quote:

---

Isn't it the other way around? The program in the link below, which contains mostly basic operations like multiply and divide runs much slower on the HP-35s.

<http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv017.cgi?read=118993>

Regards,

Gerson.

---

*Edited: 8 Aug 2007, 9:34 a.m.*

### **OT: Machines getting slower as they get niftier**

*Message #14 Posted by **Thomas Okken** on 7 Aug 2007, 11:10 p.m.,  
in response to message #8 by Gerson W. Barbosa*

Hi Gerson!

Quote:

It appears everytime new features are added to the same hardware there is a decrease in performance (HP-32S -> HP-32SII, HP-48G -> HP-48GX, for instance).

I'll admit that I'm not really an HP-48G expert, but from what I've read, the reason that the HP-48GX is slower than the HP-48G, in some situations anyway, is because the GX's additional memory requires bank switching to access. As long as you keep your code within the 48G memory space (I guess that means port 1?), the two should be identical in terms of speed.

OT: 15 years ago, I experienced a similar phenomenon when I upgraded my Macintosh II by adding a 68851 PMMU chip. The upgrade meant that programs could work in a 32-bit address space, as opposed to the 24-bit address space of the original Mac II -- but the PMMU's address translation overhead meant that some memory-intensive programs were significantly slower after the upgrade than before.

If the HP-35s hardware is more or less the same as the HP-33s', then the slowdown that people have been mentioning here is probably due to a simplistic implementation of the Complex and Vector types. The HP-42S, by comparison, can deal with non-real types with little or no speed penalty, but it uses a more sophisticated memory management scheme, where objects (real, complex, or matrix) are used by reference instead of by value -- this is a bit trickier to implement, but much more efficient; it only uses as much memory as is actually needed for each type of value, and it can perform copy operations by copying just a pointer, rather than having to copy dozens of bytes for the whole value each time.

I suppose the HP-35s designers were more concerned with functionality than performance, which is probably reasonable... If they had been able to use a Saturn (or an ARM-based Saturn emulation), they could have used the HP-42S code, and no one would have complained about performance at all.

Did I mention I think they should bring back the 42S? ;-)

- Thomas

**Re: OT: Machines getting slower as they get niftier**

*Message #15 Posted by [Walter B](#) on 8 Aug 2007, 12:22 a.m.,  
in response to message #14 by Thomas Okken*

God dag, Thomas,

thanks for the information! I was thinking about the memory organisation in the 42S just yesterday and \*guessed\* it must be by reference, because all those different data types could be held in simple registers and on the stack. Now I \*know\*, thank you.

Regards, Walter

**Re: OT: Machines getting slower as they get niftier**

*Message #16 Posted by [Thomas Okken](#) on 8 Aug 2007, 12:22 p.m.,  
in response to message #15 by Walter B*

Guten Tag Walter!

I don't remember offhand where I found out about the HP-42S memory management -- I think it was either mentioned in the manual or in the Programming Examples and Techniques book. No details, mind you, just the general idea of using references and copy-on-write.

You can easily see the effect of this architecture by observing what happens when you recall a large



matrix to the stack (MEM drops by only a few bytes, regardless of the size of the matrix) and then multiply it by 1 (MEM drops by slightly more than rows\*columns\*8 bytes (twice that for a complex matrix)). If there isn't enough memory to allocate the new matrix, this means that the multiplication will fail with an Insufficient Memory error message.

- Thomas

### **Re: OT: Machines getting slower as they get niftier**

Message #17 Posted by **Gerson W. Barbosa** on 8 Aug 2007, 12:31 a.m.,  
in response to message #14 by Thomas Okken

Quote:

Did I mention I think they should bring back the 42S? ;-)

I'd be pleased with Free42-in-a-box :-)

Regards,

Gerson.

### **slowness explained (Gates Law)**

Message #18 Posted by **Vincze** on 8 Aug 2007, 12:02 p.m.,  
in response to message #14 by Thomas Okken

My friends, I take it you never hear of Gates Law (or maybe you forget about)? Meaning hardware seem to run slower even though processor, memory, etc is faster. It all due to programming. It happen in three steps normally.

First step is that program is written in assembler. You have to be really dumb to write slow assembler code, but it can be done, but very very hard as assembler is very efficient.

Next step, is applications are written in some other language that has more overhead (like C with a computer). They use more memory than assembler because of reuse of processor resources , subroutines, etc. program are larger, because more memory available.

And step three introduces new programming language (C++ or C#) with even more lack of efficiency because of excessive reuse of objects, managing more overhead operations, and it gobbles up even more memory and more processor. Programmer though not care, because he knows he has more memory and faster processor to work with, so this okay to him (or her... sorry ladies)

The reason that developers though go through these steps though is to make more features to us. Take a look at an x386 computer running DOS6, and a Pentium4 running Vista "double dog" ultimate version with "flux capacitor". Does pentium 4 computer boot up faster than x386 computer running DOS6? Nem! x386 boot up much faster, but it also have much less features. Now we must figure out what we want. Do we want more feature, or fastest booting machine? Same true with calculator. Do you want 48GX with more memory, better graphics, more prompts, but take longer to get to solution, or do you want to have a simpler calculator that is a little more hard to use, but very fast at getting you answer because it managing less overhead?

Take for example, I have program that I load on my 15C last night that calculate roots of a polynomial. I also can use 48gx to do. With units both starting off, it is quicker on 15C to find roots than on 48gx (assuming I already enter program on 15C and I am at the input screen for the 48gx.) On 15C, I enter

values into stack and hit R/S, on 48gx, I have to manipulate input screen, navigate a few times, and then press solve. Much more key strokes with 48gx, and more overhead make 48gx all work and no play (and slower). ;)

### **Re: slowness explained (Gates Law)**

*Message #19 Posted by [Stefan Vorkoetter](#) on 9 Aug 2007, 2:35 p.m.,  
in response to message #18 by Vincze*

Quote:

\_\_\_\_\_

You have to be really dumb to write slow assembler code, but it can be done, but very very hard as assembler is very efficient.

Next step, is applications are written in some other language that has more overhead (like C with a computer).

\_\_\_\_\_

Actually, it's very easy to write inefficient assembler code. Assembler is not efficient; it just makes it possible to write efficient code. In my experience, a good C compiler generates better code than an "average" assembler programmer. To write really good assembler code, you have to really understand the machine and know all the "tricks".

Been there, done that.

Stefan

### **Re: slowness explained (Gates Law)**

*Message #20 Posted by [bill platt](#) on 9 Aug 2007, 2:38 p.m.,  
in response to message #19 by Stefan Vorkoetter*

This is an interesting point and very useful.

### **Re: slowness explained (Gates Law)**

*Message #21 Posted by [Bruce Bergman](#) on 9 Aug 2007, 3:32 p.m.,  
in response to message #19 by Stefan Vorkoetter*

As someone who used to write code generators for high level languages (most notably, Ada), I can vouch for Stefan's point. Assembly is \*potentially\* the most efficient language, but it is very easy to write crummy assembly language code.

If you are solidly familiar with the target device, then you learn how to optimize and write good assembly code. The result can be very fast and very efficient. But it's all too easy to get complacent, or lose track of the big picture (especially in big programs) and that will result in poor code.

A well-written code generator for almost any high level language will usually out perform any hand-written assembly code. Note I stress "well-written". A crummy code generator implementation is about as bad as crummy hand-coded assembly. Compilers have been getting better and better over time, though, and most modern HLL compilers will easily produce great code.

Um, now is anyone going to write a C cross-compiler for the 35s? ;-)

thanks, bruce

**Re: slowness explained (Gates Law)**

*Message #22 Posted by **Vincze** on 9 Aug 2007, 4:12 p.m.,  
in response to message #21 by Bruce Bergman*

Problem is, most programmers now days coming out of university have never even touched assembler code, and many university do not educate on writing well thought out code. Programmer then write sloppy high level code.

Best programmers that I have seen have been those who are familiar with assembly, and also know high level language.

Regardless of this, I think the summary of what I was trying to say above is that HP is building more overhead into the calculator, and thus the calculator is slowing down even though the hardware is faster... thus Gates Law.

**Re: slowness explained (Gates Law)**

*Message #23 Posted by **Nenad (Croatia)** on 9 Aug 2007, 3:41 p.m.,  
in response to message #18 by Vincze*

Someone somewhere said (may be even elsewhere in this very Forum):

**As time passes, software becomes slower much faster than hardware becomes faster.**

**Re: slowness explained (Gates Law)**

*Message #24 Posted by **Ren** on 10 Aug 2007, 12:25 p.m.,  
in response to message #23 by Nenad (Croatia)*

Google pointed me to...

<http://www.seas.upenn.edu/~gaj1/shiftgg.html>

THE COMING SOFTWARE SHIFT BY GEORGE GILDER

which contains this quote:

In software, complexity has long been rising exponentially, while power has been rising additively. In response, Niklaus Wirth, the inventor of Pascal and other programming languages, has propounded two new Parkinson's Laws for software: "Software expands to fill the available memory," and "Software is getting slower more rapidly than hardware gets faster."

Ren dona nobis pacem

**Re: slowness explained (Gates Law)**

*Message #25 Posted by **Thomas Okken** on 10 Aug 2007, 6:24 p.m.,  
in response to message #24 by Ren*

Quote:

\_\_\_\_\_

In software, complexity has long been rising exponentially, while power has

been rising additively. In response, Niklaus Wirth, the inventor of Pascal and other programming languages, has propounded two new Parkinson's Laws for software: "Software expands to fill the available memory," and "Software is getting slower more rapidly than hardware gets faster."

Speaking for myself, that's not my experience at all! Software development tools, Microsoft Office, image manipulation software, all run much faster on my current 1.4 GHz P4 laptop, than their primitive 1980s versions ever did on my (then top-of-the-line) Macintosh II. Even if it wasn't for things like Eclipse and DVD ripping/transcoding software, that simply won't run at all on the PCs of yesteryear, I still wouldn't want to go back. I enjoy nostalgia as much as the next person, but progress rocks! :-)

- Thomas

### **Re: 35s vs. 33s speed for identical programs**

*Message #26 Posted by [ECL](#) on 8 Aug 2007, 12:53 p.m.,  
in response to message #8 by Gerson W. Barbosa*

Gerson,

Will do. I ported it already to my 35s (and took advantage of the GTOxyz capability to eliminate the use of flags).

I'd like to try to optimize it a bit too, but...

I may have gotten my inspiration from your RPL code on hpcalc.org back in 2005 for this program!

I was frustrated by the keyboard on my 49g+, and decided to write a single-register program on my 33s to give me Ixx and centroidal info.

ECL

### **Re: 35s vs. 33s speed for identical programs**

*Message #27 Posted by [Gerson W. Barbosa](#) on 8 Aug 2007, 10:14 p.m.,  
in response to message #26 by ECL*

Nice work and well fitted to this particular need! Easier to enter than { 0 0 5 .25 1 2.25 .25 2.75 8.25 1 1 8.25 4 8.5 1 } :-) But the answers agree with your program (54.666015625 and 3.90625 on the 50g, and 54.6660156249 and 3.90625 on the 35s).

I wrote the first version of the program out of necessity the night before an examination. Well, sort of, as I misunderstood the professor's statement: we had to write a report about the programs we intended to use during the examination, not to write them ourselves... The RPL code is far from optimized but I won't get back to it because the HP-50g is fast enough. Besides, I don't have to use it anymore :-)

Regards,

Gerson.

### **Re: 35s vs. 33s speed for identical programs**

*Message #28 Posted by [Frank Rottgardt](#) on 8 Aug 2007, 7:04 p.m.,  
in response to message #8 by Gerson W. Barbosa*

[\)Calculator Benchmark List](#)

Interesting to find the HP 50g (User RPL) not being faster than the C64 (1982) 8 bit with a 6510? CPU at 1 MHz (interpreter-Basic)

I don't know at which speed the 50g runs (ARM-processor?). But if I wouldn't seen it here I would have believed the 50g being much faster than a C64 if somebody had asked me.

Isn't the 33s / 35s processor a 6502 clone, thus a close relative of the C64 (ok, the CPU-surrounding architecture certainly plays a decisive role)

**Re: 35s vs. 33s speed for identical programs**

*Message #29 Posted by [Xerxes](#) on 8 Aug 2007, 8:25 p.m.,  
in response to message #28 by Frank Rottgardt*

An extract of the QueenBench:

```
- 90.3 HP-50G User RPL / 75 MHz
-
- ~67 HP-50G User RPL / Fast Mode x1.3 (75->203 MHz)
-
- ~64 C64 Basic / 1 MHz
```

There are three reasons for the speed of the C64. The Basic in the ROM is a very light interpreter and not as complex as UserRPL is. The ARM have to emulate the Saturn CPU instructions. The 6502 instructions need less cycles than most other CPUs of its time and even later that makes it fast in comparison.

Assuming that all CPUs are clocked at 1 MHz, the QueenBench in Assembly language would produce approximately following results:

```
- SC61860 611 msec
-
- LH5801 397 msec
-
- HD61700 284 msec
-
- Z80 283 msec
-
- SC62015 262 msec
-
- 80188 251 msec
-
- 68000 220 msec
-
- 6502 100 msec
```

O.T. This was one reason why the 6502 was so popular for chess computers.

---

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## HP Forum Archive 17

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### **10 years Emu48 anniversary**

*Message #1 Posted by [Christoph Giesselink](#) on 7 Aug 2007, 3:18 p.m.*

More or less exactly 10 years ago Sebastien Carlier published Emu48 with the version number 1.0 under the GPL. To celebrate this I updated the "Emu48 10 Years Anniversary page" and the "Emu48 Emulator for HP38/39/40/48/49" with new versions on my emulator pages at <http://hp.giesselink.com>.

I hope you enjoy it.

Cheers

Christoph

### **Re: 10 years Emu48 anniversary**

*Message #2 Posted by [Miguel Toro](#) on 8 Aug 2007, 11:38 a.m.,  
in response to message #1 by Christoph Giesselink*

Great job! I think you have every reason to celebrate this long standing effort. Emu48 was the first emulator I installed in my HP PocketPC and it helped me to enter the world of RPL before I buy a HP 50g.

Congratulation!

Miguel

### **Re: 10 years Emu48 anniversary**

*Message #3 Posted by [Chan Tran](#) on 8 Aug 2007, 12:03 p.m.,  
in response to message #2 by Miguel Toro*

Congratulation! And thank you very much. I found that I use your free emulators much more often than my real 48SX and GX.

---

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## HP Forum Archive 17

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### The Incredible HP-35s

Message #1 Posted by [Trent Moseley](#) on 7 Aug 2007, 12:44 a.m.

I'm looking at my 1980's low-end HP-31E, 1st column, 4th and 5th rows, and after a yellow shift what do I see: >R and >P. Incredible!

tm

### Re: The Incredible HP-35s

Message #2 Posted by [Walter B](#) on 7 Aug 2007, 1:43 a.m.,  
in response to message #1 by Trent Moseley

:--))

Trent, you'll get them with a 15Cx and a 45s. Promised (HTH).

### Re: The Incredible HP-35s

Message #3 Posted by [Thomas Radtke](#) on 7 Aug 2007, 3:59 a.m.,  
in response to message #1 by Trent Moseley

HP-45, 2nd row, 2nd column

1973! Perfect calculators never become obsolete.

### HP-35s ->P and ->R conversions

Message #4 Posted by [Nenad \(Croatia\)](#) on 7 Aug 2007, 12:58 p.m.,  
in response to message #1 by Trent Moseley

The aim is to establish the procedure for polar/rectangular conversion that works the same way as on almost any vintage HPcalc

Polar to rectangular:

```
y ENTER x
->P (on HP35s: XEQ P ENTER)
r x<>y phi
```

Rectangular to polar:

```
phi ENTER r
->R (on HP35s: XEQ R ENTER)
x x<>y y
```

requiring that the components (x,y) or (r,phi) are entered/obtained in a separated way, i.e. x in x-register, y in y-register, r in x-register, phi in y-register.

I would prefer the following solution, re-typed directly from my HP35s (regardless of the fact that someone could have already proposed the same in another thread):

```
LBL P
X<>Y
i
X
+
ARG
LASTx
ABS
RTN
```

```
LBL R
X<>Y
COS
X<>Y
LASTx
SIN
X<>Y
X
X<>Y
LASTx
X
RTN
```

Anybody is welcome to improve this. At the end we would have a consensus, containing the best solution we were able to find out together.

### Re: HP-35s ->P and ->R conversions

Message #5 Posted by [Trent Moseley](#) on 7 Aug 2007, 2:30 p.m.,  
in response to message #4 by [Nenad \(Croatia\)](#)

That's nice but you lose the contents of the Z and T registers. I know you can store the contents, but then here we go again.

tm

### Re: HP-35s ->P and ->R conversions

Message #6 Posted by [Reth](#) on 8 Aug 2007, 5:16 p.m.,  
in response to message #5 by [Trent Moseley](#)

Preserving Z and T registers can be done using 1 storage register (don't know about speed penalty) and no EQ's

```
LBL P
STO D
Rv
SIN
LASTx
COS
RCL* D
X<>Y
RCL* D
RTN
```

```
LBL R
STO Y
Rv
i
RCL* Y
+
ARG
LASTx
ABS
```



RTN

Rv here is Roll Down

Cheers,  
Reth

**Re: HP-35s ->P and ->R conversions**

*Message #7 Posted by [Trent Moseley](#) on 8 Aug 2007, 11:17 p.m.,  
in response to message #6 by Reth*

Reth,

Thank you so much. It's nice to get simple answers to simple questions! I'm looking forward to using your routines in some of my programs tomorrow on the "Incredible HP-35s".

tm

**Re: HP-35s ->P and ->R conversions**

*Message #8 Posted by [Reth](#) on 10 Aug 2007, 3:26 a.m.,  
in response to message #7 by Trent Moseley*

You're welcome :) BTW I checked and there is no speed penalties for using external storage register so I guess this is the way to go.

Cheers,  
Reth

**Re: HP-35s ->P and ->R conversions - updated versions**

*Message #9 Posted by [Gene Wright](#) on 7 Aug 2007, 3:12 p.m.,  
in response to message #4 by Nenad (Croatia)*

For LBL P, try this:

```
LBL P
RDN
RDN
REGZ x i + REGT
RUP
X<>Y
RDN
RDN
ARG(REGZ)
ABS(REGT)
RTN
```

Press EQN before the entering the lines containing the REG instructions. Z and T are preserved.

Something similar can be done for LBL R.

```
LBL P
RDN
RDN
REGZ x SIN(REGZ)
REGT x COS>LastX)
RTN
```

Press EQN before the entering the lines containing the REG instructions. Z and T are preserved.

**Re: HP-35s ->P and ->R conversions - updated versions**

Message #10 Posted by **Charles Bennett** on 7 Aug 2007, 3:26 p.m.,  
in response to message #9 by Gene Wright

Like what Gene said (untested):

```
R001   lbl R
R002   RDN
R003   RDN
R004   EQN [ REGT x SIN(REGZ), REGT x COS(REGZ) ]
R005   [ 1, 0 ]
R006   x<>y
R007   X
R008   EQN lastx X [ 0, 1 ]
R009   RTN

P001   lbl P
P002   RDN
P003   RDN
P004   EQN [ ATAN(REGT/REGZ), SQRT(SQ(REGT)+SQ(REGZ)) ]
P005   GTO R005
```

I really like being able to put stack registers into equations...

ccb

**HP-35s ->P and ->R conversions**

Message #11 Posted by **Nenad (Croatia)** on 7 Aug 2007, 5:58 p.m.,  
in response to message #10 by Charles Bennett

Quote:

```
P004   EQN [ ATAN(REGT/REGZ), SQRT(SQ(REGT)+SQ(REGZ)) ]
```

Appreciating everyone's response it may be noticed that we are obviously moving forward, instead of murmuring against the lack of Pol/Rect conversions in HP35s in an "old fashioned way".

In the above quoted equation, would the first vector component lead us into a problem in case REGZ=0 or both REGZ=0 and REGT=0?

A single ATAN would not be enough to determine the quadrant of the polar angle? AFAIK, "long long ago in a galaxy far far away" there existed a function ATAN2 instead of ATAN to deal with such a situation.

IMHO, it would be great if we finally accept the solution avoiding equations, implementing pure "old fashioned" RPN, but preserving the contents of T and Z registers. I cannot figure out one, yet.

Katie, Valentin, Namir, all others - I am certain someone can do it perfectly, to leave this matter behind us.

**Re: HP-35s ->P and ->R conversions**

Message #12 Posted by **Thomas Klemm** on 7 Aug 2007, 6:53 p.m.,  
in response to message #11 by Nenad (Croatia)

Quote:

```
_____
```

AFAIK, "long long ago in a galaxy far far away" there existed a function ATAN2 instead of ATAN to deal with such a situation.

You might use <http://mathworld.wolfram.com/images/equations/Tangent/inline29.gif>  
<http://mathworld.wolfram.com/images/equations/Tangent/inline30.gif>  
<http://mathworld.wolfram.com/images/equations/Tangent/inline31.gif> which yields something like:

$$r = \text{SQRT}(x^2 + y^2)$$

$$\text{arg} = 2 * \text{atan}\left(\frac{y}{r + x}\right)$$

Then only a problem occurs for  $r + x = 0$  which means  $\text{arg} = \text{Pi}$ .  
 However I don't know if it's possible to avoid to calculate  $r$  twice.

### Re: HP-35s ->P and ->R conversions - updated versions

Message #13 Posted by [Reth](#) on 7 Aug 2007, 4:52 p.m.,  
 in response to message #9 by Gene Wright

Well one has to decide what's more important, preserving stack content, speed (given STO & RCL are slower) or necessity of checking/clearing status of flag 10...

Cheers,  
 Reth

### Re: HP-35s ->P and ->R conversions

Message #14 Posted by [Paul Dale](#) on 8 Aug 2007, 7:44 p.m.,  
 in response to message #4 by Nenad (Croatia)

[EDIT: I posted an improved version immediately below this message, don't use this code if you want the flag independence - Pauli]

Rectangular Polar conversions aren't something I use but, nonetheless, I thought I'd have a go at this little programming exercise.

My program preserves the Z and T stack registers, it honours the current trigonometric mode and handles the degenerate cases. It doesn't do the right thing with LASTx but we can't have everything. At least not yet. It seems to produce the same values as my 15c but I've not tested it extensively.

First up the commented programmer friendly listing:

```

1      # Convert radius, theta -> x, y
2          LBL R                      # r, t, ?, ?
3          Rv
4          Rv                          # ?, ?, r, t
5          eqn [REGZ*SIN(REGT),REGZ*COS(REGT)] # [x,y], ?, ?, r
6      unpack: [1,0]                  # ?, ?, [x, y], [1,0]
7          x<>y
8          *                            # ., ?, ?, x
9          EQN LASTx*[0,1]
10         RTN
11
12     # Convert x, y -> radius, theta
13         LBL P                      # x, y, ?, ?
14         x=0?
15         GTO degen
16         Rv
17         Rv                          # ?, ?, x, y

```

```

18          eqn [ATAN(REGT/REGZ),SQRT(SQ(REGT)+SQ(REGZ))]
19          GTO unpack
20
21      # Degenerate cases
22      degen: Rv          # y, ?, ?, 0
23             x=0?
24             GTO d2      # 0, ?, ?, 0
25             x>0?
26             1
27             x<0?
28             -1
29             ASIN        # t = +/- PI/2, y, ?, ?
30             Rv
31             Rv          # ?, ?, t, y
32             eqn [REGZ,ABS(REGT)] # [], ?, ?, t
33             GTO unpack
34      d2:   R^          # 0, 0, ?, ?
35             RTN

```

Of course, that isn't a lot of use when entering it into a calculator so here is a calculator friendly version after running through my little assembler:

```

R001 LBL R
R002 Rv
R003 Rv
R004 eqn [REGZ*SIN(REGT),REGZ*COS(REGT)]
R005* [1,0]
R006 x<>y
R007 *
R008 EQN LASTx*[0,1]
R009 RTN
P001 LBL P
P002 x=0?
P003 GTO P008
P004 Rv
P005 Rv
P006 eqn [ATAN(REGT/REGZ),SQRT(SQ(REGT)+SQ(REGZ))]
P007 GTO R005
P008* Rv
P009 x=0?
P010 GTO P020
P011 x>0?
P012 1
P013 x<0?
P014 -1
P015 ASIN
P016 Rv
P017 Rv
P018 eqn [REGZ,ABS(REGT)]
P019 GTO R005
P020* R^
P021 RTN

```

where:

R^ is roll up

Rv is roll down

eqn marks the beginning of an equation and shouldn't be entered.

Checksums and sizes are:

```

LN=  checksum
R   74  BE75
P  123  8999

```

I hope somebody finds this useful.

- Pauli

*Edited: 8 Aug 2007, 11:35 p.m. after one or more responses were posted*

**Re: HP-35s ->P and ->R conversions**

Message #15 Posted by **Paul Dale** on 8 Aug 2007, 11:34 p.m.,  
in response to message #14 by Paul Dale

Wouldn't you know it, I thought of another improvement over lunch.

In addition to not damaging the stack, this version doesn't care about the status of flag 10 (execute equations or not) and doesn't alter that or any other flag settings. The disadvantage is a couple of extra steps and one more level of subroutine nesting.

```

R001 LBL R
R002 FS? 10
R003 GTO R012
R004* Rv
R005 Rv
R006 eqn [REGZ*SIN(REGT) , REGZ*COS(REGT) ]
R007* [1,0]
R008 x<>y
R009 *
R010 EQN LASTx*[0,1]
R011 RTN
R012* CF 10
R013 XEQ R004
R014 SF 10
R015 RTN
P001 LBL P
P002 FS? 10
P003 GTO P024
P004* x=0?
P005 GTO P010
P006 Rv
P007 Rv
P008 eqn [ATAN(REGT/REGZ) , SQRT(SQ(REGT)+SQ(REGZ))]
P009 GTO R007
P010* Rv
P011 x=0?
P012 GTO P022
P013 x>0?
P014 1
P015 x<0?
P016 -1
P017 ASIN
P018 Rv
P019 Rv
P020 eqn [REGZ , ABS(REGT) ]
P021 GTO R007
P022* R^
P023 RTN
P024* CF 10
P025 XEQ P004
P026 SF 10
P027 RTN

```

Checksums and sizes are:

```

LN=  checksum
R   92  5744
P  141  5301

```

- Pauli

## Re: HP-35s ->P and ->R conversions

Message #16 Posted by **Thomas Radtke** on 14 Aug 2007, 7:17 a.m.,  
in response to message #15 by Paul Dale

Thanks for the code, Paul! I used exactly yours for ->P and the following ->R:

```

LBL P
Rolldown
Rolldown
(EQN) REGZ+i*REGT

```

```
ENTER
ARG
x<>y
ABS
RTN
```

Short and Z,T preserving :-)

**Re: HP-35s ->P and ->R conversions**

*Message #17 Posted by [Paul Dale](#) on 14 Aug 2007, 4:09 p.m.,  
in response to message #16 by Thomas Radtke*

Much nicer. Code can always be improved.

- Pauli

**Re: HP-35s ->P and ->R conversions**

*Message #18 Posted by [Reth](#) on 14 Aug 2007, 5:13 p.m.,  
in response to message #17 by Paul Dale*

Sure, as here:

```
LBL P
Rolldown
Rolldown
(EQN) REGZ+i*REGT
ARG
LASTx
ABS
RTN
```

Cheers, Reth

**Re: HP-35s ->P and ->R conversions**

*Message #19 Posted by [Paul Dale](#) on 14 Aug 2007, 5:55 p.m.,  
in response to message #18 by Reth*

And wrapping this version up so the setting of flag 10 no longer matters gives us:

```
P001 LBL P
P002 FS? 10
P003 GTO P011
P004* Rv
P005 Rv
P006 eqn REGZ+i*REGT
P007 ARG
P008 LASTx
P009 ABS
P010 RTN
P011* CF 10
P012 XEQ P004
P013 SF 10
P014 RTN
```

- Pauli

**Re: HP-35s ->P and ->R conversions**

*Message #20 Posted by [Thomas Radtke](#) on 15 Aug 2007, 2:29 a.m.,  
in response to message #19 by Paul Dale*

Would you mind placing this conversion routines in the museums software library, Pauli?

**Re: HP-35s ->P and ->R conversions**

*Message #21 Posted by [Paul Dale](#) on 15 Aug 2007, 5:43 p.m.,  
in response to message #20 by Thomas Radtke*

I'd assumed that the final conversion routines would go there and ti seems like we're there or very close.

I'll submit the latest versions presently.

- Pauli

**Re: HP-35s ->P and ->R conversions**

*Message #22 Posted by [Trent Moseley](#) on 14 Aug 2007, 6:04 p.m.,  
in response to message #18 by Reth*

I don't understand "REGZ" or "REGT". Do you mean "RCL Z" and "RCL T"? I don't see "REZ" in the User's Guide.

Thanks,

tm

**Re: HP-35s ->P and ->R conversions**

*Message #23 Posted by [Paul Dale](#) on 14 Aug 2007, 6:08 p.m.,  
in response to message #22 by Trent Moseley*

In equation mode, press Rv and you'll be greeted with a short menu containing the stack registers. These insert REGX, REGY, REGZ and REGT into the current equation and when executed, they evaluate to the appropriate stack register. A neat way to access the stack from algebraics.

- Pauli

**REGZ etc**

*Message #24 Posted by [Gene Wright](#) on 14 Aug 2007, 9:14 p.m.,  
in response to message #22 by Trent Moseley*

These are mentioned in the learning module:

[Accessing the stack registers](#)

and in the 35s review:

[35s review](#)

They are also mentioned in the printed 35s manual in appendix B on page B-7 and also on page 10-8.

**Re: REGZ etc**

*Message #25 Posted by **Trent Moseley** on 14 Aug 2007, 10:57 p.m.,  
in response to message #24 by Gene Wright*

Thank you Gene. My fault. It's back to the old axiom "RTB": Read the book.

tm

**Re: The Incredible HP-35s**

*Message #26 Posted by **Les Wright** on 7 Aug 2007, 3:42 p.m.,  
in response to message #1 by Trent Moseley*

I note that the HP49G+ and HP50G do not have directly accessible P->R and R->P conversions, though I do understand that they are available as SYSEVAL calls, and there are even extended precision versions in SysRPL for real keeners.

But one typically toggles between the rectangular, polar, cylindrical, and spherical renderings of complex numbers and vectors by changing the MODE settings in question.

Mmmmm, this does sound a little familiar, does it not? ;)

Of course, the 49G, 49G+, and 50G make it very easy to extract the real and complex parts from a complex number, and to decompose a vector or list of any length to its elements.

Despite this, the danged 35s is starting to grow on me, and like the great reviewer who shares my surname I am keen to defend its under \$60 outsourced Chinese honour.

I just wish the thing were as fast as the 33S! Shortly I will post some code that presents much more elegantly and cleanly on the 35S, thanks to line number addressing, but runs so much faster on the 33S, even though with all of the internal jumps and subroutines it gobbles up most of my labels!

My first programmable was a TI57. It has the much mourned P<>R conversions too!

Les

**Re: The Incredible HP-35s**

*Message #27 Posted by **Paul Brogger** on 7 Aug 2007, 5:26 p.m.,  
in response to message #26 by Les Wright*

I think it's *great* to have the 33s' innards in the 35s' wrapper. (And, not to mention, improved in many ways.)

Too bad about the P<->R conversions.

But hey! It's programmable. Let us go forth and algorithmify.

**Re: The Incredible HP-35s**

*Message #28 Posted by **Vincze** on 7 Aug 2007, 9:13 p.m.,  
in response to message #27 by Paul Brogger*

Quote:

\_\_\_\_\_  
Let us go forth and algorithmify.



---

Very nice... :)

### **Re: The Incredible HP-35s**

*Message #29 Posted by **Trent Moseley** on 7 Aug 2007, 10:05 p.m.,  
in response to message #28 by Vincze*

My algorithmic head is hanging low, nice try folks!

tm

### **Re: The Incredible HP-35s**

*Message #30 Posted by **John H Meyers** on 8 Aug 2007, 7:26 a.m.,  
in response to message #26 by Les Wright*

Quote:

---

I note that the HP49G+ and HP50G do not have directly accessible P->R and R->P conversions

---

They instead have directly accessible  $V\rightarrow$  and  $\rightarrow V2$  and  $\rightarrow V3$ , which are more general versions of the same thing, suitable for also handling complex-number objects, as well as both 2D and 3D vector objects, none of which formerly existed in older calculators having only individual real-valued stack levels (and no 3D coordinate system conversion at all).

In addition (which to some extent may apply to HP35s), all HP48/49/50 can display complex and vectors (both 2D and 3D) automatically as "polar," to full precision, by simply changing display mode to CYLIN/SPHERE, and can convert polar coordinates to rectangular automatically, as they are being entered.

During all complex (or vector) object display and data entry, an angle symbol prefixes each angular value, unmistakably eliminating ambiguity.

So most of the point of having explicit "conversion" commands on HP48/49/50 can be considered unnecessary -- the "polar" coordinates are always external (on the display or in the data entry area), the internal objects remain rectangular always, and can always be added etc. without conversions, as well as without risk of forgetting which mode the coordinates are in, nor accidentally adding the polar coordinates, etc.

But one can use  $V\rightarrow$  and  $\rightarrow V2$  on HP48/49/50 to get the same effect as old P->R and R->P anyway; when you do this, however, you can no longer freely add objects when they have been internally changed to polar coordinates, and you no longer have unambiguous angle symbols that prevent misinterpretation

(or forgetting in which state you left the results,  
or repeating the same conversion twice the same way, instead of undoing it).

Programs for all HP48/49/50:

```
@ Two-level input, two-level output:
@ real x, real y <==> real r, real theta
\<< -16 SF \->V2 -16 CF V\-> \>> 'P\->R' STO
\<< -16 CF \->V2 -16 SF V\-> \>> 'R\->P' STO

@ One-level input, one-level output (Vector or Complex):
@ [real x, real y] <==> [real r, real theta]
@ (real x, real y) <==> (real r, real theta)
\<< V\-> -16 SF \->V2 -16 CF \>> 'p\->r' STO
\<< -16 SF V\-> -16 CF \->V2 \>> 'r\->p' STO
@ Note that you must keep flag -16 always cleared

@ Programs to use whichever of the above
@ applies to the type of object(s) on the stack:
\<< IF DUP TYPE OVER TYPE 28 \=/ AND
  THEN p\->r ELSE P\->R END \>> 'PtoR' STO
\<< IF DUP TYPE OVER TYPE 28 \=/ AND
  THEN r\->p ELSE R\->P END \>> 'RtoP' STO

@ But often we want only to be able to display either way,
@ or to toggle back & forth, as was thoughtfully provided
@ by the POLAR keyboard command on the HP48[S/G][X/+]
@ which affects all complex numbers, or 2D/3D vectors:
\<< -16 DUP IF FS? THEN CF ELSE SF END \>> 'P~R' STO

@ Note that nothing is really converted internally at all here,
@ but only changes appearance in the display, and also note
@ that *all* stack objects change appearance simultaneously!

@ Here is the corresponding RAD[ian] angle mode toggle,
@ which again converts nothing internally, but only changes
@ the units in which angles are displayed or initially entered:
\<< -17 DUP IF FS? THEN CF ELSE SF END \>> 'D~R' STO
```

Aren't the latter much more convenient (and foolproof) than the way things used to be done?

Does the HP35s work in any similar fashion?

Old discussion on comp.sys.hp48:

<http://groups.google.com/group/comp.sys.hp48/msg/443f73ec50a1bd67?dmode=source>

--

*Edited: 8 Aug 2007, 5:00 p.m. after one or more responses were posted*

## Re: The Incredible HP-35s

Message #31 Posted by [SMcmullin](#) on 8 Aug 2007, 4:15 p.m.,  
in response to message #30 by John H Meyers

Just another spin: How do you convert H.ms to Hrs, and then insert into the polar notation without having to re-enter the value?

Any ideas?

## Re: The Incredible HP-35s

*Message #32 Posted by [John H Meyers](#) on 8 Aug 2007, 4:49 p.m.,  
in response to message #31 by SMcmullin*

Quote:

Just another spin: How do you convert H.ms to Hrs, and then insert into the polar notation without having to re-enter the value?

That's obviously one of the special cases in which you do need to separately convert dd.mmss to pure degrees, and then combine it with the other coordinate -- or create a program to do it for you.

The issue is specific to the degrees angular mode, and has no counterpart in radian or grad angle mode, so it is not surprising that there is no single built-in command for it; calcs that have a "dms" key that does "on the fly" conversion while typing might be able to accommodate this anyway, but even that style of data entry has its own pitfalls to consider.

### **48/49 series polar/rectangular conversions**

*Message #33 Posted by [James M. Prange \(Michigan\)](#) on 8 Aug 2007, 10:19 p.m.,  
in response to message #32 by John H Meyers*

I suppose that, if it would fit into ROM, it would have been possible to include a D.MMSSs, and even a D.MMM angular mode (in addition to the radian, (decimal) degree, and grad modes), but apparently the developers felt that the HMS\-, \->HMS, HMS+, and HMS- commands sufficed.

Regards,  
James

*Edited: 8 Aug 2007, 11:12 p.m.*

### **48/49 series polar/rectangular conversions**

*Message #34 Posted by [James M. Prange \(Michigan\)](#) on 8 Aug 2007, 11:08 p.m.,  
in response to message #31 by SMcmullin*

Quote:

Just another spin: How do you convert H.ms to Hrs, and then insert into the polar notation without having to re-enter the value?

Any ideas?

Use \->V2 or \->V3.

Regards,  
James

*Edited: 8 Aug 2007, 11:12 p.m.*

### **Re: The Incredible HP-35s**

*Message #35 Posted by [Jeff O.](#) on 10 Aug 2007, 8:36 a.m.,  
in response to message #31 by SMcmullin*

I may have missed the point of this thread, but are you asking how to convert an angle in H.MS format to decimal degrees, then get that as the angular portion of a complex number on the 35s (i.e., not the 48, 49 or 50) without having to key in a magnitude, press theta, then re-key in the angle? If so, the following keystrokes will do it:

| <u>keystroke</u> | <u>Comments</u>                                     |
|------------------|---|
| HMS->            | Converts your H.MS angle to decimal degrees         |
| ->RAD            | Converts decimal degrees to radians                 |
| i                | the i key, 2nd row, 4th key                         |
| *                | multiply  |
| e <sup>x</sup>   | raise e to the power of the value in the x register |

The above will give you a complex number with a magnitude of 1 at your original angle. If you have a magnitude hanging around that you wanted as part of this complex number, enter that and multiply to get a complex number with that magnitude at your original angle. (Credit to Les for presenting this technique [in this message](#).)

### 48/49 series polar/rectangular conversions

Message #36 Posted by [James M. Prange \(Michigan\)](#) on 8 Aug 2007, 10:07 p.m.,  
in response to message #30 by John H Meyers

I'll add that  $\backslash\rightarrow V2$  returns a 2-element vector if flag -19 is clear, or a complex number if flag -19 is set.

Also,  $V\backslash\rightarrow$  can be used to convert a complex number to a pair of real numbers, respecting the coordinate system and angular modes, regardless of the state of flag -19, as well as for converting a vector to reals.

Note that since vectors and complex numbers are always stored using rectangular coordinates, approximations due to rounding may apply when converting to or from polar coordinates, including when editing a complex number or vector when in polar mode. For example:

[ 1. 1. ] DEG CYLIN displays [ 1.41421356237  $\backslash\langle$ 45. ], and  $V\backslash\rightarrow$  on that returns 1.41421356237 and 45., and  $\backslash\rightarrow V2$  on those returns [ 1.41421356237  $\backslash\langle$ 45. ], but now RECT displays [ .999999999998 .999999999998 ] instead of the original vector.

Another example:

Enter [ 1. 1. ] DEG CYLIN to display [ 1.41421356237  $\backslash\langle$ 45. ], then execute EDIT to put [ 1.41421356237  $\backslash\langle$ 45. ] in the command line, then press ENTER to put it back on the stack, and RECT will show it as [ .999999999998 .999999999998 ] instead of the original vector.

The second example also applies to ASCII (Text) mode transfers from and back to the calculator.

Regards,  
James

*Edited: 8 Aug 2007, 11:13 p.m.*

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## HP Forum Archive 17

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### HP 17BII+ not "geeky" enough

Message #1 Posted by [David Smith](#) on 6 Aug 2007, 11:56 p.m.

Greetings to all, I just joined.

This is probably going to sound strange, but I just bought a 17BII+ calculator and, well, it just doesn't feel HP "geeky" to me. I first discovered, and fell in love with, HP's in college in the late 80's. Started with an 11c, moved up to a 28s for the ability to program (which saved me on a final). But let's say that higher math and I don't get along well and I moved into other areas.

Recently I opened a business of my own, and after a year of leaning how to not get completely lost I got completely lost. So I am working on learning more about business finance. I've read the threads about finance calculators so there isn't much need to cover those models strengths and weaknesses.

My problem is this: I am also a hopeless gadgeteer (I waited in line for four hours for an iPhone if you need an example). And I have to admit, graphing is way cool. I look at the higher end calculators and wonder should I go with one (A graphing calculator! Yeah!) that has the financials and simply add the calculations I need. So should I buy a 17bII and/or a 12c off ebay and settle on one, stick with the one I have, get the really cool calculator that graphs and has lots of buttons I will rarely use, or buy the fancy calculator and call it the beginning of a collection. ;-)

### Re: HP 17BII+ not "geeky" enough

Message #2 Posted by [Bill \(Smithville, NJ\)](#) on 7 Aug 2007, 4:03 a.m.,  
in response to message #1 by David Smith

Hi David,

I have a simple response:

You Wrote:

*So should I buy a 17bII and/or a 12c off ebay - YES to Both*

*stick with the one I have, get the really cool calculator that graphs and has lots of buttons I will rarely use - YES*

*buy the fancy calculator and call it the beginning of a collection. ;-)* - YES YES YES

Actually, for the price you'll be paying for the iPhone during the next two years, you could have a start on a really great HP Calculator collection :)

Bill

### Re: HP 17BII+ not "geeky" enough

Message #3 Posted by [Dave Colver](#) on 7 Aug 2007, 10:56 a.m.,

*in response to message #1 by David Smith*

Hi David

I have to say that the solver on the 17bII range is a thing of beauty and possibly under represented. Dont be fooled by the sparse keyboard - theres a lot in there. As a historical placeholder it represents a great deal of refinement.

The 12c is a nice machine - but whatever you want to do its easier on the 17...

Just my .02 GBP :)

Dave

---

**Re: HP 17BII+ not "geeky" enough**

*Message #4 Posted by **Bruce Bergman** on 7 Aug 2007, 1:50 p.m.,  
in response to message #3 by Dave Colver*

I have to agree with David. While I don't use a financial calculator on a daily basis, I was always somewhat frustrated with the 12c. I got my hands on a 17bii+ last year as a lark and it was light years better than the 12c. My 12c now sits in my "collection" pile, and I've used the 17bii+ more than I ever expected. It really is a great calc.

thanks, bruce

---

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## HP Forum Archive 17

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### I played with a Casio fx9860 today

Message #1 Posted by [Bruce Bergman](#) on 6 Aug 2007, 11:54 p.m.

We talked about this calc in the forum a few months back. Looks like it's available commercially now, as I just spotted it in my local Staples. \$99, so about par with the non-clam-shell version.

I have to admit, it's really engaging. The screen is crystal clear solid; no shadows whatsoever, dark black characters and it almost looks like a Sony PrintScreen (or whatever those eBook things are called) in terms of clarity. In some respects, I think they have room to dial up the resolution, as it was SO clear that at times it seemed too blocky.

Anyhow, it seems to function a lot like a TI-8x model, with some cool features and usability enhancements. The light is a nice touch, for those late night under-the-blanket study sessions. ;-) The clam shell is very cool, although a bit thick. It opens easily, closes nicely and makes the calc very nice to hold.

I know nothing about Casio calc programmability, but it did have a PRGM function and put me into something resembling a text editor. Not sure what to do there, but it was kinda neat.

Anyone know anything more about this thing? Good, bad? Interesting, boring?

thanks, bruce

### Re: I played with a Casio fx9860 today

Message #2 Posted by [Walter B](#) on 7 Aug 2007, 2:07 a.m.,  
in response to message #1 by Bruce Bergman

Seems to be available in Europe for some time already. You find a detailed picture [here](#). No idea about practical merits, because I do hate Casio's soft keys and their "strange" user interface (of course, it's maybe strange only for people not used to it ;-)

### Re: I played with a Casio fx9860 today

Message #3 Posted by [Raymond Del Tondo](#) on 7 Aug 2007, 5:29 a.m.,  
in response to message #2 by Walter B

And the on-screen menu keys look ugly and defective. I think they were meant to look 'modern' or what, but the cutout just looks defective IMHO.

Raymond

### "Strange"?

Message #4 Posted by [Palmer O. Hanson, Jr.](#) on 7 Aug 2007, 9:12 p.m.,  
in response to message #2 by Walter B

Quote:

---

(of course, it's maybe strange only for people not used to it ;-)

---

When you are discussing "strange" try to remember how "strange" RPN is to the rest of the calculating world. Entering an equation is a little like the old children's book "Inside, outside, upside down."

---

**Re: I played with a Casio fx9860 today**

Message #5 Posted by [Vincze](#) on 8 Aug 2007, 8:32 p.m.,  
in response to message #2 by Walter B

Quote:

---

... I do hate Casio's soft keys...

---

Walter, Guten tag my friend. The word "hate" is a very harsh word, do you not agree. Yes, Casio is not HP, but to be perfectly honest, I like the rubber/soft keys for some reason. I'm not sure why. Then again, I like computer keyboards that click too, so call me odd I guess.

Take care my friend.

---

**Re: I played with a Casio fx9860 today**

Message #6 Posted by [Ed Look](#) on 9 Aug 2007, 12:22 a.m.,  
in response to message #5 by Vincze

Vincze, I think you'll find there are lots of us who prefer the clicky, tactile-feel keyboards. I am using one right now. When it finally goes bad, I don't know where I'll get another one (affordably).

---

**Re: I played with a Casio fx9860 today**

Message #7 Posted by [Chris Haltiner](#) on 9 Aug 2007, 10:59 a.m.,  
in response to message #6 by Ed Look

Pckeyboard.com makes the old IBM PC style keyboard. (They are the factory where the IBM keyboards were made.) I love the clickity, mechanical key press and the tactile feel it provides. All of my non-laptop computers use either their keyboards or actual IBM PC keyboards.

---

**Re: I played with a Casio fx9860 today**

Message #8 Posted by [Dave Shaffer \(Arizona\)](#) on 9 Aug 2007, 5:05 p.m.,  
in response to message #7 by Chris Haltiner

Quote:

---

I love the clickity, mechanical key press and the tactile feel it provides. All of my non-laptop computers use either their keyboards or actual IBM PC keyboards.

---

I love that, too. The IBM PC/AT keyboard is the best ever made - I have 4 of them, one on every PC (and some times plugged into my laptop via a USB adapter). And, they have the function keys on the left, where they belong, so that I can do more, more quickly, with WordPerfect for DOS!! Your hands never leave the keyboard. I can select, cut, and paste a column in WP for DOS before a Windows user can even begin to get his mouse moving!



### **Re: I played with a Casio fx9860 today**

*Message #9 Posted by [Xerxes](#) on 7 Aug 2007, 6:16 a.m.,  
in response to message #1 by Bruce Bergman*

The FX-9860G uses a Basic like formula programming language. This programming model was used at the first time by the FX-7000G and FX-4000P both from 1985. In later models Casio added some instructions for structured programming. In addition a C Cross Compiler is available. If you are interested in some examples, have a look [here](#).

An important difference to the previous non CAS models is the hardware. Instead of a 8-bit proprietary CPU a Hitachi/Renesas SH3 CPU @ 20 MHz (up to 80 MHz by software) is used, that's what makes the FX-9860G very fast.

The FX-9860G Slim reminds me to the FX-7500G from 1988.

### **Re: I played with a Casio fx9860 today**

*Message #10 Posted by [Bruce Bergman](#) on 7 Aug 2007, 2:11 p.m.,  
in response to message #9 by Xerxes*

Wow, very interesting! That is one really fast calc. I can see that it beat almost everything out there in each sub-category. I was pleasantly surprised to see that the HP-50g held its own throughout each group too. Go HP! :-)

Sadly, I'm sure the HP-35s will come out near the bottom -- man, the more I play with this thing, the slower it seems...

thanks, bruce

### **Re: I played with a Casio fx9860 today**

*Message #11 Posted by [Ed Look](#) on 7 Aug 2007, 2:40 p.m.,  
in response to message #10 by Bruce Bergman*

Ah, well, I think the 35s was designed with different objectives in mind than a 50g. Some are obvious, like being \$60, and I guess the use of a less powerful processor and simpler circuit design may in practice translate out to be a bit slower.

### **Re: I played with a Casio fx9860 today**

*Message #12 Posted by [hugh steers](#) on 7 Aug 2007, 2:55 p.m.,  
in response to message #10 by Bruce Bergman*

im fairly pleased with the CPU performance of the 50g for my cross developments and regard it as a hardware platform. when using hpgcc, im switching off the "slow" mode to get the full speed. presumably the slow mode is also off for normal use - or is the machine underclocked by default. if so that could be interesting.

i suspect that HP would have used a slower processor if they hadn't needed the saturn emulation. so from their point of view, the use of a 75MHz ARM9 was an unavoidable mistake. i have always thought that hp calculators were too slow. this time around, i see the "mistake" as an advantage in that the calculator is, at last, not too slow and can actually do some really interesting stuff. more ram would be useful too :-)) hopefully hp will begin see their "mistake" as an asset and intentionally posit cheap/low power and fast cpus.

i agree that the 35s is too slow, embarrassingly underperforming its predecessors in some tests. this has let down, otherwise, quite a nice calculator. many casios now perform formerly tricky problems like numerical quadrature with newer algorithms and some quantity of clout. it would have been nice to see the 35s do this too - with the clout. with only improved speed, at least those methods could be programmed and accommodated by the now capacious memory.

i think hp are missing a trick here and i don't really buy the increased cost or battery life arguments, because even the 35s isn't really that cheap (compared to other makes) and it could have easily taken a couple of AAA cells if that was necessary (which are cheaper anyway).

?

### **35S Serial number**

*Message #13 Posted by [Ralph](#) on 7 Aug 2007, 11:18 p.m.,  
in response to message #12 by hugh steers*

I like the 9860 clamshell. It is very fast. They use a nice big screen that is not "fine" like the 50G because the pixels are just larger. Casio does not have quite the range of drawing tools the HP does (no arc command comes to mind), It also has a backlight function, the first I've seen on a calculator. Clamshell version only.

It does a lot of things, not as many possibly as the HP's The multiverse menu system on the Casios were the hardest thing I had to warm up to. I like a calculator that comes on to calculate when I press that "ON" button.

### **Re:Casio FX-9860**

*Message #14 Posted by [Donald Williams](#) on 8 Aug 2007, 10:57 a.m.,  
in response to message #13 by Ralph*

I purchased the clamshell also. I was intrigued by the back lighting and the help functions. Both are very useful. The screen is top notch, but I found it annoying that the screen is so much heavier than the base. The calc will tend to tip over backwards if you try to use it on a soft surface. It seems quite fast. Initially I discounted the spreadsheet application as a mere marketing gimmick, but now I find, that since I am so accustomed to this metaphor from years of PC work, I seem to be doing a lot of exploring in this module. The downside is the typical Casio keyboard and minimal documentation. I wish the emulator used the clamshell layout rather than the other design. No experience with the SDK for the moment.

*Edited: 8 Aug 2007, 11:06 a.m.*

### **Re:Casio FX-9860**

*Message #15 Posted by [Katie Wasserman](#) on 8 Aug 2007, 12:08 p.m.,  
in response to message #14 by Donald Williams*

Quote:

\_\_\_\_\_

The downside is the typical Casio keyboard and minimal documentation

\_\_\_\_\_

There's a 600 page reference manual on this machine [here](#). Did they not include this with the calculator?

## **Re:Casio FX-9860**

*Message #16 Posted by **Donald Williams** on 8 Aug 2007, 12:46 p.m.,  
in response to message #15 by Katie Wasserman*

I stand corrected. All the important documentation is available on the CD that comes with the product. Very complete as far as I can tell.

However your first experience "out of the box" is with the quick start guide. A 17 page introduction, which I was unable to read without the aid of a magnifying lamp. When the fonts get that small I cannot read the key operation instructions.

In all fairness though, this is an operator flaw.

## **Re:Casio FX-9860**

*Message #17 Posted by **Bruce Bergman** on 8 Aug 2007, 12:54 p.m.,  
in response to message #14 by Donald Williams*

Yeah, I agree about the keyboard; it's icky. Soft mushy keys. A couple of times I wasn't sure I hit them. Maybe I'm just too used to the HP keys.

I didn't notice the screen weight/balance issue, but then again I was holding it in my hand. I can see where if you tilt it out and try to set it down, it will flop over. A simple pull-out back brace might have fixed that.

I don't at all like how the calc approaches operation, but it's an intriguing toy. I might buy one eventually, just to muck around with it and see how it works.

Do anyone know anything about the software? Seems very similar to the TI software. Have they licensed it from TI, or were they just mimicing it as much as they could?

thanks, bruce

## **Which came first?**

*Message #18 Posted by **Palmer O. Hanson, Jr.** on 8 Aug 2007, 1:50 p.m.,  
in response to message #17 by Bruce Bergman*

Quote:

Do anyone know anything about the software? Seems very similar to the TI software. Have they licensed it from TI, or were they just mimicing it as much as they could?

Which came first, the chicken or the egg?

When Casio put the first graphing calculator, the fx-7000G, on the market it had a new "true algebraic" system which was more like higher order languages such as BASIC and FORTRAN than it was like TI's traditional "algebraic operating system" known as AOS. Several years later when TI put it's first graphing calculator, the TI-80, on the market it used an "Equation Operating System" known as EOS. (Or, did the TI-81 come before the TI-80? My memory get shakier year by year.) EOS was remarkably similar to the Casio "true algebraic" system. The operating systems for the graphing calculators from the two product lines have had a lot of similarity ever since.

**Re: Which came first?**

*Message #19 Posted by [Bruce Bergman](#) on 8 Aug 2007, 2:16 p.m.,  
in response to message #18 by Palmer O. Hanson, Jr.*

Good question!

But is that similarity a "functional" similarity or merely a "visual" similarity? What got me thinking about this was a class I was taking where the recommend unit was a TI-83 or better calc. I, naturally, used my 50g instead, but I did suffer from examples the prof did on the TI. I was thinking that if the software was functionally the same as the TI software, I'd much rather play with this unit and do the examples, than to actually buy a TI calc (something that won't happen in MY household! :-).

thanks, bruce

**Re: Which came first?**

*Message #20 Posted by [Donald Williams](#) on 8 Aug 2007, 4:13 p.m.,  
in response to message #19 by Bruce Bergman*

You can play for 30 days.

Go [here](#).

Click on FX-9860G Manager Test

Give them some info and they respond with an email with a link to download the manager app.

You will also want the calculator manual. See Katies earlier post with that link.

Have fun.

*Edited: 8 Aug 2007, 4:16 p.m.*

**Re: Which came first?**

*Message #21 Posted by [Bruce Bergman](#) on 8 Aug 2007, 6:28 p.m.,  
in response to message #20 by Donald Williams*

Very cool. I wish HP would REALLY get on the bandwagon with the educational market like Casio has. This is a great incentive for educators to check out a new calc. HP has their emulator, but it's much too hard to get permission to use it.

Casio does a good job at this. Last year they had a buy-back program to give you credit for all the TI calculators you could turn in. A great idea!

thanks, bruce

**Re: Which came first?**

*Message #22 Posted by [Donald Williams](#) on 8 Aug 2007, 6:52 p.m.,  
in response to message #21 by Bruce Bergman*

Just don't get addicted. That is an early version, I think. It must have bugs. There is a later version advertised on the Casio web site, but for the life of me I cannot determine how it could be purchased.

I had the same experience with the HP emulator. Lied and begged only to receive emails indicating I was not qualified.

Go figure!

Don W. - "Don't ask me! I just lurk here"

*Edited: 8 Aug 2007, 7:00 p.m.*

### **Re: Which came first?**

*Message #23 Posted by [Katie Wasserman](#) on 8 Aug 2007, 8:35 p.m., in response to message #22 by Donald Williams*

Quote:

There is a later version advertised on the Casio web site, but for the life of me I cannot determine how it could be purchased.

[Buy.com has it for \\$70](#) no need to be a qualified educator for this purchase. I really don't know what HP's thinking is as far as the emulators are concerned.

### **Re: Which came first?**

*Message #24 Posted by [Vincze](#) on 8 Aug 2007, 8:37 p.m., in response to message #21 by Bruce Bergman*

Does HP realize the market they could have if they would just "donate" a bunch of their calculators to schools and university. Plant the seed now with young students and give free calculator to professors, and I bet we will see another wave of dedicated users in 5 - 10 years who will help sustain the users community.

### **On penetrating an established market**

*Message #25 Posted by [Palmer O. Hanson, Jr.](#) on 9 Aug 2007, 11:22 a.m., in response to message #24 by Vincze*

Quote:

Does HP realize the market they could have if they would just "donate" a bunch of their calculators to schools and university. Plant the seed now with young students and give free calculator to professors, and I bet we will see another wave of dedicated users in 5 - 10 years who will help sustain the users community.

Penetrating a market which as been dominated by another vendor will be a lot harder than that. For example, consider the secondary school market where teachers have been supported by TI for almost twenty years and HP doesn't even have a presence. Mermbers of the HP community may think that addition of an RPN machine to the classroom would be an asset. To the teacher it will probably seem more like a classroom distraction.

To understand the lack of "presence" of the HP product line in the educational market you need to consider the recent sales tax holidays for educational supplies in states such as Florida and North Carolina. Wal-Mart, Staples, etc., had extra "back-to-school" displays for TI and Casio. Wal-Mart even had a "back-to school" display for LeWorld! HP was not present except in one Wal-Mart where I saw a couple of ten-B-Twos -- but they were actually behind some Casios.

### **The Rooster**

*Message #26 Posted by [Vincze](#) on 8 Aug 2007, 8:41 p.m.,  
in response to message #18 by Palmer O. Hanson, Jr.*

Quote:

Which came first, the chicken or the egg?

I think it was the Rooster. I Sorry, that was \*fowl\*. Oh, I did it again.

I sorry... a little Hungarian humor. Forgive me as I am silly tonight. My son had best time in cross country this morning and I am full of life.

### **Re: The Rooster**

*Message #27 Posted by [James M. Prange \(Michigan\)](#) on 8 Aug 2007, 10:26 p.m.,  
in response to message #26 by Vincze*

Quote:

I think it was the Rooster.

Of course! A rib was taken from the first rooster and that was fashioned into the first hen.

Regards,  
James

### **Re: The Rooster**

*Message #28 Posted by [Walter B](#) on 9 Aug 2007, 1:40 a.m.,  
in response to message #27 by James M. Prange (Michigan)*

LOL!!

I've read about creationists having a stronghold overseas, but didn't know we have them in this very forum so far. Another task to tackle ;-)

**Re: The Rooster? No, no - an egg!**

*Message #29 Posted by **Nenad (Croatia)** on 9 Aug 2007, 3:57 p.m.,  
in response to message #26 by Vincze*

Quote:

I think it was the Rooster.

Not at all!

An egg came before a chicken (as well as before the rooster).

PROOF

Dinosaurs came out to the world from eggs. At that time there were no hens, roosters, or chicken. So, we may conclude that eggs were in this world (at least on the Earth) before chicken. Period.

QED

What do you think about this puristic nerd approach;)

Well, if I am not a nerd, would I be using RPN, while all other (normal) people rewrite equations in their calculators exactly as they are written down and do not care about intermediate results?

**Re: The Rooster? No, no - an egg!**

*Message #30 Posted by **Vincze** on 9 Aug 2007, 7:48 p.m.,  
in response to message #29 by Nenad (Croatia)*

Yes, but something must "come" before egg is fertilized. :)

**Re: The Rooster? No, no - an egg!**

*Message #31 Posted by **Walter B** on 10 Aug 2007, 1:07 a.m.,  
in response to message #30 by Vincze*

Hmmmh, what about parthenogenesis? :)

**Re: The Rooster? No, no - an egg!**

*Message #32 Posted by **Vincze** on 10 Aug 2007, 8:02 a.m.,  
in response to message #31 by Walter B*

Last I knew, chicken can't do that.

**Re: The Rooster? No, no - an egg!**

*Message #33 Posted by **Walter B** on 10 Aug 2007, 4:59 p.m.,*

*in response to message #32 by Vincze*

Probably because they are no virgins anymore :-)

**Re: Which came first?**

*Message #34 Posted by **Eric Smith** on 9 Aug 2007, 5:04 p.m.,  
in response to message #18 by Palmer O. Hanson, Jr.*

Quote:

Which came first, the chicken or the egg?

<http://www.savagechickens.com/blog/2006/05/chicken-or-egg.html>

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## HP Forum Archive 17

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### 35s GTO . label issue

Message #1 Posted by [sjthomas](#) on 6 Aug 2007, 10:49 p.m.

I haven't read all of the programming chapters in the manual yet, so this may be a feature rather than a bug. If one wants to move to a particular label immediately (that is, not entering a program step) using GTO . label, pressing ENTER after the label's letter does not supply the default 001 to end the prompt -- it must be keyed in manually.

### Re: 35s GTO . label issue

Message #2 Posted by [Les Wright](#) on 7 Aug 2007, 12:20 a.m.,  
in response to message #1 by [sjthomas](#)

Yup. GTO .letter 000 will get you there too.

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## HP Forum Archive 17

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### Accurate TVM for HP 35s

Message #1 Posted by [Miguel Toro](#) on 6 Aug 2007, 9:12 p.m.

Hi,

I wrote this program for my HP 42s. I wanted to adapt it for the HP 35s and here is the routine. You have to assign the routine with FN= and then to solve for the variable you want. As you know, the Hp 35s has no LN(1+x) function included, so I implemented what is defined in the HP-15C Advanced Functions Handbook:

```
if u= (1+x)
ln(u) = x          if u = 1
          ln(u)*x/(u-1)  if u <> 1
```

References:

Hugh Steers' [TVM page](#)  
 HP-15C Advanced Functions Handbook, page 181  
 Tommi's [Accurate TVM for HP 42s](#)

Variables:

B: present value or "base" value  
 P: payment  
 n: periods  
 i: interest rate in %  
 E: end/begin modes  
 F: future value

Equation:

$$B*(1+i)^n + P*((1+i)^n - 1)/i + F = 0$$

$$(1+i)^n = e^{(n*\ln(1+i))} = i'$$

$$\rightarrow B*i' + P*(i'-1)/i + F = 0$$

Routine:

```
T001 LBL T
T002 INPUT N
T003 INPUT I
T004 INPUT B
T005 INPUT P
T006 INPUT F
T007 INPUT E
T008 RCL I
T009 100
T010 /
T011 ENTER
T012 ENTER
T013 1
T014 +
T015 LN
T016 x<>y          !switch x with y
```

```
T017 LASTx
T018 1
T019 X<>Y?      !x not equal to y?
T020 -
T021 /
T022 *
T023 RCL* N
T024 e^x
T025 RCL* B
T026 LASTx
T027 1
T028 -
T029 RCL* P
T030 RCL I
T031 100
T032 /
T033 1/X
T034 RCL+ E
T035 *
T036 +
T037 RCL+ F
T038 RTN
```

```
LN=123
CK=7940
```

I tried the following examples to compare against the 35s manual's equation, my HP 12C (made in USA) and my HP 12cp 25th anniversary:

Example A:  
 N= 365x24x60x60  
 I= 10%/N  
 B= 0  
 P= -0.01  
 E=0  
 F=?

Example B:  
 N= 32  
 B= -999,999  
 P= 0  
 F= 1,000,000  
 E= 0  
 I= ?

| Program              | Examples       |                  |
|----------------------|----------------|------------------|
|                      | A              | B                |
| HP 35s with routine  | 331,667.006689 | 3.125014111x10-6 |
| HP 35s with equation | 331,559.383308 | 3.125500000x10-6 |
| HP 12c               | 331,667.0067   | 3.125004736x10-6 |
| HP 12cp 25th Ann.    | 331,667.006691 | 3.125001000x10-6 |

All improvements are welcome as well as other examples to test it.

Regards,

Miguel

*Edited: 8 Aug 2007, 6:35 a.m. after one or more responses were posted*

## Re: Accurate TVM for HP 35s

Message #2 Posted by [Gene Wright](#) on 6 Aug 2007, 10:25 p.m.,  
 in response to message #1 by Miguel Toro

Great job, Miguel!

Now, right this up and submit it to Datafile as well and you'll be a published author in the magazine too. :-)

### **Re: Accurate TVM for HP 35s**

*Message #3 Posted by [sjthomas](#) on 6 Aug 2007, 10:36 p.m.,  
in response to message #1 by Miguel Toro*

Is this listing correct? I've proofed my input of this program three times and it matches the posted listing, but I get CK=D44E and LN=127 and the program errors with an OVERFLOW when I run it.

### **Re: Accurate TVM for HP 35s**

*Message #4 Posted by [Miguel Toro](#) on 6 Aug 2007, 10:50 p.m.,  
in response to message #3 by sjthomas*

You are correct. I did not write the last version, but I put the checksum of it. I corrected the listing and It should work.

Thanks,

Miguel

### **Re: Accurate TVM for HP 35s**

*Message #5 Posted by [ECL](#) on 7 Aug 2007, 12:12 p.m.,  
in response to message #4 by Miguel Toro*

Miguel,

I also tried keying it in, and get:

Checksum 45DC LN = 123

Also, I'm not quite sure if I understand the methodology behind your INPUTs. How can I decide which variable to solve for?

I'll mention that I am not new to programming on HP machines, just forgive me if I've missed a fundamental point.

Also, as of now I also get OVERFLOW when I XEQ it.

Thanks,

ECL

### **Re: Accurate TVM for HP 35s**

*Message #6 Posted by [Miguel Toro](#) on 7 Aug 2007, 12:49 p.m.,  
in response to message #5 by ECL*

I keyed the program and it is correct as it is in the post. Please verify lines:

T0016 x<>y this is switch x and y.

T0019 X<>Y? this is compare if x is different than y.

The confusion may come from there.

To solve the program just assign it to FN= and next you solve it. You do not XEQ it!. See the

keystrokes:

```
[LS] [FN=]
      T
[SOLVE]
```

The solver will ask for the unknown variable for which you want to solve, and it will ask for values for the rest of the variables.

Regards,

Miguel

*Edited: 7 Aug 2007, 1:03 p.m.*

## Re: Accurate TVM for HP 35s

*Message #7 Posted by [Vincze](#) on 7 Aug 2007, 9:37 a.m.,  
in response to message #1 by Miguel Toro*

Good Morning Miguel. This is very interesting. One question I have though is was reason you store as FN= so you could choose what variable you wish to solve for? Can you store multiple FN or just one?

Also, there are about 10 (if I remember correctly) TVN formulas for different things (future value of lump sum, present value of annuity, etc), and then based on various criteria (annual compounding, compounded n times per year, and continuous compounding). I think I might and try and tackle those as a starter to learn how to program with 35s. I working on my MBA (is that funny. Stupid Hungarian working on MBA when he can not even speak language very well).

## Re: Accurate TVM for HP 35s

*Message #8 Posted by [Miguel Toro](#) on 7 Aug 2007, 12:28 p.m.,  
in response to message #7 by Vincze*

Hi Vincze,

You have to tell the calculator which program you want to solve. You do that by selecting the program label with the "FN=" key. The solver will continue to use the program selected as long as you do not change to another program (with another FN= assignment for a different label).

Once called, Solver will ask for the unknown variable and it will ask for values for the rest of the variables that have INPUT instructions.

Also, most of the things that you mention can be solved already with this routine, so you just have to enter the data as it is needed by the problem. That is the beauty of this equation.

Example 1: Future value of a lump sum. If John invests \$1,850 today in an asset earning a 10% rate of return (compounded annually), how much will he have after two years?

Keystrokes:

```
[LS] FN=
      T           This is just to do once if you are to do several problems with the
same program.
[RS] CLEAR 2
[RS] SOLVE
SOLVE
      F           The unknown
N?
```

```

2      [R/S]
I?    10  [R/S]
B?    1850 [R/S]
P?    0    [R/S]
E     0    [R/S]
F=   -2238.50

```

**Example 2: Present value of annuity.** How much should you invest now so that, starting one year from today, your daughter can receive \$6,000 per year for the next five years? Assume the discount rate is 15%.

Keystrokes:

```

[RS] CLEAR 2
[RS] SOLVE
SOLVE
B           The unknown
N?    5     [R/S]
I?    15    [R/S]
P?    6000 [R/S]
F?    0     [R/S]
E     0     [R/S]
B=   -20112.93

```

And so on...

Regards,

Miguel

*Edited: 7 Aug 2007, 12:57 p.m.*

## Re: Accurate TVM for HP 35s

*Message #9 Posted by [Vincze](#) on 7 Aug 2007, 12:59 p.m.,  
in response to message #8 by Miguel Toro*

Miguel, thank you my friend for the example. I see now how FN= work now. One question I do have though is what is the formula i' for? In MBA, I aware of  $P/i*(1-(1+i)^{-n})+F*(1+i)^{-n}+B=0$  to solve for TVM, assuming that this loan payment and payment at end of period and not beginning. For beginning (or lease generally) there different formula. Yours account for that nicely, but I do not understand the i' formula. I would think that if not needed, program might be shorter and more efficient. Let me think through and I will post back.

## Slightly Shorter TVM program

*Message #10 Posted by [Vincze](#) on 7 Aug 2007, 4:00 p.m.,  
in response to message #9 by Vincze*

Okay, I try my hand at first program. I must admit, harder than I thought. Let me state up front though, that this getting wrong answer **\*\*EDIT:(the below program has been corrected)\*\***, so I need help of members to see where I go wrong.

First, I use the following formula:

$$P/I * (1 - (1+I)^{-N}) + F * (1+I)^{-N+B}$$

I then collect like terms and get:

$$(1 - (1+I)^{-N}) * P/I + (1+I)^{-N} * F + B$$

Variables are same as above program, but I is in the factor of %/(n payments per year), so if interest be 5% and 12 payments per year, then

$$.05/12 = .004167 = I$$

My **\*\*CORRECTED\*\*** program steps are below:

```

T001 LBL T
T002 INPUT I
T003 INPUT N
T004 INPUT P
T005 INPUT B
T006 INPUT F
T007 1
T008 RCL + I
T009 RCL N
T010 +/-
T011 Y^X
T012 1
T013 X<->Y
T014 -
T015 RCL *P
T016 RCL /I
T017 1
T018 RCL +I
T019 RCL N
T020 +/-
T021 Y^X
T022 RCL * F
T023 RCL + B
T024 +
T025 RTN

```

I wonder if I have order of operator error someplace. I look, but sometime it better if fresh eyes look at to see my mistake.

If the following variables are entered, the result should be -1588.9920 when solving for P.

```

I = .004167
N = 360
P = ?
B = 296,000
F = 0

```

...but with above formula, I get -1233.432.

**\*\*EDIT\*\*** Corrected formula yields correct value of -1588.9920.

*Edited: 7 Aug 2007, 4:51 p.m. after one or more responses were posted*

## Re: Slightly Shorter TVM program

Message #11 Posted by [Miguel Toro](#) on 7 Aug 2007, 4:39 p.m.,  
in response to message #10 by Vincze

Try this:

```

T001 LBL T
T002 INPUT I
T003 INPUT N
T004 INPUT P
T005 INPUT B

```

```

T006 INPUT F
T007 1
T008 RCL + I
T009 RCL N
T010 +/-
T011 Y^X
T012 1
T013 X<->Y
T014 -
T015 RCL *P
T016 RCL /I
T017 1
T018 RCL +I
T019 RCL N
T020 +/-
T021 Y^X
T022 RCL *F
T023 +
T024 RCL +B
T025 RTN

```

And try to solve for the extreme cases from my original post. What do you get? :-)

Miguel

### Re: Slightly Shorter TVM program

Message #12 Posted by [Vincze](#) on 7 Aug 2007, 4:48 p.m.,  
in response to message #11 by Miguel Toro

Yes, I see my error on line T015, and was going to post correction, but you beat me to it. I forgot to multiply there.

With your extreme case example, I don't think you would use this formula normally for continuous compounding (first example), and with second example, yes it extreme, but not realistic.

*Edited: 7 Aug 2007, 5:40 p.m.*

### Re: Slightly Shorter TVM program

Message #13 Posted by [Miguel Toro](#) on 7 Aug 2007, 6:07 p.m.,  
in response to message #12 by Vincze

The point is that with the program I posted you maintain enough precision to be sure of obtaining accurate results, even in extreme cases where you have too small an interest rate that it can lose decimals because of the precision of the calculator. That is why we make the change in the formula using:

$$(1+i)^n = e^{(n*\ln(1+i))}$$

$\ln(1+i)$  lets us to preserve accuracy, so the hp 35s can come closer to dedicated calculators as the hp 12c and expands its usefulness.

Regards,

Miguel

*Edited: 7 Aug 2007, 6:41 p.m.*

### Re: Slightly Shorter TVM program



*Message #14 Posted by **Vincze** on 7 Aug 2007, 9:05 p.m.,  
in response to message #13 by Miguel Toro*

My friend Miguel, I mean no disrespect, but I think your program very good, but again unrealistic in real world situation. Yes, if we have continuous compounding with continuous funding, it does do better than mine, but the basic TVM formula has not changed much in the last 100 years. The reason being is that interest rates have not reached minimal numbers like your program simulate. Yes, in theory it is possible, but not realistic. I think your program a very good example of what we call didaktikus in hungarian (I apologize, I do not have hungarian english dictionary with me to find english same word). It mean example, or teaching. Again it possible to have money continuously grow and add .01 cent continuously, but what bank could ever do that? I think for most real world example, it might be a bit more than need and if I be banker I may want shorter program that be faster. Just my opinion.

I hope there no hard feeling. I still interested though in your formula, as I have never seen the I' portion as when I plan continous equations we do it much differently with much shorter formula.

Thank you again my friend though for enlighten me in different way of doing same thing and letting me get feet wet in HP programming.

### **Re: Slightly Shorter TVM program**

*Message #15 Posted by **Paul Dale** on 7 Aug 2007, 9:12 p.m.,  
in response to message #14 by Vincze*

Quote:

I think your program a very good example of what we call didaktikus in hungarian (I apologize, I do not have hungarian english dictionary with me to find english same word).

I imaging that "didaktikus" translates roughly to "didactic" or a derative form.

Not that I understand any Hungarian :-)

- Pauli

### **Re: Slightly Shorter TVM program**

*Message #16 Posted by **Vincze** on 8 Aug 2007, 8:46 a.m.,  
in response to message #15 by Paul Dale*

Quote:

I imaging that "didaktikus" translates roughly to "didactic" or a derative form.

Paul, I look in my dictionary this morning and it does not have didaktikus in there to translate to english, but when I look up the word "didactic", the definition is very close too what I mean, so they must be related.

I will email someone who has better Hungarian / English dictionary to double check. Thank you for your help. I see I learn new English word today. Yesterday I learn "ameliorate", or to make better.

### **Re: Slightly Shorter TVM program**

*Message #17 Posted by **Vincze** on 8 Aug 2007, 8:42 a.m.,  
in response to message #13 by Miguel Toro*

Quote:

$$(1+i)^n = e^{(n*\ln(1+i))}$$

ln(1+i) lets us to preserve accuracy, so the hp 35s can come closer to dedicated calculators as the hp 12c and expands its usefulness.

I guess I am still hung up on this part of the formula. Can you point me someplace that discuss this further. Obviously, accuracy a big concern, but in my studies, I have not seen this.

### **Re: Slightly Shorter TVM program**

*Message #18 Posted by **Miguel Toro** on 8 Aug 2007, 9:15 a.m.,  
in response to message #17 by Vincze*

Hi Vincze,

In my original post, you can click on two excellent links that explain the matter further. You can also see the page 181 of the HP 15c "Advanced functions handbook" for this specific subject, or the entire chapter "Accuracy of numerical calculations" for discussions about different types of problems. If you do not have the book, the best alternative is the DVD from the museum, of course. :-)

Miguel

### **Re: Slightly Shorter TVM program**

*Message #19 Posted by **Vincze** on 8 Aug 2007, 9:40 a.m.,  
in response to message #18 by Miguel Toro*

My friend Miguel, I just read the 15C book example. So what it sounds like is that this deals with convexity and duration vector. Very interesting.

It should be noted, that TVM calculation are basically just estimates. Granted, banks want these as accurate as possible, but I think even with convexity and duration vectors, it will still be an estimate, but obviously much better. The TVM calculation is basically a polynomial, as because of that it will have roots (yes, plural. financial calculators only will find the one, but if you solve the formula and use the standard quadratic equation to solve for the unknowns, you will see what I mean). I wonder if there is a way to harness the polynomial in a different way to get an *even* more accurate solution.

Very interesting my friend. Thank you for the enlightenment.

Edited: 8 Aug 2007, 10:08 a.m.

## Re: Slightly Shorter TVM program

Message #20 Posted by [John H Meyers](#) on 9 Aug 2007, 4:51 a.m.,  
in response to message #13 by Miguel Toro

Quote:

The point is that with the program I posted you maintain enough precision to be sure of obtaining accurate results, even in extreme cases where you have too small a interest rate that it can loose decimals because of the precision of the calculator. That is why we make the change in the formula using:

$$(1+i)^n = e^{(n*\ln(1+i))}$$

$\ln(1+i)$  lets us to preserve accuracy, so the hp 35s can come closer to dedicated calculators as the hp 12c and expands its usefulness.

I don't know how 35s does internal computations, but on most past HP-designed series,

$$(1+i)^n$$

is calculated more accurately than

$$e^{(n*\ln(1+i))}$$

because it is using exactly the same formula internally anyway, but is retaining extended precision, which is lost when the intermediate "user" results are rounded to lesser precision.

In particular, on a calculator which always keeps the same number of digits in intermediate results, the moment we add 1 to a very small value of  $i$ , only the leading significant digits of the original  $i$  remain, and we have already lost any chance to get a completely accurate final result from the remaining steps.

This happens no matter which way we try to calculate the expression above, but it's worse when we take the log and multiply etc. ourselves, because then our intermediate results get rounded to "user" precision at each step, including the log and multiply, whereas when the calc does it, it can do the log, multiply and final EXP using greater internal precision than we can.

To retain precision for very small " $i$ " and large " $n$ " one really needs the special internal LNPI and EXPM functions, which for small arguments use series expansions that omit the first term. I'm working on a bit longer document about this, at least as it would apply to numerical methods on older series; perhaps 35s uses different internal numerical recipies, and if so, any experiments which shed light on that would be of interest.

## TVM equation principles

Message #21 Posted by [John H Meyers](#) on 9 Aug 2007, 5:31 a.m.,  
in response to message #20 by John H Meyers

This long-winded excursion explores the merits of different equations upon which a TVM solver could be based, if instead of the closed-form solutions available for all variables except interest, we seek a single suitable formula to use with numeric root-hunting algorithms, to solve all cases of the common five-variable TVM application.

Some principles to consider:

- o Reasonable initial guesses should always send the root hunter in the right direction, to locate a true and meaningful root, for all "shapes" of problems, initial guesses, and when solving for any variable.

Suggested formulas of general type 'f(n,i%yr,PV,PMT,FV,PYR,Begin?)=0' often differ from one another by having both sides multiplied or divided by some expression -- the right side, of course, always remaining zero under these transformations.

Sometimes we see the FV term having no other variables in its coefficient, and sometimes the PV term is chosen to have the honor instead; each of these has a characteristic which is particularly good if the cash flows are "loaded" towards one end or the other of the time line, but may turn out disadvantageously in an oppositely "loaded" case.

Solving for N can also produce a surprise, when for some initial guesses, the shape of the entire function, plotted vs. N, may send the numeric solver off in the wrong direction, heading away from the real answer, flying out towards infinity in a vain effort to make the left side zero.

Among the versions of this formula which I have tried, the best resistance to that effect in all collected problems I could throw at it was obtained when the coefficient of the "middle" PMT term (the "cash flow over the central region of the problem") was made independent of i (at least when payments occur at end of periods), rather than the very first (PV) or very last (FV) term, in which case the PV and FV terms each have coefficients involving "i", remaining in the ratio  $(1+i)^n$  to one another, as they always are anyway, in all forms of the equation.

But in this form of the equation, unlike some other forms, there is a certain resemblance of these "end region" terms to one another, and anomalies involving poor initial guesses seem to be reduced, for cases that have the largest cash flow "at the wrong end" for whichever "unbalanced" equation was otherwise chosen.

A final tweak which seemed to improve solving for N was to multiply the entire equation by N, which tends to discourage the numeric solver from getting attracted to exploring distant galaxies when solving for N :)

- o It's useful to confine the search for an interest rate to values which are logically possible, which are  $i > -100\%$  (there is no limit in the positive direction).

However, the numeric solver isn't conscious of this, and can at times wander into an alternate financial universe itself,

announcing -157%, say, as a mathematically correct (but meaningless) answer.

If a new variable is introduced, say  $j = LN(1+i)$ , and then the equation is expressed in terms of  $j$ , the legitimate range for  $j$  is now from  $-\infty$  to  $+\infty$ , which neatly and perfectly re-maps the range for  $j$

Another rather elegant feature of this remapping is that if you were to run time backwards, exactly reversing the sequence of cash flows of an original problem, the result is still a valid cash flow sequence, in which  $j$  simply changes sign (and payments flip between "beginning" vs. "end" of their respective periods), making the problem symmetrical.

A very small rounding error may have to be accepted as a trade-off for some of these strategies, in return for other forms of robustness in the ability of the overall algorithm to take on all conceivable cases.

o Cases involving large  $N$  and small  $I$  present a special challenge to accuracy.

In those cases, directly computing such expressions as  $(1+i)^{n-1}$  tends to lose precision, because significant digits drop off immediately when adding 1 to small  $i$ , and subtracting 1 at the end may also cause another loss of significance (also keep in mind that ' $i$ ' can legitimately have negative values, producing different extreme ranges for the final result).

Rewriting  $(1+i)^{n-1}$  as  $'EXPM(n * LN P1(i))'$  and  $'1 - (1+i)^{-n}'$  as  $'-EXPM(-n * LN P1(i))'$  avoids that loss of significance, whenever the given calculator implements these as built-in functions, which are mutually inverse and pass thru the origin (0,0); this technique was apparently introduced way back at the time of the HP22 financial model, although the EXPM and LN P1 functions were not then made directly available to the user.

Note also that with the above-suggested change of variable, we have  $j = LN P1(i)$ ,  $(1+i)^{n-1} = EXPM(n * j)$ ,  $'1 - (1+i)^{-n} = -EXPM(-n * j)'$  and  $i = EXPM(j)$ , giving the equation complete symmetry, in the fact that a reversal of time corresponds to a change in the sign of  $j$ , whose valid range remains  $-\infty$  to  $+\infty$ .

If anyone would like to try out various equations on a "breadboard rig," before investing in detailed implementations:

@ Testing equations on HP48/49/50 (ignoring the built-in TVM solver :)

@ TVM Equation in terms of I (valid only  $I > -100\%$ )  
 @ favoring linear middle term and balanced end terms:  
 $'(PV * I / -EXPM(-N * LN P1(I)) + PMT * (1 + B * I) + FV * I / EXPM(N * LN P1(I))) * N'$   
 $'TVMI' STO$

@ More symmetrical version in terms of J ( $-\infty$  to  $+\infty$ )  
 @  $'EXPM(J) = EXP(J) - 1'$  for calcs not having built-in EXPM  
 $'(PV * EXPM(J) / -EXPM(-N * J) + PMT * (1 + B * EXPM(J)) + FV * EXPM(J) / EXPM(N * J)) * N'$   
 $'TVMJ' STO$

```
@ Sample problem (B?=1 if payments occur at beginning of periods)
{ -136 50 75 3 0 } { PV PMT FV N B? } STO
TVMJ 'I' 1 ROOT @ 0.25 is correct answer
TVMJ 'J' 1 ROOT EXPM @ 0.25 is correct answer
1 'B?' STO TVMI 'PMT' DUP RCL ROOT @ 40 (payment at beginning)
```

```
@ Simple solver menu (using equation in terms of I):
TVMJ { { N I PV PMT FV B? } } + STEQ 30 MENU HALT
@ continue via CONT
```

```
@ In terms of Uniform Series Present/Future Value (like HP17b/19b)
'USPV(N,I)=-EXPM(-N*LN(1+I))/I' DEFINE
'USFV(N,I)=EXPM(N*LN(1+I))/I' DEFINE
@ If 'EXPM(J)=EXP(J)-1' 'LN(1+I)=LN(1+I)' aren't built-in, then
@ 'USPV(N,I)=(1-(1+I)^-N)/I'
@ 'USFV(N,I)=((1+I)^N-1)/I'
{ '(PV/USPV(N,I)+PMT*(1+B?*I)+FV/USFV(N,I))*N' @ TVM equation!
  N I PV PMT FV B? @ This menu includes USPV USFV keys
  "USPV" \<< N I USPV \>> }
  "USFV" \<< N I USFV \>> } } STEQ 30 MENU HALT
@ continue via CONT
```

```
@ MES solver menu (to solve symmetrical "J" equation first)
TVMJ { 'I=EXPM(J)' } + STEQ 63 SF @ Rshift changes var state
MINIT "TVM" { N I PV PMT FV B? J } MITM MSOLVR @ menu order
@ Use Rshift with ALL menu key to see how solved.
@ If the "MES" solver is unfamiliar,
@ a manual may be need to be consulted.
```

Modern HP financial calculators, as you know, actually have a slightly different set of variables in their TVM menu, consisting of N, I%YR, PV, PMT, FV, PYR and BEG[in] mode, where I%YR is the annual interest rate in percent and PYR is the number of payments per year, so that what we were calling I is actually '(I%YR/PYR)/100';

I use this same set of values in my HP32Sii and HP42S formulas, of course having to choose non-mnemonic single letters on 32Sii to distinguish Payment from Present value, and from PYR :)

I was going to append my HP32Sii formula and HP42S program, but I can't seem to find where I wrote them down, so I'll post this now, and perhaps come back later, if ever I do find where I hid those listings...

--

*Edited: 9 Aug 2007, 5:54 a.m.*

## Re: Accurate TVM for HP 35s (one line "program")

Message #22 Posted by **Chuck** on 7 Aug 2007, 5:13 p.m.,  
in response to message #1 by Miguel Toro

This isn't a program, but this is what I came up with a few weeks ago while camping. It's slightly different than the example from the owners manual; this is the form that I have the compounding interest formula and annuity formula memorized.

Press EQN, then enter the equation...

$$Q \times (1 + R/N)^{(N \times T)} + P \times ((1 + R/N)^{(N \times T)} - 1) / (R/N) + B$$

Directly above this equation you could enter the "Equation" TVM as a title to the TVM formula.

- Q = present value
- P = periodic payment
- R = decimal annual interest rate
- N = number of compoundings per year
- T = time in years
- B = balance

This is only for annuities due, (ie, end on period compunding) for simplicity.

Pull up the equation, press solve, the letter, and enter the known values as prompted.

CHUCK

*Edited: 7 Aug 2007, 5:14 p.m.*

**Re: Accurate TVM for HP 35s**

*Message #23 Posted by **tony (nz)** on 7 Aug 2007, 10:34 p.m.,  
in response to message #1 by Miguel Toro*

Miguel, Thank you for the excellent program. Note that Example A needs not 10 but 10/N at the I prompt :-)

Best, Tony

**Re: Accurate TVM for HP 35s**

*Message #24 Posted by **Miguel Toro** on 8 Aug 2007, 6:34 a.m.,  
in response to message #23 by tony (nz)*

Ups! Thanks Tony.

**Re: Accurate TVM for HP 35s**

*Message #25 Posted by **Gerson W. Barbosa** on 7 Aug 2007, 11:15 p.m.,  
in response to message #1 by Miguel Toro*

Examples

|                          |                |  |                  |
|--------------------------|----------------|--|------------------|
|                          | A              |  | B                |
| HP-35s with your routine | 331,667.006689 |  | 3.125014111x10-6 |
| HP-12C                   | 331,667.0067   |  | 3.125004736x10-6 |
| HP-80                    | 312,925.02     |  | 3.1 x10-6        |

Should I return my HP-80 (1247A46954) ? :-)

**Re: Accurate TVM for HP 35s**

*Message #26 Posted by **Miguel Toro** on 8 Aug 2007, 6:39 a.m.,  
in response to message #25 by Gerson W. Barbosa*

Hi Gerson,

If you don't want it any more...I accept donations! ;-)

**Re: Accurate TVM for HP 35s**

Message #27 Posted by [Gerson W. Barbosa](#) on 8 Aug 2007, 9:04 a.m.,  
in response to message #26 by Miguel Toro

Hello Miguel,

I am not interested in financial calculators, unless they're programmable and miss trigonometric functions. But I will keep this one until one friend of mine confirms he wants to trade it with something else.

An HP-35s with your TVM program might be enough for all my modest financial needs :-)

Best regards,

Gerson.

**Re: Accurate TVM for HP 35s**

Message #28 Posted by [Etienne Victoria](#) on 8 Aug 2007, 3:16 p.m.,  
in response to message #25 by Gerson W. Barbosa

Hello Gerson,

"Should I return my HP-80 (1247A46954) ? :-)"

Nooooooooooooooooooooooooooooo! Please don't do that Gerson :-)))

My heart sinks....

Kindest regards from France!!!

Etienne

**Re: Accurate TVM for HP 35s**

Message #29 Posted by [Gerson W. Barbosa](#) on 8 Aug 2007, 4:56 p.m.,  
in response to message #28 by Etienne Victoria

Quote:

\_\_\_\_\_  
Please don't do that Gerson :-)))  
\_\_\_\_\_

I won't, *mon ami*. Just email me :-)

Warm regards from Brazil,

Gerson.

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## HP Forum Archive 17

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### Rubber feet on 35s and general 1st impressions

Message #1 Posted by [ECL](#) on 6 Aug 2007, 6:51 p.m.

Just got my 35s from e-walmart.

The display is slightly misaligned (no need to view all annunciators to draw attention to it).

CN: ...226 for those who care

Good to see the return of the continuous rubber foot at the bottom. Hope they finish this off with the upper feet on future revisions.

It sure is a pretty compact device (nice). Form factor is right on, minus the arrow keys. Slips right into shirt pocket, unlike the 33s due to its bulky foot pads.

Sure can't wait to see what the UNDO operation does. Hope it isn't supposed to enable the undoing of a basic operation like:

5 ENTER 4 X

Because, it certainly doesn't :)

Most keys feel fairly good and responsive. Seems not to suffer from the missed keystroke ailment of past.

Not intuitive how to cross two vectors though. ...wait...vector support DOES mean it can do that right?

Perhaps the user guide in my vehicle will shed more light.

### Re: Rubber feet on 35s and general 1st impressions

Message #2 Posted by [Eric Smith](#) on 6 Aug 2007, 7:20 p.m.,  
in response to message #1 by [ECL](#)

Quote:

Good to see the return of the continuous rubber foot at the bottom. Hope they finish this off with the upper feet on future revisions.

Why do you prefer that? I liked the individual feet of the 41C and Voyagers better, though I don't have that strong a preference.

### Re: Rubber feet on 35s and general 1st impressions

Message #3 Posted by [Hans de Moor](#) on 6 Aug 2007, 7:23 p.m.,  
in response to message #1 by [ECL](#)

Page 1-11 explains UNDO. Actually, a rather useful command. It recovers a deleted entry rather than

reversing an operation. For example:

123 <- (clears the 3)

<- (clears the 2)

UNDO restores the 3

UNDO restores the 2

### **Re: Rubber feet on 35s and general 1st impressions**

*Message #4 Posted by **Hans de Moor** on 6 Aug 2007, 7:25 p.m.,  
in response to message #3 by Hans de Moor*

Oops! The other way around:

UNDO restores the 2

UNDO restores the 3

### **Re: Rubber feet on 35s and general 1st impressions**

*Message #5 Posted by **Bruce Bergman** on 6 Aug 2007, 8:21 p.m.,  
in response to message #1 by ECL*

I'm seeing a trend here, with the displays and S/N's. Just based on the big thread elsewhere about S/N's, and the prevalence of mis-aligned displays, I'd surmise that:

- Wal-Mart used their leverage on HP to get the very first batch of 35s units. Literally. Almost all of the really low numbers seem to be from Wal-Mart purchasers.
- The first batch or so had an alignment problem.
- The second batch went out to other smaller retailers (perhaps Samson, for example), and was a mix-n-match of mis-aligned and perfect aligned.
- The third batch was kept at HP and used to fulfill direct SMB orders from their website. There was perhaps another mix-n-match batch, but more perfect aligned units than in batch 2, and truly far fewer problems.
- Later batches seem to be just fine.
- Batch sizes are unknown, but seem to be in 500-1000 unit range.
- "Batch number" did not correlate to ship date. In other words, my unit came from batch 3, but my unit still arrived before some purchasers in batch 1.

Just educated guesses, but interesting nonetheless. If I'm right, it makes me wonder why they stopped selling them if the later batches were alright? Intriguing...

thanks, bruce

### **Re: Rubber feet on 35s and general 1st impressions**

*Message #6 Posted by **Trent Moseley** on 6 Aug 2007, 11:05 p.m.,  
in response to message #5 by Bruce Bergman*

Bruce,

FYI--I ordered my 35s from HP-SMB on 7/14/07, and it was shipped on the 19th, S/N 72104035, display aligned ok. The guy at SMB said that the first shipment would consist of 2,500 units.

tm in Redwood City, CA

**Re: Rubber feet on 35s and general 1st impressions**

*Message #7 Posted by [Bruce Bergman](#) on 6 Aug 2007, 11:37 p.m.,  
in response to message #6 by Trent Moseley*

That continues to fit my theory. Mine, also direct from SMB at about the same time, was 4266, and had no problems either.

thanks, bruce

**Re: Rubber feet on 35s and general 1st impressions**

*Message #8 Posted by [Chris Haltiner](#) on 7 Aug 2007, 9:34 a.m.,  
in response to message #7 by Bruce Bergman*

My unit (72103814), ordered from HP SMB, had a severely misaligned display. Two other users with serial numbers very close to and bracketing mine had no display alignment issue.

I am curious whether the 725x batches have this occasional display alignment problem.

**Re: Rubber feet on 35s and general 1st impressions**

*Message #9 Posted by [Gene Wright](#) on 7 Aug 2007, 9:44 a.m.,  
in response to message #8 by Chris Haltiner*

can you post a picture of it to show us?

Gene

**Re: Rubber feet on 35s and general 1st impressions**

*Message #10 Posted by [Chris Haltiner](#) on 7 Aug 2007, 10:18 a.m.,  
in response to message #9 by Gene Wright*

Quote:

\_\_\_\_\_

can you post a picture of it to show us?

\_\_\_\_\_

Unfortunately, as I had mentioned in another post, I have already fixed the problem and didn't take any pictures before or during the disassembly. (Curiosity and eagerness to fix the problem...)

The display had a left to right upward slope. The rise was about one pixel. The right side annunciators were just barely being covered by the gasket between the LCD glass and the outer plastic display cover.

**Re: Rubber feet on 35s and general 1st impressions**

*Message #11 Posted by **Vincze** on 7 Aug 2007, 10:36 a.m.,  
in response to message #5 by Bruce Bergman*

Good morning Bruce. I have unit from Walmart (s# 72500462) and display is not misaligned. I order first day available on walmart site.

**Re: Rubber feet on 35s and general 1st impressions**

*Message #12 Posted by **Bruce Bergman** on 7 Aug 2007, 1:52 p.m.,  
in response to message #11 by Vincze*

Okay, so you guys shot some holes in my theories. ;-) I knew there would be outliers, though...

thanks, bruce

**Re: Rubber feet on 35s and general 1st impressions**

*Message #13 Posted by **Vincze** on 7 Aug 2007, 2:35 p.m.,  
in response to message #12 by Bruce Bergman*

Your theory may still be good. I may be asymptomatic owner of otherwise good theory (or maybe I not intelligent enough (or blind) to see misaligned display) ;-)

**Re: Rubber feet on 35s and general 1st impressions**

*Message #14 Posted by **Walter B** on 7 Aug 2007, 4:21 a.m.,  
in response to message #1 by ECL*

Quote:

Good to see the return of the continuous rubber foot at the bottom. Hope they finish this off with the upper feet on future revisions.

Ref. to Really Advanced Statics (Virginia, 1776), a tripod is the one and only statically determined body. So 1 broad foot at the bottom, 2 upper feet, ENTER, + ;-) may be a good reason to leave it this way.

**Re: Rubber feet on 35s and general 1st impressions**

*Message #15 Posted by **Vincze** on 7 Aug 2007, 10:40 a.m.,  
in response to message #14 by Walter B*

My thought too, but translated simpler version. A tripod will not wobble. Try sometime. Sit on stool with four legs. If one leg have difference in length, stool wobble. Find stool with three leg. Chop off 1 inch of one leg, and stool will not wobble.

**Re: Rubber feet on 35s and general 1st impressions**

*Message #16 Posted by **Walter B** on 7 Aug 2007, 11:49 a.m.,  
in response to message #15 by Vincze*

Vincze,

sorry I do not know a single word in Hungarian. But I hope you agree on calling your proposal the Hungarian method ;-)

Best regards, Walter

### **Re: Rubber feet on 35s and general 1st impressions**

*Message #17 Posted by **Vincze** on 7 Aug 2007, 1:15 p.m.,  
in response to message #16 by Walter B*

My friend Walter. I tell you what. I teach you a word of Hungarian. "Nem" means "No". So, nem, I do not mind it being called Hungarian method. Actually, I am honored. :)

In fact, it take me a while to figure out what you mean by "statically determined body", but then it made sense to me what you were saying (in Hungarian, we would call it literally a passive immutable body... yours sound better though). It amazing how words may be different with different language, but in math and physics, language really all the same, just different words to express same things things.

BTW, I found out about "statically determined bodies" when I was a child and could not figure out why three legged stool my aunt had would not wobble. My uncle was very mad at me when I saw off almost 10cm from it. Good thing I was cute little boy then or I may have not survived uncle Jozsef being upset at me. :)

### **Re: Rubber feet on 35s and general 1st impressions**

*Message #18 Posted by **Ed Look** on 7 Aug 2007, 2:21 p.m.,  
in response to message #17 by Vincze*

Sometimes, especially scientific or technical ones, terms are clearer in one language over the other, especially with English:

As an American, I've always been taught and used the term, "potential" for the "E" part of Ohm's law,  $E=IR$ , or less properly, "voltage".

But the German, "Spannung", which literally translated to English is "tension" is really a better word picture, a more accurate description I would say, than either "potential" or "voltage". I mean, it's weird to say, "There was (potential/voltage) between the pitcher and the hitter", unless both were standing where there will be an atmospheric electrical discharge in a few minutes.

Boy, I wish they'd fix the (English) terminology in quantum mechanics...

### **From Rubber Feet on 35s to English Quantum Mechanics (OT)**

*Message #19 Posted by **Walter B** on 7 Aug 2007, 6:30 p.m.,  
in response to message #18 by Ed Look*

Hi, Ed,

IIRC there were signs warning for "high tension" at power poles. Did they change it to "high voltage"?

Quote:

\_\_\_\_\_  
Boy, I wish they'd fix the (English) terminology in quantum mechanics...  
\_\_\_\_\_

What in particular? We gave you the Eigenvalues and Eigenvectors already, isn't that sufficient? ;-)

Regards, Walter

**Re: From Rubber Feet on 35s to English Quantum Mechanics (OT)**

*Message #20 Posted by **Ed Look** on 7 Aug 2007, 10:58 p.m.,  
in response to message #19 by Walter B*

Heehee...

... good one.

I was actually thinking of "spin".

As to voltage and tension, it seems the overwhelming majority of time, "voltage" is seen over "tension". Perhaps you were thinking of Britain or other English speaking countries?

*Edited: 7 Aug 2007, 11:00 p.m.*

**Re: From Rubber Feet on 35s to English Quantum Mechanics (OT)**

*Message #21 Posted by **Walter B** on 8 Aug 2007, 12:39 a.m.,  
in response to message #20 by Ed Look*

Sorry, the spin is called "Spin" here, too. This does help us to get the message it's something strange, because we don't have a German word for it. If you are in this topic, maybe you know the "Yrast-line", a nice example of some Swedish in QM.

Quote:

Perhaps you were thinking of Britain or other English speaking countries?

Do you want to point out this way you are US-American? :-)

**Re: From Rubber Feet on 35s to English Quantum Mechanics (OT)**

*Message #22 Posted by **Frank Rottgardt** on 8 Aug 2007, 6:43 a.m.,  
in response to message #21 by Walter B*

Quote:

If you are in this topic, maybe you know the "Yrast-line", a nice example of some Swedish in QM

For the english speaking among us:

if you want "yrast" to sound swedish simply say "e-rast"

**Re: From Rubber Feet on 35s to English Quantum**

### **Mechanics (OT)**

*Message #23 Posted by **Ed Look** on 8 Aug 2007, 12:14 p.m.,  
in response to message #22 by Frank Rottgardt*

I've never had to say it (yet)!

Any involvement of mine with quantum mechanics generally stops with chemical physics. I can reasonably discuss atomic physics, but not nuclear.

### **Re: Rubber feet on 35s and general 1st impressions**

*Message #24 Posted by **Eric Smith** on 7 Aug 2007, 5:55 p.m.,  
in response to message #15 by Vincze*

That doesn't explain why a wide rubber foot on a calculator is a good idea.

A stool with two normal legs, spaced  $x$  cm apart, and a third leg  $x$  cm wide (and perhaps  $2x-3x$  cm from each of the other two) will definitely be able to wobble.

### **Re: Rubber feet on 35s and general 1st impressions**

*Message #25 Posted by **Walter B** on 7 Aug 2007, 6:41 p.m.,  
in response to message #24 by Eric Smith*

That is what a former older colleague called the "intelligence of matter": Since rubber is softer than table tops, any small protruding parts will "adapt" under pressure, i.e. deform and/or wear down fast until the broad foot will rest flat on the table top (remember the most pressure is at the bottom, where the keys are pressed). - Quite similar behaviour may be observed with wrought-iron cafe-tables put on a gravel terrace.

*Edited: 7 Aug 2007, 6:44 p.m.*

### **Re: Rubber feet on 35s and general 1st impressions**

*Message #26 Posted by **Eric Smith** on 7 Aug 2007, 7:51 p.m.,  
in response to message #25 by Walter B*

That reasoning still doesn't seem to apply, for two reasons:

- 1) If it does wear/compress to sit flat in one particular position and orientation on the uneven surface, it will not sit flat in some other position and orientation on the same uneven surface.
- 2) There's no reason why the same wear/compression wouldn't happen with four feet, rather than two "normal" and one "long" foot.

### **Re: Rubber feet on 35s and general 1st impressions**

*Message #27 Posted by **Vincze** on 7 Aug 2007, 9:21 p.m.,  
in response to message #26 by Eric Smith*

I think in simpler Hungarian terms, what Walter trying to say is rubber will not wear, but conform to contour of surface. If you have four small pad, like 15C, unit will wobble with uneven surface. Now with three pad (even with one very long) unit more stable. Now yes it possible that with very uneven surface it will wobble, but that is outside of (I can't think of word...Walter can you help?)...well what we can and can not deal with.

**Re: Rubber feet on 35s and general 1st impressions**

Message #28 Posted by **Eric Smith** on 7 Aug 2007, 9:32 p.m.,  
in response to message #27 by Vincze

I've never had a problem with a 15C or 41C wobbling on a surface on which the "long foot" calculator wouldn't.

The calculators I'm designing will have four feet. I suppose anyone that doesn't like that is welcome not to buy my calculators. :-)

**Re: Rubber feet on 35s and general 1st impressions**

Message #29 Posted by **Ed Look** on 7 Aug 2007, 10:54 p.m.,  
in response to message #27 by Vincze

Quote:

... but that is outside of (I can't think of word...

... (most situations)? ... (most surfaces)? ... (the ordinary)?

Fortunately, English is often more flexible than even a long rubber foot.

**Re: Rubber feet on 35s (Cry For Help)**

Message #30 Posted by **Walter B** on 8 Aug 2007, 12:50 a.m.,  
in response to message #29 by Ed Look

:-))

Nevertheless, now I'm "at the end of my Latin", as people would say here. PLEASE!! We need a native English-speaking person (US-American, Indian?) to explain to Eric why 3 feet are superior to 4. He seems to refuse to understand, and may easily crash his calc project by this stubbornness ;-)

**Re: Rubber feet on 35s (Cry For Help)**

Message #31 Posted by **Vincze** on 8 Aug 2007, 10:38 a.m.,  
in response to message #30 by Walter B

Quote:

We need a native English-speaking person (US-American, Indian?)

Funny you should say. My Cherokee name is Agadvnv nasgiyai alisoqualvdi (or Hung like bear) ;- ) I I thought Hungarian have too many consonants next to each other. How the heck is Agadvnv pronounced? I think it sound like leaking tire sound. ;)

**Re: Rubber feet on 35s (Cry For Help)**

Message #32 Posted by **Walter B** on 8 Aug 2007, 11:34 a.m.,  
in response to message #31 by Vincze



Nem, Vincze, there was a trap hidden in my post, and you are the first bear who stepped into it :-))

### **Re: Rubber feet on 35s (Cry For Help)**

*Message #33 Posted by [Paul Brogger](#) on 8 Aug 2007, 1:34 p.m.,  
in response to message #30 by Walter B*

I don't see how separate 3rd & 4th feet are in any way inferior to a very wide 3rd foot, with regard to stability.

The tripod analogy becomes inappropriate once one of the "points" of contact spreads to a line of contact (and one every bit as long as the spread between the other two points).

Take your camera tripod out on uneven ground, and rigidly attach a board at its midpoint to the end of one leg, perpendicular to that leg, and parallel to (and with a length equal to) a line connecting the feet of the other two extended legs. You'll find it no more stable than a "quadpod" with four equal-length legs.

With such a wide third pad, the question becomes moot.

### **Re: Rubber feet on 35s and general 1st impressions**

*Message #34 Posted by [ECL](#) on 7 Aug 2007, 3:05 p.m.,  
in response to message #14 by Walter B*

Walter,

I agree fully. The 32sii had broader upper feet, but the style was in line with the lower foot (pad).

Students who fail statics go on to design tables for cafes'. Particularly outdoor tables. Of all places (flooring) one would expect to find out-of-plane inconsistencies it would be a cobbled sidewalk cafe :)

ECL

### **Re: Rubber feet on 35s and general 1st impressions**

*Message #35 Posted by [Thomas Radtke](#) on 8 Aug 2007, 3:53 a.m.,  
in response to message #14 by Walter B*

Perfect. A good theory should not be given up by the fact, that nearly all implementations of the asymmetric tripod in terms of pioneer calculators were wobbly. In fact, we need to adapt the conditions under which wobblism(\*) appears to reach the stability predicted.

(\*) Oh, and I think this should not come under the eyes of a native english speaker \*g\*

*Edited: 8 Aug 2007, 3:56 a.m.*

### **Re: Rubber feet on 35s and general 1st impressions**

*Message #36 Posted by [Steve Cote](#) on 8 Aug 2007, 8:55 a.m.,  
in response to message #35 by Thomas Radtke*

I looked closely at the lower foot pad on my 35s. I noticed that even though the foot runs the width of

the calculator it is not flat, only the (2) ends will rest on a surface. The center of the foot is warped inward toward the calculator. So, even though it has (3) feet, it behaves as if it had (4) feet. This must be due to a special de-wobblelization treatment of the lower foot to ensure it doesn't warp the other way :)

**Re: Rubber feet on 35s and general 1st impressions**

Message #37 Posted by [Thomas Radtke](#) on 8 Aug 2007, 11:41 a.m.,  
in response to message #36 by Steve Cote

Good observation! HP could now go and rationalize production for some rubber material in-between both ends, ending up with a low cost pseudo-asymmetric 1 1/3 tripod. HP invent! :^)

**Re: Rubber feet on 35s and general 1st impressions**

Message #38 Posted by [Walter B](#) on 8 Aug 2007, 11:47 a.m.,  
in response to message #36 by Steve Cote

Quote:

\_\_\_\_\_

This must be due to a special de-wobblelization treatment of the lower foot to ensure it doesn't warp the other way :)

\_\_\_\_\_

The spec probably required "straight +0 -0.1" :-))

BTW, I never dared do invent such a word like de-w...on.

**Re: Rubber feet on 35s and general 1st impressions**

Message #39 Posted by [Vincze](#) on 8 Aug 2007, 11:37 a.m.,  
in response to message #35 by Thomas Radtke

Okay.. although I am not native American, let me Let me try this again today when my mind is clear and not so tired and full of wine. A three legged dog walks into bar... no wait. Wrong explanation.

Okay, I try again. A three legged stool or table will not wobble because the end of legs always form a plane. It that simple, but I know this a sophisticated group who not accept simple "Hungarian Method", (as Walter so nicely state this is) as answer.

To look at this mathematically, a three legged stool or table solves for a system of three equation in three variable, while a four leg table will change mind about which three of four equation to solve for the same three variable.

Pretend there a three legged stool or table sitting on three legs. Now add a fourth leg on some line out from the top of the stool to the floor. There is only one single length which will now just reach the floor. If the fourth leg is a little too short, then the leg will not contact, and the stool will pivot about two of the legs (wobble), or as in mathematical equation, it will change it's mind about which three of four equations to solve for. Also, if one leg a little to long, or floor is uneven, then when fourth leg come in contact with ground the stool will have to lift one of the other three legs off the floor making stool wobble.

Now let say that you have stool that had four \*exactly\* equal legs forming a square on the bottom of the stool, but now the floor is uneven. Now, there will be some way you should be able to adjust stool so that all legs (4) touch the ground and there will be no wobble. This like intermediate value theorem.

Now, one thing we also have to remember is that three legged stool not always very stable. So how do we offset this. One way is to extend out legs so that it very hard to tip over. Or, as HP do, they make one leg (rubber foot pad) very wide, and others small. This will prevent instability, except in most severe situation with sever angles, in which case, legs (or rubber feet) need to be longer (taller) respectively. That look funny on calculator though.

I hope that make sense, if not, I give up. :)

*Edited: 8 Aug 2007, 12:43 p.m.*

### **Re: Rubber feet on 35s and general 1st impressions**

*Message #40 Posted by [ECL](#) on 8 Aug 2007, 2:56 p.m.,  
in response to message #39 by Vincze*

Also note that the problem of wobble will not necessarily be repaired even if the feet of a four legged chair or table are made to be perfectly co-planar...because the chair or table will invariably be placed on imperfect surfaces!

ECL

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## HP Forum Archive 17

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### HP35s - Default number of decimal places

Message #1 Posted by [Ivan Latorre](#) on 6 Aug 2007, 4:45 p.m.

What is the default configuration (factory settings)? Some days ago I changed the display format and now I don't remember which was the default number of decimal places...

Is there any way to make a reset without pressing the reset hole?

Thanks in advance

### Re: HP35s - Default number of decimal places

Message #2 Posted by [Reth](#) on 6 Aug 2007, 5:09 p.m.,  
in response to message #1 by [Ivan Latorre](#)

4, vide p.B-4

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## HP Forum Archive 17

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### **HP-35s - free shipping to Switzerland !**

*Message #1 Posted by [Pascal](#) on 6 Aug 2007, 1:52 p.m.*

My long wait is over, I finally received my 2 HP-35s, for which I didn't pay any shipping ...

A thousand thanks to Namir who brought them with him overseas, on his trip to Switzerland !

### **Re: HP-35s - free shipping to Switzerland !**

*Message #2 Posted by [Namir](#) on 9 Aug 2007, 9:51 a.m.,  
in response to message #1 by Pascal*

Pascal,

My son and I enjoyed our chat and the beauty of Ouchy. I hope you are having fun with the HP-35s.

Nothing beat personal delivery. No cost for mail and customs.

Namir

*Edited: 9 Aug 2007, 9:52 a.m.*

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## HP Forum Archive 17

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### HP48gx....alpha....alpha...won't work?

Message #1 Posted by [George Mundell](#) on 6 Aug 2007, 12:28 p.m.

I have two of these HPgx's both with a Land surveying TDS Cogo GX/SX card and no ram cards (calculator used for cogo only not a data collector)...and neither one will allow me to access my survey program...and even without the cards in the slot...the command of alpha alpha won't perform... I press alpha once and the symbol comes on, then when I press for a second time nothing happens..no second alpha symbol..third press and the first alpha symbol goes off....all performance tests prove ok...tried the reset with paperclip with no avail.....Anybody know what is going on?.....Help....

### Re: HP48gx....alpha....alpha...won't work?

Message #2 Posted by [Dave Hicks](#) on 6 Aug 2007, 12:57 p.m.,  
in response to message #1 by George Mundell

Your description of alpha sounds normal. The second alpha just causes alpha to stay on while you type a string but it doesn't change the annunciator.

### Re: HP48gx....alpha....alpha...won't work?

Message #3 Posted by [Ron G.](#) on 6 Aug 2007, 1:29 p.m.,  
in response to message #2 by Dave Hicks

What Dave said.

With Survey card in port 2, turn on the clac, and key in [alpha], [alpha], tds48, [alpha], [enter]. This installs the program. Turn the clac off, move the survey card to port 1, and install a RAM card in port 2. Turn the calc on, and again key in [alpha], [alpha], tds48, [alpha], [enter]. This should get the program up and running.

### Re: HP48gx....alpha....alpha...won't work?

Message #4 Posted by [George Mundell](#) on 6 Aug 2007, 2:35 p.m.,  
in response to message #3 by Ron G.

Ron.....I agree with your response..I found a Important Notice in my paper work that said just what you said...I will be getting a ram card and additional software later...I just want to play around with this calculator and make it a data collector for a robotic total station.

### Re: HP48gx....alpha....alpha...won't work?

Message #5 Posted by [George Mundell](#) on 6 Aug 2007, 2:31 p.m.,  
in response to message #2 by Dave Hicks

Thanks...Dave.....I thought the second alpha had to stay on the display for it to allow a string to be typed in....Duhh!!!!and when I pressed for a third time it took it out of alpha mode... thus not working.....

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## HP Forum Archive 17

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**HHC question**

Message #1 Posted by [Vincze](#) on 6 Aug 2007, 9:42 a.m.

I have question on HHC. Are there handouts that someone can share of previous HHC events? I see last year that there were some interesting programs for 12C, and some other interesting information. I do not have 12C, but it would be nice to see more programing examples for it.

**Re: HHC question**

Message #2 Posted by [Giancarlo \(Italy\)](#) on 6 Aug 2007, 10:48 a.m.,  
in response to message #1 by Vincze

Hi Vincze.

Please have a look at:

[HHC 2006](#)

or

[Jake Schwartz's page](#)

In addition, I cannot but renew an invitation to subscribe to Datafile, despite your wife's opinions ;-)

Hope this helps.

Best regards.

Giancarlo

**Re: HHC question**

Message #3 Posted by [Vincze](#) on 6 Aug 2007, 11:05 a.m.,  
in response to message #2 by Giancarlo (Italy)

Buona sera my friend Giancarlo. Thank you for the link. I look at site briefly, but I not see handouts or examples from last year. Perhaps it is there just buried someplace.

Thank you again my friend.

**Gene Wright Question**

Message #4 Posted by [Vincze](#) on 6 Aug 2007, 3:16 p.m.,  
in response to message #3 by Vincze

Good afternoon Gene. I see last year you had some programs that you lectured about at the HHC regarding Interesting Programs for the HP-12C. Is this something I can get a hold of as I am trying to learn more about basic RPN programming. I don't have a 12C, but I do have the 15C, and I would think it would be an interesting read to help me get up to speed.

Thank you kindly sir.

**See the link below...**

Message #5 Posted by [Gene Wright](#) on 6 Aug 2007, 3:27 p.m.,



*in response to message #4 by Vincze*

But nothing I have written can ever compare to the gems done by Valentin...

**Re: See the link below...**

*Message #6 Posted by [Vincze](#) on 6 Aug 2007, 4:14 p.m.,  
in response to message #5 by Gene Wright*

I see the link in the other thread. Thank you so much.

Yes, I see Valentine's website and he has many good articles. Thank you both!

*Edited: 6 Aug 2007, 4:17 p.m.*

**Re: See the link below...**

*Message #7 Posted by [Giancarlo \(Italy\)](#) on 6 Aug 2007, 4:18 p.m.,  
in response to message #6 by Vincze*

Hi Vincze.

It's not "the Hungarian in you" ;-) but only that by "below"  
Gene meant "in a thread below", namely this one:

[link](#)

Hope this helps.

Buona serata.

Giancarlo

**Re: Gene Wright Question**

*Message #8 Posted by [Giancarlo \(Italy\)](#) on 7 Aug 2007, 5:04 a.m.,  
in response to message #4 by Vincze*

Hi Vincze.

You said that:

Quote:

\_\_\_\_\_  
I don't have a 12C, but I do have the 15C  
\_\_\_\_\_

so I thought you could find the following links of some help (unless you were already aware of them):

[HP11C Calculator Disassembly](#)

[HP15C Calculator Help](#)

[Bring Back the 15C](#)

[HP16C Owner's Page](#)

[Craig Finseth's Database](#)

[Viktor Toth's HP15C Webpage](#)

[A Look Inside HP11C \(from Rick Furr's Calculator Reference\)](#)

[Eric Smith's Nonpareil Emulation of HP Calculators](#)

Hope I gave you at least some helpful hints.

Best regards.  
Giancarlo

*Edited: 7 Aug 2007, 5:07 a.m.*

**Re: HHC question**

*Message #9 Posted by [Jake Schwartz](#) on 6 Aug 2007, 9:57 p.m.,  
in response to message #2 by Giancarlo (Italy)*

Quote:

Hi Vincze.

Please have a look at:

[HHC 2006](#)

or

[Jake Schwartz's page](#)

In addition, I cannot but renew an invitation to subscribe to Datafile, despite your wife's opinions ;-)

Hope this helps.

Best regards.

Giancarlo

Hi,

That link to my page is old....try <http://www.pahhc.org/> instead.

Thanks,

Jake

**Re: HHC question**

*Message #10 Posted by [Giancarlo \(Italy\)](#) on 7 Aug 2007, 2:27 a.m.,  
in response to message #9 by Jake Schwartz*

...Yes, I should have known :-/

Thank you Jake for pointing that out.

Best regards.

Giancarlo

**Re: HHC question**

*Message #11 Posted by [Vincze](#) on 7 Aug 2007, 9:01 a.m.,  
in response to message #1 by Vincze*

Good morning Jake and Giancarlo. Thank you my friends for all the links to different articles. They will be a wealth of information and are much appreciated!

Enged ott lenni béke.

## HP Forum Archive 17

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### **HP48G screen contrast adjustment.**

Message #1 Posted by [Chan Tran](#) on 6 Aug 2007, 8:51 a.m.

I do know how to adjust the screen contrast on the 48G, ON+ or ON-. However I couldn't find this procedure any where in the manual. Where is the instruction for this?

### **Re: HP48G screen contrast adjustment.**

Message #2 Posted by [Gerson W. Barbosa](#) on 6 Aug 2007, 9:33 a.m.,  
in response to message #1 by Chan Tran

The ON/+ procedure is mentioned in page A-9 of the User's Guide. This should be tried several times in case the display is blank. Information on how to adjust the display contrast is provided in page 1-3 of the Quick Start Guide. Perhaps this information ought to have been duplicated in the first chapter of the User's Guide (The Keyboard and Display), so it appeared in the index.

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## HP Forum Archive 17

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### 35S INPUT (I) bug

Message #1 Posted by [Ralph](#) on 6 Aug 2007, 7:57 a.m.

I did a search and did not find this.

Here is a snip of code I tried to work yesterday. It is at the top of my program and has only two inputs before it:

```
70
STO i
1
STO (I)
..
a couple of direct inputs
..
55
STO I
LBL C
INPUT (I)
```

According to the manual (FWIW) I should be able to do it. I get Invalid I instead. Or J if I swap index pointers. My Upper limit is set to 70 previously so I am in range.

This works however:

```
55
STO I
LBL C
INPUT D
RCL D
STO (I)
```

Anyone else trip over this?

### Re: 35S INPUT (I) bug

Message #2 Posted by [Don Shepherd](#) on 6 Aug 2007, 9:38 a.m.,  
in response to message #1 by [Ralph](#)

Ralph, I get the same thing. Looks like they goofed the INPUT (i) function.

### Re: 35S INPUT (I) bug

Message #3 Posted by [Thomas Radtke](#) on 6 Aug 2007, 10:11 a.m.,  
in response to message #2 by [Don Shepherd](#)

After the P<>R disaster, I would think a lot more bugs will be unveiled. If one is that careless about the design, how crappy might be the implementation?

### Re: 35S INPUT (I) bug

*Message #4 Posted by **Thomas Radtke** on 6 Aug 2007, 12:33 p.m.,  
in response to message #3 by Thomas Radtke*

Sorry all, that was a bit harsh :-(

**Re: 35S INPUT (I) bug**

*Message #5 Posted by **Reth** on 6 Aug 2007, 10:20 a.m.,  
in response to message #2 by Don Shepherd*

INPUT does not work for indirect registers, only for A to Z e.g. -1 to -26

**Re: 35S INPUT (I) bug**

*Message #6 Posted by **Don Shepherd** on 6 Aug 2007, 12:14 p.m.,  
in response to message #5 by Reth*

Reth, that's good to know, and I imagine that will be sufficient for most folks' purposes. But the manual is misleading.

**Re: 35S INPUT (I) bug**

*Message #7 Posted by **Ed Look** on 6 Aug 2007, 12:25 p.m.,  
in response to message #6 by Don Shepherd*

Someone in this forum mentioned that the manual seems like a rework of the HP-33S manual, which was a rework of the 32SII manual.

I guess if you photocopy a photocopy of a photocopy, the picture becomes less clear.

I suspect if they had a new team in place to write a new manual from scratch, we might be paying more than \$60 USD for it.

Honestly, though, it appears to me that most of us have been somewhat jumpy, as in jumping at the first hint of HP design negligence, real or imagined.

Since Reth posted that INPUT does not work for the indirect register addresses, it sure does look like a design decision to make it (leave it?) that way. We might discuss whether it was a good or bad design segment, but I think we might be just a little more circumspect in declaring bugs.

**Re: 35S INPUT (I) bug**

*Message #8 Posted by **Thomas Radtke** on 6 Aug 2007, 12:31 p.m.,  
in response to message #7 by Ed Look*

I guess INPUT was declared that way after finding out that it doesn't work on indexed registers. A design decision like that makes no sense to me.

**Re: 35S INPUT (I) bug**

*Message #9 Posted by **Don Shepherd** on 6 Aug 2007, 1:06 p.m.,  
in response to message #7 by Ed Look*

Ed, what is a bug? If the manual says that something works a certain way, and it doesn't, that's a bug. Page 14-22 of the manual clearly states that indirection includes any number from -32 to 800, and page 14-23 clearly shows INPUT (i) and (j) as valid instructions. Nowhere does it

state that indirection for the INPUT command is limited to -32 to -1.

I think members of this forum need to feel free to discover these \*bugs\* and point them out so that we all know the real limitations in this device.

**Re: 35S INPUT (I) bug**

*Message #10 Posted by **Gene Wright** on 6 Aug 2007, 1:27 p.m.,  
in response to message #9 by Don Shepherd*

It could also be a mistake in the manual.

I do agree that people should publicize things that do not appear to work as indicated, certainly.

Keep in mind that the manual might also be mistaken, as it appears to be in this case.

Hey, not everyone will like the 35s.

**Re: 35S INPUT (I) bug**

*Message #11 Posted by **Don Shepherd** on 6 Aug 2007, 1:41 p.m.,  
in response to message #10 by Gene Wright*

Gene, this raises an interesting point. If I program INPUT A, the top line of the display shows A? as a prompt for the user. How would it prompt for INPUT (I) if I was, say, 46? Would it say 46? That would be weird.

**Re: 35S INPUT (I) bug**

*Message #12 Posted by **Ed Look** on 6 Aug 2007, 1:56 p.m.,  
in response to message #11 by Don Shepherd*

True that...

... but I suppose if they wanted to, there'd be some kind of scheme, like [46] or .46 or some such.

And your point about bug discovery is well taken; it IS a very public service!

**Re: 35S INPUT (I) bug**

*Message #13 Posted by **Thomas Okken** on 6 Aug 2007, 1:58 p.m.,  
in response to message #11 by Don Shepherd*

It could say **R46?** -- that's what happens when you do this on the HP-42S.

- Thomas

**Re: 35S INPUT (I) bug**

*Message #14 Posted by **Gene Wright** on 6 Aug 2007, 2:02 p.m.,  
in response to message #11 by Don Shepherd*

I would guess it would prompt as "(46)?" if that functionality were included.

Weird? maybe. Different? Yes, but that's at the benefit of having all those indirect registers available.

I can't tell you guys how excited I was when I first realized we'd have 800+ registers available.

I also can't tell you how excited I was when the indirect data packing program worked so well. It actually takes fewer keystrokes to store and recall indirectly using the indirect data packing program in the learning modules than doing it manually.

Line number GTO and XEQs that STAY will the instruction when a program is edited? Wonderful!

There is much to like in this machine!

Are there some things I wish were improved? Sure, but by the time I'd be finished offering suggestions for improvement, I'd have spec'd out an HP42s replacement machine...

which is not what the 35s is intended to be. It is from the 32s, 32s2, 33s line.

I'll gladly use it compared to those guys. Gene

### **Re: 35S INPUT (I) bug**

*Message #15 Posted by [Ed Look](#) on 6 Aug 2007, 2:07 p.m.,  
in response to message #14 by Gene Wright*

Yes, Gene, it does have that 32SII-ish feel to it: a similarity in features, a similarity in visual appearance... at least in the geometric layout of keys, thin, lightweight... I must say though that I like the colors of the 35s more even than the scheme used on the 32SII.

Is it fair to say that with the inclusion of the 33S constants and equation libraries and expanded memory capabilities, it is a bit more powerful than the 32SII (which I still love to use)?

### **Re: 35S INPUT (I) bug**

*Message #16 Posted by [Don Shepherd](#) on 6 Aug 2007, 3:07 p.m.,  
in response to message #14 by Gene Wright*

Thanks Gene. I agree with you, there is VERY much to like about this machine. I never took much interest in the solver before, but I have been playing around with it with some quadratic and cubic equations, and it gives me the right answer no matter what I throw at it. And the 800 registers open this machine up to many problems that would have been impossible on a machine with, for instance, 20 registers (like my venerable 12c). I'm planning on rewriting a BASIC program for solving a cube puzzle for the 35s.

I think the thing I like best is discovering uses that I don't even know about now, based upon discoveries by all the forum folks. I imagine I speak for many when I say we are looking forward to learning all there is to know about this device.

### **Link to 12c programs/games from HHC2006**

*Message #17 Posted by [Gene Wright](#) on 6 Aug 2007, 3:19 p.m.,  
in response to message #16 by Don Shepherd*

Since someone asked for the 12c articles from the HHC2006 gathering and since the 12c programming style is similar (somewhat) to that of the 12c, here is part of my presentation on the 12c.

[HHC 2006 12c](#)

and a short one page "How to..." for the 12c platinum.

[12c basics](#)

There are ALWAYS lots of presentations much more enjoyable than this one was at HHC gatherings. :-) Registration is still open! We're nearly at 55 registered attendees for HHC2007 held at HP's calculator division itself!

Lots of great information and fun.

### **Re: 35S INPUT (I) bug**

*Message #18 Posted by [Katie Wasserman](#) on 6 Aug 2007, 3:12 p.m.,  
in response to message #14 by Gene Wright*

Quote:

Line number GTO and XEQs that STAY will the instruction when a program is edited? Wonderful!

While this is true in most cases, it's not true when you edit (delete/add) a line that is the target of a GTO or XEQ. In that case the GTO's and XEQ's all have to be reexamined and most likely changed. This wouldn't be so bad if you knew all the target lines of GTO and XEQ instructions so you'd know if a reexamination is in order -- but you don't know which they are and you can't flag them as such.

I've been extremely frustrated by this and it makes program editing as difficult as not having the auto line number changing feature. Sometimes it's worse, so I'm back to mostly using the limited 26 labels that existed before.

-Katie

*Edited: 6 Aug 2007, 3:14 p.m.*

### **Re: 35S INPUT (I) bug**

*Message #19 Posted by [Gene Wright](#) on 6 Aug 2007, 3:24 p.m.,  
in response to message #18 by Katie Wasserman*

Sorry to hear that, Katie.

Compared to the 12c way of things, the 35s is a godsend. I'd bet you'd agree to that...

It is the ONLY way I would ever want to program with line number GTO



and XEQ statements.

Yes, yes, local labels would be much nicer, but that just wasn't in the cards given the legacy platform of this machine. Not going to happen. Period.

So, either 26 labels as before, or a very good compromise that has already allowed for much more complicated programming than would otherwise be possible.

As you say, it can always be ignored and just programmed as if only global labels were available.

But, the only time I have seen a problem is when you need to change the function at the destination of a GTO or XEQ. Does that really happen all that often with programs you write? It hasn't with me. Usually it is in the body of a calculation that I find something left out.

But then, I also write out my programs on paper if they are longer than 20 or 30 lines, and work through the GTO and XEQ destinations that way.

:-)

Gene

### **GTO / XEQ line destinations**

*Message #20 Posted by **Gene Wright** on 6 Aug 2007, 3:40 p.m., in response to message #19 by Gene Wright*

Another thought. The destination instructions could be default instructions that never need to be deleted.

If a program isn't going to use the angle mode, make the instruction at all GTO/XEQ destinations be DEG or RAD.

That way, it would never be deleted. Sure, uses an extra 3 bytes but big deal.

Or, some other harmless instruction. Kinda a Pseudo-label.

Just a thought.

### **Re: GTO / XEQ line destinations**

*Message #21 Posted by **bill platt** on 6 Aug 2007, 3:53 p.m., in response to message #20 by Gene Wright*

Very clever. Wish I thought of that ! :-)

### **Re: GTO / XEQ line destinations**

*Message #22 Posted by **Paul Brogger** on 6 Aug 2007, 4:25 p.m., in response to message #20 by Gene Wright*

I've suggested something like the following for the 33s. Of course it takes more memory, and assumes that Flag 10 is clear. But it provides

a clear GTO/XEQ destination, and documents it to boot.

```
E...
E102 FS? 10
E103 COMMENT, ENTERED IN EQN MODE
E...
```

-----

Addendum:

Some other NNOP (Nearly No-Operation) candidates:

FS 6

FS 9

FC 10

-- depending upon your program requirements.

I've long thought that the COMMENT is the fundamental statement of any programming language, and the NOP is the fundamental operation of any CPU. They're just too darned useful to be left out.

-----

We might also consider what would be the *worst* command to use as a NNOP. I nominate "DSE (I)".

*Edited: 6 Aug 2007, 6:23 p.m.*

### **Re: GTO / XEQ line destinations**

*Message #23 Posted by [Katie Wasserman](#) on 6 Aug 2007, 5:04 p.m., in response to message #20 by Gene Wright*

Gene,

As you suggested, I thought about using NOP-like instructions for exactly that purpose. They would do the trick then could be deleted once the program is complete and (I think) the calculator would auto-renumber GTO's and XEQ's to the right place. A "RADIX." or "RADIX," instruction would probably be a good choice for a NOP. It's hard to imagine a program that ever needed to use them.

Ultimately, using paper for longer programs is probably the way to go though. I'm usually able to do 32Sii programming entirely on the calculator because the space is sufficiently limited that 26 labels is more than enough. OTOH even though the program space on the original 12C is smaller I still need to write programs on paper first.

-Katie

### **Re: 35S INPUT (I) bug**

*Message #24 Posted by [Paul Dale](#) on 6 Aug 2007, 4:30 p.m.,*

*in response to message #18 by Katie Wasserman*

I too have been stung by this very behaviour a multitude of times over the past week :-)

Also got stung badly last night when I decided to add a chunk of code at the start of my program. All the forward references were valid at the time of entry and got merrily relocated :-) I gave up and cleared memory and started typing anew. And yes, I wrote this out first -- in fact I've written a mini-assembler that lets me write code out and it fills in the line numbers for me.

However, as Gene pointed out, it is **much** better than traditional line number based programming.

- Pauli

### **GTO/XEQ ...**

*Message #25 Posted by **Gene Wright** on 6 Aug 2007, 5:39 p.m.,  
in response to message #24 by Paul Dale*

I do believe it is much better than traditional line number based programming...

and I believe it is much better to have this \*option\* compared to the 32s, 32SII and 33S programming style.

Is it as nice as the HP41 / HP42 style?

No.

### **Insertion before jump target**

*Message #26 Posted by **Thomas Okken** on 6 Aug 2007, 4:57 p.m.,  
in response to message #18 by Katie Wasserman*

When inserting a line, you can avoid grief as follows. Say you want to insert a line between lines 100 and 101. If you're sure that line 101 is not currently a GTO/XEQ target, there's nothing to worry about. If line 101 is a GTO/XEQ target, then you have to ask yourself whether the line you're inserting should become the target of those GTOs/XEQs or not; if not, again, nothing to worry about; if the new line \*should\* become the jump target, then

- 1) Insert the new line \*after\* the current jump target
- 2) Re-enter the current jump target \*after\* the line you just created
- 3) Delete the original jump target

It's a little bit awkward, but since the calculator has no way of knowing how to treat insertion before a jump target, you have to help it a little bit anyway. (It would be perfect if the calculator would detect insertion before a jump target, and then ask the user what to do!)

UPDATE: Of course you'd still be in trouble if you are dealing with a jump target that is reached by multiple GTO/XEQ instructions, and you want the inserted instruction to be reached by some of those, but not others. On a

calculator with labels, that would be analogous to inserting an instruction between two labels. To cope with this kind of thing reliably, you'll have to use pseudo-labels (NOP instructions) as jump targets exclusively, as others have already suggested.

- Thomas

*Edited: 6 Aug 2007, 5:21 p.m.*

### **Re: Insertion before jump target**

*Message #27 Posted by **Ed Look** on 6 Aug 2007, 6:03 p.m.,  
in response to message #26 by Thomas Okken*

I just completed a port of my XRD Miller indices program from the HP-48G to the new 35s.

Ignoring (rather, taking into account!) the limitations in the four-level stack 35s calculator as compared to the open stack of the RPL 48G calc, I saw now firsthand the automatic GTO line number changes as I edited the program.

It was slightly alarming and somewhat annoying to me at first, but if the program isn't too long (mine really isn't) then you can keep in mind where all your redirection statements are and then go back and check to see if the target lines are indeed the ones given on the branching command line. I did have to go back and change a few of them... more than once.

Maybe I am a naive programmer, but so far, this seems mainly to be a slight annoyance rather than a major distraction.

What do you all think?

### **Re: 35S INPUT (I) bug and more**

*Message #28 Posted by **Reth** on 6 Aug 2007, 5:04 p.m.,  
in response to message #11 by Don Shepherd*

I guess the prompt would be similar to the output of VIEW -

```
(46)=
123.456
```

The manual says on p.14-23 "you can not solve or integrate for unnamed variables or statistic registers" and INPUT should be included; also INPUT() and VIEW() shouldn't be grouped together in the sentence on p.14-22 which I miss to understand anyway.

All in all I don't see that as a big problem cause I wouldn't by punching in dozens of numbers in those indirect registers.

Another interesting thing I noticed. Suppose you've allocated 51 registers 0-50 and run the following code in order to free the memory.

```
LBL E
0.05
STO I
CLSTK
STO(I)
```

ISG I  
GTO E005  
RTN

before the first run system reports 51 regs, after it - 50 (only 50th unavailable) and after the second run - 0 as expected. Am I missing something?

Cheers,  
Reth

**Re: 35S INPUT (I) bug**

*Message #29 Posted by [Paul Dale](#) on 6 Aug 2007, 4:25 p.m.,  
in response to message #5 by Reth*

Nobody seems to have bought this up yet, but the calculator lets you enter INPUT (I) as an instruction. Which then fails to work. I don't see how this can be classified as anything but a bug in the calculator. Either the instruction should have been omitted from the machine or it should operate properly. Either way bug in calculator.

- Pauli

[edit to fix typo "but" -> "bug"]

*Edited: 6 Aug 2007, 4:39 p.m. after one or more responses were posted*

**Re: 35S INPUT (I) bug**

*Message #30 Posted by [Ed Look](#) on 6 Aug 2007, 4:29 p.m.,  
in response to message #29 by Paul Dale*

Ah, now THAT does look like a bug...

**Re: 35S INPUT (I) bug**

*Message #31 Posted by [Don Shepherd](#) on 6 Aug 2007, 4:56 p.m.,  
in response to message #29 by Paul Dale*

Paul, INPUT (I) works in a program, but only if register I contains a value between -26 (register Z) and -1 (register A). The manual, as Gene pointed out, is erroneous by implying that all 800 indirect registers can be used with INPUT (I).

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## HP Forum Archive 17

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**15C fails keyboard test**

Message #1 Posted by [Ron G.](#) on 6 Aug 2007, 12:27 a.m.

I have a 15C that fails the keyboard test. The keys seem tight and quite responsive, and they seem to work as they should. What would be the cause of the failure? It doesn't fail on the same key every time, but I've not yet made it all the way across the top row.

Any suggestions on correcting this situation?

**Re: 15C fails keyboard test**

Message #2 Posted by [Sondre K. Selnes](#) on 6 Aug 2007, 4:39 a.m.,  
in response to message #1 by Ron G.

Hello !

When performing the key-test, do You remember to hit the Enter-key twice - ? First time for the 'R/S'-row and second for the 'ON'-row.

If that dosen't work, try remove the battery for about 20 minutes...

Best regards Sondre K. Selnes

**Re: 15C fails keyboard test**

Message #3 Posted by [Frank Rottgardt](#) on 6 Aug 2007, 6:19 a.m.,  
in response to message #2 by Sondre K. Selnes

Thats the so called "Self test - Test" 8)

**Re: 15C fails keyboard test**

Message #4 Posted by [Allen](#) on 6 Aug 2007, 8:10 a.m.,  
in response to message #1 by Ron G.

Voyagers will fail keyboard test if the battery is very low. Try with brand new batteries as well.

**Re: 15C fails keyboard test**

Message #5 Posted by [Ron G.](#) on 6 Aug 2007, 9:50 a.m.,  
in response to message #4 by Allen

You da man, Allen! New batteries did the trick. Thank you.

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## HP Forum Archive 17

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### 35s mem seems weird

Message #1 Posted by [Paul Dale](#) on 5 Aug 2007, 7:54 p.m.

On my 35s, I've noticed that the amount of memory used does seem to correspond with the sizes of the programs I've got stored.

Currently, my calculator is reporting 24535 bytes of free program memory. I've a single program D which has a claimed length of 1954 and no variables.

$24535 + 1954 = 26489$  which is way off from the total memory on the device. I've forgotten the exact memory empty size but it is over 30000 bytes.

Where has the memory gone? I'm pretty sure the program is larger than the quoted size...

Should this be counted as a bug?

Pauli

### Re: 35s mem seems weird

Message #2 Posted by [Gene Wright](#) on 5 Aug 2007, 10:09 p.m.,  
in response to message #1 by Paul Dale

How many indirect variables do you have allocated?

When you go into MEM, what does it show on both sides?

### Re: 35s mem seems weird

Message #3 Posted by [Paul Dale](#) on 5 Aug 2007, 11:43 p.m.,  
in response to message #2 by Gene Wright

Quote:

How many indirect variables do you have allocated?

None that I'm aware of. I did clear vars to check.

Quote:

When you go into MEM, what does it show on both sides?

```
1VAR    2PGM
0       24,525
```

pressing 2 brings up:



LBL D  
LN=1954

There are no other programs.

- Pauli

### **Re: 35s mem seems weird**

*Message #4 Posted by **Paul Dale** on 6 Aug 2007, 12:09 a.m.,  
in response to message #3 by Paul Dale*

Further investigations.

Memory at start 24525. Enter:

LBL A  
123

Memory now 24484 (i.e. 41 bytes used). MEM 2 for LBL A has LN=9.

Entering:

LBL A  
123  
456

Gives me 24446 bytes and LN=15. Changing the 456 to 4567 in the this example yields 24446 and LN=16.

I'm guessing that the LN figure is being calculated as three bytes per operation plus one byte per character in the number and the mem figure is a flat 38 bytes per number. A quick look at equations seems to indicate that they follow the same rule as far as the LN= bit.

- Pauli

*Edited: 6 Aug 2007, 12:51 a.m.*

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## HP Forum Archive 17

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### **Newer HP 17BII+ with double-width Input/Enter key?**

Message #1 Posted by [bt\\_schmidt](#) on 5 Aug 2007, 1:24 p.m.

In a recent thread, "[Re: Looking for advice on financial calculators](#)", Thomas Okken observed that there is an image of an HP 17BII+ with a double-width Enter or Input key, on the Office Depot website:

- [www.officedepot.com/ddSKU.do?level=SK&id=784928](http://www.officedepot.com/ddSKU.do?level=SK&id=784928)
- [784928\\_sk\\_lg.jpg](#)

This potentially creates confusion if there are now two versions of the HP 17BII+ and you want #3, the one with the double-width Input key, viz:

1. HP 17BII (discontinued)
2. HP 17BII+ (readily available)
3. newer HP 17BII+ with double-width Input key

Does anyone have additional information on this newer HP 17BII+?

thank you,  
...bt

[http://www.officedepot.com/pictures/SK/LG/784928\\_sk\\_lg.jpg](http://www.officedepot.com/pictures/SK/LG/784928_sk_lg.jpg)

<http://h10003.www1.hp.com/digmedialib/proding/lowres/c00717636.jpg>

<http://h20000.www2.hp.com/bc/images/support/productInfo/SupportProductImage/c00778246.jpg>

*Edited: 6 Aug 2007, 10:01 p.m. after one or more responses were posted*

### **Re: Newer HP 17BII+ with double-width Input/Enter key?**

Message #2 Posted by [David Smith](#) on 5 Aug 2007, 3:45 p.m.,

in response to message #1 by [bt\\_schmidt](#)

The HP part number is the same as the current gold/black version, and gold/black is listed as the case color on the OfficeMax site. But suddenly HP is offering an instant \$20 discount on their website on the gold/black version.

I would guess this is one of those occasional goof-ups by an online vendor. The SKU and description are the same so somebody linked to the new jpg too soon.

And I have one of the "old" (?) ones coming on Monday. Darn.

### **Re: Newer HP 17BII+ with double-width Input/Enter key?**

Message #3 Posted by [Matt](#) on 5 Aug 2007, 3:55 p.m.,

in response to message #2 by [David Smith](#)

Interesting.

What with this and the big enter key on the 35s, I wonder if we can expect a remodelled 50G soon? Also, the faceplate on that 'new' 17bii+ looks metal. In fact the whole thing is rather nice, IMO.

*Edited: 5 Aug 2007, 3:57 p.m.*

### **Re: Newer HP 17BII+ with double-width Input/Enter key?**

*Message #4 Posted by [BruceH](#) on 6 Aug 2007, 9:03 a.m.,  
in response to message #1 by [bt\\_schmidt](#)*

Quote:

\_\_\_\_\_

This potentially creates confusion if there are now two versions of the HP 17BII+ and you want #3, the one with the double-width Input key, viz:

1. HP 17BII (discontinued)
  2. HP 17BII+ (readily available)
  3. newer HP 17BII+ with double-width Input key
- \_\_\_\_\_

Perhaps we should refer to the new one as the HP 17BII++ to reflect the wider enter key?

### **Re: Newer HP 17BII+ with double-width Input/Enter key?**

*Message #5 Posted by [Vincze](#) on 6 Aug 2007, 3:18 p.m.,  
in response to message #4 by [BruceH](#)*

Quote:

\_\_\_\_\_

Perhaps we should refer to the new one as the HP 17BII++ to reflect the wider enter key?

\_\_\_\_\_

Or maybe should name 17BII-XL (for extra large enter key).

### **Re: Newer HP 17BII+ with double-width Input/Enter key?**

*Message #6 Posted by [Bruce Bergman](#) on 6 Aug 2007, 4:10 p.m.,  
in response to message #5 by [Vincze](#)*

How about the 17bii+E? (E = Enter)

I am truly puzzled by this. I've never known HP to change the look of a calc and not change the model number somewhere, somehow. This one surprised me.

BTW, I do LIKE this change! I love the bigger key. I just wish it had stayed the pretty dark color and not the silverish, 33s-like, style.

When someone gets one of these, please post a good quality picture!

thanks, bruce

### **Re: Newer HP 17BII+ with double-width Input/Enter key?**

*Message #7 Posted by [Manatee](#) on 6 Aug 2007, 3:03 p.m.,  
in response to message #1 by [bt\\_schmidt](#)*

I see the keys are back to the traditional shape. No more "fastback" keys.

I'll have to get one of these so my "old style" 17BII+ will have a buddy.

---

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## HP Forum Archive 17

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### Connectivity Issues with 48G series

Message #1 Posted by [Ed Look](#) on 4 Aug 2007, 11:26 p.m.

I have both a HP-48G and a 48G+. I used to be able to connect to them oh-so-easily. Ever since Win XP, I can easily connect to a 49G+, but neither of the 48G series babies can connect.

The error message always says that no calculator or no device is found on COM2. I hope the only old fashioned serial port on my PC is COM2, as my link cable is 48G proprietary four pin to serial.

Are there any of you here who are able to consistently connect successfully their 48G series machines to their PC? I'd love to get my 48G and G+ back onto the PC.

### Re: Connectivity Issues with 48G series

Message #2 Posted by [Allen](#) on 4 Aug 2007, 11:40 p.m.,  
in response to message #1 by Ed Look

RS232 ports when native on the motherboard usually default to COM1 unless you specify otherwise. Check your settings in the START-> Control panel -> Hardware device manager.

If nothing else, get a USB to serial converter. This will allow you to configure the COM ports more easily compared to a hardwired RS232. As a side note, many manufacturers are not FULLY supporting the Rs323 interface at the specification level w/r/t the DTR and other important signals- this is especially prevalent in Laptop computers where the pins may LOOK like Rs232, but they do not fully behave RS232.

### Re: Connectivity Issues with 48G series

Message #3 Posted by [Ed Look](#) on 4 Aug 2007, 11:57 p.m.,  
in response to message #2 by Allen

Why, thank you for the insight!

I appear to have three ports listed in the Device Manager: COM1, COM2, and LPT1.

I don't see a way to reconfigure the ports and there is only ONE such port on my motherboard. Bleagh.

If I use a USB to serial converter, it looks like I'll use one yet another USB port... but may be worth it. I'll look into that, too.

### Re: Connectivity Issues with 48G series

Message #4 Posted by [Thomas Okken](#) on 4 Aug 2007, 11:52 p.m.,  
in response to message #1 by Ed Look

My HP-48G and my laptop have no problem talking to each other. On the PC end I use Windows XP Home and Conn4x; the machine has no serial ports built-in but everything works fine with an external USB-to-serial converter.

- Thomas

### **Re: Connectivity Issues with 48G series**

*Message #5 Posted by **Ed Look** on 4 Aug 2007, 11:59 p.m.,  
in response to message #4 by Thomas Okken*

I see. It appears more and more this is the way to go. Legacy stuff; bah. Yeah, yeah, I know... just like the rest of us here, I'm a "legacy" calculator nut...

... but how does this converter work?

If I connect the serial end of the converter cable to my serial port, I have a USB end left; not usable on the 48G.

If I connect the USB end to a USB port, I have a serial end left; still unusable on the 48G...

... unless the serial end of my existing 48G to serial cable connects to the converter which then plugs into a USB port...

... right?

*Edited: 5 Aug 2007, 12:21 a.m.*

### **Re: Connectivity Issues with 48G series**

*Message #6 Posted by **Thomas Okken** on 5 Aug 2007, 12:56 a.m.,  
in response to message #5 by Ed Look*

Quote:

\_\_\_\_\_

unless the serial end of my existing 48G to serial cable connects to the converter which then plugs into a USB port

\_\_\_\_\_

Yes, that's how it works.

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## HP Forum Archive 17

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### **Some kind thoughts about HP's new direction**

Message #1 Posted by [Seth Morabito](#) on 4 Aug 2007, 9:36 p.m.

I've been watching the recently released [HHC 2006 DVDs](#), and they've really reassured and excited me. I've never been to an HHC event, but I'm very much looking forward to going to HHC 2007 next month.

Listening to Cyrille de Brebisson and Sam Kim on the HHC 2006 video has made it clear to me that they're very passionate about bringing quality, reliability and good design back to HP calculators. They really listen to the community that uses them. It's also reassured me that there's more good stuff to come -- we've already seen a few accidentally leaked pictures of the new HP 17bII+ design, and I suspect we'll see other changes that bring more of the calculators into line with what we've seen on the 35s. Pure speculation on my part, but I think very well reasoned speculation.

The response to the 35s has been overwhelmingly positive. You can't please everyone, so there are bound to be some people who don't like it, but I'll agree with what seems like the majority sentiment that this is the best handheld calculator HP has sold in almost a decade. I love my 35s, it's an excellent RPN calculator in the 32s lineage, and I'm happy as a clam to have my wide "Enter" key back. THANK YOU HP!

### **Re: Some kind thoughts about HP's new direction**

Message #2 Posted by [Ed Look](#) on 4 Aug 2007, 9:49 p.m.,  
in response to message #1 by Seth Morabito

Hear! Hear!

### **Re: Some kind thoughts about HP's new direction**

Message #3 Posted by [Wayne Brown](#) on 4 Aug 2007, 10:58 p.m.,  
in response to message #1 by Seth Morabito

I agree with you that "this is the best handheld calculator HP has sold in almost a decade." However, I still don't think it is good enough yet.

### **Re: Some kind thoughts about HP's new direction**

Message #4 Posted by [Brad Davis](#) on 4 Aug 2007, 11:53 p.m.,  
in response to message #3 by Wayne Brown

Step 1 would seem to me to be a >4 line stack to make those of us who learned RPL first happier.

Would that actually *hurt* RPN users in some way?!?

### **Re: Some kind thoughts about HP's new direction**

Message #5 Posted by [Ed Look](#) on 5 Aug 2007, 12:01 a.m.,  
in response to message #4 by Brad Davis

Nah. It would eat up more physical system resources and might get underutilized by those of us who are used to the good ol' four stack system. ;D

### **Re: Some kind thoughts about HP's new direction**

*Message #6 Posted by **Walter B** on 5 Aug 2007, 12:03 a.m.,  
in response to message #4 by Brad Davis*

How about a settable fixed stack size? You may set it to 4 levels minimum ("compatibility mode" for all the good old programs) and to **n** levels maximum. I proposed **n = 16** in an earlier post here I'm too lazy to excavate now (maybe KS would do).

### **Re: Some kind thoughts about HP's new direction**

*Message #7 Posted by **Wayne Brown** on 5 Aug 2007, 12:28 a.m.,  
in response to message #6 by Walter B*

That would be the way to go if the stack were expanded. I personally wouldn't want more than 4 levels plus LASTX, but more would be OK as long as it could be limited to 4 by the user, and the "T" level copying worked the same as on the "real" 4-level machines.

### **Stack compatibility and VLS ( Very Large stack)**

*Message #8 Posted by **Allen** on 5 Aug 2007, 12:51 a.m.,  
in response to message #6 by Walter B*

I can't think of a good reason for a scientific calculator without matrix or parallel list processing features to have  $n \gg 4$  level stack or VLS (very large stack).

The vast majority of USER and SYS RPL stack commands only manipulate the bottom 6 regs for a reason: If the calculator has enough system resources to support VLS, it is easier to dump intermediate results into a different data structure (list, matrix, array, vector....) or store them in a variable (direct or indirect).

Also, once the stack depth exceeds 6 or so, the top is no longer DIRECTLY accessible. Only indirect use via the ROLL or PICK command will allow the top to be used in calculation. As a result, VLS data structures are in essence indirect registers with access control.

### **Re: Stack compatibility and VLS ( Very Large stack)**

*Message #9 Posted by **Walter B** on 5 Aug 2007, 4:08 a.m.,  
in response to message #8 by Allen*

Hi, Allen,

I think I have to clarify a bit.

Quote:

\_\_\_\_\_

I can't think of a good reason for a scientific calculator without matrix or parallel list processing features to have  $n \gg 4$  level stack or VLS (very large stack).

\_\_\_\_\_

IIRC " $n \gg 4$ " means  $n$  being at least 40. IMHO this would be a VLS already. This was not proposed.



To allow you to tackle every strange equation you meet without the need for storage of intermediate results,  $n = 4$  falls short.  $N = 6$  may be sufficient. Let's add 2 levels for safety (remember Minneapolis), so  $n = 8$  may be a good maximum if each stack level may contain any kind of object (incl. matrices). This size is still easy to control.  $N = 16$  might be too much, agreed, but e.g. MathUPro works with that number.

*Edited: 5 Aug 2007, 4:13 a.m.*

### **Re: Stack compatibility and VLS ( Very Large stack)**

*Message #10 Posted by [Brad Davis](#) on 5 Aug 2007, 9:04 a.m.,  
in response to message #9 by Walter B*

I wouldn't care about a VLS. 6 or 8 would be all I'd care about. The reason is that I got into the habit of punching equations through left to right using RPL. I use quite a few equations that require 5-6 registers to do that.

Over the last few days, I've started re-training myself to start inside and work my way out.

### **Re: Stack compatibility and VLS ( Very Large stack)**

*Message #11 Posted by [Frank Rottgardt](#) on 5 Aug 2007, 1:46 p.m.,  
in response to message #10 by Brad Davis*

The same here. I started my HP "career" rather late as a fresh men back in 1990 with a RPL 28s. I had never to think about the limitations of a four level stack. Today, using a 33s for my daily tasks, I still have to remember myself of the rule "work from inside to the outside". But I get used. Anyway, a 6-8 level stack would be very nice.

### **Re: Stack compatibility and VLS ( Very Large stack)**

*Message #12 Posted by [Brad Davis](#) on 5 Aug 2007, 7:49 p.m.,  
in response to message #11 by Frank Rottgardt*

LOL, I'd say that there are quite a few of us out there.

For what it's worth, I'm trying to learn to do things in true RPN now. I have a specific benchmark equation that I use to judge my speed. Today, I punched it through in 30-32 sec. with my 50g from inside out. Also 30-32 sec. with my 33s. The best I could do left to right with my 50g was 38 sec. I'm now convinced that I should go inside->outside, so the stack size isn't an issue any longer.

I'm almost sure I've done it in 27 sec. with my 48 because the keys are so much nicer. I let a TI-using friend borrow it for a couple of weeks in a conversion attempt, so I can't verify that number.

### **Re: Stack compatibility and VLS ( Very Large stack)**

*Message #13 Posted by [Vincze](#) on 6 Aug 2007, 9:10 a.m.,  
in response to message #11 by Frank Rottgardt*

I think four level stack force user to be more concise with code (equations). This hard for some new programmers in the real world because memory is cheap. I know I play with 35s this weekend trying to write a few programs based on two theory. One, use as many like as I need. Two, limit it to four level stack use. The second

theory, much harder as you really have to think, but you make much more efficient code in my opinion.

I think unlimited stack is very good thing, but it allow you to be lazy and build out larger program which not necessarily a good thing. I see in my work, many younger programmer out of university who write bloated programs that could be more efficient. Unfortunately at university they do not teach them how to write compact code. That is a shame.

### **Re: Stack compatibility and VLS ( Very Large stack)**

*Message #14 Posted by **Walter B** on 6 Aug 2007, 3:41 p.m.,  
in response to message #13 by Vincze*

Shall the calculator be part of the problem or part of the solution? For a dedicated educational calc, one may limit the features artificially to force people to use a certain stile of problem solving. But for a professional tool, I'd prefer not to be educated. Just my personal opinion.

### **Re: Stack compatibility and VLS ( Very Large stack)**

*Message #15 Posted by **Gunnar Degnbol** on 6 Aug 2007, 4:22 p.m.,  
in response to message #13 by Vincze*

I think the main issue with larger stacks is access to all the new stack levels. With four levels, none of the stack registers are more than 2 keypresses away. More than four, and you "need" all those RPL stack manipulation commands that nobody can remember.

### **Re: Stack compatibility and VLS ( Very Large stack)**

*Message #16 Posted by **James M. Prange (Michigan)** on 7 Aug 2007, 6:20 a.m.,  
in response to message #15 by Gunnar Degnbol*

Quote:

More than four, and you "need" all those RPL stack manipulation commands that nobody can remember.

Can you remember just DEPTH, ROLL, PICK, and DROPN? Those are all that are really **needed** in RPL. The rest of the UserRPL stack commands are useful, but with some extra keystrokes or programming, these four can do everything that the others can.

Regards,  
James

*Edited: 7 Aug 2007, 6:43 a.m.*

### **Settable RPN stack size**

*Message #17 Posted by **Karl Schneider** on 6 Aug 2007, 2:26 a.m.,  
in response to message #6 by Walter B*

Hi, Walter --

Quote:

---

How about a settable fixed stack size? You may set it to 4 levels minimum ("compatibility mode" for all the good old programs) and to n levels maximum. I proposed n = 16 in an earlier post here I'm too lazy to excavate now (**maybe KS would do**).

---

I fully agree that a settable fixed stack size would be the way to go.  $x < > y$ , R\_dn, and R\_up would work exactly the same. The minimum and default stack size should be 4, for compatibility and usability. The maximum could also be 9 or 19 for a natural setting operation; e.g., "STKD 9" or "STKD .9". Hexadecimal (e.g., E for 15) would be a bit counterintuitive.

As for "excavating", I don't do that on a routine basis. Once in a while, I plow through the Archives for informative or detailed posts, in particular my own where I wrote a "short essay" or provided an explanation for an analyzed problem. I then make bookmarks for those posts, which tend to offer suitable responses for topics that come up repeatedly.

-- KS

### **Re: Some kind thoughts about HP's new direction**

*Message #18 Posted by [Howard Owen](#) on 5 Aug 2007, 12:30 a.m.,  
in response to message #1 by Seth Morabito*

Sam Kim seemed very credible to me at HHC 2006. He has the old-line HP calculator nut credentials for one thing. And he just seems like an honest guy for another. Time has shown me that my judgment of him was correct - everything he said HP would do, HP has done with the 35S.

In that vein, I suggest that Sam's statements on the DVD that accompanies the 35S bear careful scrutiny. There, he promises that future HP calculators will all embody the things that users love about HP calculators. He gives the solid build quality and keyboard tactile feedback as examples. But he also says that HP will lead with new technology, and that their aim is to make calculators easier to use. I might have misgivings about that, but combined with the first statement, I think that means that the geeky old interfaces, such as RPN and RPL, will still be there. But so too will be some form of GUI or other interface abstraction on top.

All-in-all, I think we are in for some interesting times.

Regards,  
Howard

### **Re: Some kind thoughts about HP's new direction**

*Message #19 Posted by [Ed Look](#) on 5 Aug 2007, 12:40 a.m.,  
in response to message #18 by Howard Owen*

GUI on a calculator?? What would that accomplish?

### **Re: Some kind thoughts about HP's new direction**

*Message #20 Posted by [Howard Owen](#) on 5 Aug 2007, 12:51 a.m.,  
in response to message #19 by Ed Look*

I have two answers to that. First, why does the 48/49/50 series need a GUI? Second, check out the

nSpire.

I'm not saying that's ideal. And I did say "GUI or other interface abstraction." But my hope would be that HP, operating with an awareness of its traditions, would come up with something that would be genuinely useful. What exactly that might be, I can't say.

Regards  
Howard

Edited for spelling errors.

*Edited: 5 Aug 2007, 12:53 a.m.*

### **Re: Some kind thoughts about HP's new direction [I'm going OT a bit]**

*Message #21 Posted by [Matt](#) on 5 Aug 2007, 6:12 a.m.,  
in response to message #18 by Howard Owen*

GUI on a calculator...

Take the TI89 Titanium and the TI Voyager. They are basically the same thing apart from the Voyager having a QWERTY keyboard and larger display.

So I'd be interested in your opinions on when does a calculator stop being a calculator and start becoming a handheld computer?

And is the distinction very important?

### **Re: Some kind thoughts about HP's new direction [I'm going OT a bit]**

*Message #22 Posted by [Howard Owen](#) on 5 Aug 2007, 6:29 a.m.,  
in response to message #21 by Matt*

I think at least three things distinguish a calculator from a hand held computer.

1. Mathematical functions are primary on a calculator.
2. A calculator keyboard is designed for calculation first, rather than text first.
3. A calculator is designed to have long battery life.

I suppose that there are other differences that wouldn't fit into those categories. But I do think those are the main points. Items like the display differences come under the heading of low power consumption.

The distinctions could get blurry as technology advances. If battery technology improves significantly, we could see machines that were obviously calculators sporting displays like today's hand held computers. The keyboard issue can be dealt with creatively. The Hydrix project did that. And the new nSpire features a snap on keyboard in the low end model. You could go farther down those lines and provide a device that could be configured as a calculator or a computer. And the mathematical focus is really a software issue. Given flexible hardware, you could make the software just as flexible and appropriate for the current configuration.

Oh, yeah, calculators tend to be *cheaper* too. 8)

Regards,  
Howard

### **Re: Some kind thoughts about HP's new direction [I'm going OT a bit]**

*Message #23 Posted by [Brad Davis](#) on 5 Aug 2007, 9:01 a.m.,*

*in response to message #22 by Howard Owen*

I have another distinction:

My calculators are permanent (assuming they don't break). I'm sure I won't be typing on this notebook computer in 3 years.

### **Re: Some kind thoughts about HP's new direction**

*Message #24 Posted by [Ivan Latorre](#) on 5 Aug 2007, 7:13 a.m.,  
in response to message #1 by Seth Morabito*

Quote:

"this is the best handheld calculator HP has sold in almost a decade."

I fully agree. Since the release of the HP48 series HP has only produced rubbish. That's the reason why the HP48 was my last HP scientific calculator. Now with the 35s HP is back again. I have only two complaints about this great calculator:

- Plastic quality. Below HP48's plastic case
- S/N not engraved (misaligned sticker)

Anyway, a step in the good direction.

### **Re: Some kind thoughts about HP's new direction**

*Message #25 Posted by [Dave](#) on 5 Aug 2007, 1:04 p.m.,  
in response to message #24 by Ivan Latorre*

Rubbish as far as physical quality goes, no argument there. That is unfortunately due to the realities of modern outsourced manufacturing. But let's not forget what they've managed to do with practically no staff. They were able to save the 48 line by creating the Saturn emulator running on modern hardware. And they saved the 32 line by porting it to modern hardware on the 33S. Those are pretty big accomplishments. Sure they had problems along the way and lost a lot of loyal customers. But at least now they seem to be listening to their users again, instead of moronic focus groups which likely resulted in the 33S styling, among other things. The current state of HP calculators is excellent again, finally.

### **Re: Some kind thoughts about HP's new direction**

*Message #26 Posted by [Frank Rottgardt](#) on 5 Aug 2007, 2:09 p.m.,  
in response to message #25 by Dave*

Quote:

That is unfortunately due to the realities of modern outsourced manufacturing.

This is due to the HP management decision to shut down the Corvallis group. Unbelievable how much expert knowledge of excellent calculator design vanished this way. Ok, maybe the calculator business wasn't that good at that time. But TI proved it is possible to survive even bad times by being innovative and discovering the educational market for consistent sales volumes.

I use a 33s and never really understood how purple or turquoise letters against a silver background could be a selling argument. It is simply a crime against good engineering practise.

Anyhow, the turnaround seems to be there and I hope for consistent better calculators.

**Re: Some kind thoughts about HP's new direction**

Message #27 Posted by [Ivan Latorre](#) on 5 Aug 2007, 3:35 p.m.,  
in response to message #26 by Frank Rottgardt

Btw, in other forum threads everybody is talking about blister packaging. The HP35s comes in a good box, at least the edition for Spain and Portugal (and quite heavy due to the two user's guides, in Spanish and Portuguese). The calculator was inside a plastic bag. I hope that the 'American edition' that I have bought at Samson Cables also comes boxed.

**Re: Some kind thoughts about HP's new direction**

Message #28 Posted by [Matt](#) on 5 Aug 2007, 3:48 p.m.,  
in response to message #27 by Ivan Latorre

Quote:

Btw, in other forum threads everybody is talking about blister packaging. The HP35s comes in a good box, at least the edition for Spain and Portugal (and quite heavy due to the two user's guides, in Spanish and Portuguese). The calculator was inside a plastic bag. I hope that the 'American edition' that I have bought at Samson Cables also comes boxed.

FWIW, my Samson Cables came to the UK via Spain and was in a blister pack of the toughest plastic I've ever encountered.

**Re: Some kind thoughts about HP's new direction**

Message #29 Posted by [Seth Morabito](#) on 5 Aug 2007, 5:19 p.m.,  
in response to message #27 by Ivan Latorre

Yes, unfortunately the American version comes encased in what can only be described as a brick of solid adamantium, impenetrable without the aid of a high-power laser cutting system or CNC milling machine. If you do attempt to open it with anything as mundane as a pair of household scissors, it deflects the attack and instigates countermeasures, defending itself with razor-sharp plastic shards designed to penetrate human skin like a hot knife through butter.

**Re: Some kind thoughts about HP's new direction**

Message #30 Posted by [Hal Bitton in Boise](#) on 5 Aug 2007, 5:26 p.m.,  
in response to message #29 by Seth Morabito

Sounds like the experience I had opening my 50g last Christmas. 8/

**Re: Some kind thoughts about HP's new direction**

Message #31 Posted by [Bruce Bergman](#) on 7 Aug 2007, 2:02 p.m.,  
in response to message #29 by Seth Morabito

Aside from Seth's very accurate, and very funny :-), depiction of how tough the 35s plastic blister is (and yes, I DID get stabbed by a shard of that stuff; it HURTS!), there's one very big reason for the blister packaging: visibility.

Shoppers nowadays are used to seeing a product, and they won't even think twice about walking by a nicely closed box with a picture on it. The days of the old HP "christmas present" boxes are gone. It just wouldn't sell. They need to put the calculator on display, and the blister packs do that very very well.

thanks, bruce

*Edited: 7 Aug 2007, 2:03 p.m.*

**Re: Some kind thoughts about HP's new direction**

*Message #32 Posted by [Ed Look](#) on 7 Aug 2007, 2:35 p.m.,  
in response to message #31 by Bruce Bergman*

Bruce, when I bought my HP-34C as a kid, the office electronic supply store (do such things still exist??) had one unit of every model they carried on display, with descriptions, etc., though the descriptions would have been enough for me. Any design beauty would be an extra goodie.

But I really wanted to concur about today's blister packaging. Yes, it may be very effective at thwarting many of our thieving Americans, but I too have been stabbed or cut by that very stiff material. There are those saw-like "cut-everything" scissors that'll safely cut that blister packaging material, more easily than a pair of normal scissors.

I miss my old 34C box; it fell apart many years later and my mother tossed it (along with my treasure horde of old comic books and baseball cards that would now have made me a multibillionaire... and my even more treasured cache of Science Times articles on the space shuttle). Now I have to protect my 32SII box (a much flimsier thing) from my wife! But the subsequent calculators came in blister packs and they, of course, get thrown out or recycled, depending on the material with which it was made.

**Re: Some kind thoughts about HP's new direction**

*Message #33 Posted by [Dave Shaffer \(Arizona\)](#) on 7 Aug 2007, 6:09 p.m.,  
in response to message #32 by Ed Look*

Quote:

along with my treasure horde of old comic books and baseball cards that would now have made me a multibillionaire

Your mother threw those away, too!?!?! Mine disappeared when I went to graduate school on the other side of the country. I had the whole 1952 Brooklyn Dodgers, along with Mickey Mantle, Phil Rizzuto, etc.

If all of our moms had kept this stuff, there would be a glut on the market, and we'd still not be gazillionaires!

**Re: Some kind thoughts about HP's new direction**

*Message #34 Posted by [Ed Look](#) on 7 Aug 2007, 11:06 p.m.,  
in response to message #33 by Dave Shaffer (Arizona)*

You've destroyed my fantasies...

... just kidding! ;)

### **Re: Some kind thoughts about HP's new direction**

*Message #35 Posted by **Bruce Bergman** on 7 Aug 2007, 7:03 p.m.,  
in response to message #32 by Ed Look*

My wife's dad threw away her Barbie collection after she went to college. She came back and found them all gone. As a collector for years, she estimates that the value (today) of those Barbie dolls at about \$30,000. Ugh. She can barely talk about it today. ;-)

The only good thing that came from that is that \*I\* am not going to throw away any of my kids stuff unless I check with them first! ;-)

thanks, bruce

### **Why the blister?**

*Message #36 Posted by **Don Shepherd** on 5 Aug 2007, 7:05 p.m.,  
in response to message #27 by Ivan Latorre*

Since the blister packaging, presumably, is to thwart dishonesty in the retail stores, but the 35s is (at least, currently) not being sold in retail stores, why the blister? I guess we can expect to see it on Walmart shelves eventually. But even the 33s never made it to the shelves of Office Depot or Staples, AFAIK.

### **Re: Some kind thoughts about HP's new direction**

*Message #37 Posted by **Jake Schwartz** on 6 Aug 2007, 10:33 p.m.,  
in response to message #26 by Frank Rottgardt*

Quote:

\_\_\_\_\_

This is due to the HP management decision to shut down the Corvallis group. Unbelievable how much expert knowledge of excellent calculator design vanished this way.

\_\_\_\_\_

For those who weren't there....in 1993 around the time HP48GX was being released, the Corvallis division was at a fork in the road with that facility producing both laptops (Omnibooks, if I remember correctly) and handhelds (both calculators and the LX palmtops). We were told at the time that senior management felt Corvallis should concentrate on just one of those two - and they chose laptops. As a result, handhelds went to Singapore, where they worked seemingly 99% of the time on palmtops and 1% on calculators. At the 1995 and 1996 conferences in Minneapolis and Anaheim respectively, the Singapore head of handhelds, Kheng Joo Khaw, basically indicated that palmtops were "where it's at" and calculators did not need to be emphasized at that time. We calculator supporters disagreed, of course. The only new unit of any significance was the release of the algebraic hp38G in '95. We also saw the DOS-based palmtops end with the 200LX and the beginning of the 300LX-and-onward Windows CE machines. It was a strange time.

We thought HP calcs were done until in 1997, the Australian ACO group was formed with Chris Wallin speaking at the HPCC British conference and promising us that things would return to a strong position again. Their early products (48G+, hp6S and 6S Solar, hp10BII in the new case and hp30S) were underwhelming, with the 6S and 30S representing the first time hp put their name on



machines which they essentially did not design. Finally, new development seemed to resurface with the hp49G in 1999. Although the case colors, keyboard and key arrangement were strange, the functionality was a nice step forward from the 48 series. I firmly believe that if the developers of the HP48 Metakernel software had not done their thing in 1997, the hp49G, 49G+ & 50G would not have been built, calcs would have faded into oblivion and the current San Diego group would not have formed to ultimately attempt a 35S and any return to HP's "roots". So, many thanks to Cyrille, Jean-Yves, Gerald and the gang :-)

Jake Schwartz

**Re: Some kind thoughts about HP's new direction**

*Message #38 Posted by [Frank Rottgardt](#) on 7 Aug 2007, 1:44 p.m.,  
in response to message #37 by Jake Schwartz*

Hi Jake,

Quote:

So, many thanks to Cyrille, Jean-Yves, Gerald and the gang :-)

Thanks, even from my side. I guess it must be very hard to design a nice piece like the 35s seems to be (I don't have one - not yet) It's even harder if a project leader has to supervise a big part of his team from the opposite side of the pacific.

My main concerns with the recent HP-calcs are still the mechanical quality HP used to stand for. Good haptics is something important to me. There are things I daily use without paying great attention to them. Like my coffee machine or my razor.

But it happens even after years of use that I hold up in my work when using my old style 28s and think to myself for a second or two "nice craftsmanship, fun to look at and fun to use - always precise, always reliable"

It is this alround-package "unobtrusive design, excellent mechanic, software and 100%-reliability" which I still do miss.

But in the end I do understand that the golden calculator age is gone. Today there are simply too many alternative tools around. Palms, Pocket PCs, laptops ..... Hard to justify big investments for "only" an non graphing straight-forward RPN machine. From this perspective the 35s is really impressive.

But the greatest thing I respect HP for is to stick with RPN. Otherwise us guys needed to get used to AOS. Of course only those who are still more than 30 years away from retirement. Since that seems to be the "at least" lifespan of an HP calculator made in 1972.

**Re: Some kind thoughts about HP's new direction**

*Message #39 Posted by [Ed Look](#) on 7 Aug 2007, 2:24 p.m.,  
in response to message #38 by Frank Rottgardt*

Isn't your 28S algebraic? Do you prefer it over a RPN calculator?

**Re: Some kind thoughts about HP's new direction**

*Message #40 Posted by [Frank Rottgardt](#) on 8 Aug 2007, 9:28 a.m.,*

*in response to message #39 by Ed Look*

I used my 28s as RPN only. Can't cope with AOS. But lets face reality. The vast majority of people using calculators don't even know about RPN. So thats why I think it is so positive seeing HP still making calculators with an RPN-option at least.

Today my 28s is almost retired and I use it only sometimes at home. At work a 33s became my new work horse. Not perfect, but usable.

### **Re: Some kind thoughts about HP's new direction**

*Message #41 Posted by **James M. Prange (Michigan)** on 8 Aug 2007, 4:06 p.m.,  
in response to message #39 by Ed Look*

The 28C and 28S are UserRPL models. Like the 48 and 49 series, "algebraic objects" can be used, but the user interface and operating system are basically a variety of RPN. Unlike the 49 series, the 28 and 48 series do not have an ALG mode.

Internally, algebraic objects are composite objects with an RPN sequence, much like a program, but with a different prologue, additional syntax rules, and entered and displayed in algebraic syntax.

For example, where  $\sqrt{\quad}$  represents the square root symbol, the algebraic object:

```
'R=\sqrt{(3^2+4^2+12^2)'
```

is compiled to a composite with (internally) the RPN sequence:

```
'R' 3 2 ^ 4 2 ^ + 12 2 ^ + \sqrt/ =
```

Regards,  
James

*Edited: 8 Aug 2007, 4:07 p.m.*

### **Re: Some kind thoughts about HP's new direction**

*Message #42 Posted by **Seth Morabito** on 5 Aug 2007, 5:27 p.m.,  
in response to message #25 by Dave*

Quote:

\_\_\_\_\_

Rubbish as far as physical quality goes, no argument there.

\_\_\_\_\_

Yes, this is actually a good point. I was very fond of my 33s as well, in all respects EXCEPT the keyboard and housing design. But the software was actually a very nice continuation of the 32s line. If only it hadn't had that insane chevron keyboard!

I think what they're doing with such a small team (i.e., Cyrille) is really very amazing. Yes, I do regret that they disbanded the Corvallis team, and I do wish the build quality were better, but given the realities of the market, I'm really quite pleased with how things are going.

*Edited: 5 Aug 2007, 5:28 p.m.*

### **Re: Some kind thoughts about HP's new direction**

*Message #43 Posted by [Chan Tran](#) on 6 Aug 2007, 8:47 a.m.,  
in response to message #42 by Seth Morabito*

At work here we do make nice box of the same quality or better than those that came with the original 35. However, about the only customer that buy our boxes for their product are cosmetic manufacturer. Com'on HP give us some business.

## **Re: Some kind thoughts about HP's new direction**

*Message #44 Posted by [Vincze](#) on 6 Aug 2007, 9:05 a.m.,  
in response to message #1 by Seth Morabito*

Quote:

we've already seen a few accidently leaked pictures of the new HP 17bII+ design

Does someone have a picture of this. I would like to see.

Also, does anyone from HP frequent this group? I sure they read, as they have David on DVD that come with 35s, but just curious if anyone from HP chime in here.

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## HP Forum Archive 17

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### Looking for advice on financial calculators

Message #1 Posted by [Thomas Okken](#) on 4 Aug 2007, 9:20 p.m.

Hi all,

I'm thinking of buying a financial calculator. I have basically ignored financial planning for most of my life, living from day to day as they say, but I'd like to take control of these things a bit more, and being a geek, buying a new calculator seems a nice way to usher in this new era. ;-)

I'm inclined to get an HP-12C, being a fan of old-school HP calculators, but I'm also interested in hearing what others have to say about the relative merits of other models. I'd also be interested in financial packages for the HP-48G, or even for PCs.

Any thoughts would be greatly appreciated.

Thanks!

- Thomas

### Re: Looking for advice on financial calculators

Message #2 Posted by [allen](#) on 4 Aug 2007, 9:39 p.m.,

in response to message #1 by Thomas Okken

Get the 17bii. There are more functions than the 12c and can be both RPN or Alg. for those so inclined. While not programmable, the 17bii is a superior calculator. I personally like it better because:

- 1) The speed can't be beat
- 2) It can print to an IR printer
- 3) Interest rates are ANNUAL rates rather than periodic rates.
- 4) Cashflows are much easier to enter and manipulate
- 5) Two line display
- 6) much more memory
- 7) Closest financial calc to a 42s
- 8) much quieter keyboard (less colors and shift keys).

The last point will be refuted because the 17bii many submenus replaced the keyboard-accessible 12c features, but I would estimate most folks here don't use keyboard laden features of the double-shift models (12c, 32sii, 48gx) for every day calculations.

Quote:

\_\_\_\_\_

...financial packages for the HP-48G, or even for PCs...

\_\_\_\_\_

Forgot to mention.. the 48G has TVM (Time value of money) native under SOLVE -> TVM. That is by and large the only useful 'financial' feature for those outside banking/brokerage profession. All the other Bond Values, ROI, SOYD, percents, and depreciation ... are trivial formulae for engineers/computer scientists to remember, even if used infrequently. (Besides, if you need the latter features more than once a year you are into TAX planning, not Financial planning and no calculator will make that painless!!! GRIN!)

Regarding PC packages, MS Excel is also fully equipped with TVM features, that is if you can stomach the help files. The few that are not there can be added with a quick VBA SUB.

*Edited: 4 Aug 2007, 9:54 p.m.*

**Re: Looking for advice on financial calculators**

*Message #3 Posted by [Bill \(Smithville, NJ\)](#) on 4 Aug 2007, 9:57 p.m.,  
in response to message #2 by allen*

Allen,

You beat me to it :)

I agree - get the 17Bii. For all your reasons

BUT you left out the best reason:

THE SOLVER!!

Of course being a classic Pioneer helps also.

Bill

**Re: Looking for advice on financial calculators**

*Message #4 Posted by [Allen](#) on 4 Aug 2007, 10:38 p.m.,  
in response to message #3 by [Bill \(Smithville, NJ\)](#)*

Quote:

\_\_\_\_\_

BUT you left out the best reason:...THE SOLVER!!

\_\_\_\_\_

oops, I had this in my original note and must have deleted it when correcting some things.. Yes you are correct. That was mentioned even above my list as the best feature..even though I don't use it as much as the TVM menu. Well said!

**Re: Looking for advice on financial calculators**

*Message #5 Posted by [Thomas Okken](#) on 4 Aug 2007, 10:04 p.m.,  
in response to message #2 by allen*

Allen, thanks for your detailed reply! One question, though: are you talking specifically about the 17bii, or also the 17bii+? I noticed the former seems to be pretty easily available still, and it has a higher rating on Amazon.com.

Being an HP-42S fan, I like the looks of the 17bii, but I would imagine the 17bii+ will be faster... Not sure that would be important, though...

(I also noticed that the picture of the 17bii+ on the Office Depot web site looks different from the one on HP's web site. The Office Depot version has a different color scheme and a double-width INPUT key. Strange! I wonder which one is newer?)

- Thomas

*Edited: 4 Aug 2007, 10:10 p.m.*

## 17bii: Perfect Pioneer -vs- 17bii+ " Golden Wart"

Message #6 Posted by [allen](#) on 4 Aug 2007, 10:21 p.m.,  
in response to message #5 by Thomas Okken

"The golden wart" That is what I call the 17bii+. AKA Cheap Chinese piece of excrement. I strongly recommend against getting one. Therein you will find repeats of the mistakes learned from the 10b to 10bii transition (including an awful keyboard).. This is a relic of the dark days of HP. I have nearly half-decade gap in my collection from that same period (49g, 17bii+, 10bII...) because I was not a fan or patron during that brief time due to poor QC.

I have no experience with the NEW, new design with the double width key.. some folks are going to get frustrated when trying to buy a NEW grey one when they end up with "the golden wart" instead.. HP should have just changed the model number. (This is worse than the Confusing Clamshell Controversy between 18B business consultant -> 19b business consultant II -> 19bii- Business consultant II)

Edited: 4 Aug 2007, 10:35 p.m.

## Re: 17bii: Perfect Pioneer -vs- 17bii+ " Golden Wart"

Message #7 Posted by [hugh steers](#) on 5 Aug 2007, 6:35 a.m.,  
in response to message #6 by allen

i would agree with all the 17bii reasons and the 17bii+ reasons. ie don't get a 17bii+ !

however, you might consider getting instead a 19bii. these can be had for a reasonable price in very good condition often with all the manuals. i always thought the 19 was a bit silly until i got one, after that i found out how cool it is. you have to be a bit of a fan of the clamshell style though:

case for the 19:

- not silly priced
- clearer screen (the 17bii screen can be a bit faint)
- 4 lines of display
- scientific functions
- +/-e499 exponents.
- alpha keyboard= much easier to program
- more memory
- able to really use the solver
- suave :-)

## Re: 17bii: Perfect Pioneer -vs- 17bii+ " Golden Wart"

Message #8 Posted by [Allen](#) on 5 Aug 2007, 8:33 a.m.,  
in response to message #7 by hugh steers

You are right on these three regarding the pros of the 19bii

- \* 4 lines of display
- \* scientific functions
- \* alpha keyboard= much easier to program

But the other points..

Quote:

---

not silly priced

a 19bii in in similar condition and sold in a similar manner sells for at least twice a 17bii

Quote:

clearer screen (the 17bii screen can be a bit faint)

This is often a contrast issue and can be adjusted on both models by pressing the [ON] key and either [+] or [-]. Since they are both LCD, it is not possible to have true contrast were 1= BLACK and 0= CLEAR. There can also be significant screen variations between two calculators of the same make and model.

Quote:

+/-e499 exponents.

The 17bii has the same exponent range. Generally not applicable for financial functions or MOST Terran science.

Quote:

[19bii has] more memory

17bii has 6750 "bytes" (manual p. 216) slightly MORE than the 19bii 6600 "bytes" (manual p. 37)

### **Re: 17bii: Perfect Pioneer -vs- 17bii+ " Golden Wart"**

*Message #9 Posted by [hugh steers](#) on 5 Aug 2007, 12:11 p.m.,  
in response to message #8 by Allen*

hi allen,

thanks for your corrections. i hadnt realised the 19 has actually less memory than the 17. also, i had a feeling that the +/-499 was the same in the 17, but this is really part of the whole 17/19 argument over a different model.

there is the point about the size, although i find the 19 nicer to use, the 17 is slimmer and will carry much easier in a pocket. so this could be an issue.

i have a suggestion for thomas:

why not add financial functions to free42 to be accessed like they might have been had they really been available on a 42s? this could be free42sii. ok, a bit silly but could be quite cool.

TVM and CF would be a doddle, i even have debugged versions of these that pass all the borderline cases - well almost, that i'd be happy to supply.

anybody care to comment on where they might go on the 42s?

### **Financial functions for Free42**

*Message #10 Posted by **Thomas Okken** on 6 Aug 2007, 11:44 a.m.,  
in response to message #9 by hugh steers*

Quote:

---

why not add financial functions to free42 to be accessed like they might have been had they really been available on a 42s? this could be free42sii. ok, a bit silly but could be quite cool.

---

Apart from the laziness factor -- erm, I mean, being too busy -- the whole thought of adding functionality to Free42 makes me a bit uneasy... I like that it is an accurate simulation of the HP-42S, and any additions would take away from that accuracy some way or another.

Having said that, there is at least one [extended version of Free42](#) out there, with special functionality for surveyors added. (I'm not affiliated with Underhill and only found out about their version of Free42 by accident. :- )

Quote:

---

TVM and CF would be a doddle, i even have debugged versions of these that pass all the borderline cases - well almost, that i'd be happy to supply.

---

Maybe at some point in the future, it would be nice to do that, or to create **Free17** -- but it's a \*lot\* of work, so don't hold your breath... I think a set of user programs for the 42S or 48G would be a good compromise.

- Thomas

### **Re: Financial functions for Free42**

*Message #11 Posted by **Kevin Kitts** on 6 Aug 2007, 2:34 p.m.,  
in response to message #10 by Thomas Okken*

I once tried to run the the HP-41 "Financial Decisions" Pac on Free42. It is close to working - there were some prompts or something that were not quite right.

If some of the HP-41 Pacs could be updated to work flawlessly on Free42 that would be neat. And it would not have to change Free42 at all. I realize that there are some HP41 microcode stuff that could probably not ever be ported. But pacs that were just keystrokes like the Financial Decisions, Real Estate, etc probably could, right?

### **Re: Financial functions for Free42**

*Message #12 Posted by **Thomas Okken** on 6 Aug 2007, 9:24 p.m.,  
in response to message #11 by Kevin Kitts*

The HP-41 Finance Pac contains only user code, and it doesn't use any functions that the HP-42S doesn't have, so it should work on the HP-42S and Free42; there could be problems but those would probably be caused by well-known differences between the HP-41 and 42S -- 12-digit mantissas instead of 10-digit; 44-character ALPHA register instead of 24-character, etc.

Since The Other Site has the Finance Pac, and the MoHPC CD/DVD set has the manual, I guess that means I have a nice collection of financial software at my disposal right away. :-)



The HP-41 Real Estate Pac seems to contain two machine code functions, called START and CLK (only one of which, START, is called from the Pac's user code). In order to use that pac on the HP-42S (or Free42 or Emu42), one would have to figure out what those functions do; it shouldn't be too hard to implement user code replacements for the 42.

Most of the HP-41 ROMs published by Hewlett-Packard are mostly or entirely user code (the Advantage Pac being the major exception), so they could be converted pretty easily to work on the HP-42S (or on an HP-42S emulator/simulator).

- Thomas

*Edited: 6 Aug 2007, 9:47 p.m.*

### **Re: Financial functions for Free42**

*Message #13 Posted by [Les Wright](#) on 7 Aug 2007, 4:04 p.m.,  
in response to message #12 by Thomas Okken*

Thomas, at one point I converted some of Finance Pac to a RAW file for use on Free42. Works pretty well with some tweaking. The conversion routine I use is get the MODule file from TOS or with the emulator from that site, convert it to a ROM file with your rom2raw utility, then import it into Free42 and clean it up there. At that point I like to split off various routines into separate RAW files since they are converted correctly by hp41uc. I have discovered that if I try to convert to TXT a RAW file that has one or more internal ENDS, hp41uc will stop converting after the first END it sees.

Using this approach, I have been able to extract and use favourite routines from the Math Pac and PPC ROM, among others. In fact, I prefer the PPC ROM IG routine to the built in Free42 integrator--it is as fast, and produces interim results. I have also lifted the Runge-Kutta DIFEQ routine, though JM Baillard has written routines that are better. And, for the heck of it, the 566 steps of the Math Pac MATRIX routines convert and work fine, even though the intrinsic matrix capability of Free42 is so much more intuitive to use.

In short, the conversions can be done, but as you know they clutter the heck out of the menu.

I believe there is a Finance.raw file on your own website that seems to reproduce a lot of the behaviour of the 17bii. Have you tried it?

Les

*Edited: 7 Aug 2007, 4:04 p.m.*

### **Re: Financial functions for Free42**

*Message #14 Posted by [Thomas Okken](#) on 7 Aug 2007, 6:54 p.m.,  
in response to message #13 by Les Wright*

Hi Les,

I must confess I haven't looked at the Finance Pac and PPC ROM -- not

even at the Finance.raw file (some of the most recent additions on the HP-42S/Free42 Programs page I have not had time to play with yet). I have some catching up to do...

Thanks for the tip!

- Thomas

**Re: 17bii: Perfect Pioneer -vs- 17bii+ " Golden Wart"**

*Message #15 Posted by [Allen](#) on 5 Aug 2007, 8:37 a.m.,  
in response to message #7 by hugh steers*

I would also add that the 17bii is smaller and the battery door is not as prone to breaking/falling off as the 19bii.

But, you have me thinking, though about the trig functions.. That may be worth it simply because you don't have to carry TWO calculators if you are figuring Mortgages and triangles in the same meeting. Well in that case, I would take a 48GX anyway and hope we don't get into SOYD. GRIN!

*Edited: 5 Aug 2007, 8:39 a.m.*

**Re: 17bii: Perfect Pioneer -vs- 17bii+ " Golden Wart"**

*Message #16 Posted by [Gerson W. Barbosa](#) on 5 Aug 2007, 10:53 a.m.,  
in response to message #15 by Allen*

Quote:

\_\_\_\_\_

would also add that the 17bii is smaller and the battery door is not as prone to breaking/falling off as the 19bii.

\_\_\_\_\_

My 19BII has a redesigned battery door (on the back rather than on the side), but they are hard to find (S/N ID12400004).

**Re: 17bii: Perfect Pioneer -vs- 17bii+ " Golden Wart"**

*Message #17 Posted by [Vincze](#) on 6 Aug 2007, 9:15 a.m.,  
in response to message #6 by allen*

I don't want to sound dumb, but what is "golden wart"? That not make sense to me.

**Re: 17bii: Perfect Pioneer -vs- 17bii+ " Golden Wart"**

*Message #18 Posted by [Bruce Bergman](#) on 6 Aug 2007, 6:42 p.m.,  
in response to message #6 by allen*

I'm curious. Since several of you feel strongly that the 17bii is better than the 17bii+, I'd like to see a few reasons why. Don and I have talked about this offline, but other than the solver being a bit more "in spec" on the 17bii, I haven't seen many compelling reasons to get the original versus the much more widely available remake.

So, tell me why!

thanks, bruce

### **Re: Looking for advice on financial calculators**

*Message #19 Posted by [Don Shepherd](#) on 4 Aug 2007, 11:19 p.m.,  
in response to message #1 by Thomas Okken*

Thomas, if you are considering programming the calculator you get, then by all means, get a 17bii, not the plus. The solver is programmable and you can really do a lot with it. See my article 712 under articles.

By the way, in all the timing tests I have done between the two, the bii is much faster!

### **Re: Looking for advice on financial calculators**

*Message #20 Posted by [Thomas Radtke](#) on 5 Aug 2007, 5:28 a.m.,  
in response to message #1 by Thomas Okken*

Hi Thomas,

I can recommend three models that do the job and are quite cheap to have: 18C, 19B (both algebraic) and 95LX.

I've started to do my financial stuff on the 18C and, although I later got the other models, too, stick to it.

I find the solver essential since all these models are targeted to the US market, ignoring simple interest between interest compoundings. A short solver calculation before TVM compensates for this omission.

LG,

Thomas

### **Re: Looking for advice on financial calculators**

*Message #21 Posted by [bink](#) on 5 Aug 2007, 6:54 a.m.,  
in response to message #20 by Thomas Radtke*

I recommend the 12C because it has direct access to functions (rather than the 17B sub menus).

Even when the 17 and 19 series were around, I always saw finance people using the 12C.

Regarding annual/periodic rates, this is easily done on the 12C - I always think in terms of rate per period anyway.

### **Re: Looking for advice on financial calculators**

*Message #22 Posted by [Thomas Radtke](#) on 5 Aug 2007, 7:09 a.m.,  
in response to message #21 by bink*

TVM5 is simply not capable to recognize simple interest for fractions of a compounding cycle. Of course, you could just program the various formulas to calculate the effective payment (in contrast to the effective interest), but it is easier to do so with the solver.

But I have to admit, I do not own a Voyager at all ;-).

### **Re: Looking for advice on financial calculators**

*Message #23 Posted by **Allen** on 5 Aug 2007, 8:46 a.m.,  
in response to message #21 by **bink***

Quote:

Regarding annual/periodic rates, this is easily done on the 12C - I always think in terms of rate per period anyway.

YOU may, but have you EVER walked into a bank and seen a sign for 0.6875 %/month home loan?

### **Re: Looking for advice on financial calculators**

*Message #24 Posted by **bink** on 7 Aug 2007, 6:18 p.m.,  
in response to message #23 by **Allen***

Allen,

The 12C has shifted functions on n (g n multiplies the number of periods by 12 and stores in n) and i (g i divides the rate by 12 and stores in i) which allow for easy calculations of any rates which compound monthly (such as mortgages, or which you used in your example).

So even, if you don't think in terms of monthly (or whatever periodic) rates rather than annual, it is an easy conversion.

The advantage of thinking in terms of periodic rates (if you are a professional user, or even want to really understand TVM calculations) are that it makes conversions easier and more intuitive. e.g. converting a quoted bond rate to an annualized equivalent, or vice versa.

Professional bodies (such as the CFA Institute, which provides the Chartered Financial Analyst) designation allows the use of the 12C (or TI Business Analyst) in exams, but not the 17B. Maybe this is why I see finance professionals using the 12C.

Note also that Microsoft Excel uses the rate per period in its TVM calculations.

Thinking in terms of rate per period is the norm in professional usage. One reason financial institutions adopt various compounding conventions is to obfuscate the true rate for uninformed consumers.

### **Re: Looking for advice on financial calculators**

*Message #25 Posted by **Vincze** on 5 Aug 2007, 10:08 a.m.,  
in response to message #1 by **Thomas Okken***

My thought is if you are doing financial planning, get MS money or Quicken. Calculator nice, but these software packages much better in planning and what if scenario.

### **Re: Looking for advice on financial calculators**

*Message #26 Posted by **Jeff Kearns** on 5 Aug 2007, 11:28 a.m.,  
in response to message #25 by **Vincze***

Hi Thomas,

The real question is: What do need the calculator to do for you exactly? There is no shortage of excellent advice on this forum and everyone has a valid opinion but what really matters is your requirement. This

last post makes a lot of sense - buy Quicken!! I have been using it for a decade and find it very useful for managing investments, creating what-if scenarios for debt repayment and managing day-to-day finances. Also, you may wish to buy the book: "Smoke and Mirrors" to help you determine your retirement needs and cut through the crap. What you need is a sound plan - and a good calculator never hurts...

If all you need is the ability to calculate mortgage/loan payments, Future Value of money invested at a particularly interest rate for some period of time with or without period payments, and the power to determine what interest rate would be required to achieve a particular financial goal; then any HP non-financial calculator with a Time Value of Money (TVM) implementation or even a program/equation of the TVM formula may suit your needs. I use the HP-41C Advantage Pac TVM implementation, the HP-50g Finance feature, and the TVM formula itself in the 15C, 32sii and 33s (these last three are a little less accurate due to a rounding error that can be significant for very large N and small PMT). A good way to remember the five variables (N, I, B, P, F) in the TMV equation is "No Interest Before Payment of Funds". Good Luck!

## **Re: Looking for advice on financial calculators**

Message #27 Posted by **Peter A. Gebhardt** on 5 Aug 2007, 11:56 a.m.,  
in response to message #1 by Thomas Okken

Thomas,

Once struggling with the 17bII+, I'm now a proud owner of several 200LX's (hopefully lasting longer than my median remaining lifetime ;-)

What made me stay away from the 17b/17bII and 19b/19bII calculators, was their tendency to loose hours of work of stored programs, due to battery change (first experienced with the 17bII+).

If size/weight constraints don't exist and you fear loosing your calc's memory (or keeping it ON inadvertently, because of the lack of a secured ON switch), then you should look at the auction sites.

There you usually will find a 200LX in good used condition!

You will receive a lot of addtl. benefits - especially an Organizer, that keeps powered up longer than any other comparable PocketPC I know about.

Best regards

Peter A. Gebhardt

PS: (Aug 9th, 2007, 11:42 GMT+1)

At least for the pouch shipped with the 17bII+ there seems to be a feasible solution to "stiffen" the bottom edge of the pouch. By using a ca. 1/3 inch (somewhat more than 1 cm) thin, bendable metal sheet (U-shaped) placed into the bottom of the pouch and covered with a layer of scratch-avoiding clothing, one could minimize the chance of switching the calculator on inadvertently (say by placing a book on top of the pouch enclosing the calculator).

*Edited: 10 Aug 2007, 10:54 a.m. after one or more responses were posted*

## **Re: Looking for advice on financial calculators**

Message #28 Posted by **JDonley** on 5 Aug 2007, 7:59 p.m.,  
in response to message #27 by Peter A. Gebhardt

I have the 19B11 and use it for serious financial work and solved the battery door problem with a small

piece of electrical tape. Door has never come off since then and the tape is hardly noticeable. I also have a 17B11, but rarely use it. The 10B (discontinued) is a very good cheap financial calculator and is available on EB.. at reasonable prices.

The Aurora FN1000 is a 12C emulator and has the advantage of being in a clamshell case. It has been discontinued but available still for about \$25 at several online stores. I have carried one in my shirt pocket every day since last October and have not managed to destroy it yet. Mushy keys and o.k. documentation.

If I had to have only one financial calculator it would be the 19B11. It is the Lexus of financial calcs....but do yourself a favor and buy an FN1000 also. I think you will be impressed.

Don

### **Thanks all for your replies!**

*Message #29 Posted by **Thomas Okken** on 6 Aug 2007, 10:29 a.m.,  
in response to message #1 by Thomas Okken*

It looks like the tools of choice for my modest needs will be an HP-17bii, and Quicken on the PC. I was also intrigued by the possibility of using Excel; I don't own a copy of Microsoft Office but it begs the question of whether the OpenOffice.org spreadsheet has this functionality too.

Again, thanks to all for your replies. This has been most enlightening.

- Thomas

### **Re: Thanks all for your replies!**

*Message #30 Posted by **Vincze** on 6 Aug 2007, 10:33 a.m.,  
in response to message #29 by Thomas Okken*

I have OpenOffice at home, and I have had no problem with this product. All formulas that I am used to work just fine, and the document that I create can be open both in MS Office or OpenOffice.

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## HP Forum Archive 17

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### Comparison of HP41C features to HP35s

Message #1 Posted by [Abq Steve](#) on 4 Aug 2007, 3:53 p.m.

The last calc I bought was an HP41C. At the time, I figured it was about the best HP made, and I now have 4 of them on my various desks and work stations. I still think it's a great calc, but being that I can sell the CX and CV models and all of my attachments for a lot of money on ebay, I'm thinking about buying a couple of relatively cheaper 35s models and spending the leftover money on beer. Before I do that, though, I wonder if you who are experienced with the 35s can answer a couple of questions. I've looked through the archives and don't think these have been asked before.

1) With the HP41C, whenever you press most non-numeric keys, their function is displayed on the screen. If you see that you have pressed the wrong key, you can continue to press it for about 1/2 second, until the word 'NULL' will be displayed and the keystroke will not take effect. This is especially useful for user-defined keys that don't have the function printed on them. Does the HP35s have this feature?

2) And speaking of user defined keys, does the 35s allow you to assign programs or functions to keys?

I'm sure the manual would tell me these things, but HP doesn't appear to have the full manual available for download at their site.

Thanks for your replies.

### Re: Comparison of HP41C features to HP35s

Message #2 Posted by [Howard Boardman](#) on 4 Aug 2007, 5:08 p.m.,  
in response to message #1 by [Abq Steve](#)

1) NO 2) NO

I wouldnt sell your HP41s.

### Re: Comparison of HP41C features to HP35s

Message #3 Posted by [Egan Ford](#) on 4 Aug 2007, 5:12 p.m.,  
in response to message #1 by [Abq Steve](#)

1. No

2. No

Add to that no I/O and no expandability. However, its dirt cheap (relative to 41C), replaceable, faster, and for many *good enough*.

IMHO, 41CX + Advantage + HP-IL >> 35s. So, I'd keep at least one around just in case.

### Re: Comparison of HP41C features to HP35s

*Message #4 Posted by [Seth Morabito](#) on 4 Aug 2007, 5:52 p.m.,  
in response to message #1 by Abq Steve*

Better yet, give me your CX, and I'll buy you a 35s and a beer! ;) ;)

### **Re: Comparison of HP41C features to HP35s**

*Message #5 Posted by [Namir](#) on 4 Aug 2007, 6:26 p.m.,  
in response to message #1 by Abq Steve*

The HP41C has a superior ability to prompt for input, display messages, and display tagged values. I have been writing some HP-35s programs and I do miss these HP-41C features.

### **Re: Comparison of HP41C features to HP35s**

*Message #6 Posted by [Dave](#) on 4 Aug 2007, 6:46 p.m.,  
in response to message #5 by Namir*

You're comparing apples and oranges. The 50g is the ultimate successor to the 41. If you want a full featured programmable, save your beer money (or sell one of your 41's) and get a 50g. If you only want a basic calc similar to a 15C, keep your 35S. And to be fair, the 33S had function preview but it was removed from the 35S apparently due to complaints.

### **Re: Comparison of HP41C features to HP35s**

*Message #7 Posted by [Dave Boyd](#) on 6 Aug 2007, 4:28 p.m.,  
in response to message #6 by Dave*

You compare the 35S to the 15C. I think a better comparison would be to the 11C. The 15C was easily the most function-rich non-expandable calc HP made when it was introduced, the high end of that market niche; the 11C was the middle.

The 35S is likewise the middle of the scientific programmable segment. It compares favorably to the 11C, not so favorably to the 15C, which still has features it lacks.

This prompts the question, what is the high-end scientific? HP doesn't currently sell one, and there probably isn't sufficient market for it, but recent developments like the 35S give me some hope.

I'll echo the wishes of some other posters, and wish for a HP-43S, and maybe also a HP-15C Platinum... or a combination of the two...

It's only too bad that we'll never see big, fat, bold numerals like the Voyagers had. The 12C Platinum stepped away from them, and I somewhat doubt that any new calc will step back toward them...

### **Re: Comparison of HP41C features to HP35s**

*Message #8 Posted by [Dave](#) on 6 Aug 2007, 5:05 p.m.,  
in response to message #7 by Dave Boyd*

Comparing it to a 15C does give the 35S a bit too much credit, but it does have quite a few more advanced features than the 11C such as solve, integrate and complex (although limited). AFAIK, it only lacks matrices and more complete complex support compared to the 15C (granted that's a very big difference). And it has several features the 15C lacks, like more memory, bases, unit conversions, constants, menus, fractions, algebraics, etc. I too would rather see something equal to a 42 or 15, but at least it's a step in the right direction, which we haven't seen in a long time. And I'm



very happy to see the 15C style keys and colors return.

### **Re: Comparison of HP41C features to HP35s**

*Message #9 Posted by **Walter B** on 6 Aug 2007, 5:32 p.m.,  
in response to message #7 by Dave Boyd*

Quote:

It's only too bad that we'll never see big, fat, bold numerals like the Voyagers had. The 12C Platinum stepped away from them, and I somewhat doubt that any new calc will step back toward them...

We won't see them again, because we want \*alphanumeric\* displays. And the easiest (and cheapest) way to get these nowadays are dot matrix LCDs, which have improved a lot since the time of the 42S.

### **Re: Comparison of HP41C features to HP35s**

*Message #10 Posted by **Donald Williams** on 4 Aug 2007, 7:36 p.m.,  
in response to message #1 by Abq Steve*

It's only \$60.00, so I would call it a cheap experiment. Try it for yourself. I am also an avid HP 41 user, so I can predict the outcome. You will sell the HP35s long before you sell your HP 41.

I bought 2 HP 35s. One for the collection and an extra for personal use. One is still in the collection. The other one I have already given away to a co-worker.

I also have all the 48, 49, and 50 series calcs. The "logical"? successors to the HP 41. Compared to the HP 41 they have the user friendliness of a sabre toothed tiger.

*Edited: 4 Aug 2007, 7:47 p.m.*

### **Re: Comparison of HP41C features to HP35s**

*Message #11 Posted by **Dave** on 4 Aug 2007, 10:56 p.m.,  
in response to message #10 by Donald Williams*

As for user friendliness, I have the opposite view. Having learned the 48 before the 41, the 48 is much easier for me. As for successor, between the 50g and 35S, the 50g is the only one that has anywhere near the capabilities of the 41. Also since the original poster wants user defined keys, the 50g is the only way to go. However, I don't dispute that the programming environment of the 35S is obviously much closer to the 41. The 48/50 is a totally different paradigm. I too love the classic 41, but it is unfortunately the sable toothed tiger here - they are both extinct.

*Edited: 5 Aug 2007, 12:40 p.m.*

### **Re: Comparison of HP41C features to HP35s**

*Message #12 Posted by **Donald Williams** on 5 Aug 2007, 6:18 p.m.,  
in response to message #11 by Dave*

Extinct Sabre Toothed Tiger ?

The HP 41 compares more favorably to the Energizer Bunny.

Mild tempered,easy to get along with, and just keeps going, and going, and going ...

*Edited: 5 Aug 2007, 6:31 p.m.*

## **Re: Comparison of HP41C features to HP35s**

*Message #13 Posted by [Abq Steve](#) on 5 Aug 2007, 1:03 p.m.,  
in response to message #1 by Abq Steve*

OK, it appears to be almost unanimous- I will remain sober and hang on to my HP41C's. I must admit that the magic number 35 had influenced me, because I was a very early buyer of the original 35 'red dot' model, complete with bad firmware.

I should have mentioned earlier that I don't require advanced programming ability any more. There are a few short routines that I use, such as the calculation of parallel resistances and other simple electronics formulas, but I no longer have a need for much of the power of the 41, so I thought I could live without it. Still, I would hate to give up those previously mentioned features that I have come to appreciate.

I suppose I'll eventually buy a 35s, but I'll hang on to the 41's for at least a few more years.

Thanks for everyone's input.

Steve

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## HP Forum Archive 17

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**difference between TI-Nspire and TI-Nspire CAS**

Message #1 Posted by [Don Shepherd](#) on 4 Aug 2007, 12:23 p.m.

The CAS version of this calc does these additional things:

- solves systems of equations
- does derivatives and integrals
- more complex number functions
- expands expressions
- solves expressions, returns all roots
- factors expressions and large integers
- finds the max and min for a function over a specified interval
- find zeroes for a function

It may do more. This is from a cursory comparison of the reference guides for the two products.

**Re: difference between TI-Nspire and TI-Nspire CAS**

Message #2 Posted by [Namir](#) on 4 Aug 2007, 1:24 p.m.,  
in response to message #1 by [Don Shepherd](#)

Don,

Thanks for the list. You gave me several good reasons to only buy the CAS version.

Namir

**Re: difference between TI-Nspire and TI-Nspire CAS**

Message #3 Posted by [Don Shepherd](#) on 4 Aug 2007, 2:43 p.m.,  
in response to message #2 by [Namir](#)

You're welcome, Namir.

If you don't care about TI-84+ compatibility, there is no reason to buy the nSpire non-CAS.

**Re: difference between TI-Nspire and TI-Nspire CAS**

Message #4 Posted by [Namir](#) on 4 Aug 2007, 2:52 p.m.,  
in response to message #3 by [Don Shepherd](#)

Don,

I thought the non-CAS TI-nspire did not do symbolic amth, but did solve systems of linear equations, find zeros of functions, and find minima/maxima of functions. I feel it's quite the scaled down version. Sure it has the cool interface but ...

I found out today that the tables have spreadsheet-like features where you can calculate the value of a cell using values from other cells. And then, you can copy and paste that equation onto cells below. the TI-nspire will adjust cell references ... in a manner similar to Excel.

I have also realized that it's worth it to read through the manual and learn details about operating the calculator.

Namir

*Edited: 4 Aug 2007, 2:54 p.m.*

## **Re: difference between TI-Nspire and TI-Nspire CAS**

*Message #5 Posted by [Don Shepherd](#) on 4 Aug 2007, 6:55 p.m.,  
in response to message #4 by Namir*

Namir, the non-CAS version does not solve systems of equations like the CAS version does. The non-CAS version does have the RREF function, so I guess that could be used to solve a system of equations if you translate the coefficients to the matrix. But the CAS version has specific templates for solving systems of equations. I have not used them (don't have the CAS version yet), but I would imagine you just type your equations in as-is and tell it to find the values of your variables.

To find zeroes of a function, or maxima or minima, on the non-CAS version I think you have to graph the equation on the geometry screen and then observe where the function crosses the x-axis (for zeroes), and for maxima and minima you do a Trace near that point on the graph and when you hit the maximum point on the curve a M is displayed next to the graph, and when you hit the minimum point a lower-case m is displayed (there are no CALC...MAX...MIN functions like on the TI-83 series, unfortunately). On the CAS version, there are specific functions for fmin, fmax, and zeroes, and I imagine you don't even need the graph for those, you just type in the equation and specify an interval and it gives you the answer.

You are right, the spreadsheet function is nicely integrated into the rest of the system, even to the point that it will populate a column with values while you drag part of a graph, then use the generated values in the column for a separate scatter-plot. Very nicely done.

I'm going to get the CAS version when it is available. At the conference I went to last month they estimated October availability for the CAS version, although it seems some companies are offering it now.

### **correction to last post**

*Message #6 Posted by [Don Shepherd](#) on 4 Aug 2007, 8:01 p.m.,  
in response to message #5 by Don Shepherd*

Namir, you don't do the Trace function (on the non-CAS version) to find zeroes, minima, and maxima. You create a point on the curve (point on function), drag it along the curve and when it gets to the maximum, minimum, or zero point, a M, m, or Z appears (correspondingly). Kind of funky, but it works. Personally, I'll use the real functions of the CAS version instead of monkeying around dragging points on a graph.

### **Link to order the TI-Nspire**

*Message #7 Posted by [Namir](#) on 5 Aug 2007, 12:44 a.m.,  
in response to message #5 by Don Shepherd*

Don,

Thanks for the clarification of the non-CAS version. I like to have functions that work on teh CAS. I did play with the fmin and nSolve functions.

Try [this link](#) to order a TI-nspire (both versions and their software).

Namir

*Edited: 5 Aug 2007, 12:45 a.m.*

**Re: Link to order the TI-Nspire**

*Message #8 Posted by [Don Shepherd](#) on 5 Aug 2007, 7:41 a.m.,  
in response to message #7 by Namir*

Thanks Namir. I see the cost is \$217 for the CAS handheld and the Windows software, and \$137 for just the handheld. At the conference I attended, sponsored by TI, each attendee got a non-CAS handheld and Windows software, free. I would definitely want the Windows software because it is much easier to develop \*apps\* for these calcs using the PC and mouse, and download to the unit.

I wrote the regional TI rep about getting the CAS version from TI, as a teacher. We'll see.

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## HP Forum Archive 17

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### Question about SOLVE on hp 35s

Message #1 Posted by [Matt](#) on 4 Aug 2007, 7:30 a.m.

Using EQN, I have entered two equations:-

$(X+2)*(X-2)$

and

$X^2-4$

Next, I input

```
3 STO X
EQN (then 'select' (X+2)*(X-2))
SOLVE X
And the output is X=2.0000
```

I repeat the process with  $X^2-4$  and get the same result.

Now, I input

```
-3 STO X
and repeat the above steps.
For (X+2)*(X-2) I get the result X=-2.0000 as expected.
But for  $X^2-4$  I get X=2.0000.
I cannot seem to obtain X=-2.0000 as a root of  $X^2-4$ .
```

Why is this?

### Re: Question about SOLVE on hp 35s

Message #2 Posted by [Antonio Maschio \(Italy\)](#) on 4 Aug 2007, 7:36 a.m.,  
in response to message #1 by Matt

Same behavior of the HP-33s.

Look in the Forum.

-- Antonio

### Re: Question about SOLVE on hp 35s

Message #3 Posted by [Matt](#) on 4 Aug 2007, 8:35 a.m.,  
in response to message #2 by Antonio Maschio (Italy)

Thanks.  
I never had a 33 so I wasn't aware of the behaviour.

### Re: Question about SOLVE on hp 35s

Message #4 Posted by [Gene Wright](#) on 4 Aug 2007, 9:35 a.m.,  
in response to message #3 by Matt

See example 2 in the 35s learning module "Formula solver part 2" found here:

[Link](#)

When a variable shows up only once in an equation such as  $X^2-4=0$ , the solver finds a direct solution if possible and ignores any user supplied guesses. That's a carryover from the 33s.

Example 2 suggests the workaround.

### Re: Question about SOLVE on hp 35s

Message #5 Posted by [Sondre K. Selnes](#) on 4 Aug 2007, 9:20 a.m.,  
in response to message #1 by Matt

Tried your equation / SOLVE at HP-15C, which gives  $X= 2.0000$  and  $X= -2.0000$ .

Maybe the correct answer of HP35s is found in another register...

Edited: 4 Aug 2007, 10:21 a.m.

### Re: Question about SOLVE on hp 35s

Message #6 Posted by [Karl Schneider](#) on 4 Aug 2007, 12:53 p.m.,  
in response to message #1 by Matt

Matt --

Here's the link to the thread in the Forum Archives:

<http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv014.cgi?read=62665#62665>

The link is my proposed solution (obviously not adopted); scroll to the top to find a very similar discussion for the HP-33S.

It turns out that the "direct solution" logioc seems to have been lifted from the HP-17B/HP-27S from 1988; I didn't know that at the time.

-- KS

### Re: Question about SOLVE on hp 35s

Message #7 Posted by [Gene Wright](#) on 4 Aug 2007, 1:02 p.m.,  
in response to message #6 by Karl Schneider

And, again, I am still sorry for the shortness of that title back then in my response to you. :-)

This "direct solve" approach is considered a feature. You don't take features away...anyone knows that. :-)

Short answer: if you have a polynomial that is missing a term, add the term with a 0 coefficient.

$X^2-4=0$  would be entered as  $x^2+0x-4=0$ .

Then the solver will not try a direct solution. That is the way it is.

## **Re: Question about SOLVE on hp 35s**

*Message #8 Posted by [Matt](#) on 5 Aug 2007, 6:14 a.m.,  
in response to message #1 by Matt*

Thanks for the links.  
I'll have a good at all the training modules.

---

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## HP Forum Archive 17

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### HPCC HP 35s special issue

Message #1 Posted by [Miguel Toro](#) on 3 Aug 2007, 10:09 p.m.

Hi,

I received my first issue of Datafile and I am delighted. It is, of course, the HP 35s special issue that is worth the subscription by itself. Great reading, specially from Gene's articles. I think this has been the best moment to join the club!

Regards,

Miguel

### Re: HPCC HP 35s special issue

Message #2 Posted by [Dave Colver](#) on 4 Aug 2007, 8:57 a.m.,  
in response to message #1 by Miguel Toro

Hi Miguel Glad you received the Datafile safely - the UK is beset by rolling mail strikes at present. It certainly was a fine issue and definitely one to keep! There is more 35S goodness in this month's issue. Best Wishes  
Dave (HPCC Secretary)

Quote:

I received my first issue of Datafile and I am delighted. It is, of course, the HP 35s special issue that is worth the subscription by itself. Great reading, specially from Gene's articles. I think this has been the best moment to join the club!

### Re: HPCC HP 35s special issue

Message #3 Posted by [Ivan Latorre](#) on 4 Aug 2007, 10:42 a.m.,  
in response to message #1 by Miguel Toro

How does that magazine look (format, number of pages, quality)? Do you have pictures of it?

### Re: HPCC HP 35s special issue

Message #4 Posted by [Gene Wright](#) on 4 Aug 2007, 11:03 a.m.,  
in response to message #3 by Ivan Latorre

More information:

[Datafile](#)

Some sample articles in PDF format showing what Datafile articles look like:

[Integer Division on the 33s](#)

[35s review](#)

[33s review](#)

**Re: HPCC HP 35s special issue**

*Message #5 Posted by [Namir](#) on 4 Aug 2007, 11:21 a.m.,  
in response to message #1 by Miguel Toro*

I just signed up with HPCC. Thanks for the encouragement.

Namir

**Re: HPCC HP 35s special issue**

*Message #6 Posted by [Wlodek Mier-Jedzejowicz](#) on 4 Aug 2007, 12:07 p.m.,  
in response to message #5 by Namir*

Hi Namir - welcome! What took you so long? :-) Print media seem to be outdated, but getting a printed magazine to read in free moments, to scribble notes on, to store on a shelf, can be wonderful. In answer to another question - the journal is A5 sized, that's like a US Letter sheet of paper folded in half. About 40 pages like that per issue, if you include the cover.

**Re: HPCC HP 35s special issue**

*Message #7 Posted by [Thomas Radtke](#) on 4 Aug 2007, 11:57 a.m.,  
in response to message #1 by Miguel Toro*

It's a real pity to not sell the datafile isolated from a club membership.

**Re: HPCC HP 35s special issue**

*Message #8 Posted by [Eric Smith](#) on 5 Aug 2007, 3:26 a.m.,  
in response to message #7 by Thomas Radtke*

I don't speak for HPCC, nor know the details of their accounting. However, based on other experiences with community endeavors, it seems quite likely to me that if a Datafile subscription was made available without a membership, it would cost very nearly the same price as it does bundled with membership.

**Re: HPCC HP 35s special issue**

*Message #9 Posted by [Thomas Radtke](#) on 5 Aug 2007, 5:36 a.m.,  
in response to message #8 by Eric Smith*

Thank you for your answer, Eric. Yes, I understand and agree to your point. In my case, it's just about getting my hands on the current issue, or maybe some interesting ones in the future. Unfortunately, money matters to me ;-).

Thomas



## HP Forum Archive 17

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### **Article on HP stoping shipment noticed**

*Message #1 Posted by [Vincze](#) on 3 Aug 2007, 4:12 p.m.*

I saw this on [EDN](#) and thought I would pass it along. Nothing we really don't know.

---

### **Re: Article on HP stoping shipment noticed**

*Message #2 Posted by [Steve Leibson](#) on 3 Aug 2007, 6:33 p.m.,  
in response to message #1 by Vincze*

Vincze,

It's nothing you don't already know because I based it on the discussion in this forum.

Steve

---

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## HP Forum Archive 17

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**HP35s Constants**

Message #1 Posted by [Vincze](#) on 3 Aug 2007, 3:27 p.m.

Anyone have a translation as to what all the constants mean. Many I know, but some I do not. Also is there madness to method they arranged?

Anyone notice the Faraday constant (F) is next to the Atomic Mass Unit (u). So F is next to u. ;)

**Re: HP35s Constants**

Message #2 Posted by [Matt](#) on 3 Aug 2007, 3:43 p.m.,  
in response to message #1 by Vincze

Section 4-8 of the manual.

Perhaps the order is 'most commonly used'.

**Re: HP35s Constants**

Message #3 Posted by [Vincze](#) on 3 Aug 2007, 3:58 p.m.,  
in response to message #2 by Matt

Thank you

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## HP Forum Archive 17

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### HP 35s -> MILE / -> KM key

Message #1 Posted by [Stefan Vorkoetter](#) on 3 Aug 2007, 1:40 p.m.

I was just looking at the photos of the HP 35s in HP's brochure. Being a stickler for details, I immediately noticed that the "5" key, which has mile and km conversions on it, spelled "km" as "KM" (i.e. in capitals). Did they really do that, or is the calc in the brochure a mockup, and they fixed this blunder on the real thing?

### Re: HP 35s -> MILE / -> KM key

Message #2 Posted by [Matt](#) on 3 Aug 2007, 2:36 p.m.,  
in response to message #1 by [Stefan Vorkoetter](#)

On my 35S...  
5 has MILE above and KM below.  
Maybe this is the mysterious 'cosmetic defect'!

### Re: HP 35s -> MILE / -> KM key

Message #3 Posted by [bill platt](#) on 3 Aug 2007, 2:36 p.m.,  
in response to message #1 by [Stefan Vorkoetter](#)

It's Like That, and That's the \*Way\* it Is, huh!"

### Re: HP 35s -> MILE / -> KM key

Message #4 Posted by [Vincze](#) on 3 Aug 2007, 3:15 p.m.,  
in response to message #1 by [Stefan Vorkoetter](#)

Quote:

"km" as "KM" (i.e. in capitals).

Good observation. Maybe that mean Kelvin Megabytes. Thats a new one to me. Interesting, that one mile equal 1.6093 Kelvin Megabytes. Im not even sure how one would interpret that. The temperature of one megabyte when traveling one mile is what it must be. See HP on cutting edge of new unit of measurement. :) Wonder if I need to put a degree symbol on it? :~)

### Re: HP 35s -> MILE / -> KM key

Message #5 Posted by [Etienne Victoria](#) on 4 Aug 2007, 6:51 a.m.,  
in response to message #1 by [Stefan Vorkoetter](#)

They marked it this way to avoid confusion with km being kilomole of course :-)

the mole is just another IS unit.

Cheers

Etienne

**Re: HP 35s -> MILE / -> KM key**

*Message #6 Posted by **Walter B** on 4 Aug 2007, 7:50 a.m.,  
in response to message #5 by Etienne Victoria*

Bonjour Etienne,

you wrote:

Quote:

the mole is just another IS unit.

I'm a bit confused by your statement. Did you mean SI? I thought a mole equals the atomic weight in g, so it would be just a pure number, not a unit. Or did you refer to the mere ontological existence ("IS") of the little, cute, furry animal digging under your lawn? In the latter case, you may need (estimated) 200 moles for 1 kg, i.e. 1 Kilo mole (as people would say here -- ou en francais: 1 kilo de ...) :-)

*Edited: 4 Aug 2007, 8:43 a.m.*

**Re: HP 35s -> MILE / -> KM key**

*Message #7 Posted by **Etienne Victoria** on 4 Aug 2007, 2:18 p.m.,  
in response to message #6 by Walter B*

Hello Walter,

Yes I meant SI, sorry.

And mole must be a quantity of matter (and I think it is a SI unit since 1972) because I have no garden & therefore no lawn ;-))

Cheers

Etienne

**Re: HP 35s -> MILE / -> KM key**

*Message #8 Posted by **Ed Look** on 4 Aug 2007, 8:07 p.m.,  
in response to message #7 by Etienne Victoria*

No, gentlemen: a mole, all jokes aside, is a number of objects, an Avogadro's number of objects, which, according to my HP-35s constants library is  $6.02214199 \times 10^{23}$  objects.

So if you take one group of this many objects and use it as a standard, then it could be considered a unit, just like twelve of anything is a dozen... or thirteen in bakeries... the good ones, anyway.

**Re: HP 35s -> MILE / -> KM key**

*Message #9 Posted by **Walter B** on 4 Aug 2007, 11:44 p.m.,  
in response to message #8 by Ed Look*

Yes, gentleman: as stated above

Quote:

I thought a mole ... would be just a pure number

Thanks for the confirmation.

**Re: HP 35s -> MILE / -> KM key**

*Message #10 Posted by [Etienne Victoria](#) on 5 Aug 2007, 4:56 a.m.,  
in response to message #8 by Ed Look*

Yes gentlemen,

I know very well it's the equivalent of a number but it is used as a SI unit along with the candela, km... [as explained here](#).

Many thanks for your answers and cheers.

Etienne

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## HP Forum Archive 17

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### HP 35s display misalignment?

Message #1 Posted by [Matt](#) on 3 Aug 2007, 12:56 p.m.

[Take a look](#)

Tilted?

(I know the actual scan is tilted. My apologies).

(Sorry about the last scan)

[This should be better](#)

There is a very tiny tilt (as some of you have noticed). But it is not bad at all. In fact, in normal use I just don't see it unless I look for it. I'm hoping that someone with a very noticeable tilt could post a scan of theirs. Then we could compare.

*Edited: 3 Aug 2007, 2:00 p.m. after one or more responses were posted*

### Re: HP 35s display misalignment?

Message #2 Posted by [Gene Wright](#) on 3 Aug 2007, 1:08 p.m.,  
in response to message #1 by Matt

The display shows no noticeable tilt to me.

Of course, the entire calculator appears tilted! :-)

Seriously, I'd like to see a scan/picture of a real 35s that has what its owner considers a bad tilt.

### Re: HP 35s display misalignment?

Message #3 Posted by [Steve Leibson](#) on 3 Aug 2007, 1:24 p.m.,  
in response to message #2 by Gene Wright

From what I can see, the top row of words in the display is clearly disappearing under the bezel as you move from left to right.

### Re: HP 35s display misalignment?

Message #4 Posted by [Ed Look](#) on 3 Aug 2007, 1:53 p.m.,  
in response to message #3 by Steve Leibson

Steve, you are right, but the tilt is ever so slight, and on mine, it's ever so slightly more than that, but I think this amount of misalignment is really nothing to quibble about...

... not that I think you are quibbling here... just shooting my mouth off again...

### Re: HP 35s display misalignment?

*Message #5 Posted by [Gene Wright](#) on 3 Aug 2007, 1:55 p.m.,  
in response to message #4 by Ed Look*

Perhaps, but I can't imagine this is going to cause any **\*\*real\*\*** grief (just my opinion here).

It is SO slight that it wouldn't cause me a second thought.

Certainly, it isn't a 5 degree angle or anything. :-)

### **Re: HP 35s display misalignment?**

*Message #6 Posted by [Chris Haltiner](#) on 3 Aug 2007, 2:14 p.m.,  
in response to message #5 by Gene Wright*

The display on mine was off by a full pixel and easily noticed by a coworker who also has a 35s. If the misalignment had been like this one, I would have not bothered to disassemble and realign my unit.

### **Re: HP 35s display misalignment?**

*Message #7 Posted by [Greg Whitfield](#) on 3 Aug 2007, 5:10 p.m.,  
in response to message #5 by Gene Wright*

I only noticed the misalignment on my HP 35s because the self-test was the first thing I did on the unit after I noticed that it defaulted to RPN mode. I was staring intently at the display when it had all of the annunciators showing and spotted it. It wasn't very bad or anything I was going to contact HP about. I probably wouldn't have noticed it otherwise.

Gene said:

Quote:

Perhaps, but I can't imagine this is going to cause any **\*\*real\*\*** grief (just my opinion here).

I haven't yet read what cosmetic defect caused HP to halt HP 35s shipments. If it was some sort of display misalignment, it must be much worse than what mine has. The fact is that something caused HP employees some **\*\*real\*\*** grief in order to make that decision. I'm sure it's not the display reflectivity (since someone has stated that this is identical to that of the HP 33s) or the serial number stickers.

### **Re: HP 35s display misalignment?**

*Message #8 Posted by [Ivan Latorre](#) on 4 Aug 2007, 8:19 a.m.,  
in response to message #7 by Greg Whitfield*

The annunciators are too close to the window edge. Just compare with the hp33s [here](#).

Probably that's the reason why HP is withdrawing the calculator. I don't know if that can be called 'misalignment', the LCD is aligned but the digits are very close to the upper window edge while there's plenty of space between them and the lower window edge.

HP 35s display misalignment?

## HP Forum Archive 17

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### **Inverting Matrix by Row Transformation for HP 35s/33s?**

Message #1 Posted by [Howard Boardman](#) on 3 Aug 2007, 12:39 p.m.

Since these calculators can't handle matrices, has there been any programs written to speed up the process? Perhaps a program that will transform a row when entered into the calculator? Thanks

### **Re: Inverting Matrix by Row Transformation for HP 35s/33s?**

Message #2 Posted by [bill platt](#) on 3 Aug 2007, 1:51 p.m.,  
in response to message #1 by Howard Boardman

If you can do it by hand, you can write a program to do it. Simple as that--make the computer remember the steps, that's all.

### **Re: Inverting Matrix by Row Transformation for HP 35s/33s?**

Message #3 Posted by [Howard Boardman](#) on 3 Aug 2007, 3:33 p.m.,  
in response to message #2 by bill platt

Thanks for the "obvious" answer. Just wondered if it had been done before. Perhaps I should have asked if there is other known software archives besides the big ones like on this website.

### **Re: Inverting Matrix by Row Transformation for HP 35s/33s?**

Message #4 Posted by [bill platt](#) on 3 Aug 2007, 4:03 p.m.,  
in response to message #3 by Howard Boardman

Did you find any for the 33s? It would work on this calculator too.

### **Re: Inverting Matrix by Row Transformation for HP 35s/33s?**

Message #5 Posted by [Gene Wright](#) on 3 Aug 2007, 4:35 p.m.,  
in response to message #4 by bill platt

Anything for the 33s would be quite limited given the memory constraints of that model.

I think it is only a matter of time until someone completes a matrix determinant and inverse routine using the indirect registers on the 35s.

As previously mentioned, Datafile has an article with many matrix utilities already published. Just need a shell program written around them to call the routines and do a bit of other math.

### **Re: Inverting Matrix by Row Transformation for HP 35s/33s?**

Message #6 Posted by [Howard Boardman](#) on 4 Aug 2007, 11:10 a.m.,  
in response to message #5 by Gene Wright

Wouldnt be too hard to write a program that would handle a 2x2 or 3x3... my programing knowledge is not good enough yet to handle something bigger. I think you'd be limited anyway because of the storage capacity of variables.

**Re: Inverting Matrix by Row Transformation for HP 35s/33s?**

*Message #7 Posted by [Gene Wright](#) on 4 Aug 2007, 11:25 a.m.,  
in response to message #6 by Howard Boardman*

Storage capacity shouldn't be a problem on the 35s.

With 801 indirect registers, you can store quite a bit of information.

I remember the old TI-59 LED calculator could do an 9x9 determinant and the HP41c could do a 14x14 (if I remember correctly).

I think the 35s could do those of that size once the program is done. Now WHY you'd want to do one that big is another question. :-0

**Re: Inverting Matrix by Row Transformation for HP 35s/33s?**

*Message #8 Posted by [Ed Look](#) on 4 Aug 2007, 8:10 p.m.,  
in response to message #7 by Gene Wright*

(Super)String Theory.

Why anyone would want to stick with that is another question. :-0

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## HP Forum Archive 17

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### HP 35S Serial Number list

Message #1 Posted by [Vincze](#) on 3 Aug 2007, 11:52 a.m.

I notice that there is not a list of different serial numbers for the HP35s. It would be nice to see who has what, and who have bragging rights for the lowest serial number, so can we use this to list who has what. Mine came from Walmart.com.

Also, did HP add in the date code somehow to serial number?

I will start first.

S# CNA 72500462

*Edited: 3 Aug 2007, 12:29 p.m. after one or more responses were posted*

### Re: HP 35S Serial Number list

Message #2 Posted by [bill platt](#) on 3 Aug 2007, 11:54 a.m.,  
in response to message #1 by Vincze

72103918

### Re: HP 35S Serial Number list

Message #3 Posted by [Gerson W. Barbosa](#) on 3 Aug 2007, 11:55 a.m.,  
in response to message #1 by Vincze

CNA 72102369 (Samson Cables); perfectly aligned display; misaligned serial number; one crash.

*Edited: 3 Aug 2007, 12:51 p.m.*

### Re: HP 35S Serial Number list

Message #4 Posted by [Kevin Kitts](#) on 3 Aug 2007, 11:55 a.m.,  
in response to message #1 by Vincze

I have 72104204.

I ordered directly from HP - but not when they first came out - I waited awhile to see the general reaction/reviews from people that got them... ;-)

### Re: HP 35S Serial Number list

Message #5 Posted by [Kevin Kitts](#) on 3 Aug 2007, 3:04 p.m.,  
in response to message #4 by Kevin Kitts

Quote:

---

I have 72104204.

I ordered directly from HP - but not when they first came out - I waited awhile to see the general reaction/reviews from people that got them... ;-)

My display is ever so slightly misaligned. It tilts up as you look from left to right. But since all annunciators are still visible I don't think I will ever bother to return it.

**Re: HP 35S Serial Number list**

*Message #6 Posted by [srayb](#) on 3 Aug 2007, 10:10 p.m.,  
in response to message #5 by Kevin Kitts*

CNA 72500718

LCD display slightly skewed, goes up to the right. Everything else seems fine.

**Re: HP 35S Serial Number list**

*Message #7 Posted by [Miguel Toro](#) on 3 Aug 2007, 12:16 p.m.,  
in response to message #1 by Vincze*

Hi,

CNA 72102361 and my LCD is well aligned, but the serial number is not :-)

**Re: HP 35S Serial Number list**

*Message #8 Posted by [Fred Lusk](#) on 3 Aug 2007, 9:37 p.m.,  
in response to message #7 by Miguel Toro*

I already posted my cereal :-) number, but since this is a thread dedicated to such esoterica, here it is again: 72103808.

I purchased direct from HP on July 13 and received it on the 19th.

Like Miguel, my screen is OK, but the sticker is crooked.

Fred

**Re: HP 35S Serial Number list**

*Message #9 Posted by [Matt](#) on 3 Aug 2007, 12:17 p.m.,  
in response to message #1 by Vincze*

CNA 72102344

Bought from Samson Cables, USA. Shipped from Spain.

Possible misalignment of about 1/2 a pixel (it really is barely noticeable).

Serial number is crooked (no big surprise).

*Edited: 3 Aug 2007, 12:17 p.m.*

**Re: HP 35S Serial Number list**

Message #10 Posted by [Paul Brogger](#) on 3 Aug 2007, 12:27 p.m.,  
in response to message #1 by Vincze

CNA 72103848 -- H-P SMB Store -- aligned LCD and serial #  
CNA 72102370 -- Wal-Mart Online -- aligned LCD, unaligned serial #

Edited: 3 Aug 2007, 12:34 p.m.

**Re: HP 35S Serial Number list**

Message #11 Posted by [Thomas Radtke](#) on 3 Aug 2007, 12:36 p.m.,  
in response to message #1 by Vincze

CNA 72102360, SC, no missed keystrokes, perfectly aligned display, no crash

**Re: HP 35S Serial Number list**

Message #12 Posted by [Greg Whitfield](#) on 3 Aug 2007, 12:48 p.m.,  
in response to message #1 by Vincze

SN: CNA 72101939 from walmart.com, ordered 07/17/2007; display and serial number sticker misaligned (but only slightly)

**Re: HP 35S Serial Number list**

Message #13 Posted by [Tony David Potter](#) on 3 Aug 2007, 1:30 p.m.,  
in response to message #12 by Greg Whitfield

CNA 72101928, both pretty straight.

**Re: HP 35S Serial Number list**

Message #14 Posted by [Dave](#) on 3 Aug 2007, 6:41 p.m.,  
in response to message #12 by Greg Whitfield

I got the one right before yours. Right end of display tilted down more than a full pixel. SN: CNA 72101938 from walmart.com

Got another one direct from HP, slightly misaligned on the opposite end. Don't have it handy, so no SN to report there.

The LCD is glued to a metal plate. It seems to me that when the LCD floats on this blob of glue it may be skewed one way or another either when first placed on the plate or by moving a little before the glue sets. The metal plate itself is always dead on since it fits securely in the molded plastic case. It's difficult to correct the skew by hand since the glue is very rubbery and bounces right back to it's original shape.

**Re: HP 35S Serial Number list**

Message #15 Posted by [Alain Mellan](#) on 3 Aug 2007, 1:39 p.m.,  
in response to message #1 by Vincze

CNA 72103815 directly from HP, perfectly aligned display

Edited: 3 Aug 2007, 1:40 p.m.



**Re: HP 35S Serial Number list**

Message #16 Posted by [David Ramsey](#) on 3 Aug 2007, 1:50 p.m.,  
in response to message #1 by Vincze

CNA 71000056. Gene might have an earlier one.

**Re: HP 35S Serial Number list and an image**

Message #17 Posted by [Gene Wright](#) on 4 Aug 2007, 10:12 a.m.,  
in response to message #16 by David Ramsey

Nope, no earlier one with a number like that. CNA 71000070. Marked "not for sale", so it isn't.

I do have one with keys like shown below. Can you spot the difference? :-)

<http://home.comcast.net/~genela/spotthedifference.jpg>

**Re: HP 35S Serial Number list and an image**

Message #18 Posted by [sjthomas](#) on 4 Aug 2007, 4:50 p.m.,  
in response to message #17 by Gene Wright

Wow! It converts both TO liters and TO liters!!

**Re: HP 35S Serial Number list and an image**

Message #19 Posted by [Walter B](#) on 4 Aug 2007, 11:53 p.m.,  
in response to message #17 by Gene Wright

Hi, Gene, what are those strange dots your keyboard shows? I can see 8 of them on your picture.

**Re: HP 35S Serial Number list**

Message #20 Posted by [Chris Haltiner](#) on 3 Aug 2007, 2:06 p.m.,  
in response to message #1 by Vincze

CNA 72103814

Ordered from HP. Display was misaligned, but I have corrected it. Everything else seems to be ok. Crooked serial number (of course). I have another unopened 35s ordered from Buy.com--serial number not visible.

Quote:

On back of plastic box, on top left, they will have serial number for you to see.

Teach me to look at my packaging before putting it away. Ok, I pulled the second one back out and the serial number on the box is 72500450.

Interesting to see a new numbering scheme 725x as opposed to 721x.

*Edited: 6 Aug 2007, 10:58 a.m. after one or more responses were posted*

**Re: HP 35S Serial Number list**

Message #21 Posted by [Vincze](#) on 3 Aug 2007, 2:12 p.m.,

*in response to message #20 by Chris Haltiner*

Quote:

\_\_\_\_\_  
-serial number not visible.  
\_\_\_\_\_

On back of plastic box, on top left, they will have serial number for you to see.

**Re: HP 35S Serial Number list**

*Message #22 Posted by [George Bradford](#) on 3 Aug 2007, 2:13 p.m.,  
in response to message #1 by Vincze*

CNA 72101934 from SC. No apparent / obvious "cosmetic defect" (other than crooked serial number)

**Re: HP 35S Serial Number list**

*Message #23 Posted by [Woody Larkin](#) on 3 Aug 2007, 2:15 p.m.,  
in response to message #1 by Vincze*

72102307. Wal-Mart. Package not opened yet.

**Re: HP 35S Serial Number list**

*Message #24 Posted by [Seth Morabito](#) on 3 Aug 2007, 2:25 p.m.,  
in response to message #1 by Vincze*

From Buy.com: 72101944 - Unopened

From HP direct: 72104162 - Daily use. No defects at all, great calculator. [edit: The SN sticker is crooked, but I really don't consider that a defect, cosmetic or otherwise.]

*Edited: 3 Aug 2007, 2:26 p.m.*

**Re: HP 35S Serial Number list**

*Message #25 Posted by [Frank Balzer](#) on 3 Aug 2007, 2:57 p.m.,  
in response to message #1 by Vincze*

72102337 from Samson Cables. Display aligned, serial number slightly misaligned.

**Re: HP 35S Serial Number list**

*Message #26 Posted by [Doctor Bubu](#) on 3 Aug 2007, 4:07 p.m.,  
in response to message #1 by Vincze*

Hallo!

My is 72102010

Order from Samson Cable delivered over Spain.

All aligned right.

Juergen

**Re: HP 35S Serial Number list**

Message #27 Posted by [Mike H](#) on 3 Aug 2007, 4:13 p.m.,  
in response to message #1 by Vincze

CNA 72103849 directly from HP. Display slightly tilted, but I don't think I would have noticed it, if it had not been brought to my attention.

Mike

**Re: HP 35S Serial Number list**

Message #28 Posted by [Jeff O.](#) on 3 Aug 2007, 4:47 p.m.,  
in response to message #1 by Vincze

CNA72103890 from HP SMB, no problems. (Well, except that people who ordered from Walmart and Samson and Buy.com seem to be getting lower numbers. Seems like HP should have reserved the first units for their direct sales.

Quote:

Also, did HP add in the date code somehow to serial number?

The above serial number is parsed as follows:

CNA - country and factory code

7 - 2007

21 - 21st week

03890 - sequence number

**Re: HP 35S Serial Number list**

Message #29 Posted by [Reth](#) on 3 Aug 2007, 5:20 p.m.,  
in response to message #1 by Vincze

CNA 72102367 from Samson Cables Display perfectly aligned, no problems so far Serial number sticker \*was\* crooked, took me 2 second and dry hand to stick it properly

Reth

**Re: HP 35S Serial Number list**

Message #30 Posted by [Earl Kubaskie](#) on 3 Aug 2007, 7:34 p.m.,  
in response to message #29 by Reth

CNA 72500587 buy.com good display alignment crooked serial number

And hey, I like the "Don't trash me!" icon on the back!

**Re: HP 35S Serial Number list**

Message #31 Posted by [Mike Sebastian](#) on 3 Aug 2007, 11:21 p.m.,  
in response to message #1 by Vincze

CNA 72101983 from Walmart.com. Crooked serial number sticker. Display very slightly crooked - only noticeable in self test with all annunciators energized.

**Re: HP 35S Serial Number list**

*Message #32 Posted by [John Keith](#) on 3 Aug 2007, 11:44 p.m.,  
in response to message #1 by Vincze*

S/N CNA72104159 ordered direct from HP. Display seems to tilt slightly to the upper-right, but not enough to notice until I read posts on the subject. Label also slightly mis-aligned.

John

**Re: HP 35S Serial Number list**

*Message #33 Posted by [Jim Creybohm](#) on 4 Aug 2007, 10:39 a.m.,  
in response to message #1 by Vincze*

72102335 - ordered from Samson as well.

**Re: HP 35S Serial Number list**

*Message #34 Posted by [Eric Rechlin](#) on 4 Aug 2007, 10:57 a.m.,  
in response to message #1 by Vincze*

Currently I have the following on hand:

CNA72101718  
CNA72101727  
CNA72101737  
CNA72101935  
CNA72104756  
CNA72104757  
CNA72104761  
CNA72104794  
CNA72104875  
CNA72104876

All came from a second-tier North American distributor.

**Re: HP 35S Serial Number list**

*Message #35 Posted by [cldmenslim](#) on 4 Aug 2007, 1:02 p.m.,  
in response to message #34 by Eric Rechlin*

CNA 72104239, ordered from HP Small Business Website last week. The display is straight, no other problems, so-far.

**Re: HP 35S Serial Number list**

*Message #36 Posted by [Howard Owen](#) on 4 Aug 2007, 4:00 p.m.,  
in response to message #1 by Vincze*

From HP: CNA 72104215. From WalMart: CNA 72102325. Both have good displays.

Regards,

Howard

**Re: HP 35S Serial Number list**

*Message #37 Posted by [Etienne](#) on 5 Aug 2007, 1:23 a.m.,  
in response to message #36 by Howard Owen*

CNA 72102353, aligned display, misaligned S/N sticker. Delivered on 31/7 from SC over Spain.

Nice little toy (Thanks HP !) but not up to the 42s... hope to see a '43s' (?) in a few years ! (or even better, something with a 'landscape' form factor, like a '15c Platinum'). Meanwhile this has become my new work calc: it's cheap and easy to replace so I can leave it on my desk overnight without fearing having it stolen (call me paranoid :-)

Have a nice day :-)

Etienne

**Re: HP 35S Serial Number list**

*Message #38 Posted by [Ed Look](#) on 5 Aug 2007, 2:13 a.m.,  
in response to message #37 by Etienne*

Quote:

... it's cheap and easy to replace so I can leave it on my desk overnight without fearing having it stolen (call me paranoid :-)...

Etienne

Nah, the world is unkind and unsafe. Well, maybe not so unkind; after all, we did get a RPN scientific programmable with a decent looking key layout... :p

**Re: HP 35S Serial Number list**

*Message #39 Posted by [Paul Dale](#) on 5 Aug 2007, 5:32 p.m.,  
in response to message #1 by Vincze*

CNA 72102348 no screen problems, no crashes so far. bought from Samson Cables.

- Pauli

**Re: HP 35S Serial Number list**

*Message #40 Posted by [Iñigo Rodriguez](#) on 6 Aug 2007, 7:31 a.m.,  
in response to message #1 by Vincze*

CNA 72102331

Regards Iñigo

**35S Serial number**

*Message #41 Posted by [Ralph](#) on 6 Aug 2007, 7:39 a.m.,  
in response to message #40 by Iñigo Rodriguez*

CNA 72102850

Hp Direct. Indianapolis Indiana shipping point. Pay for ground (3 day) get it overnight (<15 miles). Sweet.

*Edited: 6 Aug 2007, 7:48 a.m.*

**Re: HP 35S Serial Number list**

*Message #42 Posted by [Dan M \(Vermont, USA\)](#) on 6 Aug 2007, 9:01 a.m.,  
in response to message #1 by Vincze*

CNA 72103824, from HP

CNA 72500457, from buy.com

--happy calculating,

Dan M

**HP-35s serial numbers**

*Message #43 Posted by [Nenad \(Croatia\)](#) on 7 Aug 2007, 1:34 p.m.,  
in response to message #1 by Vincze*

S/N CNA 17101997

Samson Cables

LCD Perfectly aligned

No crashes yet

*Edited: 7 Aug 2007, 1:36 p.m.*

**Re: HP 35S Serial Number list**

*Message #44 Posted by [ECL](#) on 7 Aug 2007, 3:14 p.m.,  
in response to message #1 by Vincze*

72500226

e-walmart

8/6/2007

slightly misaligned display (RHS slightly higher than LHS)

sits nice and stable on a flat surface (ie no wobble like my 33s)

ECL

**Re: HP 35S Serial Number list**

*Message #45 Posted by [Bruce Bergman](#) on 7 Aug 2007, 4:04 p.m.,  
in response to message #1 by Vincze*

S/N 72104216, purchased on day 1 from HP SMB site, no problems with display or foot alignment. The S/N sticker made it inside the raised edging, but it was crooked. ;-)

thanks, bruce

**Re: HP 35S Serial Number list**

*Message #46 Posted by [Stefan Vorkoetter](#) on 9 Aug 2007, 10:24 a.m.,  
in response to message #45 by Bruce Bergman*

#CNA 72500753

Purchased from York University Bookstore. I e-mailed them before I ordered, and they had just gotten a new batch in (Friday Aug 3, 2007)

Slight display misalignment (right side high).

Stefan

**Re: HP 35S Serial Number list**

*Message #47 Posted by [bill platt](#) on 7 Aug 2007, 6:13 p.m.,  
in response to message #1 by Vincze*

44 retail purchases so far!

17101997  
71000056  
71000070  
72101928  
72101934  
72101938  
72101939  
72101944  
72101983  
72102010  
72102307  
72102325  
72102331  
72102335  
72102337  
72102344  
72102348  
72102353  
72102360  
72102361  
72102367  
72102369  
72102370  
72102850  
72103808  
72103814  
72103815  
72103824  
72103848  
72103849  
72103890  
72103918  
72104159  
72104162  
72104204  
72104215  
72104216  
72104239  
72500226  
72500450  
72500457  
72500462  
72500587

72500718

**Re: HP 35S Serial Number list**

Message #48 Posted by **Paul Brogger** on 7 Aug 2007, 6:40 p.m.,  
in response to message #47 by bill platt

I feel like a new father pressing his nose to the glass in the nursery.

Proudly: "That one's mine, over there -- 72102370"

"They look so much alike . . ."

"Yes, but they sure are cute!"

"Look at the *size* of the ->KM on this one!"

"They're *all* big!"

"Oooops! That one's got a misaligned display."

"A display only an owner could love."

"I wish I could see their 'P<->R' conversions."

*Edited: 7 Aug 2007, 6:47 p.m.*

**Re: HP 35S Serial Number list**

Message #49 Posted by **Bruce Bergman** on 7 Aug 2007, 7:05 p.m.,  
in response to message #47 by bill platt

What's perhaps stranger (or certainly more scary) is that Howard and I bought our calcs from completely different sources (his: Wal-Mart; mine: HP SMB) and they are sequentially one number apart. Here's the scary part: Howard and I sat next to each other at HHC2006 last year, and now our calcs are sitting next to each other (in spirit).

:-D

thanks, bruce

**Re: HP 35S -- Online Order Fulfillment**

Message #50 Posted by **Paul Brogger** on 8 Aug 2007, 11:15 a.m.,  
in response to message #49 by Bruce Bergman

Quote:

What's perhaps stranger ... is that Howard and I bought our calcs from completely different sources (his: Wal-Mart; mine: HP SMB) and they are sequentially one number apart.

Maybe it's not so strange.

I saw somewhere on the Wal-Mart site re: items delivered "site-to-store" a suggestion that, should I fail to pick up the item, refuse it, or return it, the item is "returned to the manufacturer".



That struck me as odd, and it probably shouldn't be taken as gospel. But I wouldn't be surprised if, consistent with "just in time" inventory, etc., that the online stores outsource the storage and fulfillment to the manufacturer. (Heck, perhaps even H-P SMB outsources that to some specialty outfit.)

They may have come from the same location. (Do you both have your shipping labels?)

**Re: HP 35S -- Online Order Fulfillment**

*Message #51 Posted by **Richard Ottosen** on 8 Aug 2007, 2:25 p.m.,  
in response to message #50 by Paul Brogger*

Quote:

\_\_\_\_\_  
(Do you both have your shipping labels?)  
\_\_\_\_\_

I ordered my 35S using e-walmart "site-to\_store".

The package has a UPS shipping label on it. The shipping lable says that the order was shipped from Wallmart in East Bentonville, AR.

Quote:

\_\_\_\_\_  
They may have come from the same location.  
\_\_\_\_\_

I checked the UPS tracking information and it said that the package was actually shipped from Cerritos, CA.

-- Richard

**Re: HP 35S -- Online Order Fulfillment**

*Message #52 Posted by **Paul Brogger** on 8 Aug 2007, 3:09 p.m.,  
in response to message #51 by Richard Ottosen*

Virtual warehousing! Pretty cool!

-- Edited-----

Actually, Cerritos, CA appears to be the location of a UPS station. I suppose either H-P or Wal-Mart could have a warehouse nearby, so this doesn't prove anything. (I could find no specific mention of Cerritos on either company's web site.)

Incidentally, I note that H-P has a presence in Bentonville, AK, according to its careers site.

*Edited: 8 Aug 2007, 4:55 p.m.*

**Re: HP 35S -- Online Order Fulfillment**

*Message #53 Posted by **Matt Kernal** on 8 Aug 2007, 5:12 p.m.,  
in response to message #51 by Richard Ottosen*

So Richard (using my best lawyer impersonation), did you, or did you not, have to pay shipping for this so-called "site-to-store" transfer of merchandise? Don't forget, you're under oath.

Since I work within two miles of one Walmart, and four miles from another, I wanted to use

that "shipping" method too, but couldn't find (didn't see?) that choice. I ended up thinking it wasn't an option because the 35S is an "On-line Only" item.

In any case, good find.

Matt

**Re: HP 35S -- Online Order Fulfillment**

*Message #54 Posted by **Richard Ottosen** on 8 Aug 2007, 5:25 p.m.,  
in response to message #53 by Matt Kernal*

Quote:

\_\_\_\_\_

did you, or did you not, have to pay shipping for this so-called "site-to-store" transfer of merchandise?

\_\_\_\_\_

I did not pay shipping. This would have gotten the calculator delivered directly to me but would have cost \$6.97 US.

I did, however, have to pay local taxes of \$3.80.

My Walmart is just over two miles away so I chose the free shipping to there and paid the taxes for a savings of \$3.17. :-)

I got my order in before the price increase so the total cost for the calculator was \$53.79.

-- Richard

**Re: HP 35S -- Online Order Fulfillment**

*Message #55 Posted by **Jeff O.** on 9 Aug 2007, 7:31 a.m.,  
in response to message #54 by Richard Ottosen*

I'm guessing you would have paid local sales tax even if delivered straight to you. Since Walmart has a physical presence in your state (as they are virtually omnipresent), sales/use tax laws would almost certainly require them to collect the tax on direct deliveries too. So you saved \$6.97. But you did have to drive and go in to a Walmart.

**Re: HP 35S -- Online Order Fulfillment**

*Message #56 Posted by **Richard Ottosen** on 9 Aug 2007, 12:04 p.m.,  
in response to message #55 by Jeff O.*

Quote:

\_\_\_\_\_

I'm guessing you would have paid local sales tax even if delivered straight to you.

\_\_\_\_\_

That is normally the case but I don't remember seeing the cost of both shipping and taxes when I was making the order. It may be poorly functioning brain cells. :-)

Quote:

\_\_\_\_\_

But you did have to drive

No, I walked. :-)

Quote:

and go in to a Walmart.

True, but at least I did not do it on a Saturday!

-- Richard

**Re: HP 35S Serial Number list**

*Message #57 Posted by [Matt Kernal](#) on 8 Aug 2007, 1:35 p.m.,  
in response to message #47 by bill platt*

Uh Oh. Walmart messed up and shipped me the Devil's 35S:

S/N - 72500666 !!! It's a HOT one !!!

**Re: HP 35S Serial Number list**

*Message #58 Posted by [Gerson W. Barbosa](#) on 8 Aug 2007, 5:34 p.m.,  
in response to message #57 by Matt Kernal*

Quote:

S/N - 72500666 !!! It's a HOT one !!!

Interesting S/N...

Try this in DEG mode:

72500666 TAN

The 666 won't move and you'll have all digits from 0 to 7 on the display.

**Re: HP 35S Serial Number list**

*Message #59 Posted by [bill platt](#) on 8 Aug 2007, 5:43 p.m.,  
in response to message #58 by Gerson W. Barbosa*

Just be sure you are in FIX 6 before taking the tangent :-)

**Re: HP 35S Serial Number list**

*Message #60 Posted by [Gerson W. Barbosa](#) on 8 Aug 2007, 6:17 p.m.,  
in response to message #59 by bill platt*

Or ALL :-)

**Re: HP 35S Serial Number list**

*Message #61 Posted by **Paul Brogger** on 8 Aug 2007, 6:38 p.m.,  
in response to message #58 by Gerson W. Barbosa*

Wow! I thought a sorted list of serial numbers was *really* geeky, but passing those serial numbers as arguments to trig functions . . . Well that just takes the cake!

;:-)

**Re: HP 35S Serial Number list**

*Message #62 Posted by **Gerson W. Barbosa** on 8 Aug 2007, 7:09 p.m.,  
in response to message #61 by Paul Brogger*

It's just that I've been playing with turboBCD lately and have implemented all trig functions on it. I know they are working but I couldn't help testing it with Matt's serial ;-)

14.3006662567119280

**Re: HP 35S Serial Number list**

*Message #63 Posted by **Chris Dean** on 15 Aug 2007, 9:24 a.m.,  
in response to message #62 by Gerson W. Barbosa*

My HP35S serial number is CNA 72501069 which I received in the UK on 14th August 2007.

I think it looks good, is a great shape, has a good weight and no cosmetic faults. I am very pleased with my new purchase.

All I need now is an excuse to use its programming capabilities.

Regards

Chris

**Re: HP 35S Serial Number list**

*Message #64 Posted by **Richard Ottosen** on 8 Aug 2007, 2:16 p.m.,  
in response to message #47 by bill platt*

S/N 72101948

Ordered July 17, 2007 from e-walmart using "site-to-store". Arrived at local store on July 20, 2007.

The display is about 1/2 pixel higher on the right side than the left side. Not noticable in normal use.

Richard

**Re: HP 35S Serial Number list**

*Message #65 Posted by **Paul Brogger** on 8 Aug 2007, 4:18 p.m.,  
in response to message #64 by Richard Ottosen*

Quote:

Not noticable in normal use.

But conversely, not normal in noticeable use.

;:-)

### **Re: HP 35S Serial Number list**

*Message #66 Posted by **Dave Colver** on 9 Aug 2007, 4:29 a.m.,  
in response to message #47 by bill platt*

Finally, a 35S in the UK, Thank You Andrew at Minerva Electronics  
72100240

### **Re: HP 35S Serial Number list**

*Message #67 Posted by **Raymond Del Tondo** on 9 Aug 2007, 9:27 a.m.,  
in response to message #47 by bill platt*

Got my 35s parcel today:-))

Came over Spain from Samson Cables.  
Paid for on 29th of July.  
s/n 72105740 and 72105746 .  
Both are prepended by 'CNA', of course...

I have opened the 72105740 blister.  
The display is aligned properly.

I haven't checked for bugs yet.  
Is there a non-destructive way  
to retrieve the revision info?

From what I can tell so far, this is the best looking  
'HP' branded calculator since at least ten years!

Rubber only were it belongs, as the feet.

The tactile feedback of the 35s keyboard is *\*much\** nicer  
than that of the 33s, which was too hard and loud IMHO.

Apart from that, the older 33s was a really ugly beast anyway...

Raymond

*Edited: 9 Aug 2007, 9:30 a.m.*

### **Re: HP 35S Serial Number list**

*Message #68 Posted by **Thomas Klemm** on 9 Aug 2007, 1:10 p.m.,  
in response to message #47 by bill platt*

CNA 72105767

Ordered 07/30/2007 from Samson Cables.  
Ship Method: US International Air Mail (2-4 weeks)  
Arrived today in Zurich via Spain.

No missaligned display.

**Re: HP 35S Serial Number list**

*Message #69 Posted by [Olivier \(Wa\)](#) on 10 Aug 2007, 12:17 a.m.,  
in response to message #68 by Thomas Klemm*

From Walmart: CNA 72500076 Was ordered 8-04-2007 Still unopened...

**Re: HP 35S Serial Number list**

*Message #70 Posted by [andrewj](#) on 10 Aug 2007, 7:46 a.m.,  
in response to message #69 by Olivier (Wa)*

I thought you had to open the packaging to find the serial number. I purchased mine from Walmart on 8/2/07...still haven't opened the packaging yet.

**Re: HP 35S Serial Number list**

*Message #71 Posted by [Thomas Klemm](#) on 10 Aug 2007, 9:02 a.m.,  
in response to message #70 by andrewj*

A sticker with the S/N was on the back of my package as well.

**Re: HP 35S Serial Number list**

*Message #72 Posted by [MSchaefer \(CH\)](#) on 10 Aug 2007, 8:01 a.m.,  
in response to message #47 by bill platt*

For the archive:

72105741 72105739 72105744

Shipped by Samsoncables on 31st of July. Arrived in Switzerland 2nd of August. Calculators were shipped in the the original sealed HP cardbord box. Print on it reads:

HP35S (1P) Product: F2215AA (30P) Option: ABA Quantity: 3 Date: 190607 (the date is actually stamped and therefore seems to be the packaging and/or production date) MADE IN CHINA

The serial stickers which can be found on the back of the calculator and the blister packaging are also stucked to the outside of the cardbord box.

I thought somebody would be interested in that.

Regards,

Matthias

**Re: HP 35S Serial Number list**

*Message #73 Posted by [gteague](#) on 10 Aug 2007, 8:42 p.m.,  
in response to message #72 by MSchaefer (CH)*

arrived 08/10 from calculatorsource

#72104821

pretty happy so far. reading through the forum.

/guy

## Re: HP 35S Serial Number list

Message #74 Posted by [Walter B](#) on 11 Aug 2007, 8:04 p.m.,  
in response to message #47 by bill platt

Another one for the record: S/N CNA 72105835, arrived today from Samson Cables directly via USPS Air Mail. Was ordered 7/15 (for US\$52.99 + US\$20.00 for S/H), shipped 7/30 (late shipping due to some arguments about SC's attempt to charge additional shipping costs). Anyway, I paid 10.06 Euro VAT today, and that was it :)

First impressions:

LCD is correctly aligned, even the S/N sticker is ;- ) Now to the less important stuff:

Strong points: Nice shape, very nice keys (thanks, HP!!), reasonable keyboard colors (after more than a decade!), comfortable ways to enter complex numbers. In total the best RPN calc produced since 2001 (though the calculating power per cubic cm decreased). Seems HP understands better now why their vintage calcs looked the way they looked.

Weak points: Silver cursor keys really look like on a TV remote control, plastic housing feels cheap (a more structured surface would have been better IMHO), keyboard space wasted for <-ENG, ENG-> (hey, that calc was meant for professionals - who cannot do these operations by heart, is no), misleading shift keys, glossy LCD window, theta looks like 8 in the LCD.

And the case is way too big to contain just such a calc, but I can add some travel documents ;-)

To be investigated: Function set & grouping, menu contents, benefit of UNDO (??), how to work with this device in practice ...

Summing up: A real lot better than the 33s, still a long way to go for a 42sii. Go on, HP!

Edit: (1) To open the blister pack, I needed my Swiss Army Knife \*and\* brute force! (2) I've to check for all the software bugs reported here. (3) The handbook chapters about SOLVE and INTEGRATE seem to be unchanged for 25 years now. (4) Mechanical HW-wise, the 35s may be a nice platform for some custom projects (Eric? Pauli? Richard? OpenRPN (R.I.P.)?)

Edited: 12 Aug 2007, 2:18 a.m.

## Re: HP 35S Serial Number list

Message #75 Posted by [lindguini](#) on 15 Aug 2007, 12:00 a.m.,  
in response to message #74 by Walter B

HP 35s CNA 72102596

Ordered from HP Home on 8/8, arrived 8/11.

Display is aligned; serial sticker a bit crooked.

Overall Impressions: The 35s has recaptured the best elements of HP's classic handhelds. The key design, tactile feel, markings, ENTER key, and body clearly indicate that HP has listened to its (dwindling?) user community. Congratulations for daring to return to your roots, HP!

After retiring my 10C (1983-1992) and 42s (1992-2005) for concerns that they would get stolen or damaged, I reluctantly took up relations with the 33s (2005) and it's been a compromise the whole way. The guts were good but the presentation was misguided. I wanted to like it more than I did. And then, this summer, I thought I'd see if HP had anything in the pipeline and...presto! Here's the 35s! Was it a cruel marketing joke? The 35s looked too good to be true. It's everything the 33s should have been.

Of course, it's a big risk for HP since the 35s will likely appeal mainly to HP diehards who've owned several models over the years (and years, and years). But then again, the classic HP design philosophy and RPN combine to make a powerful statement for those willing to convert. Hopefully, this is just the start of HP's re-examination of how they can re-capture a market soundly dominated (and deservedly so) by TI and Casio.

The HP 35s simply strikes the right chords. Sentimental, perhaps, but a long time coming. As for overall value, I'll go an extra mile (and \$\$) for RPN any day. The 35s comes with an excellent \*printed\* user's manual and a high-quality, padded, zippered case that allows you to use the calculator without removing it from the case...brilliant. The whole 35s package simply says "quality, with no compromises".

Keep up the good work, HP.

*Edited: 15 Aug 2007, 12:08 a.m.*

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## HP Forum Archive 17

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### A new product introduction

Message #1 Posted by [Giancarlo \(Italy\)](#) on 3 Aug 2007, 3:46 a.m.

Hi all.

That story of HP "holding all orders of HP 35s models until the issue is fully researched and remedied" really impressed me....

I'm employed in a company that produces consumer goods, and, to be competitive and profitable as a company, we had to set up a well structured process for New Products Introduction (be they really "new" or a restyling of existing ones).

That procedure provides a stage-by-stage feasibility and development flow, going through some major "milestones" where some "steering committee", seen the outcomes of the previous steps, decides a GO/NO GO for the project.

I mean: we're talking, roughly, of the following steps:

1. mock-ups for aesthetical sanction and for "face value tests";
2. first (few) prototypes - not made with definitive tools - for preliminary tests and design reviews;
3. first (limited) batch, made with definitive tools, aimed at "freezing" the project and make deeper tests (for example: early failure, reliability, life tests, field tests);
4. first production run (limited quantity) to test the capability of the real production process in terms of work cycles, ergonomics of work places, production checks and quality checks (either in-process or end-of-line tests).

Now, it's really difficult for me to understand how an issue would escape a structured procedure (and I \*do\* believe HP has got even a more structured and paced one)

so that to compel the company to a "recall campaign" ('cause that's what we're really looking at) just 3 weeks after the market launch...

Should I mention the disappointment of the customers, their complaints about the company, the lack of image etc., all of these amplified by the huge expectations?

I strongly suspect that, in the process of introduction of the new 35S, having in mind the extreme level of expectations of the HP market target for that product, somebody over there failed to go through some serious Design FMEA or test session - otherwise, how could such a flaw escape?

Apologise for my rants, but as my daily job is focused at the "quality" of the products, I just can't understand "how it could happen" to such a company.... But maybe I'm just picturing it bigger than it deserved to be ;-)

Best regards.

Giancarlo

### Re: A new product introduction

Message #2 Posted by [DaveJ](#) on 3 Aug 2007, 4:50 a.m.,  
in response to message #1 by [Giancarlo \(Italy\)](#)

Quote:

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1. mock-ups for aesthetical sanction and for "face value tests";
2. first (few) prototypes - not made with definitive tools - for preliminary tests and design reviews;
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Best regards.

Giancarlo

I suspect something simply went wrong with the final production. You can have the best structured approach in the world, all the pre-production you like, and all the beta testers in the world - but when you push that final production button, there are countless little things that can go wrong that can slip through all of your final production QA.

Dave.

### **Re: A new product introduction**

*Message #3 Posted by [Giancarlo \(Italy\)](#) on 3 Aug 2007, 5:13 a.m.,  
in response to message #2 by [DaveJ](#)*

Hi Dave.

Maybe just a well-designed QA check-list would have proved helpful...

How to get such a check-list? As a "by-product" of well-structured Design FMEA and/or Process FMEA, and there we go again...

I suspect that the difference relies on that "countless": they have to be countable (English?) at least not to oblige the company to stop deliveries within the first month of market launch....

Thanks for your feedback.

Best regards.

Giancarlo

### **Re: A new product introduction**

*Message #4 Posted by [DaveJ](#) on 3 Aug 2007, 5:24 a.m.,*

*in response to message #3 by Giancarlo (Italy)*

Quote:

Hi Dave.

Maybe just a well-designed QA check-list would have proved helpful...  
How to get such a check-list? As a "by-product" of well-structured  
Design FMEA and/or Process FMEA, and there we go again...

Sure, you can always 100% check everything to your hearts content. Six-Sigma is achievable!  
However, that all costs money, and on a \$60 retail calculator which is actually a fairly complex and  
interactive piece of equipment, that could be a hard ask.

Want to check if the LCD is aligned properly? - either: 1) you have to design it so it can't be mis-  
aligned in the first place 2) you have automated vision inspection equipment do the job. 3) you rely on  
human visual checks and good work practices by some worker in China earning a dollar a day

#1 is not always possible, #2 is expensive and hard to justify, so that often leaves you with door #3!

Want to check that label is aligned?...

Want to check every key for "that tactile feel"?...

Manufacturing tooth picks or paperclips is a far easier business! :->

Dave.

## **Re: A new product introduction**

*Message #5 Posted by **Giancarlo (Italy)** on 3 Aug 2007, 7:24 a.m.,  
in response to message #4 by DaveJ*

Hi Dave.

Quote:

you can always 100% check everything to your hearts content

No, no, no: I was not aiming at a 100% check, but at a statistically significant test,  
aimed at the critical characteristics of the product / process that must have been previously  
analyzed.

Quote:

that all costs money

Yup, despite all legends, Quality \*is\* a cost (maybe "quality" is not ;-)

Quote:

on a \$60 retail calculator

Do you think that the unit margin over that 60 USD is really that tiny to justify a poorly designed quality plan? ;-)

Quote:

Want to check if the LCD is aligned properly? ... Want to check that label is aligned?...  
Want to check every key for "that tactile feel"?

Yes, yes, and yes IF those are features the company has evaluated as key to the customer (yes, I know - that requires a knowledge of its own customers ;-)

Quote:

Manufacturing tooth picks or paperclips is a far easier business!

I'm afraid "business" is seldom "easy", even when it comes to toothpicks or paperclips (see the importance of a paperclip for a hard reset of a 50G, for example ;-)).

Thanks for your contribution.

Best regards.

Giancarlo

*Edited: 3 Aug 2007, 7:25 a.m.*

## **Re: A new product introduction**

*Message #6 Posted by **Walter B** on 3 Aug 2007, 9:53 a.m.,  
in response to message #4 by DaveJ*

Quote:

Want to check if the LCD is aligned properly? - either: 1) you have to design it so it can't be mis-aligned in the first place 2) you have automated vision inspection equipment do the job. 3) you rely on human visual checks and good work practices by some worker in China earning a dollar a day

#1 is not always possible, #2 is expensive and hard to justify, so that often leaves you with door #3!

Working in Quality, too, for many years please let me comment:

Forget #3 (you'll always have a slip in the order of a few % using visual inspection). And even #2 is a mere excuse for not having done #1 properly. So a US\$60 product must be \*designed\* it can be sold for this amount and still makes money (incl. complaint handling!). Or, to quote a saying I've seen posted in a production plant:

"Quality does not cost money at all -- the lack of quality costs money!"

HTH, Walter

## **Re: A new product introduction**

*Message #7 Posted by [Giancarlo \(Italy\)](#) on 3 Aug 2007, 12:01 p.m.,  
in response to message #6 by Walter B*

Hi Walter.

I resound with you, and to reinforce what you state:

Quote:

---

...and still makes money (incl. complaint handling!)

---

in my experience it's far too common for a company (be it big or small) not to take into the correct account the so-called "non-quality costs", that, instead of being used to calculate the \*real\* unit margin are put into a "pot" and irreparably mixed with lots of other different costs... Of course, when I said "Quality" costs, I was meaning that the first and most important \*cost\* is in terms of attitude - beginning with the people that design products, and proceeding with all the other along the development, engineering and production stages. Thank you for your contribution. Best regards. Giancarlo

## **Re: A new product introduction**

*Message #8 Posted by [Vincze](#) on 3 Aug 2007, 1:22 p.m.,  
in response to message #6 by Walter B*

Quote:

---

"Quality does not cost money at all -- the lack of quality costs money!"

---

Good afternoon Walter. I must make a comment about your quote. You are very correct in what you say, and it makes me wonder, and I hope I do not offend you. I don't know you or where you are from, but that statement sounds very Germanic in nature. I say that as a compliment as I believe that Germans tend to focus very much on quality, both in past and present, with their engineering and building of things. This is not to say that American made, or British made, or Chinese made, or Hungarian made are not focused on quality too. It just seems to be more of a trend in Germany to concentrate on high quality engineering and building the best, darn everything else. I hope HP sees your quote and take it to heart, and what ever they build next they take the same take, and build darn best calculator.

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## HP Forum Archive 17

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### TI-30 user looking for a change.

Message #1 Posted by [Luke Hoffmann](#) on 3 Aug 2007, 2:50 a.m.

Hello all. I found this website while on an odyssey of calculator searching. I am entering the math and physics programs at Purdue University in a couple of weeks (finally realized Poly Sci wasn't going to cut it) and I'm looking to upgrade my calculator. Calculators are not allowed in any of the upper level courses, but I would still like one for homework, personal use, concept reinforcement, etc. I have been looking at the TI-89, HP-50G (49.5 from what I've gathered) and the 35-S. I am a little unsure as to what to buy...but in using the RPN calculator on HP's site, I must admit, I have become quite intrigued. So, any relevant thoughts any one has on graphing calcs (remembering they are verboten at my school generally) and the 35-S would be very much appreciated. Sorry for the long post; I will try to keep it shorter in the future.

### Re: TI-30 user looking for a change.

Message #2 Posted by [Howard Boardman](#) on 3 Aug 2007, 10:00 a.m.,  
in response to message #1 by Luke Hoffmann

My advice: get a Hp 50g for homework and out of class work. It will handle calculus and physics stuff quite well. At least if I had one in my engineering curriculum for my 3 semesters of calculus and physics it would have greatly helped. And it sure helped in my major classes which were loaded with math. If you can use a 35s on tests, that would be the way to go. Very powerful in the way you can program it. So get one of both if you can.

### Re: TI-30 user looking for a change.

Message #3 Posted by [Thomas Radtke](#) on 3 Aug 2007, 10:10 a.m.,  
in response to message #1 by Luke Hoffmann

Your request is quite general. How about deciding first whether you really need a graphing model? If you can live w/o graphics and CAS, the 35s is very versatile and quite a bit easier to use. I doubt you'd find another recent non-G that powerful.

### Re: TI-30 user looking for a change.

Message #4 Posted by [Walter B](#) on 3 Aug 2007, 10:26 a.m.,  
in response to message #1 by Luke Hoffmann

Quote:

\_\_\_\_\_

remembering they are verboten at my school generally

\_\_\_\_\_

Hmmh, why did you spell this German? ;-)

IMO, the step from a TI30 to a graphic calc is a pretty big one. Since I finished my studies decades ago, it's hard to guess how the kind of homework was adapted to the ubiquitous (?) availability of high power calcs and PCs. Anyway, there are loads of tasks where a calculator isn't any help at all, and if I were a professor, I'd like

to emphasize this side.

Nevertheless, to get some support for the pure (and stupid) mechanics of mathematics, I'd recommend you look for a scientific calc featuring matrix handling, solving systems of linear equations, and able to work with complex numbers nicely. It should feature an (almost) complete set of scientific functions, i.e. incl. hyperbolics. For physics, you'll need sample statistics incl. linear regression additionally. Some programming capability will allow you to tackle repetitive tasks like solving the same equation for several sets of parameters.

Of the calcs I know and being available today (also at auctions ;- ) , I'd recommend the HP 42S if you want a small and light calc you can carry everywhere easily -- if you don't mind carrying a big cannon, then take an HP 48anything. You are young, so you will adapt to any reasonable OS. The 35s is nice and new, and features everything \*but matrices\* (crucial for your applications IMHO). The 50g will do everything a calc can do, but may be too much overhead.

Just my 20 Milli-Euros

P.S.: There is a very nice and capable emulator of the HP 42S available for free, called Free42 (just search the archives or google using this name and Thomas Okken as keywords). I will run on your Laptop and PDA.

*Edited: 3 Aug 2007, 10:34 a.m.*

### **Re: TI-30 user looking for a change.**

*Message #5 Posted by [Ed Look](#) on 3 Aug 2007, 11:57 a.m.,  
in response to message #4 by Walter B*

Luke, Walter, (or anyone else!), Walter's advice is generally sound, but from direct experience, the 48G (or G+ or GX) is a bit fragile. It certainly IS a great calculator, or as MoHPC calls, a "do-everything" calculator, but to be that and yet still stay small and light enough to be portable as a calculator, it may not stand up to being tossed in a backpack every morning, whipped out several to very many times a day, tossed on a desk or table, wagged at friends to underscore that your answer might be "more better", and worst of all, dropped. I dropped my 48G only once, and it was still in its case, and now I have a blank row of pixels across the third stack position, unless I strap a rubber band around the top.

So, if you get a 48G series machine, use it at home or in the dorm. The same would apply to a 50G. I mean, these are EXPENSIVE little babies. If you are going into math and physics, you won't need any in class graphing on your calc anyway. So, I'd counsel the use of a 35s or even 33S (which really despite my and others' complaints is a pretty good calculator, but the 35s has more programming space) for class.

I got by (very well, actually) with the then-equivalent of the 33S or 35s (now that it's out), the 34C, a scientific programmable. In actuality, today's two HP scientific programmables are superior in terms of capability; mine was superior only in feel of the keys, weight of calculator and... ahem... appearance. Something about red... LEDs.

I think you might need a graphing calculator not so much at all for its graphing capability, but its much greater programmability and memory capacity.

### **Re: TI-30 user looking for a change.**

*Message #6 Posted by [Ren](#) on 6 Aug 2007, 12:16 p.m.,  
in response to message #5 by Ed Look*

First of all,

A TI-30 variant (SR-40) was my first calculator (Fall 1979), I still have it but haven't applied power in

years. I couldn't afford the HP-2x a classmate had, and I wasn't smart enough mathematically to understand RPN anyway. ( The first day of class the instructor made a comment how some students didn't know how to add fractions. I sheepishly raised my hand and asked, "How do you add fractions?" .)

Secondly, I now carry a HP-48G in my backpack. To protect it from some of the daily bangs, it is in a rubber "holster" designed for the TI-8x series. It is a tight fit, but the holster only cost \$1 at Goodwill.

Ren

dona nobis pacem

### **Re: TI-30 user looking for a change.**

*Message #7 Posted by [Ed Look](#) on 6 Aug 2007, 12:36 p.m.,  
in response to message #6 by Ren*

I had a TI SR-40 before I got my first HP, the 34C.

In fact, the poor quality and limited capability of the SR-40 caused me to seek out the 34C. Needless to say, it was a huge jump in quality and capability for me. I have to admit though, that the SR-40 had to be almost unusable before I spent the \$124 (before tax) dollars of those days for the 34C. The SR-40 actually didn't last long; the keys went just about totally bad before I dug out the money for the 34C. I sort of wish I kept the malfunctioning SR-40. I tossed it as soon as I brought the 34C home.

Interestingly, if the TI SR-40 didn't break down and kept working through college, it is possible I may never have looked for a better calculator and would never have become like you guys, a calc nut. It was the 34C that launched me on this path!

### **Re: TI-30 user looking for a change.**

*Message #8 Posted by [Matt](#) on 3 Aug 2007, 10:27 a.m.,  
in response to message #1 by Luke Hoffmann*

If you can afford the 50G then it is the most powerful calculator around (though the TI-Nspire may have something to say about that). CAS have their drawbacks on calculators, mainly due to the small screen size. Most ODE solutions will require more than one screen and the way the 50G handles arbitrary constants is not the most attractive. So you will have to learn how to read the output. The 3D graphing is quite slow and maybe not all that useful.

But why not try out some models?

[Here is one emulator](#)

[And here is another](#)

The other thing to bear in mind is that something like the 50G will take a long time and no small effort to get the most out of it. Do you think you'll have that time?

Concept reinforcement is a tricky thing. My idea of that is consulting another textbook. Will you use software in your course? That will be more powerful than a handheld. A nice OpenGL plot of some function can be helpful, but handheld's aren't quite there yet.

It's a tough choice you'll have to make.



**Re: TI-30 user looking for a change.**

*Message #9 Posted by [Brad Davis](#) on 3 Aug 2007, 11:11 a.m.,  
in response to message #1 by [Luke Hoffmann](#)*

That is a very tough one. I started using HPs during my sophomore year in 1990, so the 28S was the big thing back then. I used it quite a bit to solve equations, solve definite integrals, and create little functions, but never used it for serious programming or plotting.

To be honest, I've tried plotting with my 28S, 48, and 50g and it's such a pain that I'd rather use Excel or some other program. I just don't see the point in a calculator that plots. The plots are tiny and much more difficult to read and manipulate on that little screen with the limited controls. Even if you can see it, it's not practical to copy it to a report, your HW submittal, etc. You also can't plot lots of different things with different colors, markers, scales, etc. 3D plots are hard to deal with on a computer screen, much less a tiny calculator screen.

You'll have your computer for everything but tests. During tests, if you spend time (you'll usually have very little) monkeying around with your calculator, you're probably toast, LOL.

The 50g's keys are so hard that my hand gets physically tired by the time I get through a page or two of calcs. And no, I'm not a wuss with little weak finger, LOLOL. I've read here that the 35s keys are better. You'll spend a nauseatingly huge amount of time punching those keys in engineering school and your time spent on basic calcs will be hundreds of times more than your time spent using the more advanced functions. Actually, you'll probably use your computer for them anyway.

I think I'd get the 35S. I am thinking of buying one of those and keep my 50g as more of a personal museum piece simply because the keys are so hard.

**Re: TI-30 user looking for a change.**

*Message #10 Posted by [bill platt](#) on 3 Aug 2007, 11:31 a.m.,  
in response to message #9 by [Brad Davis](#)*

In engineering grad school, I used a 32sii happily. Most others had simple little sharps, casios, TI, not graphing.

The 48GX is cool and I like it more and more as a working calculator, but it really is overkill and I agree about the time wasted thing. If I had put all the time into calculators while I was in school, I'd never have learned what I really needed and wanted to.

(Now that I am a grown-up, I can spend time on them for the fun of it:)

Ironically becoming a collector is completely opposite why I liked HP calcs from the beginning: The HP helped to \*minimize\* the time I spent using, buying, replacing or thinking about calculators. Heck, a single 11C served me for 13 years!

**Re: TI-30 user looking for a change.**

*Message #11 Posted by [Ed Look](#) on 3 Aug 2007, 12:01 p.m.,  
in response to message #10 by [bill platt](#)*

Sometimes when there's no ballgames on at night, I try to explore the programmability of my HP programmables. It does tire your eyes out!

**Re: TI-30 user looking for a change.**

*Message #12 Posted by [Luke Hoffmann](#) on 3 Aug 2007, 12:32 p.m.,*

*in response to message #11 by Ed Look*

I'd like to thank everyone for their input. I'm going to ask a couple more questions on this topic and then I'll put this to rest. 1)The general consensus is that the graphing calculators are often more complex than I'll need (given that calcs aren't allowed on any test at Purdue...and for the real tough stuff I'll be using MATLAB, etc.) I just want to confirm this point. 2)The 35s is a return to simple and powerful HP functionality. 3)There isn't a better scientific calc...TI, Casio, or HP don't offer any scientifics that solve any greater amount of problems.

I guess to clarify my post a bit...I don't give a hoot about graphs necessarily, I feel that is what paper is for at the level of math I am at, but I would like something that could solve more advanced things than my TI-30. Derivatives come to mind.

I am new to the calc rounds, and higher math in general, so please keep the kid gloves on when tearing my post to shreds ;)

Thanks for all of your input and help.

**Re: TI-30 user looking for a change.**

*Message #13 Posted by **Walter B** on 3 Aug 2007, 3:33 p.m.,  
in response to message #12 by Luke Hoffmann*

Luke, assuming these were 3 new questions, here are my answers:

1) Yes.

2) Yes - at least it's a major step in this direction.

3) Depends. There were numerous discussions about the "best" nongraphic scientific HP calc in this forum already (and for sure there will be more). You'll find them browsing older posts. Many forum members agree the HP 42S was/is the most powerful RPN calc ever made. You'll find reasons for this verdict in said posts. For assessments of non-HP calcs, other sites may be better suited than this one here, which is a bit biased - of course :-)

**Re: TI-30 user looking for a change.**

*Message #14 Posted by **Vincze** on 3 Aug 2007, 4:22 p.m.,  
in response to message #13 by Walter B*

Quote:

Many forum members agree the HP 42S was/is the most powerful RPN calc ever made.

One note I would like to make. Even though I do not have 42s, I do think it was one of the best calculators that HP ever made (I have used emulator of it and like very much). One thing though, is they are very expensive when you find one. A better alternative, and much less expensive more often would be a 15C. I think it would do everything you have asked about (I don't have one, but I have used the emulator quite a bit) including Matrix math.

Jó nap

**Re: TI-30 user looking for a change.**

*Message #15 Posted by **Brad Davis** on 3 Aug 2007, 4:12 p.m.,  
in response to message #12 by Luke Hoffmann*

As for comparisons to other brands, the bottom line from my standpoint is RPN/RPL vs the alternative: algebraic nonsense.

After you get used to it, you will be able to punch through equations much faster with RPN/RPL than with an algebraic calculator. Some HPs only have 4 stack registers and some have many more. I personally like the ones with many more because they let me start at the left end of an expression and proceed to the right. With only 4 registers, you have to start on the inside of some expressions and work your way out. This isn't how I learned, so is unacceptable to me. The 50g has many registers and I \*think\* the 35s does too. The 33s, for example, is limited to 4. I bought one and it's collecting dust.

I have a funny story. Last fall, I taught a junior level engineering design course. Every single student used a TI calculator. On one of their exams, they had to punch through an equation that took up an entire line and had 3 square roots, 2 of them nested. Of 37, about 3-4 of them made it from one end of that to the other without making a mistake. They were trying to write it out in 3-4 steps, etc.--chaos! I knew they'd complain about this, so I used a stopwatch to test my speed with my HP48. I punched it through 3 times without a mistake, averaging 22 sec./try. Of course they got some hazing in the next class when they complained about that equation, LOL.

**Re: TI-30 user looking for a change.**

*Message #16 Posted by **Jeff O.** on 3 Aug 2007, 4:36 p.m.,  
in response to message #15 by Brad Davis*

Quote:

\_\_\_\_\_

The 50g has many registers and I \*think\* the 35s does too. The 33s, for example, is limited to 4.

\_\_\_\_\_

The 35s has the classic 4-level stack, same as the 33s.

**Re: TI-30 user looking for a change.**

*Message #17 Posted by **Brad Davis** on 3 Aug 2007, 11:06 p.m.,  
in response to message #16 by Jeff O.*

Are you sure about that, Jeff?

I thought the hp info clearly stated that it had 800 registers. Was that referring to something else?

**Re: TI-30 user looking for a change.**

*Message #18 Posted by **Ed Look** on 3 Aug 2007, 11:35 p.m.,  
in response to message #17 by Brad Davis*

Jeff was referring to the IMMEDIATE four "registers" (well, I guess they really are, too; they are kind of like the command line plus the "scratch disk" of a VMS operating system on an old mainframe) that the calculator uses as you enter figures, operate on them: when you turn on the machine, you are looking at the X register contents on the bottom of the LCD display and the Y stack level (register) contents are right above it. There are two further stack levels that are unseen, as well, unless

you use the ROLL DOWN (or blue SHIFT ROLL UP) key to access them, the Z and T in that order (that the Z is so named is obvious; the T is so called because it is the "top" level).

This means that you can enter four values in the 35s (or any of the pure RPN calcs; the RPL calculators, as the 48G series, 48S series, etc. have an unlimited stack) before losing your first entered figure "out the top". The T stack level has also the property of being replicated, i.e., the value in it is copied for further use, if necessary.

So that is the stack.

Now, the storage memory is comprised of what are more properly called "registers" and as promised in the literature (including the manual), there are 26 directly accessible ones (A-Z) and 801 accessible by using indirection via the I and J registers.

A very cool system methinks. (I had to make an effort to get used to the infinite stack of the RPL machines when I got one. Personally I still prefer the four level stack system of the HP RPN programmable scientifics.)

If you've got more questions on the stack vs. storage registers, there are smarter, more qualified guys here who can easily chip in.

*Edited: 3 Aug 2007, 11:38 p.m.*

### **Re: TI-30 user looking for a change.**

*Message #19 Posted by [Jeff O.](#) on 4 Aug 2007, 12:35 a.m.,  
in response to message #17 by Brad Davis*

Perhaps I answered a bit too succinctly. Although you mentioned registers in your post, from your discussion and reference to the 33s I decided that you were talking about the 4 level operational stack, which Ed explained quite well. The 33s had a 4 level stack and 32 or 33 storage registers. The 35s has over 800 storage registers, but still has the 4-level stack, which I also prefer to the unlimited RPL stack. (Sometimes a 5 or 6 level stack might be handy, but unlimited just never felt right to me.)

### **Re: TI-30 user looking for a change.**

*Message #20 Posted by [Brad Davis](#) on 4 Aug 2007, 1:12 a.m.,  
in response to message #19 by Jeff O.*

Thanks for setting me straight before I bought a 35S.

I learned mostly on my 48 and go strictly from left to right. Some of our longer equations need 6 stack levels for that, so it would take some work for me to deal with 4. I bought a 33S and don't like it for that reason.

*Edited: 4 Aug 2007, 1:13 a.m.*

### **Re: TI-30 user looking for a change.**

*Message #21 Posted by [ECL](#) on 3 Aug 2007, 12:41 p.m.,*

*in response to message #11 by Ed Look*

Regarding the use of \*any\* graphing calc at such an early stage (calculus, physics):

I am a recent grad, and would strongly recommend that you forget the calculators. There will be huge returns for monkeying with your pencil and paper (or just taking mathematical strolls).

Plus, you may be advised in school to get a copy of matlab, (or similar) for small projects or investigations.

Just be sure to dive into the theory, not ebay looking for calculators. Once you get to your second year, or maybe 5th semester, you may want to begin relying on small programs that you write. For those, a 33s, 35s (or graphing if you really want it) will suffice.

In my physics courses, we had to have our calculators personally inspected by the prof. He'd prohibit even programmable SCIENTIFICS!

In my maths (Calc I,II,III,IV,diff eq) there were NO calculators. Once I got to numerical methods, I began using my 33s to scream through repetitive iterations.

Now, if you are disciplined, and can keep a fancy calc in the back pocket for free-time exploration, by all means. Just beware of the danger of losing serious time if you go overboard. Programming can be very addictive!

Best luck, great school! ECL

**Re: TI-30 user looking for a change.**

*Message #22 Posted by [Vincze](#) on 3 Aug 2007, 4:38 p.m.,  
in response to message #21 by ECL*

Very good advice ECL.

Luke, when I study at BME university in Hungary, we were not allowed to use calculator on test at all. We were allowed to only use slide rule. Now Hungary is not as advanced (in some ways) like USA, but it was not a big disappointment that we could not use electronic calculator, because we used to doing math with pencil and paper. I tell my son that pencil, paper and slide rule is Hungarian graphing scientific calculator. He not think I very funny, but ECL is very correct when he say it will help you better understand concept behind everything.

In real world, yes you will use computer or calculator, but you must understand concept before you automate it. As I always say to people laziness bring struggle. Don't be lazy, and it will pay off for you many times.

Best of luck to you my friend. Purdue is a very good school. Your parents must be very proud of you.

**Unworthy of excellent men... NEW HP 45 ad included - NOT ON Mohp DVD**

*Message #23 Posted by [allen](#) on 3 Aug 2007, 5:23 p.m.,  
in response to message #21 by ECL*

Quote:

\_\_\_\_\_

would strongly recommend that you forget the calculators.

Agreed, BUT as HP says: (click for complete ad)

[http://www.enterhp.com/images/UNWORTHY\\_45\\_catalog0001a-512.jpg](http://www.enterhp.com/images/UNWORTHY_45_catalog0001a-512.jpg)

*Edited: 3 Aug 2007, 7:32 p.m.*

**Re: Unworthy of excellent men... NEW HP 45 ad included - NOT ON Mohp DVD**

*Message #24 Posted by [Fred Lusk](#) on 3 Aug 2007, 9:45 p.m., in response to message #23 by allen*

Ah, but Leibnitz never had an HP!

**Re: Unworthy of excellent men... NEW HP 45 ad included - NOT ON Mohp DVD**

*Message #25 Posted by [Walter B](#) on 4 Aug 2007, 12:35 a.m., in response to message #23 by allen*

That's exactly what I mentioned above in message #4:

Quote:

...some support for the pure (and stupid) mechanics of mathematics...

What matters is the difference between Calculations and Calculus (=Analysis for the rest of the world).

*Edited: 4 Aug 2007, 12:43 a.m.*

**Re: Unworthy of excellent men... NEW HP 45 ad included - NOT ON Mohp DVD**

*Message #26 Posted by [Luke Hoffmann](#) on 4 Aug 2007, 1:29 a.m., in response to message #25 by Walter B*

\*Smiling\* Thanks everyone for the input. I actually called up TI and HP today, and from what I've heard from both I've made my decision. I'm going to go with the 35s when it is re-released (the fellow at HP said it will be between two and three months, but they are *not* cobwebbing it as I've seen a couple of people post.)

The guy at HP also said that HP has 'retaken' control of the calculator unit and that they are looking to a return to the HP of 10-15 years ago. Again, I am only quoting this guy, but he said they are looking to get back to double sized enter key as standard and they are going to slowly eliminate the kid-colors (the shift keys will stay colored apparently).

So, as all of you have said, I need to stay to the pencil and paper...but I think the 35s will be a great supplement (and fun to learn I think). In really thinking about it, I will wait for a return to form for an HP graphing calculator just for giggles if nothing else. Finally, when I spoke to TI and asked them what they had comparable to the 35s, the man laughed and said that they didn't have any 'legacy' models and that RPN was

'impossible' to use. I love my TI-30 single line, and I'll always have one floating around...but I think I've hopped the fence permanently.

Thanks again for everyones help and commentary...I look forward to annoying everyone with dumb questions once I finally get my 35s. Have a great night.

**Re: Unworthy of excellent men... NEW HP 45 ad included - NOT ON Mohp DVD**

*Message #27 Posted by [db \(martinez, ca.\)](#) on 4 Aug 2007, 11:27 a.m., in response to message #26 by Luke Hoffmann*

luke; go [here](#)

**Re: Unworthy of excellent men... NEW HP 45 ad included - NOT ON Mohp DVD**

*Message #28 Posted by [Walter B](#) on 4 Aug 2007, 3:48 p.m., in response to message #27 by db (martinez, ca.)*

... but international S/H is pretty expensive there, if you need that (I don't know where you live).

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## HP Forum Archive 17

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### Thinking of buying a 35S

Message #1 Posted by [Matt Agajanian](#) on 3 Aug 2007, 2:29 a.m.

Hi all.

First, a few things come to mind:

1--Since this is the 35th anniversary of the legendary HP-35, did HP know they were releasing a new resurrection of the "35" moniker?

2--Is HP planning a commemoration of the 35th anniversary of the HP-35 from 1972?

3--What happened to the trademark ENTER^ key label. In other words, why is the UP arrow omitted on the ENTER key label?

Now for my question:

I've read the other posts regarding the display flaws and HP's holding off on releasing the 35S due to cosmetic glitches. So, should I postpone my purchase for a month or so?

Thanks

*Edited: 3 Aug 2007, 2:30 a.m.*

### Re: Thinking of buying a 35S

Message #2 Posted by [Howard Owen](#) on 3 Aug 2007, 2:43 a.m.,  
in response to message #1 by Matt Agajanian

Quote:

I've read the other posts regarding the display flaws and HP's holding off on releasing the 35S due to cosmetic glitches. So, should I postpone my purchase for a month or so?

I bought two immediately upon release. The one I took out of the package has no cosmetic flaw. HP claims the flaw is in a minority of the machines out there, so if you are a gambler, the odds are probably in your favor buying now. If I were buying now, I would (reluctantly) wait until the problems were sorted out.

Regards,  
Howard

### Re: Thinking of buying a 35S

Message #3 Posted by [Reth](#) on 3 Aug 2007, 9:03 a.m.,  
in response to message #1 by Matt Agajanian

Well if 60 bucks is too much for you to vote with your wallet in favor of the new/old look of HP calcs then



don't. I did and I'll keep my HP35s even if they offered to replace it. regards, reth

### **Re: Thinking of buying a 35S**

*Message #4 Posted by [Matt](#) on 3 Aug 2007, 10:32 a.m.,  
in response to message #1 by Matt Agajanian*

2) [Have a look here](#)

If HP have stopped production, you may have a hard time getting hold of a 35s for a while.

### **Re: Thinking of buying a 35S**

*Message #5 Posted by [George Bradford](#) on 3 Aug 2007, 11:28 a.m.,  
in response to message #1 by Matt Agajanian*

I received my HP 35s a couple of days ago (after several false starts, broken promises and unpleasant delays).

It was worth the wait (and disappointments). This is a solid tool worthy of the HP legend. It's not perfect. But for a company that has neglected (and mismanaged) its calculator line, the 35s is a step in the right direction.

In fact, I was so pleased with the 35s that I promptly ordered another one (for back up) only to find out it's been recalled and my order placed on hold.

I wish HP would re-issue the HP 15c. For me the 15c was the ultimate calculator. But until they do (probably never) the HP 35s is a very strong machine that I will enjoy using.

If you can find a 35s, buy it. You won't regret it.

Put it this way: If HP offered me a full refund PLUS a free 33s to return my 35s I'd laugh at them. The 35s is the best scientific calculator HP has put out in a long time.

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# HP Forum Archive 17

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## Lex Files HP-75C

Message #1 Posted by [gilen0](#) on 2 Aug 2007, 2:54 p.m.

```

LexFiles - Command
-----
AUTOASN - AUTOLOOP
BATTERY - BATT?
BEEPV2 - BEEP
CHAINL - CHAIN
CODE39L - CODE39$
COPYL - COPYL
DATELEX - DCONV$
          - DMONTH
          - DOW$
          - DATE+$
DISPLEX - MFD OFF
          - MFD ON
          - CURSHOME
          - CURS-
          - CURS+
          - CURSUP
          - CURSDN
          - CURS>
          - cURS<
          - SCRNUF
          - SCRNDN
          - CURSOR( #, # )
          - CLRCURS
          - CLRSCRN
          - CLRLINE
          - LF$
          - CR$
          - FF$
          - BS$
          - EC$
DOWLEX - DOW( #, #, # )
          - DAY$( # )
GRAPH75 - VBIT$( $ )
          - SBIT$( $ )
          - CBIT$( $ )
          - RFILE$( $, #, # )
          - ARPT$( $, # )
KEYLEX75 - UNLOCK
          - SHLOCK
          - CTLOCK
          - GETMSG( $, $ )
          - GETKEY$( $ )
          - WKEY$
LYTLEX - LAYOUT$( $, $, # )
LOWBATL - LOWBAT?
HELP - HELP
MADLEX - FCREATE( $, # )
          - FSEEKR( $ )
          - FSEEKL( $ )
          - FREAD( #, $, #, # )
          - FWRITE$
MEMLEX - PEEK( # )
          - POKE
          - ADDR( $ )
          - ROMPEEK( #, # )
          - DIRECT( $ )
MEMLEX75 - DIRECT( $ )
          - ADDR( $ )
          - APEEK( #, # )
          - APOKE( #, $ )
MEMLEXV2 - PEEK( # )
          - POKE

```

```
MUSICV2 - MUSIC
NEWLEX  - PSH
        - SEE (#)
PEEK    - PEEK (#)
PEEKPOKE - HPOKE
        - APOKE
        - HPEEK$ ($, #)
        - APEEK$ ($, #)
        - HEXEC$ ($, $, $)
        - AEXEC$ ($, $, $)
PODPMS1C - BUILD
        - PRIVATE
        - CHECKSUM ($)
        - ROMAVAIL ($)
        - ROMID ($)
        - ROMSIZE ($)
        - PMSREV
PRSTATL - PRSTAT
RESTLEX - RESTORE
RENUMLEX - RENUM
RIOWIO  - WIO
        - RIO (#)
UTIL3   - PEEK (#)
        - POKE
        - ADDR ($)
TRILEX75 - TRITAB
ROMPEEK - ROMPEEK (#, #)
SIREN   - SIREN
```

*Edited: 2 Aug 2007, 7:52 p.m. after one or more responses were posted*

### Re: Lex Files HP-75C

Message #2 Posted by [Eric Smith](#) on 2 Aug 2007, 4:43 p.m.,  
in response to message #1 by gileno

And?

### Re: Lex Files HP-75C

Message #3 Posted by [Thor Lansen](#) on 2 Aug 2007, 6:53 p.m.,  
in response to message #2 by Eric Smith

Y?

### Re: Lex Files HP-75C

Message #4 Posted by [Howard Owen](#) on 3 Aug 2007, 12:39 a.m.,  
in response to message #2 by Eric Smith

I think it's a catalog of some HP-75 LEX files contents and their HELPLEX output. Right, Gileno?

Regards,  
Howard

*Edited: 3 Aug 2007, 12:39 a.m.*

### Re: Lex Files HP-75C

Message #5 Posted by [gileno](#) on 3 Aug 2007, 8:17 a.m.,  
in response to message #4 by Howard Owen

Yes ! Yes ! :-)

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**Re: Lex Files HP-75C**

*Message #6 Posted by [Eric Smith](#) on 3 Aug 2007, 3:26 p.m.,  
in response to message #4 by Howard Owen*

And?

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## HP Forum Archive 17

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### HP statement on HP 35s

Message #1 Posted by [George Bradford](#) on 2 Aug 2007, 2:26 p.m.

Directly from HP's Website:

"HP Calculators have a legacy of quality, reliability and accuracy. Our goal is to only sell products that meet these exacting standards. Unfortunately a small percentage of our newly launched HP 35s Scientific calculators have been found to have a cosmetic defect. For this reason, HP is holding all orders of HP 35s models until the issue is fully researched and remedied. We are happy to take pre-orders and notify you when the new products are available. Thank you for your patience and loyalty."

### Re: HP statement on HP 35s

Message #2 Posted by [Matt](#) on 2 Aug 2007, 2:31 p.m.,  
in response to message #1 by [George Bradford](#)

Well that's not exactly helpful is it?  
Wyy can't they just come clean and tell us exactly what the 'cosmetic defect' actually is?

### Re: HP statement on HP 35s

Message #3 Posted by [Gene Wright](#) on 2 Aug 2007, 2:36 p.m.,  
in response to message #2 by [Matt](#)

Guessing: It's either the display alignment or some sort of assembly issue that puts pressure on the display or some other cosmetic issue.

Don't know.

But complaining when they admit something might tempt them to be less informative in the future. Slight :-)

### Re: HP statement on HP 35s

Message #4 Posted by [Vincze](#) on 2 Aug 2007, 2:40 p.m.,  
in response to message #3 by [Gene Wright](#)

I think some workers in China got a hold of some TI labels and replaced HP label with TI label. Now would not that be funny.

### Re: HP statement on HP 35s

Message #5 Posted by [Matt](#) on 2 Aug 2007, 2:42 p.m.,  
in response to message #4 by [Vincze](#)

Quote:

I think some workers in China got a hold of some TI labels and replaced HP label with

TI label. Now would not that be funny.

Ah, but who would be the more offended? ;-)

### **Re: HP statement on HP 35s**

*Message #6 Posted by **Matt** on 2 Aug 2007, 2:44 p.m.,  
in response to message #3 by Gene Wright*

All I'm saying is that it would be nice to know.  
'Honesty is the best policy' and all that.  
At least they \*did\* say something quickly and publicly.

### **Re: HP statement on HP 35s**

*Message #7 Posted by **Dave** on 2 Aug 2007, 6:22 p.m.,  
in response to message #3 by Gene Wright*

I have two with a crooked display. When I called HP about an exchange, I was told to ship them to Oregon at my cost, then upon receipt I'd get replacements in two weeks. Years ago, they'd send you a prepaid return box and a replacement in just a couple of days. I ended up fixing them myself, so it's too late to post any pictures.

### **Re: HP statement on HP 35s**

*Message #8 Posted by **srayb** on 3 Aug 2007, 3:27 p.m.,  
in response to message #7 by Dave*

Quote:

I have two with a crooked display. When I called HP about an exchange, I was told to ship them to Oregon at my cost, then upon receipt I'd get replacements in two weeks. Years ago, they'd send you a prepaid return box and a replacement in just a couple of days. I ended up fixing them myself, so it's too late to post any pictures.

How did you fix the alignment? Is it very difficult? I've got one that's slanted, but really like the calculator and would like to keep it (as well as not have to go through problems with the return procedure).

Thanks!

### **Re: HP statement on HP 35s**

*Message #9 Posted by **Dave** on 3 Aug 2007, 6:54 p.m.,  
in response to message #8 by srayb*

This is what I did, although you risk voiding your warranty or breaking something. One poster said he broke the power wires and had to resolder them. I learned from his mistake and didn't do any damage.

- Remove the battery cover and the 4 rubber plugs. I had to kind of dig them out with a needle.
- Remove the 4 screws under the plugs. - Carefully peel off the rubber strip at the bottom and remove the 2 screws under it. - You can snap the case open at this point (there are 3 plastic catches - Lift up the LCD, turn it over, hold the metal plate, and give the glass a good hard twist. - Drop the LCD back in, check alignment and repeat twist (several times). - When you're

satisfied, put everything back the way you found it.

Good luck.

### **Re: HP statement on HP 35s**

*Message #10 Posted by [sjthomas](#) on 2 Aug 2007, 4:15 p.m.,  
in response to message #2 by Matt*

Quote:

\_\_\_\_\_

Wyy can't they just come clean and tell us exactly what the 'cosmetic defect' actually is?

\_\_\_\_\_

I think it's the crooked serial number stickers.

### **Re: HP statement on HP 35s**

*Message #11 Posted by [Matt](#) on 2 Aug 2007, 4:45 p.m.,  
in response to message #10 by sjthomas*

Quote:

\_\_\_\_\_

I think it's the crooked serial number stickers.

\_\_\_\_\_

You could be right about that...  
However, I don't recall a similar announcement about the crooked serial numbers on the 50G.

### **Re: HP statement on HP 35s**

*Message #12 Posted by [Les Wright](#) on 2 Aug 2007, 2:41 p.m.,  
in response to message #1 by George Bradford*

I think I was one of the first here to place an order through Samson Cables--indeed, I think I brought the availability there to the Forum's attention. Despite other folk's problems I got my 35s reasonably on schedule and in good shape. LCD is straight, and I have had no bad keypresses, though some have reported that.

I was hoping the statement would've acknowledged some of the functionality issues we have noted here--the persistence of the cosine bug, the loss of direct polar conversions, an incomplete set of commands to work with complex numbers, and, for the coding geeks in the group, the major headaches in entering hex numbers.

Apart from that, I am glad the HP is noting and responding to some perceived problems. For under 60USD, I think it is a damn fine calculator. I must admit I haven't enjoyed a calculator quite so much since the excitement of my first 41CV in 1984. (Actually, not true--since I have discovered SysRPL the 49G+ has gotten a great workout.)

I hope this community supports the manufacture of this machine so there will be some motivation for an improved version in the near future.

Les

### **Re: HP statement on HP 35s**

*Message #13 Posted by [Jim Creybohm](#) on 2 Aug 2007, 6:44 p.m.,*

*in response to message #1 by George Bradford*

I noted that, in mine anyways, the LCD tends to bleed when touched. At first I thought it was poor quality materials, but then I noted that it only bled on the right hand side. The left hand side was more "rigid".

I suspect that as others have noted, it is the display. Other than that and the stick on serial number (mine is crooked, too) I really like the unit. If only it could do timed/calendar functions and had grater textual abilities. That's OK, its still a step up from my 12c.

### **Re: HP statement on HP 35s**

*Message #14 Posted by [Earl Kubaskie](#) on 2 Aug 2007, 10:21 p.m.,  
in response to message #13 by Jim Creybohm*

I got mine from buy.com a couple days ago. The display is aligned well, but I noticed it has a glossy face, and reflections make it hard to see the display sometimes. All my other HPs are matte.

### **Re: Glossy Faceplates??**

*Message #15 Posted by [Ron G.](#) on 3 Aug 2007, 12:04 a.m.,  
in response to message #14 by Earl Kubaskie*

Now that could be a real design issue with the faceplate!

Other early birds, are your faceplates glossy, or matte?

### **Re: Glossy Faceplates??**

*Message #16 Posted by [Seth Morabito](#) on 3 Aug 2007, 12:11 a.m.,  
in response to message #15 by Ron G.*

I doubt this is it. The screen is EXACTLY the same as on the 33s. No more or less glossy.

### **Re: Glossy Faceplates??**

*Message #17 Posted by [Ron G.](#) on 3 Aug 2007, 8:46 a.m.,  
in response to message #16 by Seth Morabito*

Woops... I would withdraw my earlier comment, but that would leave everyone wondering what was said.

I originally thought Earl was saying the faceplate was glossy, not the display. I was saying an irregularly glossy faceplate could be an actual design flaw with the faceplate, as HP has mentioned as the reason for the halt. I don't actually have a 35S yet, so I am only going on what others are saying, and in this case, I kissed a snake (made a mistake).

It seems it would have to be something pretty major to cause HP to stop selling. Based upon their offerings of recent years, I would tend to think that a slightly misaligned display is within HP's bounds of acceptable quality. Of course they could be trying to turn over a new leaf.

### **Re: HP statement on HP 35s**

*Message #18 Posted by [Paul Brogger](#) on 3 Aug 2007, 10:35 a.m.,  
in response to message #13 by Jim Creybohm*

Hmmmmm . . .



Mine from H-P's SMB store is fine.

The one from Wal-Mart Online is still in the package, and I can't tell whether there's an alignment problem.

Re: return -- I'd paraphrase something about having to pry it from my "cold, dead fingers", but that would be overstating things a bit.

**Re: HP statement on HP 35s**

*Message #19 Posted by **AJ** on 3 Aug 2007, 9:57 a.m.,  
in response to message #1 by George Bradford*

This statement is directly from HP's website eh...

Could you provide us with the link please?

Thanks

AJ

**Re: HP statement on HP 35s**

*Message #20 Posted by **Matt** on 3 Aug 2007, 10:10 a.m.,  
in response to message #19 by AJ*

Quote:

\_\_\_\_\_

This statement is directly from HP's website eh...

Could you provide us with the link please?

Thanks

AJ

\_\_\_\_\_

Seconded!  
If this on HP's website, they have buried it deep.

**Re: HP statement on HP 35s**

*Message #21 Posted by **Vincze** on 3 Aug 2007, 10:29 a.m.,  
in response to message #20 by Matt*

Good morning. I am writing this very slow, so I hope my english is more readable.

I am very lost as to what is going on. In reading the threads today it seems as if HP issued a recall on the 35s, not just a stop in the sales of them. Is this true? Also, it seem that they have disclosed what the issue is, and have announced what the issue is. Pardon my ignorance, maybe I have missed it here, but what is the issue? I have seen posts about glossy displays (no big deal to me), glossy face plates (no big deal to me), but can anyone confirm what the issue really is from HP's perspective?

How was that? Easier to read and not so broken up sounding?

## Re: HP statement on HP 35s

Message #22 Posted by [Matt](#) on 3 Aug 2007, 12:09 p.m.,  
in response to message #21 by Vincze

I think your English is fine :)  
There is confusion about what is going on.  
The person who created this thread suggests HP have said something, but I can't find any such statement on their website.  
Is it a recall, or a suspension of production? It's not clear from what I've seen.

[Samson Cables have this on their site](#)

Most vendors now have 35S's as being 'out of stock'.  
And thats about as much info as we have until someone can provide an actual link to something 'official' from HP.

So I don't think anybody can confirm anything.  
Sorry I can't be of more help than that.

'The truth is out there...'

## Re: HP statement on HP 35s

Message #23 Posted by [AJ](#) on 3 Aug 2007, 12:49 p.m.,  
in response to message #22 by Matt

I'm tending to agree with Matt here,

1. I see no evidence at all of a product recall - and this would be pretty obvious so can people stop saying this.
2. I see no statement from HP as to any problem whatsoever other than them being out of stock. Where is the official statement saying they are 'withdrawing' the product? No where me thinks.
3. What I do see are a handful of users with some minor problems, some with real issues and some with at best constructive moans.
4. Statements made by third parties quoted on this forum are not statements from HP so I would suggest again they are at best someones opinion, with motivations i can only begin to guess at.

HP have created a good product which most of their loyal users have been waiting for - for ages, it might not be perfect but guess what - NOTHING IS.

I can't understand why a community of HP enthusiasts are so eager to stick the knife into a new HP product, guys and gals if I am missing something here please let me know, and again - I ask if anyone can direct me to any official HP release then by all means do so and I will eat my words.

(i'm not sure how I do this electronically but I 'm sure someone will suggest a method)

AJ

## Re: HP statement on HP 35s

Message #24 Posted by [Ed Look](#) on 3 Aug 2007, 2:01 p.m.,  
in response to message #23 by AJ

You are right!

But some people, even [ ;) ] among HP calc enthusiasts are absolute perfectionists.

I just hope they allow their HP calculator enthusiasm to outshine their perfectionism...

... I mean yeah, they should have made the 48G out of case hardened steel, thick glass windows, with vibration damping springs to hold the breadboards in place so that when I'm dumb enough to drop it, only the floor... or someone's toe... is dented, and not my LCD display.

Nah, I think the 35s is fine as is, unless there are some really annoying software or firmware bugs like pressing TAN gives you sine or something like that.

### **Re: HP statement on HP 35s**

*Message #25 Posted by [Greg Whitfield](#) on 3 Aug 2007, 5:54 p.m.,  
in response to message #1 by George Bradford*

Where is this statement on HP's website?

I've taken phrases from this statement and searched for it in all of HP U.S. Here is an example of one of the search results:

No search results were found that match "Our goal is to only sell products that meet these exacting standards".

I checked the HP Newsroom and it's not there. I've looked on the replacement programs and product recalls page and there is no mention of it.

Home and Home Office shows that the HP 35s is out of stock. Small and Medium Business is still taking orders and currently shows a shipping date of 8/8/2007.

There is no evidence on any HP website that I looked at of some sort of temporary HP 35s product withdrawal.

Please provide the URL where this statement comes from.

Thank you.

### **Re: HP statement on HP 35s**

*Message #26 Posted by [Steve Cote](#) on 3 Aug 2007, 8:44 p.m.,  
in response to message #25 by Greg Whitfield*

I saw HP's statement about holding orders for the HP-35s early on Aug. 2 on their website. I went to the HP-35s section and clicked on 'BUY' and the statement in George B. post at the top of this thread was displayed. The statement has since been removed from HP's site.

### **Re: HP statement on HP 35s**

*Message #27 Posted by [George Bradford](#) on 3 Aug 2007, 10:38 p.m.,  
in response to message #25 by Greg Whitfield*

Indeed, the text quoted at the top of this thread was posted by HP on their S&MB site. When I attempted to order another HP 35s directly from HP's S&MB site on August 2nd, that was the message HP posted.

I don't fabricate. And I'm not that creative.

I PLAGIARISED it word for word from HP.

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## HP Forum Archive 17

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### the biggest flaw of the 35s: lack of i/o

Message #1 Posted by [John Ioannidis](#) on 2 Aug 2007, 2:11 p.m.

With 32K of memory, things would be really bad if, say, the batteries fell off and I had to rekey everything.

How much can a mini-MMC slot or whatever it is that mobile phones use these days cost? Probably less than the silly zip case!

Still, I'm very happy that there exists again a usable RPN calculator.

/ji

### Re: the biggest flaw of the 35s: lack of i/o

Message #2 Posted by [Dallas Osborne](#) on 2 Aug 2007, 2:31 p.m.,  
in response to message #1 by John Ioannidis

Can't help with the micro-SD addition, but give CalcPro a call (800-677-7001) and order the 33s slip case (about \$11 + shipping); it's much more convenient than the zipper job.

Edited: 2 Aug 2007, 2:32 p.m.

### Re: the biggest flaw of the 35s: lack of i/o

Message #3 Posted by [Eric Smith](#) on 2 Aug 2007, 2:32 p.m.,  
in response to message #1 by John Ioannidis

I expect the rationale for not including a memory card slot includes many factors. Technical reasons include:

- 1) Not enough ROM space in the microcontroller to implement the FAT file system. (They could use the next larger version of the GeneralPlus chip, but it would cost more.)
- 2) Not enough RAM in the microcontroller to implement the FAT file system. A typical implementation of FAT, even if only one file will be open at a time, requires at least two sector's worth of buffer space (1024 bytes). The GeneralPlus chips don't have much RAM, even in the variants with lots of ROM. Off-chip RAM could be used, but it would take away from the RAM available to the user.
- 3) A few more I/O pins would be needed, and might not be available.
- 4) A regulated power supply would be required. The 33s and 35s run directly from the unregulated battery voltage, but the operating voltage range of the battery is not within spec for any of the SD and MMC variants.
- 5) Battery life would suffer unless components to switch power to the memory card were added, e.g., a PFET. Just using the enable input of a boost regulator isn't good enough, because it will still pass unregulated battery voltage through when the regulator is disabled.
- 6) Additional ESD protection components would probably be required.

7) The memory card socket itself isn't exactly inexpensive (possibly over \$1.)

Non-technical reasons:

8) They already make other calculators with memory expansion and I/O. The 35s is intended to be a low-end programmable, not high-end.

9) If it had expansion capability, it probably wouldn't be allowed on tests.

Adding a memory card slot might increase the BOM cost by as much as \$5, which might translate to a \$20 increase at the retail level.

### **Re: the biggest flaw of the 35s: lack of i/o**

*Message #4 Posted by [Thor Lansen](#) on 3 Aug 2007, 5:58 p.m.,  
in response to message #3 by Eric Smith*

and?

### **Re: the biggest flaw of the 35s: lack of i/o**

*Message #5 Posted by [Gene Wright](#) on 2 Aug 2007, 2:33 p.m.,  
in response to message #1 by John Ioannidis*

Several people have explained reasons why this is probably not in the cards.

1 ) Testing. One of the biggest markets for the 33s (and presumably the 35s) is the testing market. Adding I/O to this level machine will promptly put it on the Not Allowed list, substantially lowering sales. For every one of us who would buy a machine because it had I/O, I'd expect 10 lost sales because of it not being on a test list.

2 ) Cost of the parts. Yes, it might only cost \$1, \$2, \$3 (have no idea) to put the I/O into the physical machine, but multiply that by the number of units made for HP's incremental cost then ask yourself how many incremental sales would occur to offset the cost (see item 1 in this list). That's a very tough sell to whomever reviews these decisions.

3 ) Architectural legacy. This is a machine based off the HP32S line (HP32s, HP32s2, HP33s). That line does not have an OS designed in any way for I/O. Makes it much more involved for the limited resources to design such a machine from scratch. So, what other projects might HP have in the works that they now have to delay to add I/O to the 35s OS and lower sales of the unit at the same time?

I just don't see this happening.

If we're going to get any type of 42s style machine with I/O, it will take a lot of doing and convincing.

Note that this does not make me happy, but I believe reality is usually important to understand. :-)

### **Re: the biggest flaw of the 35s: lack of i/o**

*Message #6 Posted by [Egan Ford](#) on 2 Aug 2007, 5:15 p.m.,  
in response to message #5 by Gene Wright*

The SPLB31A (<http://w3.sunplus.com/ShowFeature.asp?body=SPLB31A>) has a UART. A serial port is possible and may be easier than SD to implement. Without a case mod Bluetooth would be a possibility. If implemented as a serial provider only (i.e. PC -> 35s only), then this removes the possibility of 35s <->

35s for those concerned about cheating. Store the BT PIN in a register, connect with PC, dump/restore state.

## **lack of i/o is not a flaw**

*Message #7 Posted by [bill platt](#) on 2 Aug 2007, 5:24 p.m.,  
in response to message #1 by John Ioannidis*

Lack of I/O isn't a flaw at all.

This is the 1st calculator (rather than handheld computer) that HP has designed since the 27S/42s that has essentially \*unlimited\* memory within its paradigm of operation. That paradigm being programming and solving power for Ad-hoc programs.

I/O makes for a completely different paradigm.

In the 32sii, you had so little memory that equations would quickly use up the memory, so you'd have to erase ad-hocs or useful regular routines in order to do anything.

In the 35s you don't have to worry about that.

In the 33s, the equations were limited to 256 characters. In the 35s, there is no limit.

I/O is available in other (RPL) machines. No need to have it in a calculator.

The biggest flaws are doubtless:

1. No easy decomposition/composition of complex numbers 2. difficult to use base system 3. cos near 90 degrees 4. Others?

I wouldn't call lack of I/O a flaw at all.

## **Re: lack of i/o is not a flaw**

*Message #8 Posted by [Donald Williams](#) on 2 Aug 2007, 6:33 p.m.,  
in response to message #7 by bill platt*

"I/O is available in other (RPL) machines."

RPL based machines have too much "sweat equity" (learning curve) to attract users longing for I/O. TI and Casio have made this standard fare for their medium and high end calculators for some time. TI even has USB OTG on their TI 84 & 89.

The HP 50G attempt to provide I/O is quite simply inept. To blatantly advertise that port as "RS-232 capable" is unexcusable.

"No need to have it in a calculator"

This is news to all the HP 71 & HP 41 users who spent years writing programs and developing HP-IL portable systems for remote field work. These devices were referred to as calculators, but in many instances they were used as portable battery operated controllers. This capability greatly added to HP and RPN's widespread popularity and commercial success. The next generation replacement of the HP 41, the HP 48, was wholly unsuited to a controller task since it possessed only one serial port, which meant the controller could only communicate with one device at a time.

I think an RPN (not RPL) calculator with I/O and some controller capability would be widely appreciated

by the community. I know I have been waiting for the last 20 years to find something more capable than my HP 41 and HP-IL. I have an HP 35s and I know for sure that it will not replace it.

*Edited: 2 Aug 2007, 6:45 p.m.*

### **Re: lack of i/o is not a flaw**

*Message #9 Posted by [Will Hartung](#) on 2 Aug 2007, 11:49 p.m.,  
in response to message #8 by Donald Williams*

Quote:

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This is news to all the HP 71 & HP 41 users who spent years writing programs and developing HP-IL portable systems for remote field work. These devices were referred to as calculators, but in many instances they were used as portable battery operated controllers. This capability greatly added to HP and RPN's widespread popularity and commercial success. The next generation replacement of the HP 41, the HP 48, was wholly unsuited to a controller task since it possessed only one serial port, which meant the controller could only communicate with one device at a time.

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It may be wholly unsuited to a controller task in terms of connecting DIRECTLY to multiple devices, but it's certainly more than capable of connecting to a device that acts as an HP-IL controller module.

The serial interface has been a defacto interface to just about any peripheral on the planet for 20-30 years. I think most users are much happier that they could connect their HP 48s to their PCs and heavens knows what else than having the ability to connect to HP-IL.

If HP-IL connectivity was that important to the community, a serial <-> HP-IL adapter would have shown up filling the gap. The power, capacity, and capability of the 48g series dwarfs the 41 by pretty much all measures, so I'd think there'd be a lot of drive to help the platform so folks could upgrade from the 41.

I mean, heck, today if you wanted a serial interface for devices, I think most folks wouldn't mind access to I2C anyways. And now, instead, we have USB.

The USB handles the 99.99% of cases where people want I/O on the calculator: saving and loading data and files from host computers. For the other .01% of folks, having the, albeit "weak", serial port is a cheap solution for custom interfacing. Interface direct to the signals and strengths it provides, or amplify them to make it compatible with the RS-232 spec. Boosting the signal is not difficult and I think it seems clear the compromise of having the weakened serial port is better than not having any serial, save USB, at all.

### **Re: lack of i/o is not a flaw**

*Message #10 Posted by [Howard Owen](#) on 3 Aug 2007, 2:31 a.m.,  
in response to message #9 by Will Hartung*

Quote:

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If HP-IL connectivity was that important to the community, a serial <-> HP-IL adapter would have shown up filling the gap.

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It's been available for over 30 years: 82164A.



What would be cool is a USB<>HP/IL interface.

Regards,  
Howard

**Re: lack of i/o is not a flaw**

*Message #11 Posted by **Garth Wilson** on 5 Aug 2007, 4:24 a.m.,  
in response to message #10 by Howard Owen*

Quote:

Quote:

If HP-IL connectivity was that important to the community, a serial <-  
> HP-IL adapter would have shown up filling the gap.

It's been available for over 30 years: 82164A.

I got the FSA164A which is almost identical but has two RS-232 ports on it and, for those who didn't mind the extra cost, could have up to 8 RS-232 ports on it.

To comment on several other posts above and below this one: I also got the HP82169A HPIL-to-HPIB (IEEE488) interface converter. HPIL was basically a serial implementation of HPIB, and with the 82169A, the thousands, yes, thousands, of different models of lab equipment instrumentation available with HPIB interfaces appeared to an HPIL controller to be on the loop. The commands were the same.

As the entire engineering department of a tiny six-person company, I set up our first automated production testing using the HP-41cx as the controller, having a half dozen pieces of equipment connected, most of it rented, and running a 20-page program. At the time, I and my wife lived in a small apartment, and, although the test equipment at work was large and heavy and AC-powered, it was very practical for me to take just the 41 back and forth between home and work in my attache case and work on programs or other things with it, without having to have a bigger computer at home. It was also much quicker to get a test set-up going with the 41 than it was with a PC anyway.

As the company quickly grew, the 41 was replaced with an HP-9000-series 68000-based computer; but since the controller spent time waiting for filters to settle and instruments to respond, the bigger computer's speed was less than double that of the 41, the boot-up and load time were very long (unlike the instant-on 41), and it took longer to re-write the test program for the bigger computer than it had taken for the 41.

My lament about USB is that contrary to its name, it is not a bus, and one port can only go to one device unless you use external hubs. That's pretty mickey-mouse if you ask me. Sure it's a lot faster than HPIL, but the HPIL idea could have been taken to much greater speeds too if allowed to grow with technology.

**Re: lack of i/o is not a flaw**

*Message #12 Posted by **Donald Williams** on 5 Aug 2007, 4:01 p.m.,  
in response to message #11 by Garth Wilson*

How many times did someone look at your test station, drop their jaw, form a puzzled look on their face, and say "I didn't know a calculator could do that!".

*Edited: 5 Aug 2007, 4:02 p.m.*

**Re: lack of i/o is not a flaw**

*Message #13 Posted by **Garth Wilson** on 6 Aug 2007, 3:30 a.m.,  
in response to message #12 by Donald Williams*

Quote:

How many times did someone look at your test station, drop their jaw, form a puzzled look on their face, and say "I didn't know a calculator could do that!".

Back then (20+ years ago), basically everyone, including the sales engineers who would come from the instrumentation companies like HP (who were not very aware of what was going on in the calculator division), Wavetek, Bruel & Kjaer, Cytek, etc..

**Re: lack of i/o is not a flaw**

*Message #14 Posted by **Donald Williams** on 6 Aug 2007, 12:46 p.m.,  
in response to message #13 by Garth Wilson*

Quote:

Back then (20+ years ago), basically everyone, including the sales engineers who would come from the instrumentation companies like HP (who were not very aware of what was going on in the calculator division), Wavetek, Bruel & Kjaer, Cytek, etc..

Yes, and I think this made some of the other divisions unhappy. I am convinced that in the case of HP-IL that little Corvallis group was a victim of its own success. I think they stepped out of the bounds of their "charter" and cut into the sales of desktops, which probably had a higher profit margin.

If HP wanted to, they could have easily integrated HP-IL on the HP 48G, but instead they "dumbed down" the I/O, stopped the sales of HP-IL peripherals and discontinued the battery operated instrument line.

The proliferation of those HP 41 controllers were like mushrooms in the desktop garden. I think the demise of HP-IL was deliberate and intentional.

*Edited: 6 Aug 2007, 1:06 p.m.*

**Re: lack of i/o is not a flaw**

*Message #15 Posted by **Donald Williams** on 3 Aug 2007, 1:17 p.m.,  
in response to message #9 by Will Hartung*

"If HP-IL connectivity was that important to the community, a serial <-> HP-IL adapter would have shown up filling the gap."

Not exactly true. The HP-IL story is kind of ugly. If you recall the HP 41 and HP-IL devices ceased production shortly after the introduction of the HP 48. I believe this was a conscious and perhaps prudent decision by HP to move their user base over to the new paradigm product. Here is the caveat you may not realize. The HP-IL bus was proprietary. HP refused to support it ( stopped production), refused to license it (force customers to adopt our new product), and refused to put it in the public domain(at least at the time. I actually don't know the current status). If you were accustomed to the advantage of controlling up to 31 devices on a bus, HP's answer was - Tough Luck! Needless to say the only survivors of that market segment were the surveyors who only need to talk to a one device (a theodilite) at a time.

HP-IL would of course be inadequate in todays enviroment. It is however, unfortunate that the interface was abandoned. I am sure if it had been allowed to mature and improved it would still have many adherents today.

*Edited: 3 Aug 2007, 1:29 p.m.*

### **Re: lack of i/o is not a flaw**

*Message #16 Posted by [bill platt](#) on 3 Aug 2007, 1:45 p.m.,  
in response to message #15 by Donald Williams*

Perhaps HP also saw at the time that the vast majority of the HP-IL market would be better served by the then emerging microcomputers and decided that it would be best to avoid going head to head with that foe.

### **Re: lack of i/o is not a flaw**

*Message #17 Posted by [Donald Williams](#) on 3 Aug 2007, 3:23 p.m.,  
in response to message #16 by bill platt*

Quote:

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Perhaps HP also saw at the time that the vast majority of the HP-IL market would be better served by the then emerging microcomputers and decided that it would be best to avoid going head to head with that foe.

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Perhaps, I don't know. I would argue that it suffered a premature unnatural death rather than a natural death. I could find no evidence of lagging sales or excess inventory in the supply channels. I recall that, in fact, parts were back ordered most of the time. This was also about the same time decisions about operations moving to Singapore were probably being made, and I am guessing that HP-IL products and support did not make the transition cut. I suppose some tough decisions had to be made at that juncture.

Were microcomputers a threat? Certainly.

Was the market place better served? Well, served at least, but better served is perhaps in doubt.

Which begs the question "Does the market place know what it wants?" Well no, not always. I don't think the market place anticipated or wanted things like the HP 35, or HP-IL, until they saw it. I think both ideas were so new and bold that neither one could have survived a focus group or marketing survey. If the published history is correct it was a simple matter of someone just saying " build it".

Sorry, please excuse the ramblings. I am just an old guy wishing that things were like they used to be.

**Re: lack of i/o is not a flaw**

*Message #18 Posted by [bill platt](#) on 3 Aug 2007, 4:26 p.m.,  
in response to message #17 by Donald Williams*

Quote:

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"Does the market place know what it wants?"

\_\_\_\_\_

The answer is of course a resounding NO! Markets only exist after ideas, not before them....

**Re: lack of i/o is not a flaw**

*Message #19 Posted by [Dave Shaffer \(Arizona\)](#) on 3 Aug 2007, 4:32 p.m.,  
in response to message #15 by Donald Williams*

Somewhere along about this time, HP developed the HP Interface Bus (HPIB) for controlling the broad line of HP scientific instruments (counters, spectrum analyzers, etc.). This was pushed on the community as a broader standard and became IEEE 488. It was PC compatible (you could buy interface cards, or talk to an HP interface box with your RS232 serial PC port - which all PCs had at this epoch), and you could also control many, many instruments because each had its own address (usually set with rocker switches on the instrument).

This was for serious control and data gathering, with data amounts and speeds way beyond what you would/could want to do with a '41 and HPIL. And the "product" was in your PC when you wanted to analyse it. I have no idea if there was any kind of HPIL<->HPIB interface hardware.

**Re: lack of i/o is not a flaw**

*Message #20 Posted by [Donald Williams](#) on 3 Aug 2007, 5:32 p.m.,  
in response to message #19 by Dave Shaffer (Arizona)*

Yes there was an HPIB to HPIL interface. I happen to have 2 of them. You could think of an HPIL bus as a slower cousin to HPIB, but with a ring topology. The commands went from the controller around the ring, and then back to the controller. I have used an HP-41 as an HPIB controller, but it is not appropriate in most situations. HPIB instruments usually require AC power. HP-IL was primarily focused on battery powered instruments.

If you are unfamiliar with the bus or more interested see

<http://en.wikipedia.org/wiki/HP-IL>

It was quite sophisticated and well supported with instruments at one time.

**Re: lack of i/o is not a flaw**

*Message #21 Posted by [Will Hartung](#) on 4 Aug 2007, 2:59 a.m.,  
in response to message #15 by Donald Williams*

But in truth, HP-IL really wasn't abandoned. The names have changed, the protocol has shifted, but the functionality remains and had gotten much, much, better.

I don't think anyone praised HP-IL on its protocol, but rather it's format and functionality. Like the ability to control several devices on a single bus.

If anything, today, they'd lament one of it's physical aspects: the loop. Having to loop the equipment would probably be off putting to some folks, much like we used to have to terminate ethernet cables or tap those thick nasty cables at specific intervals. Compared to today's RJ-45 jacks and twisted pair, no one is looking back and saying "them were the days".

But serial protocols flourish today, and are the dominant form of communication by a wide margin. And, whoo boy, are they fast. Offering all of what HP-IL offered and more.

So, HP-IL itself may be dead, but it's spirit lives on and shines bright.

Calculators are spectacularly challenged today. The amount of power available today is astounding, but it's the form factor of the calculator that keeps us coming back.

I mean, look at the iPhone. That thing has 700MB of software on it. 700MB! For a PHONE!

But it can't do what this 35s does, I/O or no I/O. It has no staying power, needing to be recharged often. And it's got a lousy form factor compared to the 35s. No doubt someone will come out with some kind of better calculator application for it, but no one will use it. Anyone who's serious about using a calculator for anything more than calculating a dinner check will get a real calculator. The 12C sells for a reason.

And you won't see the vertical applications for the iPhone like you do calculators, particularly HP calculators. Notably solution packs, or things like surveying, etc. Again, the platform doesn't work. Do you see workers taking the iPhone in to the field? Middle of a dusty plain, trying to make it function with gloves on? Nope. No way. Buttons are good. Calculators are strong, they're durable. They're also cheap.

Folks will be using their 35s 10 years from now. The iPhone will be dead and in the landfill by then (and, well, maybe the Smithsonian, but that's a different topic...).

Today there is a lot of motivation that folks feel like they need to cram everything they can in to the "hand held computing device". I think the high end calculators of today really take it about as far as it can go. They'll never stop surprising me of course. They can always make them faster. Add more capacity, etc. The motivation is there because it's so easy. CPU horsepower is practically free today.

I recall when the Game Boy Advanced came out. They wanted to be able to play original Game Boy games on it. But the GBA was an ARM chip, and the GB was a Z80. Did they give up? No. Did they emulate a Z80? No. They bundled a Z80 core into the machine. What's a Z80, 10,000 transistors? Pah! Childs play today. Drag and Drop in a VLOG editor. And that's cheaper and faster than the FLASH space for a Z80 emulator.

Calculators tho, they have to achieve balance. I look at some of the Casios at the local Office Mart. Solar powered, immortal, large LCDs, a zillion functions, and -- wait for it -- and ONE memory register. ONE! Uno! M+, M-, MR, MC. WHAT??? You can perform quantum physics on this thing but only save one value? What are they thinking?

Well, for one, they're \$10. For another, that's what their market does. They do calculating, not so much computing. Kids doing homework. Sold by the pallet with free pencils.

The 35s is all about balance. As someone else mentioned, it's got as much memory as it needs. It simply, as architected, can't use anymore. All of the machine limits hit at 32K. And that memory is designed more so for macros, really, than applications. Shortcuts folks incrementally develop for the machine as they use it. For folks who go "Boy this calculation is a bear, it would be nice to not have to do it again", and sure enough you really don't have too (well, once more as you type it back in). Keystroke programming is the classic "watch me" macro recording process.

But kids doing homework, they're not redoing calculations. They do "work" with a calculator as much as they do exercises. And most of them will praise the day that they don't have to do ANY calculation again, much less the SAME calculation again. So, programming is much less important.

I do agree that it would be a shame to have a lot of work in the machine and lose it to a battery failure. It would have probably been nice to have a back up button battery. I imagine it has SOME lifespan without the batteries (I know my 15C is like that, to survive battery changes), but for safety, it would be nice to have some back up like that.

32K of RAM is a not really a lot to type back in, but it's a lot to lose.

I love my 48gx and 49g. Just incredible machines. I love the 15C, it's form factor is, bar none, the finest ever. It's handiness and perfect "thumbabiity". Unfortunately, the 15C form factor can't handle the bigger LCD, or take more buttons (even tho the 15C had 3 less than the 42S). So, they just can't seem to cram as much as is necessary (apparently) today in to a 15C form factor.

I think form factor of the 35s is pretty good, and it's lack of I/O is not an issue. It's a calculator in all its glory (though the infrared printer would have been nice).

Its hard today to keep a calculator a calculator. Designers can pretty much do anything they want with the days technology, but go too far and you end up with something that's not a calculator. It loses its focus and comprimises what a calculator is used for by the people who use them. And that's a crime against both the users and the calculator.

The 35s is a calculator, and boy does it seem like a really nice one.

**Re: lack of i/o is not a flaw**

*Message #22 Posted by [Ed Look](#) on 4 Aug 2007, 8:14 p.m.,  
in response to message #21 by Will Hartung*

Nice post.

**Re: lack of i/o is not a flaw**

*Message #23 Posted by [Howard Owen](#) on 3 Aug 2007, 2:37 a.m.,  
in response to message #7 by bill platt*

Quote:

\_\_\_\_\_

I wouldn't call lack of I/O a flaw at all.

\_\_\_\_\_

Opinions differ, obviously. I don't think the lack of I/O is a flaw in the HP-35S *per se*. That's because the calculator is aimed at a specific market in which I/O is forbidden. But I pine for a modern, RPN calculator

without the obvious compromises that constrain the HP-35S. It's no doubt a vain hope, but I'd like to see a flagship scientific in the niche the HP-41 used to occupy, at the top of the product line. In *that* machine, lack of I/O would definitely be a flaw.

Regards,  
Howard

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## HP Forum Archive 17

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**Use of newer, very high power calculators?**

Message #1 Posted by [Brad Davis](#) on 2 Aug 2007, 12:22 p.m.

I have what might be kind of a strange topic. This is one of those pointless "around the water cooler" topics, LOL, but I'm stuck at home babysitting today and am bored.

The TI Nspire thread got me thinking about this. I went and watched the demo videos for that calculator and I have a new HP50g.

Am I the weird one because I don't really see the usefulness of many of the advanced features of these calculators? I watched the TI videos and really couldn't see a single one of their fancy features that I would ever use. I bought my 50g because I've had my 48S for about 8-10 years and was just bored and wanted a new toy.

I have Matlab, Mathematica, and Mathcad on my notebook computer and I can guarantee that they do a LOT better job at displaying plots, running programs, FFTs, manipulating algebraic expressions, etc. I can also print results, copy results into technical reports, etc. using those programs.

I use my calculator when doing manual calcs, usually to understand a topic well enough to program it or check someone else's program. Programming my calculator would defeat this purpose because I learn what's going on by watching how the numbers come out the old fashioned way. The only advanced function I use is the occasional definite integral during virtual work calculations. I basically want my calculator to be screamin' fast at punching through big hairy equations with lots of nested radicals and other crazy stuff. The extreme superiority of RPL is why I use HPs.

As background, I'm a structural engineer (research-oriented, not design any more) in my mid-30s. In the past, mostly in undergrad, I spent time programming my (then) 28S and 48S. Turns out that I think that was a mistake too. It helped my grades, but I am not as good at doing a lot of that stuff by hand now as I should be.

Anyway, maybe I'm missing something: some other way to use my HPs to be more efficient. Do you guys use the more advanced features? How and why do you use them instead of tools on your computers? Maybe I can learn something from how you use it.

*Edited: 2 Aug 2007, 12:31 p.m.*

**Re: Use of newer, very high power calculators?**

Message #2 Posted by [Don Shepherd](#) on 2 Aug 2007, 1:00 p.m.,  
in response to message #1 by [Brad Davis](#)

Hi Brad.

At the risk of drawing ire from those who think that calculators have no place in the public school math classrooms, let me tell you why some educators see their value. The simple fact is that many kids just don't get the math, despite teachers' best efforts at teaching it. Some kids may come to understand slope a little easier if they can see the graph of  $y=2x$  and see how the slope changes as they drag the equation line to different angles, which the TI Nspire lets them do. Or they may understand the relationship between a circle's circumference and diameter if they draw a circle and make it bigger or smaller by dragging it and seeing that,



while circumference and diameter change, the relationship between them ( $\pi$ ) stays constant. Some kids learn graphically, and the Nspire builds upon that. I don't think the Nspire is terribly useful outside of the educational environment, but it certainly has value within it, in my opinion.

It's just another tool, but it helps some kids learn.

### **Re: Use of newer, very high power calculators?**

*Message #3 Posted by **Ed Look** on 2 Aug 2007, 1:26 p.m.,  
in response to message #2 by Don Shepherd*

Don, that may be true, what you said about seeing the slope of a line as you drag it all around the x-y plane, but it is still better to give the kid a pencil, AN ERASER, and ample paper to plot the equation and then mathematically tweak the equation and then plot it manually to see the changes... and there is great value in making mistakes, too! You then get to see how things do vary with whatever and the limitations of methods and techniques.

I know, I know, what (American) kid today will sit and do all this? Even "back in the day" we actually hated it and wished for one of those computers like we read about in science fiction stories to make homework easier. I only know the value of that old fashioned stuff now.

### **Re: Use of newer, very high power calculators?**

*Message #4 Posted by **Brad Davis** on 2 Aug 2007, 6:49 p.m.,  
in response to message #3 by Ed Look*

Ed, I see this more as you do. TI's new toy is obviously intended to maximize the visual aspects of learning. I'm not so sure this is a good thing.

I attended a teaching workshop a few weeks ago and learned about learning styles. One of the major learning dimensions is the visual<--->verbal dimension. Most modern students apparently lean heavily toward the visual end and have great trouble learning from verbal input only. This shows up partially in the lecture style and the newfound desire to get as much visual input as possible. Traditional lectures are probably 90%+ verbal. I guess that PREVIOUSLY worked ok. We all like to see pictures and diagrams, but apparently, modern students are skewed VERY far toward the visual side. One of the strategies in our workshop was to try balance out the students' learning styles, not just go with whatever style they learn best with.

I'd speculate that the shift away from verbal learning styles probably goes back to what kids do nowadays. I am just barely old enough to NOT have had more than 13 channels on the TV and Pac Man was about as good as the video games got. I read literally dozens of books by the time I was 10. We really push reading for our son, but I'm sure he hasn't read 1/4 of what I did years ago. There's just too much other stuff to do.

Just like estimation skills dropped dramatically when the HP35 replaced slide rules in 1972 (or so my advising professor says), so will the ability to learn from verbal stimuli. I'm not a doom-sayer, but one has to wonder where all that ends up someday.

### **Re: Use of newer, very high power calculators?**

*Message #5 Posted by **Don Shepherd** on 2 Aug 2007, 9:53 p.m.,  
in response to message #3 by Ed Look*

Ed, the trick is getting the kids attention. I guess that's always been the trick. In today's classrooms, we teachers are competing against Walkmen (oops, I guess I'm out of touch), Ipods, cell phones, xboxes,

now iphones, all kinds of (in our opinion, I'm sure) crap. But that's the world of many of these kids, and if we can capture their attention with a calculator and teach them some math in the process, so be it. It's just another tool, like my electronic Jeopardy game I use to review units with them.

So many kids don't know the basics, and I try to teach them, but I don't reach every kid, unfortunately. I was a software guy for 28 years then went back to school to become a middle school math teacher. I would not recommend that to any of you engineers out there who are sick of status reports and unit meetings, however. The reality is this: if you are a principal, would you hire a new teacher fresh out of college with a BA who will make \$24,000 per year, or a guy like me with 2 Masters degrees who must make (according to the salary schedule) \$45,000 per year? Had I realized that reality a couple of years ago, I might have made a different choice.

**Re: Use of newer, very high power calculators?**

*Message #6 Posted by [Ed Look](#) on 2 Aug 2007, 10:37 p.m.,  
in response to message #5 by [Don Shepherd](#)*

Ah, Don, I only teach my kids at home... well, I try to. I do teach college level chemistry and physics, but even there I see this very frightening erosion of:

estimation skills, calculational skills, increased difficulty with things abstract

GameBoy, Xbox, PS2, TV, even calculators add to this. I truly wish the elementary and middle school... even high school curricula would just resist scratching the itch and not include the use of calculators.

There was once here a very bright high school poster to this board, Ben Salinas, I believe, but kids like that are rarer than we'd like to think, and yes, he and some of his friends benefited from using HP 32SII's, 49G's, etc., as they already knew how to handle equations, integration, problem solving, etc. But most other kids will simply use it... and the computer... to lighten the load and skip the drudgery, without realizing that the drudgery IS the gold.

If I'm honest with myself, I'd admit that at that age, even though computers were room-sized affairs, home computers were science fiction, and video game???... you mean pinball down in the arcade? ... I'd just use an electronic calculator as a crutch, just like that.

Fortunately for me, I first was able to obtain (at great personal cost; my folks were not interested in paying relative megabucks for this calculating thing) a calculator very late in high school and did not get my programmable scientific HP until college. At least by then, I wanted to learn stuff. But earlier? I was a kid, like today's.

My vote- calcs out of school until late high school.

**Re: Use of newer, very high power calculators?**

*Message #7 Posted by [Don Shepherd](#) on 2 Aug 2007, 10:50 p.m.,  
in response to message #6 by [Ed Look](#)*

Ed, I graduated high school in 1968, before calculators hit the market. My first was a Victor MEC portable, 12 digit LED, 4 functions with memory, probably cost \$300 around 1970. Ah, those were the days. But you are right, if I had had it in high school I surely wouldn't have learned as much.

**Re: Use of newer, very high power calculators?**

*Message #8 Posted by **Ed Look** on 2 Aug 2007, 1:15 p.m.,  
in response to message #1 by Brad Davis*

Ah, the use of particular features is most often strongly influenced by your background and needs. I am a chemist, research and some teaching, and while I bought my HP 32sII for an industrial position, it turns out that its demands on the 32sII were not nearly what I expected. Research seemed to make somewhat heavier demands and for me requires the use of most of the features I think folks here ordinarily use, as the trig functions, light to moderate use of the statistical functions, light to medium programming for spot calculational needs for specific problems. Any conversions I need are not pre-hard wired in, so they have to be programmed in, though I'd hardly call that programming, use good use of the constants library :) . Granted, the mathematical and plotting programs you mentioned are of a different league, a (especially a recent model) HP calculator weighs almost nothing and are conveniently small.

Anyway, I am more used to banging it out on a (RPN) calculator than setting up a program on a computer (from the days of long job submission lines to the central mainframe) and so if I don't have some huge set of hairy equations good only enough for theoreticians, my first impulse is to reach for the calculator, even if I have to do some medium to heavy programming.

Soooo... I use the program functions and memory registers quite a bit, trig and stat functions, constants library, and I have yet to master the use of storing and using equations in the equation library, as that is newer to me... but it's my next target to acquire!

### **Re: Use of newer, very high power calculators?**

*Message #9 Posted by **John Ioannidis** on 2 Aug 2007, 2:29 p.m.,  
in response to message #1 by Brad Davis*

I agree that students have different uses for a calculator than "professionals". There appear to be lots of niche markets for professional calculators, that sell quite cheaply. There are even calculators for cooks, and that can't be that big a market!

Rather than try to produce the end-all-be-all of calculators, or end up with compromises that will annoy someone, why not produce a blank calculator (I'm thining HP-41 Opt 001, here, aka "Blanknut"), and an application to mix and match your own functions (and hopefully write your own in "mcode", or whatever it's called these days), print an overlay (offer it as a service for \$5-\$10 a piece?), and you're done. The 35S seems to have gotten the form-factor almost right: a double-width ENTER key, clicky keys, arrows, high-contrast colors, a more-than-one line display.

I \*love\* the calculator form factor. I love the programmability, but I find most user-level programs to be too slow. And I never use 90% of the functions.

*Edited: 2 Aug 2007, 2:31 p.m.*

### **Re: Use of newer, very high power calculators?**

*Message #10 Posted by **DaveJ** on 3 Aug 2007, 5:10 a.m.,  
in response to message #9 by John Ioannidis*

Quote:

Rather than try to produce the end-all-be-all of calculators, or end up with compromises that will annoy someone, why not produce a blank calculator (I'm thining HP-41 Opt 001, here, aka "Blanknut"), and an application to mix and match your own functions (and hopefully write your own in "mcode", or whatever it's called these days), print an overlay (offer it as a service for \$5-\$10 a piece?), and you're done.

That's what I've done on my new calculator design. The keypad overlay is completely replaceable.

Don't like the key arrangement I picked? - change it. Want Algebraic instead of RPN? - change it. Don't like how the soft key menus work? - change it.

It's just a bit of code and a new keypad overlay in any case.

Dave.

### **Re: Use of newer, very high power calculators?**

*Message #11 Posted by [ECL](#) on 2 Aug 2007, 6:23 p.m.,*

*in response to message #1 by Brad Davis*

Brad,

Couldn't help to reply when I read about your background. I'm a structures guy too. I'm currently in aerostructures, and have fallen into a similar trap (ie. less proficient in hand-calcs due to the past lure of programming it in to excel on exams).

I most appreciate being able to hammer out convoluted expressions on my old 32sii...and never need to concern myself with missed keystrokes, etc.

I'm leaving my job here for two years worth of graduate research funding in VA. Specifically, I'm tied to AOE at VT, but will be doing my work in Hampton. I'll be working on my aero M.S.

I'm very tempted to shelf my 50g in favor of my 33s (or 35s when I can finally get my hands on one!)

From your profile and post, I'd be tempted to guess you're at VT? If so, perhaps our paths will cross at some point!

### **Re: Use of newer, very high power calculators?**

*Message #12 Posted by [Brad Davis](#) on 2 Aug 2007, 6:37 p.m.,*

*in response to message #11 by ECL*

Yep, you guessed it! I'm at VT doing research. Good luck w/ your program. I'm sure it will be fun.

### **Re: Use of newer, very high power calculators?**

*Message #13 Posted by [DougT](#) on 3 Aug 2007, 9:44 a.m.,*

*in response to message #11 by ECL*

Yet another VT AOE Structures guy here! As much as I appreciate its capabilities, my 48GX tends to gather dust in my HP collection. For years I've been using a beat-up 11C at work. Now a new (non-crooked LCD) 35s is on my desk. I'd love to use the 15C I bought while at school in the early '80s, but it's too valuable to expose to Diet Coke Big Gulps, hydraulic fluid, etc.

For my application of high-tempo aerospace repairs, a simple RPN programmable scientific can't be beat. If it gets too hairy for hand calcs and short programs, I pass the problem to the Stress group and move on to the next forest fire...

### **Re: Use of newer, very high power calculators?**

*Message #14 Posted by [Matt](#) on 2 Aug 2007, 6:49 p.m.,*

*in response to message #1 by Brad Davis*

Good question.

I guess it depends on your line of study/work.

I find I have little use for calculators or computers in relation to my studies.

The 50G is a capable machine. But it won't help me with the kind of eg, Sturm-Liouville, problems I need to solve.

I found Mathematica to be little help with complex integration and infinite Fourier series.

The TI-Nspire seems very good at showing relationships. But, if you don't 'get it' by looking at the equations, then maybe you are on the wrong course.

I think that's enough.

## **Re: Use of newer, very high power calculators?**

*Message #15 Posted by [DaveJ](#) on 3 Aug 2007, 5:04 a.m.,*

*in response to message #1 by Brad Davis*

Quote:

---

I have what might be kind of a strange topic. This is one of those pointless "around the water cooler" topics, LOL, but I'm stuck at home babysitting today and am bored.

The TI Nspire thread got me thinking about this. I went and watched the demo videos for that calculator and I have a new HP50g.

Am I the weird one because I don't really see the usefulness of many of the advanced features of these calculators? I watched the TI videos and really couldn't see a single one of their fancy features that I would ever use. I bought my 50g because I've had my 48S for about 8-10 years and was just bored and wanted a new toy.

---

If you're weird then I am too! I'm an electronics design engineer and have essentially zero need for a programmable calculator. The most complex feature I ever use is the solver.

That is why my daily use calculators are (and have been for the last 20 years or so) simple scientific's like the HP20S or Casio's like the FX-61F, 991ES, FX-100 type etc. My programmable 28S and 48SX sit in the draw gathering dust because they are next to useless for daily use.

That is why I'm pretty disappointed that the new 35S is optimised as a programmable calc. So those who want all those basic scientific functions on primary keys miss out big time.

Dave.

---

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## HP Forum Archive 17

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### HP35s Vector Data Entry Bug?

Message #1 Posted by [Charles Bennett](#) on 2 Aug 2007, 11:38 a.m.

I've gotten my 35s into a state where pressing:

g [] 2 f , 2 enter

yields SYNTAX ERROR with the cursor on the start of the second 2.

I can enter single-element vectors but absolutely no-go on 2D or 3D.

RPN, RAD, FIX 4 modes.

Has anybody else gotten here?

### Re: HP35s Vector Data Entry Bug?

Message #2 Posted by [Gene Wright](#) on 2 Aug 2007, 12:24 p.m.,  
in response to message #1 by Charles Bennett

Someone posted that they had seen this on their 35s.

Following the procedure in the manual to reset the calculator (in an appendix I think) seemed to fix the problem.

Give it a try. Note that you will lose any programs and data...

### Re: HP35s Vector Data Entry Bug?

Message #3 Posted by [Matt](#) on 2 Aug 2007, 2:29 p.m.,  
in response to message #1 by Charles Bennett

I can't replicate the error on mine.  
[Others](#) have mentioned vector problems.

### Re: HP35s Vector Data Entry Bug?

Message #4 Posted by [Rafael Millán](#) on 2 Aug 2007, 3:35 p.m.,  
in response to message #1 by Charles Bennett

I had the same problem once. The 35s didn't accept 2- or 3-dimensional vectors. It did accept 1-dimensional vectors however. The problem went away without resetting the machine. I don't recall doing anything harder than clearing the stack and entering/exiting program mode.

Surely unrelated, but the next day I saw a "LBL ;" at the top of the program catalog. I deleted a line "0001 RTN "(three zeros) I was not aware of, and the label went away. I tried re-entering the line, but the label didn't reappear.

Mysteries to be unveiled...

R.

### **Re: HP35s Vector Data Entry Bug?**

*Message #5 Posted by [Katie Wasserman](#) on 7 Aug 2007, 1:50 a.m.,  
in response to message #4 by [Rafael Millán](#)*

There does indeed seem to be a vector input bug. I just found that I can enter 1-D and 2-D vectors but 3-D vectors now give a syntax error. They had been working fine up until now.

The only way I've found to fix this is a full memory reset. I'm trying to figure out the circumstances that lead to this bug but so far no luck.

### **Re: HP35s Vector Data Entry Bug?**

*Message #6 Posted by [Thomas Radtke](#) on 7 Aug 2007, 4:19 a.m.,  
in response to message #5 by [Katie Wasserman](#)*

Mine originally worked. I just tried after reading your post and also got this SYNTAX ERROR. Clearing all variables helped.

### **Re: HP35s Vector Data Entry Bug?**

*Message #7 Posted by [Charles Bennett](#) on 8 Aug 2007, 9:38 a.m.,  
in response to message #5 by [Katie Wasserman](#)*

I had this problem for a while. Clearing program memory set me straight.

I tried reentering my programs to try to reproduce it but it hasn't come back.

I know it's a real bug. I had thought it might be related to having programs with literal vectors being built from stack elements (REGX, ..., REGT) in EQN statements but that intuition is not panning out. Unless it's that \*and\* something else.

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## HP Forum Archive 17

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### HP withdrawing HP35S

Message #1 Posted by [Chris Dean](#) on 2 Aug 2007, 11:00 a.m.

I have had a HP35S on order from Samson Cables and I emailed them to find out when it is being delivered. They replied quickly saying

Quote:

Yesterday HP announced that the 35S calculator is being pulled off the market while a minor design flaw on the faceplate is being corrected. If you have already paid for your 35S, your PayPal or credit card account is being credited for the purchase. We will re list the 35S when HP again releases it for sale.

I have posted this to inform other buyers and to find out if anybody has noticed this design flaw. I now feel pretty cheesed off as I was eagerly awaiting my new calculator.

Regards

Chris

*Edited: 2 Aug 2007, 11:01 a.m.*

### Re: HP withdrawing HP35S

Message #2 Posted by [Katie Wasserman](#) on 2 Aug 2007, 11:19 a.m.,  
in response to message #1 by [Chris Dean](#)

Although I haven't seen any other mention of this, I guess that a lot of people are finding that the LCD display is not aligned with the faceplate. I sure hope that they take this stop in production to fix some of the firmware issues with this machine but I doubt that they will.

It figures that this would happen today just as the HP-35s made it into the [NY Times](#). Wouldn't it be great if HP issued a recall notice to fix \*all\* the problems with the 35s like they did with the original HP-35 and the trig/log bugs -- then they'd have a real anniversary calculator!

-Katie

### Re: HP withdrawing HP35S

Message #3 Posted by [BruceH](#) on 2 Aug 2007, 4:15 p.m.,  
in response to message #2 by [Katie Wasserman](#)

"... minor design flaw on the faceplate..."

Perhaps HP have just realised they forgot to put the words "Anniversary Edition" on it?

;:-)



## Re: HP withdrawing HP35S

Message #4 Posted by [Katie Wasserman](#) on 2 Aug 2007, 5:08 p.m.,  
in response to message #3 by BruceH

Quote:

Perhaps HP have just realized they forgot to put the words "Anniversary Edition" on it?

Maybe they'll do exactly that when they fix the alignment problem. If HP's statement of "a small percentage" of calculators being affected is true it can't just be the missing words. This would, of course, make the existing non-anniversary labeled calculators quite rare and 35 years from now they'll be selling for zillions on ebay! :)

## Now, any halfway-decent conspiracy theorist might suggest . . .

Message #5 Posted by [Paul Brogger](#) on 3 Aug 2007, 10:49 a.m.,  
in response to message #4 by Katie Wasserman

. . . that, in an attempt to reestablish H-P's quality cache` of yore, their marketers *deliberately* introduced some problem units, and then issued a recall before such would be too costly.

Results: A couple of weeks' interruption in sales; mostly-positive publicity about H-P's "return to quality"; and minimal risk of actual returns from the maniacal early adopters.

(But it's probably just a problem with their Chinese supplier. Anyhow, I gotta keep those conspiracy-formulation muscles toned up & ready for action!)

*Edited: 3 Aug 2007, 10:50 a.m.*

## Re: HP withdrawing HP35S

Message #6 Posted by [Ron G.](#) on 2 Aug 2007, 5:40 p.m.,  
in response to message #2 by Katie Wasserman

I wouldn't consider that a "design flaw on the faceplate," unless there are some unseen guides that are causing the misalignment. Even so, I have no better idea of what it might be.

## Re: HP withdrawing HP35S

Message #7 Posted by [Iqbal](#) on 2 Aug 2007, 11:25 a.m.,  
in response to message #1 by Chris Dean

I ordered six units. Should arrive tomorrow. I just checked hp.com and they said they are "out of stock". Maybe they're painting on a R->P and P->R keys. I don't think I have seen any scientific calculator made within the last 15 years without those functions before.

## Re: HP withdrawing HP35S

Message #8 Posted by [John Ioannidis](#) on 2 Aug 2007, 11:35 a.m.,  
in response to message #7 by Iqbal

You don't need R>P and P>R when you have x i y and x \theta y modes

**Re: HP withdrawing HP35S**

Message #9 Posted by [bill platt](#) on 2 Aug 2007, 12:27 p.m.,  
in response to message #8 by John Ioannidis

Yes you do, when you need the complex decomposed---

**Re: HP withdrawing HP35S**

Message #10 Posted by [Thomas Radtke](#) on 2 Aug 2007, 1:29 p.m.,  
in response to message #9 by bill platt

...or if you want to enter PI oder recall a variable as angle.

**Re: HP withdrawing HP35S**

Message #11 Posted by [bill platt](#) on 2 Aug 2007, 2:11 p.m.,  
in response to message #10 by Thomas Radtke

Ha, you just spoke Engdeutch without realizing it:

oder = or.

You should see what happens when I write German. :-)

**Re: HP withdrawing HP35S (R<>P)**

Message #12 Posted by [Andrés C. Rodríguez \(Argentina\)](#) on 4 Aug 2007, 8:26 a.m.,  
in response to message #7 by Iqbal

That's why they put an otherwise unneeded "Scientific Calculator" announcement at the top of the body. No classic calculator needed it, the presence of keys like SIN-COS-TAN, LOG, e^x were more than enough indication for any prospective user/buyer...

**Re: HP withdrawing HP35S**

Message #13 Posted by [Doctor Bubu](#) on 2 Aug 2007, 11:43 a.m.,  
in response to message #1 by Chris Dean

Hallo Chris!

Would that mean, that the HP35s delievered till now, are collectables in some years? ;-) Great deal, or?

Greetings Juergen

**Re: HP withdrawing HP35S**

Message #14 Posted by [Matt Kernal](#) on 2 Aug 2007, 2:10 p.m.,  
in response to message #13 by Doctor Bubu

I'm going to be brutally honest in the next paragraph:

Because I don't have a pressing need for one, I was going to wait on buying a 35S until after next month's HHC2007 to see if I would end up with a freebie 35S from HP. At two of the three previous HHC's I've attended, HP gave attendees free calculators (the original 49G in 1999, and 25th. Anniversary 12CP at last year's conference).

But now, with today's withdrawal of the 35S, I noticed HP Shopping, Samson Cables, and Buy.com are Out-of-Stock. Amazon.com doesn't list the 35S either (don't know if they ever did).

So I just decided to take my chances, and ordered one from Walmart.com while they are still In Stock.

Am I shallow (greedy, presumptuous) or what? Take your pick :-)

Matt

### **Re: HP withdrawing HP35S**

*Message #15 Posted by [Jeff O.](#) on 2 Aug 2007, 7:45 p.m.,  
in response to message #14 by Matt Kernal*

Quote:

So I just decided to take my chances, and ordered one from Walmart.com while they are still In Stock.

I briefly considered doing the same, but restrained myself. One "collectable" unit ought to be enough, plus I'm still a little honked off that Walmart raised their price \$10 to capitalize on the early demand.

Quote:

Am I shallow (greedy, presumptuous) or what? Take your pick :-)

No, just hopeful, I'd say. HP set the precedent, after all. Actually I figured they'd had out ones with the "Celebrating 35 Years" written on them to the HHC attendees.

### **Walmart's Interactive 35S Image**

*Message #16 Posted by [Matt Kernal](#) on 2 Aug 2007, 8:49 p.m.,  
in response to message #15 by Jeff O.*

Quote:

I'm still a little honked off that Walmart raised their price \$10 to capitalize on the early demand.

I didn't realize that! >:-)

While squeezing HP for the lowest possible wholesale prices (as they do to all their suppliers - or so the legend goes), I assume they paid somebody for this zoomable, panable image of the [35S](#). I don't see any cosmetic flaws in this picture.

But certainly not worth the extra \$10 surcharge/price-of-admission.

If Walmart pulls the 35S before I get mine (maybe they already have - but their web designers haven't got the word yet), I'm no worse off than before I placed the order. Actually, I am worse off - now they have my personal/financial info.. the \*#@\$?%'s!

In reality, I hope the \*real\* reason for HP pulling the 35S is to fix some software issues, with the anniversary silkscreening reason being a convenient cover to buy some time for bug extermination.

Still shallow,

Matt

p.s. Walmart's image reminds me of something.. did Gene ever come clean on that 35S emulator he's using?

## Re: HP withdrawing HP35S

Message #17 Posted by **Karl Schneider** on 2 Aug 2007, 7:59 p.m.,  
in response to message #14 by Matt Kernal

Hi, Matt --

Quote:

Because I don't have a pressing need for one, I was going to wait on buying a 35S until after next month's HHC2007 to see if I would end up with a freebie 35S from HP.

I considered that approach, too, but wanted to have one so that I could prepare feedback in time for the HHC conference.

On Tuesday, I checked with local retailers, who didn't know when they'd be getting them on their shelves. So, I ordered one directly from HP with two-day shipping, and received it today via Federal Express (FedEx), on my doorstep while I was gone.

The timing may have been fortuitous. I guess Tuesday was the last day to get one from HP!

Mine has no conspicuous cosmetic flaws; the display is only very slightly misaligned.

-- KS

## Re: HP withdrawing HP35S

Message #18 Posted by **Matt Kernal** on 2 Aug 2007, 8:55 p.m.,  
in response to message #17 by Karl Schneider

Karl,

Can we presume a full, thorough report on your new 35S is forthcoming (or whenever you can get around to it :-)

## Future "report" on HP35S

Message #19 Posted by **Karl Schneider** on 3 Aug 2007, 2:29 a.m.,  
in response to message #18 by Matt Kernal

Matt Kernal posted,

Quote:

Can we presume a full, thorough report on your new 35S is forthcoming (or whenever you can get around to it :-)

I suspect that I'll prepare some detailed material and suggestions that mainly focuses on the troublesome complex-number and base-number functionality, and transmit that information to HP personnel (hopefully with discussion) at the HHC conference.

-- KS

### **Post-Recall purchase of 35S has been "Shipped"**

*Message #20 Posted by [Matt Kernal](#) on 3 Aug 2007, 12:24 p.m.,  
in response to message #14 by Matt Kernal*

Quote:

So I just decided to take my chances, and ordered one from Walmart.com while they are still In Stock.

I am quite pleased to see that the Status of my Walmart order has changed from "Processing" to "Shipped". The UPS tracking information shows that it departed from Cerritos CA at 11:18 last night, with scheduled delivery to Beaverton OR on Tuesday, August 7. Thanks Wally!

If any cares, the 35S availability continues to be In Stock. Costs are: \$59.98\_calculator <ENTER>  
\$6.97\_shipping + \$66.95\_total

Matt

### **HP35s red dot for sale**

*Message #21 Posted by [Nenad \(Croatia\)](#) on 2 Aug 2007, 3:03 p.m.,  
in response to message #13 by Doctor Bub*

Yet have to see yet where the "red dot" is located (when HP announces this) and then **she** goes for \$1500.

Second thought: this is the first one that crossed Croatian border, no cosmetic flaws, perfectly aligned LCD display, only a minor flaw: slightly slanted serial number label (but due to the lack of P-R conversions cannot calculate the actual slant angle). She goes for \$15000 (minus 5% for the mentioned flaw).

Third thought: I am an HP calculator addict, so I will not part with her at any price.

End of story.

### **Re: HP35s red dot for sale**

*Message #22 Posted by [Gerson W. Barbosa](#) on 2 Aug 2007, 6:54 p.m.,  
in response to message #21 by Nenad (Croatia)*

Quote:

Second thought: this is the first one that crossed Croatian border, no cosmetic flaws, perfectly aligned LCD display, only a minor flaw: slightly slanted serial number label

Same here: ordered at Samsons Cables on Jul/15 and picked up on Jul/27 (S/N 72102369). Not so sure about it being the first one to arrive here. Anyway the USPS tracking service informs:

Status: Attempted Delivery Abroad

We attempted to deliver your item in BRAZIL at 3:33 PM on July 26, 2007.

**Re: HP35s red dot for sale**

Message #23 Posted by **Howard Owen** on 3 Aug 2007, 12:44 a.m.,  
in response to message #21 by Nenad (Croatia)

Quote:

.. only a minor flaw: slightly slanted serial number label (but due to the lack of P-R conversions cannot calculate the actual slant angle).

That's a major flaw!

Quote:

..She goes for \$15000 (minus 5% for the mentioned flaw).

Given the severity of the flaw itself, I think you should demand a full-price refund from HP.

Or else maybe you could bargain for a server or three. 8)

Regards,  
Howard

**Re: HP35s red dot for sale**

Message #24 Posted by **Ron G.** on 3 Aug 2007, 8:52 a.m.,  
in response to message #21 by Nenad (Croatia)

I just painted a red dot on mine. It's now worth millions [:^)

**Re: HP35s red dot for sale**

Message #25 Posted by **Thomas Radtke** on 3 Aug 2007, 2:06 p.m.,  
in response to message #21 by Nenad (Croatia)

Quote:

[...](but due to the lack of P-R conversions cannot calculate the actual slant angle).

x [ENTER] y i + [DISPLAY] . 0

:^)

**Re: HP withdrawing HP35S**

Message #26 Posted by **Daniel Vollmer** on 2 Aug 2007, 11:49 a.m.,  
in response to message #1 by Chris Dean

It's now also on their [webpage](#)...

Very strange, but then I have mine... :/

*Edited: 2 Aug 2007, 11:49 a.m.*

**Re: HP withdrawing HP35S**

*Message #27 Posted by [sjthomas](#) on 2 Aug 2007, 12:32 p.m.,  
in response to message #1 by Chris Dean*

Interesting. It would be nice if somebody would post a photo of one of the defective 35s's.

**Re: HP withdrawing HP35S**

*Message #28 Posted by [Ed Look](#) on 2 Aug 2007, 1:33 p.m.,  
in response to message #27 by sjthomas*

Well, I wouldn't dream of returning my 35s, as it seems to work just fine and looks great, though if I stare at the annunciator line with the last (right most) manually activatable annunciator on, it does seem to leave less space between the top of the characters and the upper window edge than with the RPN (left most) annunciator.

The difference is not really even worth mentioning, except that the topic has come up now in this way.

However, my case is defective though; one of the straps inside came only partly sewn on to the edge on one side. Fortunately, the real defect was not with the calculator itself.

**Re: HP withdrawing HP35S**

*Message #29 Posted by [Chris Dean](#) on 2 Aug 2007, 1:55 p.m.,  
in response to message #28 by Ed Look*

I suppose the units you all have are collectors items already!

**Re: HP withdrawing HP35S**

*Message #30 Posted by [Vincze](#) on 2 Aug 2007, 2:00 p.m.,  
in response to message #29 by Chris Dean*

It would be nice if HP would explain what they mean by defective face plate.

**Re: HP withdrawing HP35S**

*Message #31 Posted by [Ed Look](#) on 2 Aug 2007, 10:01 p.m.,  
in response to message #30 by Vincze*

I still think it's to straighten out the crooked displays a few of us here have said that they got. And, they said theirs were noticeably crooked; mine is only very slightly so, that if it never got mentioned, I might not have really noticed for a couple of years or so.

**Re: HP withdrawing HP35S**

*Message #32 Posted by [Ed Look](#) on 2 Aug 2007, 6:02 p.m.,  
in response to message #29 by Chris Dean*

Ha ha ha.

Seriously, mine will be a working machine. I suppose that'll make me just a collector of broken/worn-out calculators!

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**Re: HP withdrawing HP35S**

Message #33 Posted by [ECL](#) on 3 Aug 2007, 12:17 p.m.,  
in response to message #29 by Chris Dean

I just ordered one from walmart (8/3/07), hope to squeak that one by before the notice HP tapping on their shoulder!

I would've done it last night at home, but didn't know the shipping addy at work...doh!

So much for my hopes of waltzing into Fry's and spying one on the shelves anytime soon :)

---

---

**Re: HP withdrawing HP35S**

Message #34 Posted by [Matt](#) on 2 Aug 2007, 2:24 p.m.,  
in response to message #27 by sjthomas

Quote:

\_\_\_\_\_  
Interesting. It would be nice if somebody would post a photo of one of the defective 35s's.  
\_\_\_\_\_

[here](#)  
[or here](#)  
how about [these?](#)

Maybe they were supposed to put "Celebrating 35 Years" on all of them?

Edited: 2 Aug 2007, 2:25 p.m.

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**Re: HP withdrawing HP35S**

Message #35 Posted by [John Nguyen](#) on 2 Aug 2007, 11:47 p.m.,  
in response to message #34 by Matt

Quote:

\_\_\_\_\_  
Maybe they were supposed to put "Celebrating 35 Years" on all of them?  
\_\_\_\_\_

I tend to lean towards this logic. I think it definitely qualifies as a "minor design flaw on the faceplate" although I would've left out the word "design." I'm not sure about the display alignment problem people mentioned in the other posts as the HP of today would not be that quick or responsive to fix such a problem even if it exists. For one thing, there aren't enough units in the hands of users yet and you know they wouldn't do anything unless there's a large outcry about it. Think "early HP-49g+'s keyboard."

I think they were shipping the early units without this "all-important" phrase. Mine doesn't have it (I got it last week). It would be like shipping the 25th Anniversary version of the HP-12C without the "25th Anniversary Edition" phrase painted on the faceplate.

Another thing, on the back of the 35s it said "Product of China" in English. All the other languages (French, Spanish, Portuguese) roughly translated to "Made in China". I don't know if this has to do with anything. I'm no linguist or semanticist but I think there's a difference between something being a "product of" a country and "made in" a country.



John

*Edited: 2 Aug 2007, 11:49 p.m.*

**Re: HP withdrawing HP35S**

*Message #36 Posted by [Chan Tran](#) on 3 Aug 2007, 7:30 a.m.,  
in response to message #35 by John Nguyen*

I am no linguist either but may be because the 35s was designed and made in China thus it's a product of China?

**Re: HP withdrawing HP35S**

*Message #37 Posted by [Vincze](#) on 3 Aug 2007, 10:47 a.m.,  
in response to message #35 by John Nguyen*

Quote:

Another thing, on the back of the 35s it said "Product of China" in English. All the other languages (French, Spanish, Portuguese) roughly translated to "Made in China".

That it!! They forgot to put "Termék -ból Kína" or Product of China in Hungarian. Ok... maybe that not it, but it was worth a snort.

*Edited: 3 Aug 2007, 10:49 a.m.*

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## HP Forum Archive 17

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### Article?

Message #1 Posted by [Antonio Maschio \(Italy\)](#) on 2 Aug 2007, 4:10 a.m.

Well, I suppose my request was buried too deep into [this](#) thread, so I'm gonna repeat it here.

Some time ago (at least one year) I posted into this Forum some notes about integer division on the HP-33s, noting there was something wrong.

Probably these notes resounded in someone's ears, and this someone (attributing the article to me) reported my observations onto the Datafile review as an article ("Integer Division On The HP 33S", HP33S, Antonio Maschio, V25N4P12).

I wasn't contacted for this, but I won't complain, since it's an honor for me and I'm grateful (dead) to this guy.

But as for this, I'm curious to see:

- 1) the format of the article
- 2) its real content
- 3) **\*\*\*My name in front of it\*\*\* !!!**

I'm human, after all!

So please: could anyone having a copy of this review set a link to a downloadable pdf page in which this article appear? One page only. The page.

-- Antonio

P.S. Well, excuse me for the Dead citation: they are one of my favorite bands!

### Re: Article?

Message #2 Posted by [BruceH](#) on 2 Aug 2007, 5:25 a.m.,  
in response to message #1 by Antonio Maschio (Italy)

Quote:

Well, I suppose my request was buried too deep into [this](#) thread, so I'm gonna repeat it here.

It was buried a bit deep! (Well, I didn't spot it - sorry). I'll get a link set up asap.

[Later]

Okay, the article is [here](#). I hope you like it. I have to say, I was slightly surprised that it didn't garner more reaction. Oh well.

(I hope Katie likes her one as well!)

*Edited: 2 Aug 2007, 4:38 p.m. after one or more responses were posted*

---

**Re: Article?**

Message #3 Posted by [Antonio Maschio \(Italy\)](#) on 2 Aug 2007, 5:46 a.m.,  
in response to message #2 by BruceH

BruceH wrote:

Quote:

\_\_\_\_\_  
Can we still edit posts on the forum any more?  
\_\_\_\_\_

I suppose yes, since I saw very recent edited messages.

Edited to thank you, Bruce, for the page.

-- Antonio

*Edited: 3 Aug 2007, 2:29 a.m.*

---

**Re: Article?**

Message #4 Posted by [Walter B](#) on 2 Aug 2007, 3:36 p.m.,  
in response to message #2 by BruceH

For sure we can edit.

(Edited to prove)

*Edited: 2 Aug 2007, 3:37 p.m.*

---

**Re: Article? Thanks!**

Message #5 Posted by [Antonio Maschio \(Italy\)](#) on 3 Aug 2007, 2:30 a.m.,  
in response to message #4 by Walter B

-- Antonio

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## HP Forum Archive 17

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### Charge Batteries with USB cable safe?

Message #1 Posted by [PhysicsNerd](#) on 1 Aug 2007, 10:53 p.m.

If you plug the USB cable to the computer, does it charge your batteries or just your calculator? Is it safe to do this or do you recommend only switching the batteries?

Also, people've been telling me that the Batstatus doesn't work properly on the hp 50g. Why does it not function properly and is it still helpful to download?

Are these codes there to fix the problem?:

[http://groups.google.com/group/comp.sys.hp48/browse\\_thread/thread/453d77ac9ecbf7e1/7e4a078619e44ad9?lnk=st&q=BatStatus+group%3Acomp.sys.hp48&rnum=8#7e4a078619e44ad9](http://groups.google.com/group/comp.sys.hp48/browse_thread/thread/453d77ac9ecbf7e1/7e4a078619e44ad9?lnk=st&q=BatStatus+group%3Acomp.sys.hp48&rnum=8#7e4a078619e44ad9)

How are you suppose to use the codes on your calc? Sorry that I'm a newbie on these things but there must always be a beginning. =/

### Re: Charge Batteries with USB cable safe?

Message #2 Posted by [PhysicsNerd](#) on 2 Aug 2007, 12:32 a.m.,  
in response to message #1 by [PhysicsNerd](#)

Also, what's up with people saying that replacing batteries when the low battery indicator comes on will reduce your calculator's battery life? Is this true? When should I replace my batteries then? when the calculator is completely dead? Will that erase my calc's memory in any way? Thanks in adv.

### Re: Charge Batteries with USB cable safe?

Message #3 Posted by [Arnaud Amiel](#) on 2 Aug 2007, 3:53 a.m.,  
in response to message #1 by [PhysicsNerd](#)

Batstatus will not work on a 50G because it is designed for a 3 battery calculator so it will return a wrong result with 4 batteries, as the voltage of rechargeables is lower, it does not work very well with those either: it gives me 54% with newly recharged batteires. The code you pointed to will work on the 50G but you need to know how to do sysRPL to compile it. If you look you will find instructions.

Unfortunately it is not possible to recharge batteries through the USB. This is to protect against chargeing non rechargeable batteries.

Lastly some batteries have memory and discharging them partially all the time will reduce their usefulness. This is less true with the most modern batteries.

I hope this helps.

Arnaud

### Re: Charge Batteries with USB cable safe?

*Message #4 Posted by **Chan Tran** on 2 Aug 2007, 7:45 a.m.,  
in response to message #3 by Arnaud Amiel*

Does the 50G really eat batteries? I would never think of using rechargeable in my 48SX and GX as the alkaline last a very long time. How long the alkaline batteries last in the 50G. I am thinking of buying one but if the battery life is short then it's not so good. Battery life in HP calc was short with the red LED models. But then the HP41 came and after that it never made sense to use rechargeable in any of the newer HP calcs. May be with the 50G, battery issue is back?

**Re: Charge Batteries with USB cable safe?**

*Message #5 Posted by **Giancarlo (Italy)** on 2 Aug 2007, 8:02 a.m.,  
in response to message #4 by Chan Tran*

Hi Chan.

I had already thought to contribute with my two cents about the subject, and your post gave the last kick ;-)

My experience with 50G's batteries says: bought the calc on 2008, Aug 31st, changed its alkalines just yesterday!!!

OK, I'm not a very heavy user, not fiddling on the calc each and every day (you know, the emulator is soooo comfortable to play and mess around with ;-)  
but one year of battery life is one year ! :-)

Hope this helps.

Best regards.

Giancarlo

**Re: Charge Batteries with USB cable safe?**

*Message #6 Posted by **Peter A. Gebhardt** on 3 Aug 2007, 4:21 a.m.,  
in response to message #5 by Giancarlo (Italy)*

Giancarlo,

I've always known, that Italy would lead the EU towards a brighter future ;-))

Quote:

My experience with 50G's batteries says: bought the calc on 2008, Aug 31st,

Best regards,

Peter A. Gebhardt

**Re: Charge Batteries with USB cable safe?**

*Message #7 Posted by **Giancarlo (Italy)** on 3 Aug 2007, 4:25 a.m.,  
in response to message #6 by Peter A. Gebhardt*

Hi Peter.

I just came back from the future and I did not update my date and time ;-)

Of course, that should read "2006"...

Thanks a lot for pointing that out.

Best regards.

Giancarlo

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## HP Forum Archive 17

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### FLAG-BUG on HP-35S!!?!!

Message #1 Posted by [dietmar13](#) on 1 Aug 2007, 4:45 p.m.

hello, it is not possible to set (SF), clear (CF), or test (FS?) flags >9, because only the input of one digit is allowed with this commands (in RPN mode or inside programs)! - ALG not tested. BUG! or knows someone how to do this...

### -no- FLAG-BUG on HP-35S

Message #2 Posted by [dietmar13](#) on 1 Aug 2007, 4:51 p.m.,  
in response to message #1 by dietmar13

found the answer, you have to use ".0" and ".1" for "10" and "11" a little annoying, and not very intuitive

### Re: -no- FLAG-BUG on HP-35S

Message #3 Posted by [bill platt](#) on 1 Aug 2007, 5:09 p.m.,  
in response to message #2 by dietmar13

This goes back to the 32s guys. No gripes allowed ;-)

### Re: -no- FLAG-BUG on HP-35S

Message #4 Posted by [Gene Wright](#) on 1 Aug 2007, 6:03 p.m.,  
in response to message #3 by bill platt

Well, no NEW gripes allowed.

### Re: -no- FLAG-BUG on HP-35S

Message #5 Posted by [Karl Schneider](#) on 1 Aug 2007, 9:45 p.m.,  
in response to message #3 by bill platt

Hi, Bill --

Quote:

\_\_\_\_\_

This (*identifiers > 9 entered as ".n", n = 0-9*) goes back to the 32s guys. No gripes allowed ;-)

\_\_\_\_\_

For storage registers, it goes back farther than that: to the HP-34C at least. I think it's clever -- the first 10 registers 0-9 can always be addressed using a single-digit number, and the next (and final) ten registers with one additional keystroke. The HP-15C offered more (indirectly-addressible) registers, but these were rarely used.

The HP-41 and 42S offered 100 directly-addressible registers, so each one was identified by a two-

digit number. That's why the HP-41 offered a shortcut to the first 10 registers using the top two rows of keys.

-- KS

*Edited: 1 Aug 2007, 9:48 p.m.*

### **Re: -no- FLAG-BUG on HP-35S**

*Message #6 Posted by **Thomas Okken** on 1 Aug 2007, 11:32 p.m.,  
in response to message #5 by Karl Schneider*

Quote:

Quote:

This (identifiers > 9 entered as ".n", n = 0-9) goes back to the 32s guys.  
No gripes allowed ;-)

For storage registers, it goes back farther than that: to the HP-34C at least.

It goes back way farther than that: the HP-19C/29C used this scheme for addressing the statistics registers (registers 10-15, addressed as .0-.5), and before that, the HP-55 used this scheme for addressing registers 10-19. Also, more recently, the HP-41 series used a similar trick, using the EEX key, to allow GTO to jump to line numbers > 999 (GTO . EEX 234 => goes to line 1234).

So, it's a venerable HP tradition. What kind of newbie does not know this? ;-)  
(Waiting for someone to point out an even earlier model with this feature...)

- Thomas

### **Re: FLAG-BUG on HP-35S!!?!!**

*Message #7 Posted by **Chuck** on 1 Aug 2007, 4:51 p.m.,  
in response to message #1 by dietmar13*

Press the decimal point key first (for "1") then press the second digit. That is ".1" = "11". Makes little sense to me.

EDIT: You beat me yourself. :)

*Edited: 1 Aug 2007, 4:52 p.m.*

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## HP Forum Archive 17

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**HP35s Equation Mode**

Message #1 Posted by [Vincze](#) on 1 Aug 2007, 2:57 p.m.

I know what 2\*2 line solve equation is, but how does one enter it? I try and hit ENTER, XEQ, etc, but nothing happen. I not see anything in manual that talk much about. Can someone please help.

**Re: HP35s Equation Mode**

Message #2 Posted by [Thomas Radtke](#) on 1 Aug 2007, 3:14 p.m.,  
in response to message #1 by Vincze

Press SOLVE.

Edit:

In the Manual: 7-6, Solving built-in Equation

Edited: 1 Aug 2007, 3:17 p.m.

**Re: HP35s Equation Mode**

Message #3 Posted by [Gene Wright](#) on 1 Aug 2007, 3:32 p.m.,  
in response to message #1 by Vincze

First, it will help you if you go to this page and download all the HP 35s learning modules. Quite a few questions are addressed in them.

[35s learning modules](#)

Second, there is a specific learning module on using the linear equation solver.

[Linear equation solver](#)

Good luck! Gene

**Re: HP35s Equation Mode**

Message #4 Posted by [Vincze](#) on 2 Aug 2007, 8:30 a.m.,  
in response to message #3 by Gene Wright

Thank you very much.

One thing I curious about. I thought I saw (maybe I misread something) that there were hundreds of built in formulas. Did I miss something?

**Re: HP35s Equation Mode**

Message #5 Posted by **Daniel Vollmer** on 2 Aug 2007, 8:47 a.m.,  
in response to message #4 by Vincze

Quote:

One thing I curious about. I thought I saw (maybe I misread something) that there were hundreds of built in formulas. Did I miss something?

There are two built-in formulas (2x2 and 3x3 linear system) and 42 physical constants in the 35s.

### Re: HP35s Equation Mode

Message #6 Posted by **Vincze** on 2 Aug 2007, 2:20 p.m.,  
in response to message #5 by Daniel Vollmer

Quote:

There are two built-in formulas (2x2 and 3x3 linear system) and 42 physical constants in the 35s.

In New York Times today, they even had a bit that said the fiollowing:

Quote:

"The 100 built-in functions make the programmable calculator as handy a tool as it was when engineers wore bellbottoms. But one other thing has changed: the price is \$60."

My question still is, what are these built in functions?

### Re: HP35s Equation Mode

Message #7 Posted by **Gene Wright** on 2 Aug 2007, 2:36 p.m.,  
in response to message #6 by Vincze

Functions like:

Sine

Cosine

X^2

divide

etc.

### Re: HP35s Equation Mode

Message #8 Posted by **Vincze** on 2 Aug 2007, 2:45 p.m.,  
in response to message #7 by Gene Wright

Ok..... now I feel like a stupid Hungarian. Yes, those would be them.

**Re: HP35s Equation Mode**

Message #9 Posted by [Gene Wright](#) on 2 Aug 2007, 2:59 p.m.,  
in response to message #8 by Vincze

:-) Don't say that! You are the almost the only Hungarian I know, but if you are even remotely "average", they are a very smart nation of people!

**Re: HP35s Equation Mode**

Message #10 Posted by [Vincze](#) on 2 Aug 2007, 4:25 p.m.,  
in response to message #9 by Gene Wright

Well thank you very much Gene. My Sicilian wife tell me that I am abbeey normal sometime, but she mostly joking (I think). My son tell me I sound stupid when I talk but I have to remind him that I grow up in Hungary and I no think in english so it take me a little to translate. My goal this year to make my english better and not so choppy. If I take my time in writing, I think I can do.

Many Hungarians are smart, except when we drink Pálinka, and then we can do some stupid things. I always stay away from that stuff as I remember my grandma used to put a shot of it in her wash water when she would scrub her floor. She would say it would help take wax off the floor. But that a whole nother story which off topic so I will not bore you. You may know some famous Hungarians such as Ern&#337; Rubik, who invent Rubik cube, Leó Szilárd és Edward Teller who both work on Manhattan project. Actually, they say Teller was the father of the hydrogen bomb. I think they are all smarter than me though.

**Re: HP35s Equation Mode**

Message #11 Posted by [Seth Morabito](#) on 2 Aug 2007, 5:22 p.m.,  
in response to message #10 by Vincze

Vincze,

I wish you the best of luck with your English! I promise that you speak English much better than I speak Hungarian (which is to say, not at all ;) ). But I studied Linguistics in university, and I greatly admire the Hungarian language. It is a very interesting language indeed. You will be lucky to know both English and Hungarian (and maybe some Sicilian, too!)

-Seth

**Re: HP35s Equation Mode**

Message #12 Posted by [Howard Owen](#) on 3 Aug 2007, 2:48 a.m.,  
in response to message #11 by Seth Morabito

Isn't it the case that Hungarian and Finnish are related to each other, and to no other modern European language?

Regards,  
Howard

**Re: HP35s Equation Mode**

*Message #13 Posted by **Nenad (Croatia)** on 3 Aug 2007, 3:05 a.m.,  
in response to message #12 by Howard Owen*

Quote:

Isn't it the case that Hungarian and Finnish are related to each other, and to no other modern European language?

Hungarian, Finnish and Estonian (not sure)?

### **Re: HP35s Equation Mode**

*Message #14 Posted by **Vincze** on 3 Aug 2007, 11:46 a.m.,  
in response to message #12 by Howard Owen*

Howard, yes a little a like, as I believe both are uralic in nature. but I don't know finnish, so I really can not say. I know in magyar (hungarian), almost all words have emphasis on the first syllable, I am not sure if finnish is the same or not. I think they may have all originated from the same group of people way back in time (some place in Russia), and maybe a common, or shared language components. In magyar, we do not assign gender to things as much as other European languages do. I know in italian, for example, certain words are manly and certain words are womanly. Also do not normally have possessive pronouns. This was hard for me when I first came to USA as you use possessive pronouns quite a bit.

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## HP Forum Archive 17

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**35S Screen discolored**

Message #1 Posted by [bill platt](#) on 1 Aug 2007, 2:46 p.m.

My screen is yellow along the lower boundary.

Does anyone else have this condition?

**Re: 35S Screen discolored**

Message #2 Posted by [Vincze](#) on 1 Aug 2007, 3:06 p.m.,  
in response to message #1 by bill platt

I had that problem once with cell phone. Turned out my dog wet on the phone.

My display is nice and clear. No yellowing. Did it just happen, or was it like that since you receive? Could someone have spilled something on it?

**Re: 35S Screen discolored**

Message #3 Posted by [bill platt](#) on 1 Aug 2007, 5:10 p.m.,  
in response to message #2 by Vincze

It was like this when I received it.

**Re: 35S Screen discolored**

Message #4 Posted by [Gerson W. Barbosa](#) on 1 Aug 2007, 6:30 p.m.,  
in response to message #1 by bill platt

Yesterday mine crashed after blue-shift FDISP and a bluish stain appeared in the right side. The LCD came back to normalcy only after a hard reset.

**Re: 35S Screen discolored**

Message #5 Posted by [Barnaby Osborne](#) on 2 Aug 2007, 8:01 p.m.,  
in response to message #1 by bill platt

I have just received two 35s' both with discoloured screens as well (also on the lower boundary).

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## HP Forum Archive 17

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### First Impressions of the TI-nspire

Message #1 Posted by [Namir](#) on 1 Aug 2007, 10:03 a.m.

Yesterday I walked into a grocery store in southern France, with my son. We immediately faced the school supplies row. The calculators for sale caught my eyes and I moved towards them looking for a graphing Casio with SD card reader. As I told my son what I was looking for, he interrupted me saying "Dad! I think you would want to look up!" There they were. The two TI nspire models!!! Without any hesitation my hands grabbed 2 units. I quickly learned that my son wanted one too!! I did mention to him a new version of the TI-89 Titanium on the shelf, but that seems moot with the TI-nspire at hand.

I opened the TI-nspire today and started playing with it. TI uhas implemented an unusual keyboard by adding small and elevated buttons to the regular set of buttons. The small buttons re keys to things like =, >, <, EE, the comma, and other operations. It's a document oriented machine and packs a lot of power. The statistical calculations alone are very impressive. As a regression junkie, I was more than impressed--they had all kinds of models you can fit and plus multiple regression. The machine saves the results to a structured variable. You can review the values later too. Moreover, it creates a function for you to use to project for teh dependent variable. They have a whole set of calculations for probability distribution functions, their cumulative values, and inverse values. The TI-nspire is meant to take NO PRISONERS!!

I was also able to write custom functions, one of which used program steps. Editing such a function is easy. The TI-snpire OS has a good diagnostic for detecting syntax errors.

I drew a graph and was able to use the navigation keys to select an area of the graph to zoom in on.

The math and calculus side is very impressive too, as expected. The CD that comes with teh machine has the documentation files that you need to work with the TI-nspire. The machine has a learning curve, given how much power it packs.

Is the TI-nspire superior to the HP-50g. Yes!! TI has put a lot of effort into the machine.

Well, I need to focus on my project at hand. I will play with the TI-snpire when I have some spare time.

Namir

*Edited: 1 Aug 2007, 10:04 a.m.*

### Re: First Impressions of the TI-nspire

Message #2 Posted by [Vincze](#) on 1 Aug 2007, 12:53 p.m.,  
in response to message #1 by Namir

This TI calculator has my curiosity. Can it be had in USA? How does the grab and go feature work? Must one use a stylus?

### Re: First Impressions of the TI-nspire

Message #3 Posted by [Joerg Woerner](#) on 1 Aug 2007, 3:43 p.m.,

*in response to message #2 by Vincze*

To my knowledge will it show up TODAY. Joerg

### **Re: First Impressions of the TI-nspire**

*Message #4 Posted by [Joerg Woerner](#) on 1 Aug 2007, 3:43 p.m.,  
in response to message #1 by Namir*

1) What "new" TI-89 Titanium? Is it different from the US one? 2) Please pick me a TI-30XB Multiview in France. 3) I'm this week in Germany - just across the border. Where are you? Regards, Joerg

### **Re: First Impressions of the TI-nspire**

*Message #5 Posted by [Namir](#) on 1 Aug 2007, 7:35 p.m.,  
in response to message #4 by Joerg Woerner*

It was a very black TI-89. The original version was like that but I heard that TI has updated the ROM or firmware. You might know better.

The multiview 30XB is available in the USA at WAL-Mart. I bought one from there! Any special features for teh European versions?

Namir

### **Re: First Impressions of the TI-nspire**

*Message #6 Posted by [Joerg Woerner](#) on 2 Aug 2007, 2:32 p.m.,  
in response to message #5 by Namir*

Namir,

According to the TI Website has the TI-30XB MV in France a fancy GREEN design. Please confirm...

Regards, Joerg

### **Re: First Impressions of the TI-nspire**

*Message #7 Posted by [Namir](#) on 2 Aug 2007, 6:16 p.m.,  
in response to message #6 by Joerg Woerner*

I will look for it.

### **Re: First Impressions of the TI-nspire**

*Message #8 Posted by [Matt](#) on 2 Aug 2007, 6:22 p.m.,  
in response to message #6 by Joerg Woerner*

Not in France, but...

[This looks green](#)

[And another](#)

### **Re: First Impressions of the TI-nspire**

*Message #9 Posted by **Namir** on 3 Aug 2007, 6:23 p.m.,  
in response to message #6 by Joerg Woerner*

Joerg,

Yes I saw the green TI Multiview. I will get one for you.

Namir

**Re: First Impressions of the TI-nspire**

*Message #10 Posted by **Joerg Woerner** on 4 Aug 2007, 8:49 a.m.,  
in response to message #9 by Namir*

WOW!!!!

Thanks, see you soon in San Diego. Greetings, Joerg

**Re: First Impressions of the TI-nspire**

*Message #11 Posted by **Namir** on 3 Aug 2007, 12:15 p.m.,  
in response to message #4 by Joerg Woerner*

Joerg,

I went back to the French supermarket today to look at the TI calculators. They had a bright-green colored Multiview. No red version. As for the TI-nspire CAS calculators, the shelf was EMPTY!! By contrast, the regular TI-nspire (no CAS support) seems have sold nothing (maybe one unit!).

Namir

**Re: First Impressions of the TI-nspire**

*Message #12 Posted by **Steve Borowsky** on 1 Aug 2007, 6:36 p.m.,  
in response to message #1 by Namir*

Wow. If Namir is that impressed it must really be something. I wonder what the chance is of finding it on a shelf in the States. Hmm - Namir, can you come up with a probability distribution?

**Re: First Impressions of the TI-nspire**

*Message #13 Posted by **Brad Davis** on 1 Aug 2007, 8:32 p.m.,  
in response to message #1 by Namir*

Is RPN/RPL available? If not, it's worthless to me.

**Re: First Impressions of the TI-nspire**

*Message #14 Posted by **Walter B** on 2 Aug 2007, 12:55 a.m.,  
in response to message #13 by Brad Davis*

For sure not!

**Re: First Impressions of the TI-nspire**

*Message #15 Posted by **Namir** on 2 Aug 2007, 1:36 a.m.,*



*in response to message #13 by Brad Davis*

TI does not support RPN. The programming language for the TI-nspire is BASIC-like.

### **Re: First Impressions of the TI-nspire**

*Message #16 Posted by **Vincze** on 2 Aug 2007, 8:32 a.m.,  
in response to message #13 by Brad Davis*

Does TI even know how to spell RPN?

### **Re: First Impressions of the TI-nspire**

*Message #17 Posted by **Namir** on 2 Aug 2007, 12:13 p.m.,  
in response to message #16 by Vincze*

Sure! They had an RPN module or program for the TI-59.

TI feels that RPN is not mainstream and is directing its designs to produce calculators where the user can enter expressions in a manner that is similar to writing them on paper.

Namir

### **Re: First Impressions of the TI-nspire**

*Message #18 Posted by **Vincze** on 2 Aug 2007, 2:03 p.m.,  
in response to message #17 by Namir*

They they build calculator to the dumbest common denominator. Ok... I think I understand now. For some reason, this not sound like good marketing strategy.

### **Re: First Impressions of the TI-nspire**

*Message #19 Posted by **Rodger Rosenbaum** on 2 Aug 2007, 1:51 a.m.,  
in response to message #1 by Namir*

Quote:

As a regression junkie, I was more than impressed--they had all kinds of models you can fit and plus multiple regression.

How does it do on the Longley and Filip datasets at the NIST site?

<http://www.itl.nist.gov/div898/strd/lls/lls.shtml>

### **Re: First Impressions of the TI-nspire**

*Message #20 Posted by **Howard Owen** on 3 Aug 2007, 7:43 p.m.,  
in response to message #1 by Namir*

I've ordered a CAS model from [SchoolMart](#). Maybe we can compare notes at HHC2007. 8)

Regards  
Howard

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### HP48GX units problem

Message #1 Posted by [Noël Cotter](#) on 1 Aug 2007, 8:14 a.m.

If on my HP48GX I do the following:

1000 Hz 1E-6 F \* INV jç §Ù

I get 1000\_§Ù

Where as the correct answer is:

(0,-159.154943092)\_ §Ù

First, it's obvious the calculator has not made the conversion from Hz to radians/sec.

Next, if I type:

(0,2) §Ù

I get an error message °Bad Argument Type;± so apparently the units cannot be appended to a complex number. But 1 / (1 Hz \* 1 F) does NOT equal 1 §Ù even if we neglect signs or complex numbers.

### Re: HP48GX units problem

Message #2 Posted by [bill platt](#) on 1 Aug 2007, 9:49 a.m.,  
in response to message #1 by Noël Cotter

This might be worth a search through archives of comp.sys.hp48

### Re: HP48GX units problem

Message #3 Posted by [Noël Cotter](#) on 1 Aug 2007, 5:36 p.m.,  
in response to message #1 by Noël Cotter

I see that the text was garbled when I posted it. I'll try editing it in and see if it will make more sense.

If on my HP48GX I do the following:

1000

Hz

1E-6

F

\*

INV

I get:

1000\_Ohm

(Ohm symbol does not post correctly)

Where as the correct answer is:

(0,-159.154943092)\_Ohm

First, it's obvious the calculator has not made the conversion from Hz to radians/sec.

Next, if I type:

0,2)

Ohm

I get an error message, "Bad Argument Type", so apparently the units cannot be appended to a complex number. But  $1 / (1 \text{ Hz} * 1 \text{ F})$  does NOT equal 1 Ohm even if we neglect signs or complex numbers.

There, that makes a little more sense.

*Edited: 1 Aug 2007, 5:41 p.m.*

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## HP Forum Archive 17

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### Best font for keypad legend?

Message #1 Posted by [DaveJ](#) on 1 Aug 2007, 6:04 a.m.

I'm currently designing a calculator keypad overlay and was wondering what font looks best for keypad legends? (and why) The text will be quite small, about 1.5mm in height, if that makes a difference.

I can of course simply pick one I like, but just wondering if there is a type commonly used, and the reasons behind it.

Thanks Dave.

### Re: Best font for keypad legend?

Message #2 Posted by [Ivan Nejgebauer](#) on 1 Aug 2007, 8:45 a.m.,  
in response to message #1 by [DaveJ](#)

Quote:

I'm currently designing a calculator keypad overlay and was wondering what font looks best for keypad legends? (and why)

As a rule, small inscriptions are more readable if set in a sans-serif font -- serifs would add too much clutter. The "best" font is, readability aside, often a matter of designer's taste and the message meant to come across. E.g., the HP-35s labels are set in Futura, a really beautiful geometric sans-serif font which was hugely popular in the '60s, which is probably a subtle part of the calculator's "retro" styling.

Practically speaking: use a sans-serif font. Futura may seem too "retro", various Gothic (Franklin Gothic, News Gothic) typefaces are probably a better fit.

i.

### Re: Best font for keypad legend?

Message #3 Posted by [Walter B](#) on 2 Aug 2007, 1:12 a.m.,  
in response to message #1 by [DaveJ](#)

After all, ARIAL seems suitable for most applications. Remember it is just a minimal modification of HELVETICA (AFAIK, only to avoid paying license fees - so much about fair trade in this direction), so the original will do it, too.

To my experience, ARIAL UNICODE will allow you almost everything you may wish, including Greek, Math symbols and arrows, and even x-hat (for FCSTX)!

HTH, Walter

## Re: Best font for keypad legend?

Message #4 Posted by [Thomas Klemm](#) on 2 Aug 2007, 2:12 a.m.,  
in response to message #3 by Walter B

Quote:

\_\_\_\_\_  
ARIAL (...) is just a minimal modification of HELVETICA  
\_\_\_\_\_

Some additional information:

[The Scourge of Arial](#)

[How to Spot Arial](#)

[Arial or Helvetica?](#)

## Re: Best font for keypad legend?

Message #5 Posted by [Walter B](#) on 2 Aug 2007, 4:42 a.m.,  
in response to message #4 by Thomas Klemm

Thanks, Thomas! I've read that once before, but didn't remember the link anymore.

## Re: Best font for keypad legend?

Message #6 Posted by [Thomas Klemm](#) on 2 Aug 2007, 8:25 a.m.,  
in response to message #5 by Walter B

Then you might be interested in [the documentary](#) as well.  
Just recently Helvetica celebrated its [50th birthday](#).

---

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## HP Forum Archive 17

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### HP 35s Cheat Sheet / Reference Card?

Message #1 Posted by [Daniel Vollmer](#) on 1 Aug 2007, 5:01 a.m.

Being a new user of the 35s, I was wondering whether there already is some form of reference card that would fit inside the calculator case, a bit like the useful "HP 48 Pocket Book" by James Donnelly. Some things are quite different from what I'm used to from my 48GX, and are not entirely "discoverable" without the manual (e.g. flag meanings, EQN R(down arrow) for stack variables, or the format of variables for ISG or DSE, format of programs for SOLVE or INTEGRATE, ...)

All in all, I'm quite fond of the calculator itself, and the manual was a good read (though it felt a bit inconsistent at times, as if they were written at different times and with different expectations of the default mode / flags the calculator shipped with, especially in the way that it mostly treated RPN but sometimes had examples in ALG). Seeing the "First Edition — February 2007" also made me wonder a bit.

The only scary moment was when I missed the included batteries in the (awful) blister packaging. I just couldn't believe they wouldn't include the batteries... ^\_^

### Re: HP 35s Cheat Sheet / Reference Card?

Message #2 Posted by [Vincze](#) on 1 Aug 2007, 9:54 a.m.,  
in response to message #1 by Daniel Vollmer

Quote:

... "HP 48 Pocket Book" by James Donnelly...

I am interested in this book. I look online for, but I do not see. Is this something that is freely download, or something users must buy.

I too think something simple should be made for 35s. Book ok, but big to carry around with calculator. I rather have three fold sheet that offer most important items.

### Re: HP 35s Cheat Sheet / Reference Card?

Message #3 Posted by [Daniel Vollmer](#) on 1 Aug 2007, 10:21 a.m.,  
in response to message #2 by Vincze

Quote:

I am interested in this book. I look online for, but I do not see. Is this something that is freely download, or something users must buy.

It was available for sale when I bought my 48GX in 1996. If I recall correctly I mail-ordered it from [Educalc](#) back in the day. [Amazon Link](#), but it'll be hard to get, I should think.

Quote:

---

I too think something simple should be made for 35s. Book ok, but big to carry around with calculator. I rather have three fold sheet that offer most important items.

---

Yes, a reference card should do fine, a whole book would be overkill! :)

As an aside, I'm still not sure which is the most efficient way to loop on the HP 35s; judging from the HP 33s Datafile review, it's not DSE / ISG, but should I use RCL+, STO-, or ...

### **Re: HP 35s Cheat Sheet / Reference Card?**

*Message #4 Posted by [Giancarlo \(Italy\)](#) on 1 Aug 2007, 10:38 a.m.,  
in response to message #2 by Vincze*

Hi Vincze.

You can find the book on [CalcPro](#)

You have to press the "Search" button on the left, then use a convenient search string, such as:  
"48 pocket book"

and you get the book listed for 6.95 USD (shipping & handling fees to be added).

Hope this helps.

Best regards.

Giancarlo

### **Re: HP 35s Cheat Sheet / Reference Card?**

*Message #5 Posted by [Vincze](#) on 1 Aug 2007, 10:52 a.m.,  
in response to message #4 by Giancarlo (Italy)*

Ciao Giancarlo! Thank you so much for the information. I will check it out. Any idea how many pages this little book is?

Also, what part of Italy are you from? I met my wife in Sicily while I was on holiday. I think it funny that a Hungarian man marry a Sicilian, but she is beautiful woman.

### **Re: HP 35s Cheat Sheet / Reference Card?**

*Message #6 Posted by [Daniel Vollmer](#) on 1 Aug 2007, 10:56 a.m.,  
in response to message #5 by Vincze*

Quote:

---

Any idea how many pages this little book is?

---

58 pages, and it fits snugly into the soft-case of the 48GX.

### **Re: HP 35s Cheat Sheet / Reference Card?**

*Message #7 Posted by [Vincze](#) on 1 Aug 2007, 11:22 a.m.,  
in response to message #6 by Daniel Vollmer*

Good morning Daniel. 58 pages not exactly little book. I was thinking maybe three pages. Thank you for information though.



### **Re: HP 35s Cheat Sheet / Reference Card?**

*Message #8 Posted by [Giancarlo \(Italy\)](#) on 1 Aug 2007, 11:02 a.m.,  
in response to message #5 by Vincze*

Vincze,

"unfortunately" I live in the middle of the Adriatic coast, quite far from Sicily :-(  
But I hope I'll have a chance to go there on holiday in the very next future :-))

Viszlát (I hope it's correct ;-)

Giancarlo

### **Re: HP 35s Cheat Sheet / Reference Card?**

*Message #9 Posted by [Vincze](#) on 1 Aug 2007, 11:19 a.m.,  
in response to message #8 by Giancarlo (Italy)*

Ha ha ... close enough. Actually, it viszlát, but I know what you intended.

Why you say unfortunately you live in middle of Adriatic Coast? Adriatic sea is very beautiful.  
I was at Ancona once with friends on holiday while in college and it very beautiful.

*Edited: 1 Aug 2007, 11:25 a.m.*

### **Adriatic Coast**

*Message #10 Posted by [Nenad \(Croatia\)](#) on 2 Aug 2007, 3:27 a.m.,  
in response to message #9 by Vincze*

Hi Vincze,

Quote:

Why you say unfortunately you live in middle of Adriatic Coast?

Maybe, because there are also places, such as Split, where I live, which may be described as "middle of Adriatic Coast", but located on the other (eastern side) of Adriatic.

The Adriatic is a better place along the Croatian side of Adriatic, than the Italian one, owing to a lower rate of industrialization. You Hungarians certainly know this fact very well, as many of your fellow (former) citizens come here to spend vacancies.

Croats from the inland say to us: "Fortunately, you live on the Adriatic Coast".

Nevertheless, it is obvious (at least Giancarlo and I may prove) that HP vintage calculators grow perfectly well on both sides of the Adriatic;)

### **Re: Adriatic Coast**

*Message #11 Posted by [Giancarlo \(Italy\)](#) on 2 Aug 2007, 4:21 a.m.,  
in response to message #10 by Nenad (Croatia)*

Hi Nenad.

Quote:

---

HP vintage calculators grow perfectly well on both sides of the Adriatic

What about a new HP "ACO" - Adriatic Coast Owners ? ;-))

Best regards.

Giancarlo

### **Re: Adriatic Coast**

*Message #12 Posted by **Nenad (Croatia)** on 2 Aug 2007, 5:54 a.m.,  
in response to message #11 by Giancarlo (Italy)*

Hi Giancarlo,

Quote:

---

What about a new HP "ACO" - Adriatic Coast Owners ? ;-))

---

Perfect idea! Organizing a meeting of the new club would not be difficult at all, one year in Split, another one in Ancona. Regardless of the number of its members it would certainly be an international club ;)

AFAIK, the SNAV's hydrofoil craft takes less than 4 hours coast-to-coast. Beginning of ferragosto it is full of Italians. After they get of the ship, in streets of Split you can hear only Italian. And that happens about ... just now!

### **Re: Adriatic Coast**

*Message #13 Posted by **Vincze** on 2 Aug 2007, 8:36 a.m.,  
in response to message #10 by Nenad (Croatia)*

Quote:

---

The Adriatic is a better place along the Croatian side of Adriatic, than the Italian one, owing to a lower rate of industrialization.

---

Both sides very nice and I not disagree with you that Croatian side not very nice. But the times I be in Italy, it was very nice.

### **Re: HP 35s Cheat Sheet / Reference Card?**

*Message #14 Posted by **bill platt** on 1 Aug 2007, 12:13 p.m.,  
in response to message #1 by Daniel Vollmer*

The manuals inconsistencies may stem from the history of the manual: it is the 33s manual re-worked, where the 33s manual was a re-worked 32sii manual. Some of the original 32sii stuff that was taken out of the 33s manual has made its way back in, in modified form.

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## HP Forum Archive 17

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### Low Battery Warning Sign After Replacement?

Message #1 Posted by [PhysicsNerd](#) on 1 Aug 2007, 4:42 a.m.

I've recently (3-4 days ago) replaced my batteries when the low battery warning sign went on with Duracell rechargeable batteries (fully recharged when I put them in).

However, now the low battery sign is on again. Are the batteries out already or is it signaling the coin battery? How do I know which one it is talking about? Should I recharge my batteries again (maybe because they are new and this is the first time using them?)? Thanks.

### Re: Low Battery Warning Sign After Replacement?

Message #2 Posted by [PhysicsNerd](#) on 1 Aug 2007, 10:20 a.m.,  
in response to message #1 by [PhysicsNerd](#)

I've just woken up and to my surprise the low battery sign is gone! ...however, it came back after about 10 minutes. Does anyone know what is happening here? Should I download the batstatus 1.3 from <http://www.hpcalc.org/search.php?query=batstatus> ? Is this program compatible with the 50g and where can I read a tutorial on how to download programs into my calculator from my computer? Does it show the battery status of both the 4 AAA and the coin battery? Thanks.

### Re: Low Battery Warning Sign After Replacement?

Message #3 Posted by [Rodger Rosenbaum](#) on 1 Aug 2007, 11:07 a.m.,  
in response to message #2 by [PhysicsNerd](#)

I posted some information on this subject: <http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv017.cgi?read=112318#112318>

As a Physics Nerd, you should have access to a digital voltmeter. Open up the back of your HP50G and touch the voltmeter probes to the ends of each cell to check its voltage. Do this with the calculator turned on. See if any one of the cells is substantially lower in voltage than the others. You may have a bad cell.

If you have access to a variable power supply as well, you can do the test I did. Connect the supply in place of the battery. Slowly adjust the supply from 4.5 volts to lower voltage. Make a note of the voltage when the low battery indicator comes on. Divide this number by 4 and that will be the per cell voltage that just causes the low battery indicator to come on. You can compare that number to the result I got.

As I mention in my post referenced above, on the HP50G that I have, the low battery indicator comes on when the NiMH cells are about 70% discharged. This has the obvious disadvantage that if you replace (and charge) them at that time, you will only be getting about 70% of the use per charge. But, it has the advantage that you have ample warning to replace (charge) them. This is good because normally NiMH and NiCAD cells have a very rapid drop in voltage when they are about dead, and you could only have a few minutes left when the low battery indicator comes on if it was set to come on when the cells were 99% discharged.

Have you been giving your HP50G especially heavy use since you switched to rechargeable cells?

*Edited: 1 Aug 2007, 11:11 a.m.*

### **Re: Low Battery Warning Sign After Replacement?**

*Message #4 Posted by [Dave Colver](#) on 1 Aug 2007, 10:26 a.m.,  
in response to message #1 by [PhysicsNerd](#)*

You didnt mention which handheld your using nor what sort of rechargeable cells your using. If your machine has a backup cell then I'm guessing its a 48/48/50 series. If your using NiCd (nicad) then a low battery status is to be expected as they have a significantly lower voltage to start with (1.2-1.25V). You may fare better with NiMH (Nickle Metel Hydride cells) which start at 1.5V. If you insist upon using rechargeables do make sure you have a good backup cell in place as the discharge characteristics of most rechargeables means the backup cell will be needed.

### **Re: Low Battery Warning Sign After Replacement?**

*Message #5 Posted by [PhysicsNerd](#) on 1 Aug 2007, 4:45 p.m.,  
in response to message #4 by [Dave Colver](#)*

Quote:

You didnt mention which handheld your using nor what sort of rechargeable cells your using. If your machine has a backup cell then I'm guessing its a 48/48/50 series. If your using NiCd (nicad) then a low battery status is to be expected as they have a significantly lower voltage to start with (1.2-1.25V). You may fare better with NiMH (Nickle Metel Hydride cells) which start at 1.5V. If you insist upon using rechargeables do make sure you have a good backup cell in place as the discharge characteristics of most rechargeables means the backup cell will be needed.

I have a hp 50g and I'm using Duracell AAA Rechargeable batteries NiMH, 1.2 V each, 1000 mAh.

I charged them before I put them in my calculator. After I wait a few hours and then turn on my calc, the low battery warning sign disappears. I turn it off and then on again, still no sign. However, if I use it for a while, turn it off and on, it appears! The process starts over...

### **Re: Low Battery Warning Sign After Replacement?**

*Message #6 Posted by [PhysicsNerd](#) on 1 Aug 2007, 6:13 p.m.,  
in response to message #1 by [PhysicsNerd](#)*

What are all of these codes for the Batstatus? I want to learn about how to download these program and more able calculators. Where can I go to seek the information?

[http://groups.google.com/group/comp.sys.hp48/browse\\_thread/thread/453d77ac9ecbf7e1/ebe420474f36c151?lnk=st&q=BatStatus+group%3Acomp.sys.hp48&rnum=8#ebe420474f36c151](http://groups.google.com/group/comp.sys.hp48/browse_thread/thread/453d77ac9ecbf7e1/ebe420474f36c151?lnk=st&q=BatStatus+group%3Acomp.sys.hp48&rnum=8#ebe420474f36c151)

### **Re: Low Battery Warning Sign After Replacement?**

*Message #7 Posted by [PhysicsNerd](#) on 1 Aug 2007, 10:42 p.m.,  
in response to message #6 by [PhysicsNerd](#)*

This is post from the website link you gave me:

Quote:

---

In powering our data collection system (www.pssllc.com) we've learned lots about batteries.

Most interesting is that certain units respond differently to the same sets of batteries. Some calculators appear to respond with a low voltage message much earlier than others.

One in particular, will give 8 full hours of use after the first low voltage warning. That is powering two long range (up to 1700' working range!) Bluetooth adapters and an external communication circuit board. The same set of batteries, charged in the same manner, will only last 3 hours past the warning on other units.

Some units will run for 3 days consistently moving in and out of the "low voltage" warning level, and then moving above the threshold.

In short, I've learned never to replace the batteries until the calculator refuses to turn on. I often get several more days out of my rechargeables on my "non" data collector units.

TW

---

Does that mean the low battery warning on my calc is not really an indicator that my batteries need to be changed? Will it gradually disappear?

---

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## HP Forum Archive 17

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### Reading the New HP Museum DVD disks

Message #1 Posted by [Gerry Schultz](#) on 31 July 2007, 7:44 p.m.

I got version 6 of the HP Museum late last week and when I put DVD disk one in my iMac G5, the Superdisk spit it back out which indicated it could not read it at all. Then I put the disk in my Dell Inspiron 8500 DVD burner and Windows XP showed the disk in the drive and upon opening it, I got a file list. But, when I tried to open start.htm under IE7, it hung up in a loop of trying to open the startup file. Hummm, now that's strange.

So, I took it to work and put it in my XP machine and IE 7 opened up the disk and I could browse it with no problems. I also checked DVD disk 2 in all three machines and I could browse without a problem. Has anyone else had a problem with their HP Museum disks?

BTW, I should mention that I love all the new material on the disks. It's great. When the DVDs arrived in the mail, my wife looked at me and said, "What did you order now"? I showed it to her and explained to her what was on them and all she did was roll her eyes. More geek stuff. She let's me have this and I let her have her catalogs. It works out well.

Thanks for the feedback,

Gerry

### Re: Reading the New HP Museum DVD disks

Message #2 Posted by [Steve Borowsky](#) on 31 July 2007, 8:27 p.m.,  
in response to message #1 by Gerry Schultz

Quote:

I showed it to her and explained to her what was on them and all she did was roll her eyes. More geek stuff. She let's me have this and I let her have her catalogs. It works out well.

Thanks for the feedback,

Gerry

Sounds like a neat arrangement. Just don't give her a 35s for your next wedding anniversary. It sounds like a marginal disk. I'm sure Dave will send you a replacement if you explain the problem.

### Re: Reading the New HP Museum DVD disks

Message #3 Posted by [Greg Whitfield](#) on 31 July 2007, 8:28 p.m.,  
in response to message #1 by Gerry Schultz

I also have a problem with the HP Museum version 6 DVD disk 1 on my MacBook (May 2007 version) with the 8x double-layer Super Drive. I was attempting to copy DVD disk 1 to my hard drive and about halfway through the process it went into a loop where it sounded like the drive was spinning loudly, almost like my fan

kept stopping and starting. It kept doing that until several minutes after I had pressed the "X" to cancel the copy. DVD disk 2 copied to my hard drive without any problems.

I contacted Dave Hicks and he quickly responded that he had contacted the DVD duplicating company and they were investigating the problem. I'm sure that Dave will do his best to see that this issue is resolved.

I wish to thank Dave for his devotion and wonderful work on hpmuseum.org and in putting these disks together. It's an invaluable service to those of us who have a strong interest (or strange obsession as my wife might put it) in HP calculators.

Thank you,

Greg

### **Re: Reading the New HP Museum DVD disks**

*Message #4 Posted by [Vincze](#) on 31 July 2007, 9:13 p.m.,  
in response to message #1 by Gerry Schultz*

Good evening Gerry. All I can say is remind wife that staying home and looking at HP DVD better than going to bar and getting in trouble.

I not have any of the DVD so I can not help with that. I sorry.

### **Re: Reading the New HP Museum DVD disks**

*Message #5 Posted by [Gerry Schultz](#) on 1 Aug 2007, 6:48 p.m.,  
in response to message #4 by Vincze*

To All:

Thanks for your responses. Steve, I would never give my wife a 35s for our anniversary. I was thinking a vacuum cleaner ;-). No, I actually bought a vacuum cleaner for an old girl friend when I was very young. I learned quickly that for birthdays and anniversaries, I'm to get something romantic and frivolous (is that the engineer in me?) to commemorate the occasion; ESPECIALLY if she says it's alright, she doesn't need anything. Lastly, I'm saving the good stuff, like a 35s for ME! When it's my birthday and she comes pleading with me about a week before asking me what I want, that's when I get the good loot!

Greg, I second my gratitude to Dave for the herculean effort it takes to publish these DVD disks. I enjoy them very much and simply offer my thanks.

Gerry

### **Re: Reading the New HP Museum DVD disks**

*Message #6 Posted by [John Limpert](#) on 1 Aug 2007, 6:57 p.m.,  
in response to message #1 by Gerry Schultz*

I didn't have any problem reading the discs on my PowerMac G4 with a Pioneer DVR-110D. The first disc appears to be dual-layer, which can cause difficulties for some DVD drives.

I really like the new color scans of the manuals. There's a lot of great stuff on the discs.

### **Re: Reading the New HP Museum DVD disks**

*Message #7 Posted by [Christoph Giesselink](#) on 2 Aug 2007, 2:42 p.m.,*

*in response to message #1 by Gerry Schultz*

I got CRC errors with the HP Museum v6 DVD1 on a Plextor PX-130A. I managed it to make a copy to hard disc with a Plextor PX-716A DVD burner.

DVD2 is working without problems.

Cheers

Christoph

### **Re: Reading the New HP Museum DVD disks**

*Message #8 Posted by [Peter A. Gebhardt](#) on 3 Aug 2007, 4:34 a.m.,  
in response to message #1 by Gerry Schultz*

Dear All,

No problems with both DVD's sent to Germany on July 26th. Able to read them completely on (older) TOSHIBA SD-C2502.

I want to thank Dave and all the volunteers, who spend their leisure time to scan the manuals for a collection of information which proves to be several times worth the price paid for the DVD's!

My special thanks go to Bill (Smithsville) who finally motivated me to order from Dave.

Best regards

Peter A. Gebhardt

*Edited: 3 Aug 2007, 4:36 a.m.*

### **Re: Reading the New HP Museum DVD disks**

*Message #9 Posted by [Christoph Widmer](#) on 5 Aug 2007, 3:02 a.m.,  
in response to message #1 by Gerry Schultz*

Both of my DVD's unfortunately arrived completely scratched. While I managed to copy the first one to harddisk, the second one is definitely a no-go (I tried on three different DVD-burners). The problem in my case lies in the packaging, it does not keep the DVD's firmly in place - so during shipping they turn loose and move all over the place, becoming badly scratched. As normal cleaning did not help I will try a special CD cleaning paste which should get rid of light scratches, before I will bother Dave with a replacement request. I would like also to seize the opportunity to thank Dave for his incredible effort to put all this material together!

Chris.

### **Re: Reading the New HP Museum DVD disks**

*Message #10 Posted by [Christoph Giesselink](#) on 5 Aug 2007, 5:02 p.m.,  
in response to message #9 by Christoph Widmer*

Quote:

\_\_\_\_\_

The problem in my case lies in the packaging, it does not keep the DVD's firmly in place - so during shipping they turn loose and move all over the place, becoming badly scratched.

\_\_\_\_\_



Yes, you're right. The DVD holder on the left side of the packaging is also broken on my shipping (haven't found the broken part inside), but I have the luck that disc2 has only scratches on the painting, whereas disc1 has scratches only on a spot near the middle on the laser reading side.

So the broken holder seem not to be an exception like I thought first.

Cheers

Christoph

### **Re: Reading the New HP Museum DVD disks**

*Message #11 Posted by [Dave Shaffer \(Arizona\)](#) on 5 Aug 2007, 9:51 p.m.,  
in response to message #10 by Christoph Giesselink*

Quote:

but I have the luck that disc2 has only scratches on the painting, whereas disc1 has scratches only on a spot near the middle on the laser reading side.

You may not have the luck you think (although if you can read them now, you are OK this time)! But, in general, scratches on the "laser reading side" (by which I presume you mean the clear, or down, side) are generally NOT a problem unless they are fairly severe. The information on the disk is actually encoded just below the printed side, i.e. on the top side of the plastic disk material just below the printed label. Light from the reading beam enters the bottom side in a relatively wide beam that is in the process of being focussed into a spot at the top. So, a scratch on the "top" side will cause problems if it extends through the label into the information material layer.

That said, I, too, have suffered from serious scratching on the clear side of an audio CD. I managed to cure the problem by polishing the plastic with a gentle rubbing using toothpaste.

### **Re: Reading the New HP Museum DVD disks**

*Message #12 Posted by [Christoph Giesselink](#) on 6 Aug 2007, 3:03 p.m.,  
in response to message #11 by Dave Shaffer (Arizona)*

I agree in cases when scratches on the painting side go through the near-by underlying reflection plate.

CD's or DVD's with such a defect are unreadable and unrepairable.

Cheers

Christoph

### **Re: Reading the New HP Museum DVD disks**

*Message #13 Posted by [James M. Prange \(Michigan\)](#) on 7 Aug 2007, 8:35 a.m.,  
in response to message #11 by Dave Shaffer (Arizona)*

Quote:

The information on the disk is actually encoded just below the printed side, i.e. on the top side of the plastic disk material just below the printed label.

True for CDs, but not for DVDs.

Assuming single-sided DVDs, you'd have to have damage (from the "label" side) more than half way through to affect the data on a single-layer DVD, and almost half way through to affect the data on a dual-layer DVD.

For some diagrams of the physical structures of DVDs, see [http://www.divxland.org/dvd\\_formats.php](http://www.divxland.org/dvd_formats.php) or chapter 3 page 3 of <http://www3.toshiba.co.jp/dvd/e/whats/index.htm>.

I believe that the HP Museum version 6 DVD set is one DVD-9 (single-sided dual-layer) plus one DVD-5 (single-sided single-layer).

The direction of a scratch makes a big difference. If the scratch is radial, then there's a good chance that between the data interleaving and error correction codes, the disc drive will be able to correct the errors. If the scratch is tangential, or worse yet, parallel to the track, then too long of a stretch of data may be corrupted to make a correction. If you try to polish out a scratch, then be sure to rub radially. For polishing, Brasso or NEVR-DULL metal polishes seems to work well, although some mildly abrasive toothpastes should work, and there are products marketed specifically for CDs and DVDs.

Regards,  
James

*Edited: 7 Aug 2007, 8:49 a.m.*

### **Re: Reading the New HP Museum DVD disks**

*Message #14 Posted by [Dave Shaffer \(Arizona\)](#) on 7 Aug 2007, 10:35 a.m.,  
in response to message #13 by James M. Prange (Michigan)*

Quote:

True for CDs, but not for DVDs

James,

Thanks for the correction - I knew this was the case for CDs, and I just assumed CDs and DVDs had the same physical layout!

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## HP Forum Archive 17

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### Rectangular to Polar on the HP35s

Message #1 Posted by [Howard Boardman](#) on 31 July 2007, 12:27 p.m.

I have some surveying programs I'm trying to put into the 35s. They were originally written for the 33s. One of the steps is a rectangular to polar conversion. There is no "y,x->è,r" button on the 35s. What is the equivalent sequence of this on the the 35s? I am just confused by the manual. Thanks for your help.

### Re: Rectangular to Polar on the HP35s

Message #2 Posted by [Gene Wright](#) on 31 July 2007, 12:45 p.m.,  
in response to message #1 by Howard Boardman

The HP35s does not convert P->R and R->P the way previous HP calculators have done. There is no provision that does this exactly the same way.

The 35s has a DISPLAY option which changes the 5i5 style complex number (rectangular) to the magnitude THETA angle style complex number (polar).

If you're just showing results one way or the other, change the display mode.

If you need the magnitude and angle of a rectangular complex number, then the ABS function will grab the magnitude and the ABS function will grab the angle portions of a complex number, even if the display mode is "rectangular".

If you need the X and Y coordinates of a polar form complex number, then it is a bit more complicated.

First, find the magnitude and angle as described above.

Then transform these into the X and Y coordinate as:

$X = \text{magnitude} \times \text{COS theta}$

and

$Y = \text{magnitude} \times \text{SIN theta}$

Be aware that for arguments VERY close to 90 degrees, the COS function is less accurate than for other angles. Rather than 9, 10+ decimal positions being accurate, it drops to 4 or 5 positions.

You can read more about this in the learning module found here:

[Complex numbers 2](#)

You can see all the learning modules available for the 35s by going here:

[All 35s learning modules](#)

### **Re: Rectangular to Polar on the HP35s**

Message #3 Posted by [Miguel Toro](#) on 31 July 2007, 1:00 p.m.,  
in response to message #1 by Howard Boardman

You can use [this handy routine](#) written by Les Wright.

Miguel

### **Re: Rectangular to Polar on the HP35s**

Message #4 Posted by [Howard Boardman](#) on 31 July 2007, 1:15 p.m.,  
in response to message #3 by Miguel Toro

Thanks! That should help... what is REGZ in the program?

### **Re: Rectangular to Polar on the HP35s**

Message #5 Posted by [Gene Wright](#) on 31 July 2007, 1:36 p.m.,  
in response to message #4 by Howard Boardman

It is essentially a RCL stack level Z instruction.

You enter it by pressing:

EQN

then

RDN (the roll down key)

and then move the cursor under the Z stack level and press ENTER.

### **Re: Rectangular to Polar on the HP35s**

Message #6 Posted by [Alain Mellan](#) on 31 July 2007, 5:08 p.m.,  
in response to message #5 by Gene Wright

I didn't know about that (should have RTFM :-), so I entered REGZ as EQN RCL R RCL E RCL G RCL Z ENTER ... and it works.

I would seem that equations are really parsed. So I tried entering RE and IMG without much success. :-) But who knows? there may be some hidden function there?

-- alain.

### **Re: Rectangular to Polar on the HP35s**

Message #7 Posted by [Les Wright](#) on 1 Aug 2007, 10:44 p.m.,  
in response to message #4 by Howard Boardman

Despite my little routine, I really lament the lack of a fully range of commands to handle complex numbers and rectangular-polar conversions.

Restoring the familiar P->R and R->P commands would be a good start. xiy to rthetaa display change is nice, and the abs and arg commands can let you get the r and theta values of the vector in polar form. It is also easy enough to create the required complex number from elements of the stack--if Re(z) is in

y and Im(z) in x, i \* + does the trick. So this sequence would replicate the 33s y,x -> @, r command.

```
x<>y
i
*
+
ARG
LASTx
ABS
```

But there seems to be no easy way to create a polar form complex number from stack elements that I can feed into my little routine to give the real and imaginary components of the rectangular form. One seems to have to enter it manually. For example, if I want to create 5@60, I have to enter 5 theta 60. I can't put 5 ENTER 60 on the stack and automate the procedure easily to do it for me. In the 42S, I would simply make sure I was in polar mode and execute 5 ENTER 60 COMPLEX.

If anyone has a painless way to replicate the @,r -> y,x conversion from the 33s, I would be grateful!

I really would vote for a more logical command set in this regard in the 35sii. If ROM is a premium, the calc can really afford to lose those keyboard clogging metric/imperial conversions.

Les

## Re: Rectangular to Polar on the HP35s

Message #8 Posted by [Les Wright](#) on 1 Aug 2007, 11:02 p.m.,

in response to message #7 by Les Wright

Actually, I revisited my basic complex analysis books and I think I have a solution for the @,r -> y,x conversion. This assumes the angle is in the y register and modulus in the x, just as it would be for the 33s function:

```
x<>y
COS
LASTx
SIN
i
*
+
*
```

(send off to my little routine or hopefully a better one to decompose to Re and Im, returns Re in y register, Im in x)  
x<>y (to put x component in x register and y in y, as is done on 33s)

This alternative assumes the calc is in degree mode:

```
x<>y
->RAD
i
*
e^x
*
(decompose to Re and Im as you wish)
x<>y
```

Let's say the first one is under LBL P. I try this in degree mode:

```
3 ENTER 4 / ATAN 5 XEQ P ENTER
```

and I get 4 returned in the x register, 3 in the Y, exactly as it should be!

Cumbersome, but the programs involved are very short, and it seems to work except when rounding error or the damned cosine bug compromises accuracy in certain cases.

Les

**Re: Rectangular to Polar on the HP35s**

Message #9 Posted by [Les Wright](#) on 1 Aug 2007, 11:51 p.m.,  
in response to message #8 by Les Wright

Actually, that last one was way to complicated.

I prefer this:

```
x<>y
COS
LASTx
SIN
REGZ
*
x<>y
LASTx
*
```

There is no point in computing the modulus and argument back and forth when you have it in the first place!

In short the following two little subroutines, which I put under the same label P, replicate the 33S polar-rectangular conversions, and I think most succinctly answer the OP's question:

```
(P001) LBL P
x<>y
i
*
+
ARG
LASTx
ABS
(P009) RTN

(P010)x<>y
COS
LASTx
SIN
REGZ
*
x<>y
LASTx
*
(P019) RTN
```

Examples (in degrees mode):

4 ENTER 3 / ATAN 25 XEQ P002 returns 20 in the y register, 15 in the x.

8 ENTER 6 XEQ P010 returns 53.130123542 (degrees) in the y register, 10 in the x--exactly what you would expect for a Pythagorean triple of 6-8-10.

I think the absence of the well loved conversion routines will inspire most serious users of the 35s to have subroutines like these in memory, and I hope that revisions of the machine rectify this. And, of course, that nuisance cosine bug!

Les

*Edited: 2 Aug 2007, 2:00 a.m. after one or more responses were posted*

## **Re: Rectangular to Polar on the HP35s**

*Message #10 Posted by [Howard Boardman](#) on 2 Aug 2007, 1:58 a.m.,  
in response to message #9 by Les Wright*

Thanks to all for the subroutine advice. So far I did a little modification of the little subroutine and it seems to work fine. I'm doing surveying programs for traversing, area by coordinates and so on. The following seems to work quite well for rect. to polar, although I get a negative azimuth when in the 4th quadrant (-x,y) which is entirely fine:

S001 LBL S

S002 i

S003 \*

S004 +

S005 ABS

S006 LASTx

S007 ARG

S008 360

S009 RMDR

S010 90

S011 -

S012 +/-

S013 x<>y

S014 RTN

A few extra steps I realize but for the programs I had created it was easier to modify this one than to modify the others. Atleast HP had the sense to allow XEQ and GTO within programs. Its hard to make a calculator to please all professions, but at least with subroutines we can be creative and work around short-commings.

*Edited: 2 Aug 2007, 2:00 a.m.*

## **Re: Rectangular to Polar on the HP35s**

*Message #11 Posted by [db \(martinez, ca.\)](#) on 2 Aug 2007, 11:32 p.m.,  
in response to message #10 by Howard Boardman*

Howard;

Tight stuff man. WAY better than mine and my favorite here so far. Leave it to a surveyor. You going polar to rectangular next?

## **Re: Rectangular to Polar on the HP35s**

*Message #12 Posted by **Walter B** on 2 Aug 2007, 1:21 a.m.,  
in response to message #7 by Les Wright*

Quote:

I really would vote for a more logical command set in this regard in the 35sii. If ROM is a premium, the calc can really afford to lose those keyboard clogging metric/imperial conversions.

Fully agreed! :) There are by far more important functions on the waiting list for keyboard space.

**Re: Rectangular to Polar on the HP35s or viz-a-viz is a Disaster. NT**

*Message #13 Posted by **Trent Moseley** on 31 July 2007, 10:25 p.m.,  
in response to message #1 by Howard Boardman*

NT

**Re: Rectangular to Polar on the HP35s**

*Message #14 Posted by **Reth** on 2 Aug 2007, 3:07 a.m.,  
in response to message #1 by Howard Boardman*

[Here is my version](#) :) cheers, reth

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## HP Forum Archive 17

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### **W&W Rambox battery change?**

Message #1 Posted by [Dave Colver](#) on 31 July 2007, 7:47 a.m.

Hi All Any ideas on changing the battery on a W&W Rambox please? Its been unplugged for some years so I dont have much hope of recovering the OS.

Carefully parting the upper 3 circuit boards from the battery/connector board reveals the huge cr2450E cell mounted on a board that appears to run down to the finger connectors. Is there enough flexibility in the board to grasp the board and just pull or is there another technique?

Thanks in advance Dave

### **Re: W&W Rambox battery change?**

Message #2 Posted by [Tony Duell](#) on 1 Aug 2007, 4:19 a.m.,  
in response to message #1 by [Dave Colver](#)

Is this the one in the card reader case?

If so, you can unclip the top part of the HP41 connector section (after separating the case and removing the upper PCBs). Then the bottom board just lifts out.

It's the same as removing the main PCB from an HP41 card reader if you've ever done that.

Alternatively, if you can wait just over a week, bring it to the next HPCC meeting and I'll show you.

### **Re: W&W Rambox battery change?**

Message #3 Posted by [Dave Colver](#) on 1 Aug 2007, 6:46 a.m.,  
in response to message #2 by [Tony Duell](#)

Hello Tony I just knew I should have asked you first :) Actually I managed to get around to testing the battery and its 3.06v - so much for assumptions eh? (Pretty impressive for a 20 year old battery) Now to see if the OS is hiding in there somewhere. I just found the English translation of the W&W manual too which i must scan for posterity :) Dave

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## HP Forum Archive 17

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**HP 35s**

Message #1 Posted by [Ken Cambier](#) on 30 July 2007, 2:56 p.m.

Just got a new 35s and it works nice. It actually comes close to the 11c and 15c. Only one problem. Is it just me or are the yellow and blue function keys goofy? They seem refer to the keyboard layout of the 33s. Shouldn't they just be arrow-up for yellow and arrow-down for blue? Any thoughts?

**Re: HP 35s**

Message #2 Posted by [bill platt](#) on 30 July 2007, 3:05 p.m.,  
in response to message #1 by Ken Cambier

Yes they are goofy that way. Lots of babble about that already.

You should search through the threads here, there is a lot already in discussion that you might find interesting.

**Re: HP 35s gold & blue keys (and arrows)**

Message #3 Posted by [Andrés C. Rodríguez \(Argentina\)](#) on 30 July 2007, 10:13 p.m.,  
in response to message #2 by bill platt

Perhaps someone has already noted this, but is clear for me that, since the LCD mask has been developed for other models like the 33s, the shift symbols in the keyboard must match the LCD indicators. Hence, the arrows. Of course, I would have preferred shift keys with no arrows or, for a stronger retro look, marked as "f" and "g".

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## HP Forum Archive 17

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### HP35s - the minus sign

Message #1 Posted by [Nenad \(Croatia\)](#) on 30 July 2007, 2:46 p.m.

-888 (the proper position of the minus sign)

It should be normal that the minus sign in negative numbers is positioned centered with respect to the height (i.e. at the half height). In HP35s display font it is positioned as the "underscore character upside down". This may be also seen in other HP calculators (e.g. in HP32SII, I suppose). This is something that I really don't like.

I am not sure if anybody has already mentioned this as something he/she dislikes. Simply, why wasn't the minus sign positioned in a "normal" way? Obviously, the HP35s font could withstand this.

Please, do not find this as an over criticism of a lovely machine (really, I do not want to be seen by others as one of the two elder gentlemen in Muppet Show, who criticize every performance from its very beginning).

### Re: HP35s - the minus sign

Message #2 Posted by [bill platt](#) on 30 July 2007, 3:11 p.m.,  
in response to message #1 by [Nenad \(Croatia\)](#)

What you are noting is the "unary minus" which is different from the minus sign. This is unfortunately one rather inconsistent solution (going from model to model). It was a real problem on the 32sii with respect to equations--actually had a buggy behavior (see Finseth's HPdatabase). The 33s dramatically improved the unary minus issue, but I haven't looked in detail of how the 35s is handling it, except to note that there was at least one place in the manual that specifically directs the use of the unary minus.

On other machines, for instance those with an RPL kernel, there isn't the same distinction, as a the minus is simply parsed and that is the end of it. If you have a 27s or 17b handy, and a 48 series, you can explore the similarities/differences in the handling of the minus, as well as differences in the function of the +/- key.

### Re: HP35s - the minus sign

Message #3 Posted by [Nenad \(Croatia\)](#) on 31 July 2007, 2:34 a.m.,  
in response to message #2 by [bill platt](#)

Bill,

Thank you very much for your explanation. AFAIK, in "pencil-and-paper" mathematics there is no need to distinguish between the negative number sign and the subtraction operator. So, I could not figure out (and still cannot) why did the calculator software designers have the need for this.

As a mechanical engineer, dealing with marine engineering in a shipping classification society, I really don't remember a situation where "-" and "-" should be distinguished.

### Re: HP35s - the minus sign

Message #4 Posted by [bill platt](#) on 31 July 2007, 7:36 a.m.,

*in response to message #3 by Nenad (Croatia)*

Hi Nenad,

Yes, I have the same feeling about the "unary minus" as a rather bizarre calculator artifact.

I believe it stems from the difficulty of minus as an *\*operator\** as compared to minus as a *\*condition or state\**. Depending on how you design your command interpretation, that can be an issue. In the original RPN paradigm, CHS is in fact an operation and we avoid the whole issue--we "operate" on a stack object one step at a time, and as such there are no issues with precedence etc.

However once you joint the world of "algebraics" this all changes and the issue of what to do about sign operations becomes a problem. In the case of the 32sii there is no difference in the display of a "unary minus" in the 1st position and yet it exists in the paradigm and further causes a problem:

```
-3^2
          is evaluated to:
9
          on the 32sii equation list.
          Compare this to
1-3^2
```

```
          which evaluates to:
-8.
So, the 32sii treats a unary minus without anything
before it as being inside an imaginary set of
parenthesis:
```

```
(-3)^2. Note that the manual for the 32sii states that
"unary minus" takes precedence over exponentiation, but this was a bad idea and
wasn't consistently implemented, for it
it were, then 1-3^2 would have been equal to 10.
```

```
Note however that in the 32sii, you can use either the "-"
or the "+/-" to write the unary minus, and furthermore
in all but the 1st position, there is a different appearance
between the "unary minus" and a minus, and yet they do *not*
all parse the same way!
```

Take these examples:

```
1-3^2 evaluates to -8
1+-3^2 evaluates to 10
1+^-3^2 (with the high position unary minus) evaluates to 10
```

```
Note that you can type in the regular looking minus
using either the +/- or the - *before* typing "3", or you can
put in the high minus by pressing the +/- after pressing the
"3".
```

```
This is bad behavior of the 32sii equation list was a real
problem until you figured out how to deal with it.
It is totally different from the 48 or the 27 or the 17b.
```

But regardless of how the "unary minus" looks

On any other algebraic parser from HP,

```
-3^2

          evaluates to:
```

-9.

On the new 35s, this bug is eliminated; however a unary minus requires a different syntax--achieved through the "+/-" key in order to parse successfully.

Furthermore on the 35s, you cannot successfully parse odd constructions such as  $1+3^2$  and so the bad behavior of the 32sii equation list avoided.

I don't have my 33s in front of me and although I wrote about this aspect of it some years back, I can't remember now how it handles this aspect.

*Edited: 2 Aug 2007, 7:42 a.m.*

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## HP Forum Archive 17

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**HHC2007 hotel reservation fiasco**

Message #1 Posted by [Eric Smith](#) on 30 July 2007, 2:38 p.m.

I booked my hotel reservation online, and they charged the full amount for my stay to my credit card in advance. That's new to me; usually they just run an authorization, and don't actually run the charge until you arrive (or depart)?

When I noticed this in my online banking account status, I looked at the confirmation that Holiday Inn emailed me. Sure enough, it says that to qualify for some special rate, it had to be prepaid, and was NON-REFUNDABLE in the event of cancellation OR changes.

That might have been in the fine print on the web site, but I didn't see it, and I'm not at all happy about it. I didn't intend to pay them two months in advance, and I might want to change my return date.

Besides which, they charged me \$112+tax per night, rather than the \$99 HCC2007 rate. (I'd tried to book the reservation by phone to get that rate, but when that didn't work I used the web site instead.)

**Update, 2-AUG-2007:**

The manager changed my reservation to the correct rate and refunded the undesired prepayment.

I'd suggest that everyone make their reservations by phone rather than online, to avoid such problems.

*Edited: 2 Aug 2007, 1:52 p.m. after one or more responses were posted*

**Re: HHC2007 hotel reservation fiasco**

Message #2 Posted by [Dave Hicks](#) on 30 July 2007, 3:05 p.m.,  
in response to message #1 by Eric Smith

When I booked, the 800 number, the hotel front desk and the hotel manager didn't know what HHC 2007 was but the manager did vaguely know what a "Hewlett Packard something something" was but he claimed that "they" had never talked to the hotel about a room rate or a room block and he only knew about it from others asking for it. Well the HHC page did say that the hotel may or may not know about an HHC room rate when you call but that's what you'll eventually get, so I'm still hoping for the best.

I don't know if I've been charged already.

**Re: HHC2007 hotel reservation fiasco**

Message #3 Posted by [Dave Hicks](#) on 31 July 2007, 4:22 p.m.,  
in response to message #2 by Dave Hicks

I just got a call from the hotel telling me that my room had been lowered to the HHC rate.

**Please Reserve HHC2007 Hotel Rooms ASAP**

*Message #4 Posted by [Jake Schwartz](#) on 1 Aug 2007, 11:29 a.m.,  
in response to message #3 by Dave Hicks*

Hi,

Richard Nelson had a discussion with the Holiday Inn people yesterday and we believe that the issue regarding honoring the originally promised \$99. rate has been resolved. The requirement is that rooms must be reserved by September 1st in order for the rate to be honored. We have a guarantee of 15 rooms at that rate and if those are filled, we should get more but the sooner the reservations are made, the better. Additional details may be obtained at [http://holyjoe.net/hhc2007/Update\\_1.pdf](http://holyjoe.net/hhc2007/Update_1.pdf) on the web. Thanks for the patience of those who already made their reservations.

Check out the full HHC2007 conference details at <http://holyjoe.net/hhc2007> and don't forget to click on the small images of the hp35A and hp35S for further "goodies". We are now over fifty registrants.

Jake Schwartz

**Re: Please Reserve HHC2007 Hotel Rooms ASAP**

*Message #5 Posted by [sjthomas](#) on 1 Aug 2007, 7:48 p.m.,  
in response to message #4 by Jake Schwartz*

Are they still billing one's credit card for the entire stay at the time of reservation?

**Re: Please Reserve HHC2007 Hotel Rooms ASAP**

*Message #6 Posted by [Eric Smith](#) on 2 Aug 2007, 1:50 p.m.,  
in response to message #5 by sjthomas*

I spoke to someone at the Holiday Inn yesterday, and was told that the manager had changed my rate to the conference rate, and refunded the prepayment to my card. Today I can confirm the credit in my online account status.

In order to avoid such a problem, I'd suggest booking the reservation by phone rather than online.

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## HP Forum Archive 17

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**10C puzzle**

Message #1 Posted by [John Mosand](#) on 30 July 2007, 12:04 p.m.

My 10C worked as usual yesterday. This morning it was dead. I pushed every key to no avail. Moved the batteries around. No. Then I put in new batteries. Still dead. I put in the old batteries, no response, and put it aside. Later in the day I tried it again. Wow! To my delight, it was alive! What likely was the cause of this? What happened? (BTW The batteries are the original ones, and the compartment and contacts are very clean.)

**Re: 10C puzzle**

Message #2 Posted by [Vincze](#) on 30 July 2007, 12:52 p.m.,  
in response to message #1 by John Mosand

Were you in very cold environment yesterday?

**Re: 10C puzzle**

Message #3 Posted by [Mike Ingle](#) on 30 July 2007, 9:17 p.m.,  
in response to message #1 by John Mosand

Assuming you didn't get it cold, it just got into an invalid state. Removing the batteries for a few hours cleared the memory completely. I see this all the time with laptops.

**Re: 10C puzzle**

Message #4 Posted by [John Mosand](#) on 31 July 2007, 11:33 a.m.,  
in response to message #3 by Mike Ingle

My 10C wasn't exposed to cold. The batteries were out only for the few seconds it took to exchange them. Still a mystery...

**Re: 10C puzzle**

Message #5 Posted by [Vincze](#) on 31 July 2007, 1:12 p.m.,  
in response to message #4 by John Mosand

I tend to agree with what Michael say above. Maybe something was holding capacity and leaving out for while released that.

Or as we would say in Hungary, nyaláb baszik, or a cluster in english. Good thing is 10c working now.

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## HP Forum Archive 17

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### HP35S - BUG or FEATURE?

Message #1 Posted by [dietmar13](#) on 30 July 2007, 11:30 a.m.

try

0.2 SHOW (= LeftShift ENTER) shows "20000000000000" without "0." for a second (a little misleading)

but 1.2 SHOW shows "1.20000000000000" for a second

would be nice if contrary: 123.345675346246 (input) 123.345675346 (on stack) SHOW should show:  
345675346246

### Re: HP35S - BUG or FEATURE?

Message #2 Posted by [Ed Look](#) on 30 July 2007, 11:57 a.m.,  
in response to message #1 by [dietmar13](#)

I don't recall seeing the decimal point displayed when "SHOW" is pressed in any of my RPN HP calculators, the 34C, 32SII, 48G/G+, 49G+, 33S, and now the 35s; so, I suppose it's intentional on the part of the old HP and now the new HP. I don't recall if this command is even available in the algebraics I have in my house, the 20S and 39G.

### Re: HP35S - BUG or FEATURE?

Message #3 Posted by [bill platt](#) on 30 July 2007, 12:52 p.m.,  
in response to message #2 by [Ed Look](#)

32sii SHOWs 1.200000000000

### Re: SHOW on HP35S and others

Message #4 Posted by [Karl Schneider](#) on 30 July 2007, 11:58 a.m.,  
in response to message #1 by [dietmar13](#)

Dietmar --

No. SHOW displays the 12 digits of the mantissa, which start with the first non-zero digit -- not 12 decimal digits. Unless something is different about the HP-35s from the HP-32SII and HP-33s, 123.345675346246 can't be entered.

As for the decimal point, it seems that there was a simple rule for all mid-grade Pioneer models: SHOW will display the decimal point if possible; that is, if the mantissa is of a magnitude such that the actual value can be displayed without an exponent.

High-end Pioneer models can show the full 12-digit mantissa and exponent, so do not need to omit the decimal point with SHOW.

Spice-series, Voyager-series, and low-end Pioneers with their 7-segment LCD's do not show the decimal point with, respectively, MANT, CLEAR PREFIX, or SHOW.

The HP-41 didn't *have* the mantissa-displaying function.

-- KS

*Edited: 31 July 2007, 3:00 a.m. after one or more responses were posted*

### **Re: HP35S - BUG or FEATURE?**

Message #5 Posted by [Gene Wright](#) on 30 July 2007, 12:02 p.m.,  
in response to message #4 by Karl Schneider

You can enter that value, but only 12 digits will be maintained.

### **Re: HP35S - BUG or FEATURE?**

Message #6 Posted by [Karl Schneider](#) on 31 July 2007, 2:42 a.m.,  
in response to message #5 by Gene Wright

Hi, Gene --

Quote:

\_\_\_\_\_  
You can enter (123.345675346246), but only 12 digits will be maintained.  
\_\_\_\_\_

Well, *that's* no good! Why the change from long-established sound practice? All of my HP's (even the KinHPo 33s) refuse extra mantissa digits; the mid-grade Pioneers even give a "!"-inside-a-triangle annunciator.

The user should be able to trust that the calc is accepting the value entered unless indicated otherwise; it should never accept invalid input, then give an error message.

-- KS

### **Re: HP35S - BUG or FEATURE?**

Message #7 Posted by [Gene Wright](#) on 31 July 2007, 8:34 a.m.,  
in response to message #6 by Karl Schneider

The 35s now has the command line type of approach, as has been noted before.

That's why you can enter a number with fractional exponents, etc and it won't error out until it is parsed.

This is shown in the Datafile 35s review under the Quirks paragraph.

Similar thing with the RPL machines. It seems as if the command line of the 35s is similar in many ways to that found on the graphing machines.

## HP Forum Archive 17

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### HP35S vs HP50g Keys

Message #1 Posted by [Brad Davis](#) on 30 July 2007, 11:23 a.m.

I just bought a HP50g to go along with my trusty 48. I REALLY like it except for one thing (well, actually 2--the battery cover is very poor, IMO, a half a step up from a 28S battery cover. Well maybe a whole step: at least I can use tape to help w/ the 50g...).

The keys are just a little too hard for my tastes.

How are the 35S keys compared to the 50g? I would rate my 48's keys as absolutely perfect.

Also, off the topic: What the heck is up with having  $x^2$  as a second function anyway?!?!?! That was one of the reasons I bought a 33S, but I can't stand only having 4 registers.

*Edited: 30 July 2007, 11:27 a.m.*

### Primary key: $x^2$ or Square root

Message #2 Posted by [Gene Wright](#) on 30 July 2007, 12:08 p.m.,  
in response to message #1 by Brad Davis

I'm sure this was a tough decision for the design team.

The considerations include:

In RPN,  $X^2$  can be accomplished by ENTER x, which is two keystrokes and loses a stack level. Having  $X^2$  as a primary key allows for it to be computed with one keystroke, which is more efficient.

However, which function is used more often? is Square root used more than  $X^2$ ? I have no idea, but if Square root is used more often, then it ought to be the primary function rather than  $X^2$ .

So, part of me wants  $X^2$  to be primary to save a keystroke for efficiency, but if users need Square root 80% of the time, perhaps it should be the primary function.

So, what do you guys think?

Which is probably used more often?  $X^2$  or Square root?

### Re: Primary key: $x^2$ or Square root

Message #3 Posted by [Brad Davis](#) on 30 July 2007, 12:38 p.m.,  
in response to message #2 by Gene Wright

Well, we'll all have our opinions, of course. I'm sure the team looked at lots of different options. I am happy overall--just never understood this one little detail. Of course, other users undoubtedly use their wonderful calculators somewhat differently.

My take on it: I think I use  $x^2$  about as often as  $\sqrt{x}$ , so I like both as first functions. In this case, I think X should've remained an alpha function and  $x^2$  should go there. Having X as a first function only helps for writing equations faster. I speculate that I'm typical in that I probably spend 10x more time punching through equations than programming equations.

Other candidates for second functions to make room for  $x^2$ : I use  $x^2$  probably  $>10x$  more often than EEX and a little more often than  $1/x$  and  $x^y$ . I rarely use SPC and SYMB. I speculate, of course, that I'm more typical than folks who make big time use of those.

I could be wrong, though--would be far from the first time.

Maybe a future model will allow the user to change the functions.

I never use my calculator for programming or plotting (I have Mathcad and Matlab for that), so its primary purpose is punching through big nasty equations. Of course RPL is ideal for that. I use integrals sometimes during virtual work calcs, but that's about it. Of course, this completely skews my perspective. I speculate that many others use them similarly.

BTW, I've been using RPN/RPL for 16 years and I'd never thought of duplicating and hitting X again--DUH!! Thanks for mentioning that. I'll just start doing that. It's two keystrokes, but two very fast and convenient ones!

*Edited: 30 July 2007, 12:47 p.m. after one or more responses were posted*

### **Re: Primary key: $x^2$ or Square root**

*Message #4 Posted by [Kostas Kritsilas](#) on 30 July 2007, 12:46 p.m.,  
in response to message #3 by Brad Davis*

The HP-67 had a blue shifted  $x^2$  as well, so this is nothing new. Its just what ends up happening when there are far more functions than keys. The HP-67 had 3 function keys (f yellow, g blue, and h black).

The square root was a non-shifted function, but that got over-ridden if a program was read in from a magnetic card, and then also became a shifted function (so did  $1/x$  and  $y^x$ ).

Kostas

### **Re: Primary key: $x^2$ or Square root**

*Message #5 Posted by [bill platt](#) on 30 July 2007, 12:54 p.m.,  
in response to message #2 by Gene Wright*

Without a doubt, square root should be primary, for the simple reason that it is the "difficult" one that you "need" a function for!

### **Re: Primary key: $x^2$ or Square root**

*Message #6 Posted by [Brad Davis](#) on 30 July 2007, 12:58 p.m.,  
in response to message #5 by bill platt*

LOL, guys, I went back and looked and verified that I didn't technically suggest replacing  $\sqrt{x}$  with  $x^2$  !

I like them both as first functions and see several others that I personally don't use as much.

**Re: Primary key:  $x^2$  or Square root**

Message #7 Posted by **Gene Wright** on 30 July 2007, 1:03 p.m.,  
in response to message #6 by Brad Davis

Brad, I was really talking about the key layout for the 35s, not the 50g.

The 50g is an entire additional story about layout of keys. :-)

On the 35s, I'm not sure what primary key function I would move to a shifted function.

Certainly, I would not move  $1/x$  or  $y^x$  to be shifted functions. The parentheses key really HAS to be primary function not only because making them a shifted function would be a slap in the face to any algebraic users (HP needs those to sell the unit despite what we RPN people might think) but also because of their use in EQN mode.

**Re: Primary key:  $x^2$  or Square root**

Message #8 Posted by **Brad Davis** on 30 July 2007, 1:15 p.m.,  
in response to message #7 by Gene Wright

Yeah, I agree and I sidetracked completely onto the 50g.

My only idea is to move ( to the Sigma+ location. Then again, somebody somewhere probably loves the Sigma+ key as a first function! I'm sure the design team spent many hours debating this kind of thing--it could go on forever.

I don't care about the issue as much now that you mentioned to hit Enter, X to square something. Still can't believe I didn't think of that at some point.

**Re: Primary key:  $x^2$  or Square root**

Message #9 Posted by **DaveJ** on 30 July 2007, 8:57 p.m.,  
in response to message #6 by Brad Davis

Quote:

LOL, guys, I went back and looked and verified that I didn't technically suggest replacing  $\sqrt{x}$  with  $x^2$  !

I like them both as first functions and see several others that I personally don't use as much.

That's the problem with programmable calcs like the 35S, the designer has to choose whether to optimise it for programming, or optimise it for general calculations. The 35S has obviously been optimised for use as a programmable calc, so your basic scientific calc keys get shifted and replaced with programming keys and arrow keys.

If the 35S had been designed as primarily a scientific calc (as it should have been IMHO for a HP 35 anniversary edition), the keyboard layout would have been a lot different, and more like the 33S, which (chevron issues and big ENTER aside) is a pretty good layout.

Dave.

**Re: Primary key:  $x^2$  or Square root**

Message #10 Posted by [bill platt](#) on 30 July 2007, 1:36 p.m.,  
in response to message #2 by Gene Wright

More to the point, I'd put other functions on primary status ahead of  $x^2$ :

STO

Ln

$e^x$

**Re: Primary key:  $x^2$  or Square root**

Message #11 Posted by [Brad Davis](#) on 30 July 2007, 3:18 p.m.,  
in response to message #10 by bill platt

Yeah, I agree that many would see  $\ln(x)$  and  $e^x$  as higher priority.

I didn't think of those because they don't show up very often in my particular line of work.

**Re: Primary key:  $x^2$  or Square root**

Message #12 Posted by [Frank Rottgardt](#) on 30 July 2007, 3:41 p.m.,  
in response to message #2 by Gene Wright

$x^2$  as shifted function was one thing that hits me directly when I saw the first pictures of the 35s key layout. On my 33s I am happy with  $x^2$  being primary.

Back then when I was working as surveyor the Pythagoras formula was something I used many many times each day. This in mind  $x^2$  as primary function is very useful.

Now, working as mechanical engineer I still have the feeling  $x^2$  occurs more often in formulas than SQRT.

So  $x^2$  shifted is not so good in my eyes, but it is certainly a minor disadvantage, and for many others maybe an improvement over the 33s.

**Re: HP35S vs HP50g Keys**

Message #13 Posted by [Chris Haltiner](#) on 30 July 2007, 1:53 p.m.,  
in response to message #1 by Brad Davis

Quote:

How are the 35S keys compared to the 50g? I would rate my 48's keys as absolutely perfect.

I wrote about this in my 35s comments post earlier. I find the 35s key tactile feedback to be the closer to my 41CV than any other HP calculator I've owned since then. While the 50g keys are good, I can't make entries on it nearly as fast as I can on the 35s. (This was even after using a much lower keytime value on the 50g.) On the 50g, the harder physical key press as well as the greater key travel are probably factors.

I would say the 41CV keys are 10/10. I'd give the 50g a 7/10 and the 35s a 9/10.

**Re: HP35S vs HP50g Keys**

*Message #14 Posted by [Brad Davis](#) on 30 July 2007, 3:21 p.m.,  
in response to message #13 by Chris Haltiner*

Thanks to all you fellows for your replies.

It seems that I might need to add a 35S to my ever-growing collection.

22S, 28S, 33s, 48, 50...

I'm holding out hope that the 50 keys will soften, but I'm not optimistic.

---

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## HP Forum Archive 17

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### 35s Matrix

Message #1 Posted by [Vincze](#) on 30 July 2007, 10:16 a.m.

I no see any information so I need to ask. Does the 35s handle Matrix math?

### No

Message #2 Posted by [Valentin Albillo](#) on 30 July 2007, 10:25 a.m.,  
in response to message #1 by Vincze

Best regard from V.

### Re: No

Message #3 Posted by [Ed Look](#) on 30 July 2007, 12:06 p.m.,  
in response to message #2 by Valentin Albillo

Ah, to V (incze) and V (alentin) :

Now with so many indirectly addressable registers... what, 800+?... it may not be so hard to write a (small?) program to do matrix math.

In the 33S, 32SII, and other RPN HP calculators in the same class, scientific programmables, the relatively limited amount of storage registers and program space limited how big a matrix the calculator could handle, even if you wrote a program to do it. But now, with about 800, even if only indirectly addressable, storage registers...

... <o !!

*Edited: 30 July 2007, 12:06 p.m.*

### Datafile special issue on the 35s

Message #4 Posted by [Gene Wright](#) on 30 July 2007, 12:10 p.m.,  
in response to message #3 by Ed Look

contains a program giving the matrix utility programs from the HP41 PPC ROM modified to work with the 35s.

These provide a fairly easy way to write a Determinant and Inverse program for the 35s, which I had at about 95% done...just can't get back to it. :-)

However, given that Valentin says he has a 35s, I expect a program to do matrix wonders in about 1/2 the space and run time of anything I might attempt. :-)

### Re: Datafile special issue on the 35s



*Message #5 Posted by [Ed Look](#) on 30 July 2007, 12:21 p.m.,  
in response to message #4 by Gene Wright*

Um... Gene, forgive the stupid question:

where/how can I access this (or any) issue of Datafile?

### **Where and How**

*Message #6 Posted by [Valentin Albillo](#) on 30 July 2007, 2:20 p.m.,  
in response to message #5 by Ed Look*

Hi again, Ed:

Ed posted:

*"where/how can I access this (or any) issue of Datafile? "*

1. Where: [here](#)
2. How: [this way](#)

Best regards from V.

### **Re: Where and How**

*Message #7 Posted by [Vincze](#) on 31 July 2007, 11:15 a.m.,  
in response to message #6 by Valentin Albillo*

Good morning Valentin. If I join Datafile, does it allow me to view articles online? Also, how many pages is typical magazine? Is it also possible to see a preview magazine before purchase so I understand better what is in it?

### **Re: Where and How**

*Message #8 Posted by [Gene Wright](#) on 31 July 2007, 11:42 a.m.,  
in response to message #7 by Vincze*

Hi.

The magazine is automatically sent to members of the HPCC club, pretty much 6 times a year.

You don't buy the magazine. You join the club and the magazine is sent to members.

Some articles are put online for all to see the types of articles that are published, but electronic versions of the Datafile magazine are not available.

### **Re: Where and How**

*Message #9 Posted by [Vincze](#) on 31 July 2007, 3:15 p.m.,  
in response to message #8 by Gene Wright*

If I join HPCC, how soon would I see Datafile magazine?

**Re: Where and How**

*Message #10 Posted by [Giancarlo \(Italy\)](#) on 31 July 2007, 11:52 a.m.,  
in response to message #7 by Vincze*

Hi Vincze.

I apologise for jumpin' in, but I think I can put my experience on the table here :-)  
According to what is stated on the [Datafile page](#) :

Quote:

---

HPCC's policy is that current issues of Datafile are only available in printed form. For convenience, back issues up to and including 2003 are available on cd-rom from Jake Schwartz [here](#)

---

The "typical" magazine page number varies from issue to issue - due to the number of contributions from members.

As far as the contents go, please be reassured that they are worth every penny :-)  
In fact you'll find a lot of interesting articles about many different HP devices, hardware and software insights, reviews and many many other pieces of information. Last but not least, the thrill to receive, every month, a good old paper magazine, with that good smell of printed matter... A jump back to the future ;-).

Hope this helps.

Best regards.

Giancarlo

*Edited: 31 July 2007, 11:52 a.m.*

**Re: Where and How**

*Message #11 Posted by [Vincze](#) on 31 July 2007, 1:08 p.m.,  
in response to message #10 by Giancarlo (Italy)*

I very tempted to join, but I know wife will have my head. She got very mad at me for buying the 35s, even though I use at work. She say I have computer at work and do not need calculator. She somewhat right, but she does not understand that calculator is much quicker to use than computer.

Thank you for all information though.

**Re: Where and How (\*my\* article)**

*Message #12 Posted by [Antonio Maschio \(Italy\)](#) on 1 Aug 2007, 3:18 a.m.,  
in response to message #10 by Giancarlo (Italy)*

Hi, Giancarlo,

I appear as the author of something related to HP-33Ss appearing on the July/August 2006 number of Datafile, but I've never actually written for Datafile, but only to this Forum. Being not a HPCC member, I'd like to read what \*I wrote\*, so I'm asking you (and other HPCC members) to link a pdf copy of the page where the article is hosted. Just for curiosity.

Thanks in advance.

-- Antonio

**Re: Where and How (\*my\* article)**

*Message #13 Posted by [Giancarlo \(Italy\)](#) on 1 Aug 2007, 5:42 a.m.,  
in response to message #12 by Antonio Maschio (Italy)*

Ciao Antonio.

In July/August 2006 I was not a member of HPCC yet, so I'm afraid I can't provide any insight about your curiosity (I haven't got any printed issue of the Datafile dating back to July/August 2006). But now I'm curious too to see how did you manage to \*write\* that article ;-) Best regards.  
Giancarlo

*Edited: 1 Aug 2007, 5:43 a.m.*

**Re: Where and How (\*my\* article)**

*Message #14 Posted by [Antonio Maschio \(Italy\)](#) on 1 Aug 2007, 8:38 a.m.,  
in response to message #13 by Giancarlo (Italy)*

Ciao Giancarlo.

What I can say is that here in this Forum I posted some notes about integer division on the HP-33s, noting there was something wrong.

Probably these notes resounded in someone's ears, and this someone (attributing the article to me) reported my observations.

I wasn't contacted for this, but I won't complain, since it's an honor for me.

But as for this, I'm curious to see:

- 1) the format of the article
- 2) its real content
- 3) \*\*\*My name in front of it\*\*\* !!!

I'm human, after all!

-- Antonio

**Re: Datafile special issue on the 35s**

*Message #15 Posted by [Vincze](#) on 30 July 2007, 12:55 p.m.,  
in response to message #4 by Gene Wright*

I want not to sound dumb, but what datafile? Is webpage, yes?

**Re: Datafile special issue on the 35s**

*Message #16 Posted by [Gene Wright](#) on 30 July 2007, 12:59 p.m.,  
in response to message #15 by Vincze*

Yes, this might be considered commercial. Apologies :-)

[Datafile is the journal of the HPCC club from England](#)

This journal is the last remaining (?) printed journal of any HP calculator club in the world.

Join the club and get lots of extra goodies for many different machines. Many articles written by excellent authors such as Valentin and Tony Hutchins appear there and no where else.

Gene

### **Re: Datafile special issue on the 35s**

*Message #17 Posted by [Howard Owen](#) on 30 July 2007, 6:57 p.m.,  
in response to message #16 by Gene Wright*

Quote:

Many articles written by excellent authors such as Valentin and Tony Hutchins appear there and no where else.

And Gene Wright, of course. 8)

Regards,  
Howard

### **Still No**

*Message #18 Posted by [Valentin Albillo](#) on 30 July 2007, 2:16 p.m.,  
in response to message #3 by Ed Look*

Hi, Ed:

Ed posted:

*"Now with so many indirectly addressable registers [...] it may not be so hard to write a (small?) program to do matrix math.*

Vincze's original question is: *"Does the 35s handle Matrix math?"*, which I take it to mean whether it includes built-in matrix functions.

The answer is still "No".

Best regards from V.

### **Re: Still No**

*Message #19 Posted by [Frank Rottgardt](#) on 30 July 2007, 3:56 p.m.,  
in response to message #18 by Valentin Albillo*

A simple NO, BUT... is certainly of great interest if one asks for a build-in-function which does not exist. I mean we are talking about a programable scientific, so a nice work around in form of a neat little program might be a buying argument for somebody who absolutly need matrice math.

Of course a "NO" answer (in the subject line) was correct math. Like a very sufficient and byte-saving RPN-program ;-)

**Sorry, but No cigar**

Message #20 Posted by [Valentin Albillo](#) on 30 July 2007, 5:00 p.m.,  
in response to message #19 by Frank Rottgardt

Hi, Frank:

Frank posted:

*"[...] a nice work around in form of a neat little program might be a buying argument for somebody who absolutely need matrice math."*

There's no "neat little program" which can do decent NxN system solution, matrix inversion, or determinant computations if there's no built-in support for matrices, even if only at the level of row-manipulation primitives.

If "somebody absolutely needs matrice math", they would do well to have a look at other HP calc models much better suited to the task, such as all RPL models, the HP-71B/Math, the HP42S, the HP-41C/Advantage, or the HP-15C. Decent HP35s' matrix programs are never going to be "little" and certainly will be orders of magnitude slower.

Best regards from V.

**Re: Sorry, but No cigar**

Message #21 Posted by [Ángel Martin](#) on 1 Aug 2007, 5:01 a.m.,  
in response to message #20 by Valentin Albillo

Amen to that. Whilst the 35s may be a nice departure from HP's recent track record (deplorable?), let's not write home about alleged goodness that won't hold true.

No matrix, no cigar :-)

Best, AM.

---

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## HP Forum Archive 17

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### Error function 35s vs. 32SII

Message #1 Posted by [Thomas Radtke](#) on 30 July 2007, 9:38 a.m.

FYI, I implemented a simple program to calculate the error function on both the 35s and the 32SII.

Results (Argument 5, full precision)

32SII: 14.5 s  
35s: 22.3 s

OTOH, using the equation editor and integrate it (Argument 5, four digits precision) results in:

32SII: 5.87 s  
35s: 4.9

So, while RPL programs seem to run a lot faster on the old pioneer, at least one of the internal functions of the 35s is able to beat its grandfather.

### Re: Error function 35s vs. 32SII

Message #2 Posted by [Les Wright](#) on 31 July 2007, 3:04 a.m.,  
in response to message #1 by Thomas Radtke

Thomas, what algorithm do you use to calculate erf and erfc?

I have both a series and continued fraction implementation that are perceptibly slower on the 35s vs. the 33s, but a typical calculation doesn't seem to take any more than a couple or three seconds tops, even faster on the 33s. Haven't tested on 32sii but in my experience it runs about as fast as the 33s for most things.

22s, even 14s, seems a really slow way to compute this function.

Les

*Edited: 31 July 2007, 3:04 a.m.*

### Re: Error function 35s vs. 32SII

Message #3 Posted by [Thomas Radtke](#) on 31 July 2007, 3:56 a.m.,  
in response to message #2 by Les Wright

Dear Les,

I'm using the taylor series, argument 5 is completely unusual for most applications and takes 51 iterations. E.g., only 5 are needed for 0.1

Of course, the program can be improved (there's not even an error handling)

Thomas

LBL A

```
STO X
0
STO S
STO N
1
STO F
STO P
STO V
100
STO L

(A012)

RCL N
x=0?
GTO A016
STO * F

(A016)

2
*
1
+
STO T
RCL V
RCL X
RCL T
Y^X
*
RCL F
/
RCL T
/
RCL P
/
STO B
2
STO * P
-1
STO * V
RCL B
STO + S
RCL S
RCL L
x=y?
GTO A048
RCL S
STO L
1
STO + N
GTO A012

(A048)

RCL S
2
PI
*
SQRT
/
RTN
```

## Re: Error function 35s vs. 32SII

Message #4 Posted by [Les Wright](#) on 31 July 2007, 4:59 a.m.,  
in response to message #3 by Thomas Radtke

My routines start with series and continued fraction computations of the incomplete gamma function,

straight out of Numerical Recipes--indeed when I program continued fraction calculations I use the modified Lentz method in preference to the better known and very old Wallis method, for the reasons NR gives. I compute the left-sided incomplete gamma by series expansion, the right-sided by continued fraction. The error functions are of course special cases of the incomplete gamma functions, as are the normal distribution probability function (both cumulative and upper-tail) and the chisquare probability distribution (again, both cumulative and upper tail).

When I get a chance I will post this--I have code for everything except the chisquare stuff. All told just over 100 steps tops, but there is no error handling, and the user needs to decide which function (series or continued fraction?) is preferable based on his input and his knowledge of the properties of these calculations.

I agree that it is unusual to compute  $\text{erf}(5)$  by series expansion. It makes more sense to compute  $\text{erfc}(5)$  (about  $1.54e-12$ ), and compute  $\text{erf}(5) = 1 - \text{erfc}(5)$ . That said, my series routines don't take anywhere near over 20 seconds to compute  $\text{erf}(5)$  directly by series--maybe 4-5 seconds tops--but I should note that the result is off by 1 ULP-- $1.00000000001$ .

It also looks like you are using the alternating series expansion. The other series expansion I know is not alternating and has an exponential term out front. I don't know if it converges any faster.

Les

### Re: Error function 35s vs. 32SII

Message #5 Posted by [Les Wright](#) on 31 July 2007, 12:48 p.m.,  
in response to message #4 by Les Wright

Thomas, here is my offering. The reference is formula 7.1.6 of Abramowitz and Stegun, whereas you seem to use 7.1.5. The idea of each term being a recursion on the prior term I get from the Numerical Recipes code for the series computation of the incomplete gamma function.

```
(E001) LBL E
STO T
STO S
x^2
STO Z
1
STO D
RCL S
(E009) STO O
2
STO+ D
RCL Z
STO* T
2
STO* T
RCL D
STO/ T
RCL T
STO+ S
RCL O
RCL S
x#y?
GTO E009
RCL Z
+/-
e^x
*
2
*
PI
SQRT
/
(E033) RTN
```

5 XEQ E ENTER returns  $1.00000000002$  in a few seconds (certainly no more than 10), whereas the



actual 12-digit result should be 9.99999999998e-1. This should come as no surprise--rounding error is bound to crop up. For input greater than about 1.8, one should compute erfc by the continued fraction and get erf as the complement ( $\text{erf}(z) = 1 - \text{erfc}(z)$ )

But for smaller arguments, the above does very well--erf(1) is computed swiftly as 0.84270079295, which is completely accurate. erf(0.1) is even faster, giving 1.12462916019e-1 (the last digit should be an 8).

I guess what caught my attention is that I knew one could compute these series faster on the 33S and 32sii than what you were reporting. I must confess that the comparative sluggishness of the 35S (though still much faster than the 41 series, the 11C, the 15C, the Spice series, and even the 42S) is a disappointment. I love the speed of the 33S, despite its foibles, and really hoped this would port to the 35s intact. Alas, that hasn't happened.

I may port my continued fraction code for the incomplete gamma function, modified for the special case of erfc, and post it later if anyone is interested.

Les

*Edited: 31 July 2007, 12:49 p.m.*

## Re: Error function 35s vs. 32SII

Message #6 Posted by [Les Wright](#) on 31 July 2007, 3:29 p.m.,  
in response to message #5 by Les Wright

Here is that promised continued fraction computation for erfc:

```
(C001) LBL C
STO X
x^2
0.5
+
STO B
1/x
STO C
STO D
1e250
STO E
CLx
STO H
(C014) 1
STO+ H
STO+ B
STO+ B
0.5
RCL- H
RCL* H
STO G
RCL* C
RCL+ B
1e-250
+
STO C
RCL G
RCL/ E
RCL+ B
1e-250
+
STO E
RCL C
1/x
x<> C
/
STO* D
1
x#y?
(C040) GTO C014
```

```

RCL X
ENTER
x^2
+/-
e^x
*
RCL* D
PI
SQRT
/
(C051) RTN

```

This is best employed when input is greater than about 1.8. For example, 2 XEQ C ENTER returns 4.67773498102e-3 (the last digit should be 5) in a few short seconds. The routine gets faster as the input gets larger. Nonetheless, 1 XEQ C chugs along for a few seconds to yield 1.57299207048e-1 (the last digits should be 50 so it is off 2 ULP). Below that, if not sooner, the continued fraction really should give way to the series computation of erf and erfc(x) computed as 1-erf(z).

My routine started out as my port of the Numerical Recipes continued fraction computation of the incomplete gamma function, modified for the specific case of the complementary error function. The modified Lentz algorithm is used with TINY=1e-250 as required to avoid division by zero issues.

Les

*Edited: 1 Aug 2007, 10:08 a.m. after one or more responses were posted*

### **Re: Error function 35s vs. 32SII**

*Message #7 Posted by [Thomas Radtke](#) on 1 Aug 2007, 6:56 a.m.,  
in response to message #6 by Les Wright*

Thanks for your code! This makes me wonder if there's a repository for such pearls somewhere? I fear, the work shown here quickly gets lost.

### **Re: Error function 35s vs. 32SII**

*Message #8 Posted by [Les Wright](#) on 1 Aug 2007, 10:18 a.m.,  
in response to message #7 by Thomas Radtke*

Thomas, my plan is eventually submit the incomplete gamma routine on which these are based, along with subroutines to compute the special cases of the error function, chisquare distribution, and normal distribution, to Dave for inclusion in the software library on this site. I also hope to port a somewhat long 42S program I have that computes the incomplete beta function, along with its special cases (t distribution and F distribution).

I mentioned in an earlier thread that I hoped the expanded flexibility of the 35s programming environment will make it easier to write meaningful programs. I find the line number addressing heaven sent. I have three programs in my 33S that use up almost all the labels right there. The 35s is now free of that limitation.

Les

### **Re: Error function 35s vs. 32SII**

Message #9 Posted by [Les Wright](#) on 1 Aug 2007, 12:37 p.m.,  
in response to message #3 by Thomas Radtke

Here, for completeness, is my take on the the Taylor series (formula 7.1.5 in Abramowitz and Stegun):

```
(T001) LBL T
STO T
STO S
x^2
+/-
STO Z
0
STO D
1
STO E
RCL S
(T012) STO O
1
STO+ D
STO+ E
STO+ E
RCL Z
STO* T
RCL D
STO/ T
RCL T
RCL/ E
STO+ S
RCL O
RCL S
x#y?
(T027) GTO T012
2
*
PI
SQRT
/
(T033) RTN
```

This converges rapidly and accurately for small values of input but once you get much beyond 3 results become not only inaccurate, but pretty meaningless.

For example, 4 XEQ T ENTER returns 1.00000031185 (whereas the actual result is actually about  $9.9999984583e-1$ ). I assume that with the alternating series, rounding errors accumulated, or, in the alternative, differences between terms begin to cancel out so the loop terminates too soon.

For this reason, I really think the non-alternating series is better in generally, though there is no doubt this series is very fast for smaller values of input.

Les

*Edited: 1 Aug 2007, 3:19 p.m.*

---

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## HP Forum Archive 17

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### Program question

Message #1 Posted by [Vincze](#) on 30 July 2007, 9:00 a.m.

I have very enjoyable weekend playing with new 35s. Based on one post on Friday about square root algorithm, I sat down and wrote program on 35s to calculate the square root. I had some problem with it, but it generally work ok. I also write program in C to do, and it much quicker that calculator, but that understandable. In C, it very fast for some numbers, but when number get over 20 digit long, it take long time to calculate.

I know we have sqrt function on calculator, but anyone know of way to write optimized program on 35s? I not very good with programing calculators, but I be interested in seeing how wiser person write.

Again, please excuse poor English mine.

### Re: Program question

Message #2 Posted by [Gerson W. Barbosa](#) on 30 July 2007, 10:28 p.m.,  
in response to message #1 by Vincze

Hello Vincze,

This is not optimized for the HP-35s (I haven't read the manual yet). As an exercise, I tried to use only the stack, although I am not sure if this will make to program run any faster on the 35s. It could be shorter, I think. This is the same algorithm in the TurboBCD program below, except it doesn't handle sqrt(0). The initial guess should be improve (the program will take longer to run for large arguments).

```
S001 LBL S
S002 0.5
S003 x<>y
S004 *
S005 ENTER
S006 ENTER
S007 ENTER
S008 LASTx
S009 ENTER
S010 Rv
S011 x<>y
S012 /
S013 x<>y
S014 +
S015 LASTx
S016 x<>y
S017 2
S018 /
S019 x=y?
S020 STOP
S021 x<>y
S022 ENTER
S023 /
S024 x<>y
S025 Rv
S026 x<>y
S027 *
S028 GTO S010
```

I am implementing some functions in TurboBCD. The square root function will be handy for inverse trigs.

Regards,

Gerson.

```
-----

Program Sqrt;

var x: real;
    i: integer;

function Sqrt(x: real): real;

var s, t: real;

begin
  if x<>0 then
    begin
      begin
        s:=x/2;
        repeat
          t:=s;
          s:=(s+x/s)/2
        until s=t;
        Sqrt:=s
      end
    end
  else
    Sqrt:=0
  end;

begin
  ClrScr;
  WriteLn(' x |          Sqrt(x)');
  WriteLn('-----');
  for i:=0 to 10 do
    WriteLn(i:2,' | ',Sqrt(i):18:17)
  end.
```

Output:

| x  | Sqrt(x)              |
|----|----------------------|
| 0  | 0.000000000000000000 |
| 1  | 1.000000000000000000 |
| 2  | 1.41421356237309505  |
| 3  | 1.73205080756887730  |
| 4  | 2.000000000000000000 |
| 5  | 2.23606797749978970  |
| 6  | 2.44948974278317810  |
| 7  | 2.64575131106459059  |
| 8  | 2.82842712474619010  |
| 9  | 3.000000000000000000 |
| 10 | 3.16227766016837933  |

*Edited: 30 July 2007, 10:35 p.m.*

### Re: Program question

*Message #3 Posted by [Vincze](#) on 31 July 2007, 8:39 a.m.,  
in response to message #2 by Gerson W. Barbosa*

What key is Rv? I no see on my calculator.

### Re: Program question

*Message #4 Posted by [Don Shepherd](#) on 31 July 2007, 8:54 a.m.,  
in response to message #3 by Vincze*

Roll the stack down.

### Re: Program question

*Message #5 Posted by **Vincze** on 31 July 2007, 9:32 a.m.,  
in response to message #4 by Don Shepherd*

Thank you. I assume that be key with R and down arrow on? One other question. What is STOP key?

### **Re: Program question**

*Message #6 Posted by **Thomas Radtke** on 31 July 2007, 9:45 a.m.,  
in response to message #5 by Vincze*

R/S (Run/Stop)

### **Re: Program question**

*Message #7 Posted by **Vincze** on 31 July 2007, 9:56 a.m.,  
in response to message #2 by Gerson W. Barbosa*

Gerson, I try your program, but it no work. Maybe I not use program correct. I clear stack, and put 9 in X, but I get divide by 0 error.

### **Re: Program question**

*Message #8 Posted by **Gerson W. Barbosa** on 31 July 2007, 12:27 p.m.,  
in response to message #7 by Vincze*

Hi Vincze,

Please check your listing:

```
K001 LBL K
K002 0.5
K003 x<>y
K004 *
K005 ENTER
K006 ENTER
K007 ENTER
K008 LASTx
S009 ENTER
K010 Rv
K011 x<>y
K012 /
K013 x<>y
K014 +
K015 LASTx
K016 x<>y
K017 2
K018 /
K019 x=y?
K020 STOP
K021 x<>y
K022 ENTER
K023 /
K024 x<>y
K025 Rv
K026 x<>y
K027 *
K028 GTO K010
```

Please notice **x<>y** , **x<>y?** STOP -> R/S Rv -> Roll down key

Regards,

Gerson.

P.S.: I changed the label to K to match the square-root symbol.

Checksum: C435 Length: 88 bytes

( yellow-shift MEM 2 yellow-shift SHOW )

*Edited: 31 July 2007, 12:33 p.m.*

## Re: Program question

*Message #9 Posted by **Vincze** on 31 July 2007, 1:32 p.m.,  
in response to message #8 by Gerson W. Barbosa*

Thank you Gerson. I see I did have error in entry. I fix and try and it now work. It seem slow. I enter 999999999999 and it take about 8 seconds. I wonder how HP wrote algorithm for assigned sqrt key? I always wonder how a key could be faster than program can be. Granted, it must be written in machine language, so should be faster, but I wonder if anyone have knowledge of how calculator company does this.

## Re: Program question

*Message #10 Posted by **Gerson W. Barbosa** on 31 July 2007, 2:19 p.m.,  
in response to message #9 by Vincze*

Quote:

I enter 999999999999 and it take about 8 seconds.

This takes 4.5 seconds in mine. Perhaps you've missed one 9 here. It all depends on the initial guess. Change line K002 to 3E-7 and it will take 1.2 seconds. On the other hand, it will take 4.5 second for 9.

Quote:

I wonder if anyone have knowledge of how calculator company does this.

Well, not exactly from a calculator company (MS in MSX stands for you know what).

Quoting from "The MSX Red Book":

-----  
Address... 2AFFH

This routine is used by the Factor Evaluator to apply the "SQR" function to a double precision operand contained in DAC. The function is computed using the Newton-Raphson process, an equivalent BASIC program is:

```
10 INPUT"NUMBER";X
20 GUESS=10
30 FOR N=1 TO 7
40 GUESS=(GUESS+X/GUESS)/2
50 NEXT N
60 PRINT GUESS
70 PRINT SQR(X)
```

The above program uses a fixed initial guess. While this is accurate over a limited range maximum accuracy will only be attained if the initial guess is near the root. The method used

by the ROM is to halve the exponent, with rounding up, and then to divide the first two digits of the operand by four and increment the first digit.

-----  
 (Avalon Software. The MSX Red Book. Pangbourne: Kuma Computers, [c.1985].)

**Re: Program question**

Message #11 Posted by *Thomas Klemm* on 31 July 2007, 3:44 p.m., in response to message #1 by Vincze

Instead of calculating the square root of a number *d* the inverse of the square root may be calculated followed by the multiplication of *d*:

$$\text{sqrt}(d) = \frac{1}{\text{sqrt}(d)} * d$$

Use an initial value:

$$x_0 \sim 1 / \text{sqrt}(d)$$

and calculate *x*<sub>1</sub>, *x*<sub>2</sub>, *x*<sub>3</sub>, ... with the following formula:

$$x_{i+1} = x_i + x_i \frac{1 - d * x_i^2}{2}$$

This method has the advantage that only a division by 2 is needed.

Here's an HP-11c program:

```
01  LBL A           14  *
02  STO I           15  -
03  1               16  *
04  +               17  2
05  1/x            18  /
06  ENTER           19  RND
07  LBL 0           20  x#0
08  +               21  GTO 0
09  ENTER           22  +
10  x^2            23  RCL I
11  1               24  *
12  x<>y           25  RTN
13  RCL I
```

I guess it's easy to convert that into a program for the HP-35s.

Now let's suppose we want to calculate sqrt(5) only with paper and pencil using an initial guess *x*<sub>0</sub> = 0.4. At the beginning the multiplications are easy to perform since we have only few significant digits whereas at the end the numbers become smaller and smaller.

However there's a slight difference compared to the program above.

Since *x*<sub>*i*+1</sub> = *x*<sub>*i*</sub> + *dx* the square of the next value is calculated using the square of the previous:

$$(x_{i+1})^2 = x_i^2 + (2*x_i + dx)*dx$$

```

..... 1.00000
.....
0.00000  --->    0.00000
+ 0.40000  -----> * 0.40000
-----
0.40000  --->    + 0.40000                2.00000
```



```

=====
                0.40000  --->  * 0.40000
                        -----
                        0.80000  --->  - 0.80000
-----
* 0.20000  <-----
0.08000
-----
/          2
-----
0.04000
=====

```

```

.....
0.40000  --->  0.40000          5.00000
+ 0.04000  ----->  * 0.04000
-----
0.44000  --->  + 0.44000          0.20000
=====
                0.84000  --->  * 0.84000
                        -----
                        0.16800  --->  - 0.16800
-----
* 0.03200  <-----
0.01408
-----
/          2
-----
0.00704
=====

```

```

.....
0.44000  --->  0.44000          5.00000
+ 0.00704  ----->  * 0.00704
-----
0.44704  --->  + 0.44704          0.03520
=====
                0.88704  --->  * 0.88704
                        -----
                        0.03122  --->  - 0.03122
-----
* 0.00078  <-----
0.00035
-----
/          2
-----
0.00017
=====

```

```

.....
0.44704  --->  0.44704          5.00000
+ 0.00017  ----->  * 0.00017
-----
0.44721  --->  + 0.44721          0.00087
=====
                0.89425  --->  * 0.89425
                        -----
                        0.00078  --->  - 0.00078
-----
* 0.00000  <-----
0.00000
-----
/          2

```

```
-----
0.00000
=====
```

.....

```
0.44721
* 5.00000
-----
2.23607
=====
```

Credits to Newton for this marvelous algorithm.

*Edited: 31 July 2007, 4:09 p.m.*

## Re: Program question

Message #12 Posted by [Vincze](#) on 31 July 2007, 4:50 p.m.,  
in response to message #11 by Thomas Klemm

Quote:

\_\_\_\_\_  
Credits to Newton for this marvelous algorithm.  
\_\_\_\_\_

I do like Newton's method, but I believe the Babylonian method to be better since it considered a quadratically convergent algorithm meaning that with each iteration, it get closer to final result.

On a side note, I do some research and see that most pocket calculator use routine to compute exponential function and the natural log in for of  $\sqrt{x} = e^{.5 \ln x}$  where  $x$  is the number you are trying to find sqrt of (I believe). I try this, but I have not had luck with yet on 35s.

Ok.. I figure out how to use exp ln method, and it work very fast. Here is how I write.

```
S001 LBL S
S002 ENTER
S003 LN
S004 0.5
S005 *
S006 ex (as is EXP(x))
```

That is it. I try with large number (63 9's) and it calculate instantly. I should have thought of this before with my experience with slide rule. That how we could find sqrt on slide rule (although good slide rule have ability to square and show square root too).

*Edited: 31 July 2007, 5:10 p.m. after one or more responses were posted*

## Re: Program question

Message #13 Posted by [Thomas Klemm](#) on 31 July 2007, 5:30 p.m.,  
in response to message #12 by Vincze

Quote:

\_\_\_\_\_  
I believe the Babylonian method to be better since it considered a quadratically convergent algorithm ...  
\_\_\_\_\_

Both algorithms converge quadratically with a good initial choice.

That's not the difference. Use the one I've mentioned above if for some reason division compared to

multiplication is expensive.

Quote:

... meaning that with each iteration, it get closer to final result.

Well, that's not exactly the definition of [quadratic convergence](#).

### Re: Program question

Message #14 Posted by [Vincze](#) on 31 July 2007, 8:55 p.m.,  
in response to message #13 by Thomas Klemm

Good evening Thomas. Yes you right that both quadratically convergent. I think that yours harder to do in head if wanting, but we not talking about doing in head, but in basic calculator program, so you have valid point. My apologies.

Please excuse my poor english.

### Re: Program question

Message #15 Posted by [Gerson W. Barbosa](#) on 1 Aug 2007, 12:19 a.m.,  
in response to message #12 by Vincze

Even shorter and faster:

```
S001 LBL S
S002 SQRT
S003 RTN
```

Just kidding :-)

Klemm's idea and mine was to present a *numeric* method for the square root function. Using logarithm to compute the square root is slower than computing it through those methods, so computer languages and calculator might use the latter, even though they have built-in logs.

Here is an improved version of the first algorithm, slightly slower but shorter despite handling zero:

```
L001 LBL L
L002 x=0?
L003 RTN
L004 ENTER
L005 ENTER
L006 2
L007 /
L008 ENTER
L009 REGZ
L010 x<>y
L011 /
L012 LASTx
L013 ENTER
L014 Rv
L015 +
L016 2
L017 /
L018 REGZ
L019 x=y?
L020 RTN
L021 Rv
L022 GTO L008
```

People who've read up the manual might come up with an even shorter routine :-)

Edited: 1 Aug 2007, 12:20 a.m.

## Square root digit-by-digit

Message #16 Posted by **Nenad (Croatia)** on 1 Aug 2007, 7:24 a.m.,  
in response to message #1 by Vincze

This is something I remember from elementary school, i.e. how we calculated the square root digit-by-digit, implementing pen-and pencil methods. It goes something like this:

SQRT(24378)=?

```
SQRT(2 43 78)=1 5 6,1 3...
  1 43 : 25 x5
    18 78: 306 x6
      42 00: 3121 x1
        10 79 00: 31223 x3
```

In each step you calculate a single digit x, by guessing it so that the present remainder added the two digits of the original number, divided by the doubled current result with the digit x, written at its end times x subtracted from the current remainder gives the new remainder...

OK, I admit that I have just got lost in this explanation, but hopefully the shown example may shed some more light.

Maybe, someone could write an RPN program to do this.

Until then I prefer the Gerson's solution for my faithful HP67: LBL A; SQRT(x); RTN

## Re: Square root digit-by-digit

Message #17 Posted by **Gerson W. Barbosa** on 1 Aug 2007, 9:24 a.m.,  
in response to message #16 by Nenad (Croatia)

Hello Nenad,

Quote:

\_\_\_\_\_

This is something I remember from elementary school, i.e. how we calculated the square root digit-by-digit...

\_\_\_\_\_

That's the way we computed square roots at school too. I remember once I forgot the algorithm when I needed it but I did remember the iterative method. I couldn't help remembering Isaac Asimov's short story "A Feeling of Power" ...

Quote:

\_\_\_\_\_

Until then I prefer the Gerson's solution for my faithful HP67: LBL A; SQRT(x); RTN

\_\_\_\_\_

Actually, I prefer just to press the SQRT(x) key, especially when it is a primary key as on the HP-35s. There are some side effects though... Read Asimov's short story :-)

Best regards,

Gerson.

## Re: Square root digit-by-digit

Message #18 Posted by **Vincze** on 1 Aug 2007, 10:13 a.m.,  
in response to message #17 by Gerson W. Barbosa

Good morning Gerson. The story you talk about is very important to mankind. I remember reading long time ago, and thinking it not possible that man forget how to do math. But when you see young people struggle with math, and even simple math like multiplication, it do seem very real, and very scary. This why I have fear of my son using calculator in high school. Calculator ok for checking, but I think too many child become calculator dependent that they know not how to think properly. I know I am not smartest person in world, but I also know that skills that I have need to be used to maintain them and calculator and computer only tool to help do math faster. I believe it is so important that child know math and not rely on calculator.

In Hungary, we no allowed to use calculator when I was in school. Has this changed since, I do not know. I need to write my brother and see as he have children my son age there. In fact, when I in university, slide rule was even frowned upon as a crutch, but much needed crutch for more advanced math. Main point though, all students at university understood concept of doing math with pencil and paper first.

Anyhow friend, thank you for reminding us of that short story. It is something all should read.

## Re: Square root digit-by-digit

Message #19 Posted by **Frank Rottgardt** on 2 Aug 2007, 7:54 a.m.,  
in response to message #18 by Vincze

Once the rifle and matches became common our hunting ancestors couldn't imagine how huamnity will survive without knowing the basics of archery and making fire. The most important part of hunting is a) to find the deer b) to sneak up and finally c) to kill it. Today only c) has changed. Skills a) and b) are still something each hunter need to know how.

Back to math: a) is to understand the problem, b) is to know wich mathematic tools are necessary and c) is to obtain the result

a) and b) is the same as for 100 years ago, only c) changed: calculator or PC. As long as our kids are familiar with a+b I can't see the end of the world. If your calculator should be broken, let's fetch a second one from the 2-3 each one has around. Or go to the next shop and buy a new one for 20 bugs or borrow one from your neighbour.

But I do agree in one point: It gives you a better feeling if you know to judge the calculator results since you are able to make a rough estimation by means of mental arithmetics. Also it looks better if you are able to check the bill at Walmart without pulling your calculator.

## Re: Square root digit-by-digit

Message #20 Posted by **Thomas Klemm** on 2 Aug 2007, 9:27 a.m.,  
in response to message #16 by Nenad (Croatia)

Quote:

---

SQRT(2 43 78)=1 5 6,1 3...  
(...)  
10 79 00: 31223 x3

---

Just wanted to point out that by actually calculating the quotient in the last step some more correct digits may be obtained:

```
sqrt(24378) = 156.134557353...  
107900 / 31223 = 3.4557857...  
=====
```

*Edited: 2 Aug 2007, 11:04 a.m.*

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## HP Forum Archive 17

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### **(deleted post)**

Message #1 Posted by [deleted](#) on 30 July 2007, 7:05 a.m.

This Message was deleted. This empty message preserves the threading when a post with followup(s) is deleted. If all followups have been removed, the original poster may delete this post again to make this placeholder disappear.

### **The first HP 35s in Croatia**

Message #2 Posted by [Nenad \(Croatia\)](#) on 30 July 2007, 12:33 p.m.,  
in response to message #1 by [deleted](#)

Samson Cables sent it on 16th July, it cleared customs on Saturday 28th. It arrived today, Monday 30th, safe and sound. They did a great job, at least for me.

S/N is CNA 72101997

Yes, this is **the first HP35s in Croatia.**

I am absolutely, positively, with no doubt, sure about this, because Hrast told me that he did not order one yet :)

Just imagine that feeling to be the first proud owner of the beautiful HP35s in the whole Republic of Croatia. I've done it! I am the first one forever! This should be written somewhere in golden letters! Maybe, the Croatian evening TV news will have to say something about this, so I would certainly have to prepare myself for their interview.

If there exists somebody in Croatia (tourists do not count in) who can prove the opposite, we will be happy to acquaint yet another person interested in such gadgets.

IMHO, everything looks nice, except the serial number label on the back (slightly slanted). However, the LCD display is correctly aligned.

Now, start to RTFM ...

### **Congratulations!**

Message #3 Posted by [HrastProgrammer](#) on 30 July 2007, 3:09 p.m.,  
in response to message #2 by [Nenad \(Croatia\)](#)

Now, go to work - I am expecting the comprehensive report on my desk in a few days :-)

### **Re: The first HP 35s in Croatia**

Message #4 Posted by [Dave Colver](#) on 31 July 2007, 9:43 a.m.,  
in response to message #2 by [Nenad \(Croatia\)](#)

Does this mean you wont need your HP67 any more Nenad?? :)

---

**Re: The first HP 35s in Croatia**

*Message #5 Posted by [Nenad \(Croatia\)](#) on 1 Aug 2007, 6:21 a.m.,  
in response to message #4 by Dave Colver*

Hi Dave,

How nice to hear from you after a long time.

Unfortunately (or luckily) I would still need my HP67 (works flawlessly after your help), as well as my 11C, 12C, 15C, 21, 25, 28S, 32S, 32SII, 33E, 33C, 34C, 41CV, 41CX, 42S, 45, 48SX, 48G, 71B, as well as my wife's 720 and my 728. Unluckily, there are many of similar items that I need, though I don't have them (yet!).

It seems that the near future will bring me a 32E.

BTW, I have to send you an e-mail (IOU).

---

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## HP Forum Archive 17

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### hp35S case

Message #1 Posted by [William L. Drylie](#) on 29 July 2007, 8:09 p.m.

Hi all; I have not got a look at the new 35S yet, and was curious as to what type of case hp supplied with it. Is it like the 33S or does it have a fold over top like the original leather case for the old 35?. Glad to see a lot of members still here. I have been away on a job for the last four years. It was pretty much seven days a week, twelve hours a day. My account here was gone, and had to register again. I am Verrrry glad to be home. I am going to take early retirement in January, will be working at home now till then, so I will be able to post now and again. I am reading all of the posts about the 35S, some are pretty interesting, but no matter what, I will buy two anyway. I hope another 15C comes out in the future, I really miss it. Mine burned out a long time ago. Take care all for now, it was really good to see alot of the old names here. Bill Drylie

### Re: hp35S case

Message #2 Posted by [Reth](#) on 30 July 2007, 12:38 a.m.,  
in response to message #1 by William L. Drylie

Hi,

Quote:

but no matter what, I will buy two anyway

I'd rather buy one of these now and wait 12 months until they release HP-43s (HP-42 + SD card-reader + heaps of RAM) ;)

Cheers, reth

### Re: hp35S case

Message #3 Posted by [Vincze](#) on 30 July 2007, 8:53 a.m.,  
in response to message #2 by Reth

They are making 43s or this just speculation?

### Re: hp35S case

Message #4 Posted by [Jeff O.](#) on 30 July 2007, 12:15 p.m.,  
in response to message #3 by Vincze

Pure speculation (and/or wishful thinking) at this time.

### Additional speculation

Message #5 Posted by [Nenad \(Croatia\)](#) on 31 July 2007, 3:18 a.m.,  
in response to message #4 by Jeff O.

If:

HP32s & HP32sII -> HP33s -> HP35s

then:

HP42s -> HP43s -> HP45s

It would certainly be very nice to have the successor to the famous classic HP45 on your desk one day.

Just wishful thinking.

**Re: Additional speculation**

*Message #6 Posted by [Vincze](#) on 31 July 2007, 8:35 a.m.,  
in response to message #5 by [Nenad \(Croatia\)](#)*

HP 45 is my favorite calculator. Only thing I no like is order of math operators. My mind programed to those, and switching between calculators goof me up.

**Re: hp35S case**

*Message #7 Posted by [Antonio Maschio \(Italy\)](#) on 30 July 2007, 3:33 a.m.,  
in response to message #1 by [William L. Drylie](#)*

Welcome back!

I never knew you, but I'm glad you're here again!

-- Antonio

---

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## HP Forum Archive 17

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### 35s -- Indirect Branching or Manual Mistake?

Message #1 Posted by [Katie Wasserman](#) on 29 July 2007, 5:48 p.m.

There's a section in chapter 14 of the manual called "Indirectly Addressing Variables and Labels" that implies in several places that you can address program labels indirectly. For example:

Quote:

The function (I) or (J) uses the value in the variable I to [sic] J to determine which variable, label, or register to address.

Aside from the typo, this reads to me like it is possible to address program labels indirectly, but I don't see how to do that. Am I missing something here?

-Katie

### Re: 35s -- Indirect Branching or Manual Mistake?

Message #2 Posted by [Valentin Albillo](#) on 29 July 2007, 6:33 p.m.,  
in response to message #1 by [Katie Wasserman](#)

Hi, Katie:

Katie posted:

*"Aside from the typo, this reads to me like it is possible to address program labels indirectly, but I don't see how to do that. Am I missing something here?"*

The term "label" in that sentence refers to the label used in SOLVE and INTEGRATE, which can be specified indirectly. But as for indirect GTO's or XEQ's, that's regrettably a big no-no, though something like 2.007 or -2.007 could have been used to indirectly specify GTO B007 or XEQ B007.

This shortcoming, along with the lack of functions to extract the real/imaginary parts of complex numbers (REPT and IMPT in the HP-71B) or the components of a vector, is among the worst omissions in the HP35s instruction set. Further, there seems to be no function to obtain the conjugate of a complex value either (CONJ in the HP-71B).

Best regards from V.

### Re: 35s -- Indirect Branching or Manual Mistake?

Message #3 Posted by [Antonio Maschio \(Italy\)](#) on 30 July 2007, 4:45 a.m.,  
in response to message #2 by [Valentin Albillo](#)

On the HP-32SII, if you have a program labelled "A", and you put 1 in the variable i, pressing XEQ (i)

executes the "A" program.

Wasn't this preserved on the newer 35s? (Actually I have no 35s yet to try, so I ask to those who have one.)

-- Antonio

**Re: 35s -- Indirect Branching or Manual Mistake?**

*Message #4 Posted by [Don Shepherd](#) on 30 July 2007, 7:47 a.m.,  
in response to message #3 by Antonio Maschio (Italy)*

No. XEQ wants a label and line number.

**Re: 35s -- Indirect Branching or Manual Mistake?**

*Message #5 Posted by [Gene Wright](#) on 30 July 2007, 8:54 a.m.,  
in response to message #4 by Don Shepherd*

Manual mistake.

In my 35s review, I note that the XEQ and GTO indirect instructions are not present.

**Re: 35s -- Indirect Branching or Manual Mistake?**

*Message #6 Posted by [Antonio Maschio \(Italy\)](#) on 30 July 2007, 9:00 a.m.,  
in response to message #5 by Gene Wright*

So update the essay and tell us where and when! ;-)

-- Antonio

---

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## HP Forum Archive 17

[ [Return to Index](#) | [Top of Index](#) ]**RE: 35s sorting routine challenge - Gene's Challenge***Message #1 Posted by [Miguel Toro](#) on 29 July 2007, 4:02 p.m.*

Hi,

This is an implementation of the "Insertion sort" algorithm. I find that it is reasonable fast and easy to program. This is my first try, but here it is for your consideration, though. It assumes that the numbers list begins always in register 0 and 10 items as the learning module, but it can be modified easily to follow Gene's requirements. I run it against the bubble program and it completed sorting in half the time or less. It was just fun to do it.

```

I001 LBL I
I002 1.009
I003 STO K
I004 RCL K
I005 STO I
I006 RCL (I)
I007 RCL I
I008 IP
I009 STO J
I010 x=0?
I011 GTO I022
I012 1
I013 -
I014 STO I
I015 x<>y
I016 RCL (I)
I017 x<=y?
I018 GTO I022
I019 STO (J)
I020 x<>I
I021 GTO I009
I022 x<>y
I023 STO (J)
I024 ISG K
I025 GTO I004
I026 RTN

```

LN=84  
CK=AD7D

Regards,

Miguel

**Re: RE: 35s sorting routine challenge - Gene's Challenge (EDITED!)**

*Message #2 Posted by [Miguel Toro](#) on 30 July 2007, 10:30 p.m.,  
in response to message #1 by Miguel Toro*

2007-08-01: PLEASE SEE BELOW FOR UPDATED ROUTINE. THANKS

This is the program modified so it can take a number X.YYYY as input, specifying the first and last indirect registers of the list to be sorted.

I compared against the bubble sort, with a list of 100 elements and I got this results:

"insertion": 4 min. 26 sec.

"bubble": 16 min. 40 sec.

I think, it is not bad for a simple algorithm. I'll work the program more to see if I can make it shorter and maybe faster. If someone could make a test run, I'd be happy to get comments.

Here it is (RLDN -> roll down):

```
I001 LBL I
I002 IP
I003 STO B
I004 LAST x
I005 STO K
I006 ISG K
I007 RCL K
I008 STO I
I009 RCL (I)
I010 RCL I
I011 IP
I012 STO J
I013 RCL B
I014 x=y?
I015 GTO I027
I016 RLDN
I017 l
I018 -
I019 STO I
I020 x<>y
I021 RCL (I)
I022 x<=y?
I023 GTO I028
I024 STO (J)
I025 x<>I
I026 GTO I012
I027 RLDN
I028 x<>y
I029 STO (J)
I030 ISG K
I031 GTO I007
I032 RTN
```

Regards,

Miguel

*Edited: 1 Aug 2007, 8:46 a.m. after one or more responses were posted*

### **Re: RE: 35s sorting routine challenge - Gene's Challenge**

*Message #3 Posted by **Gene Wright** on 31 July 2007, 12:09 a.m.,  
in response to message #2 by Miguel Toro*

Great job! This is the type of improvement I hope we see across the board.

It DOES make my initial sort routine in the learning module look really bad. :-)

### **Re: RE: 35s sorting routine challenge - Gene's Challenge**

*Message #4 Posted by **Miguel Toro** on 31 July 2007, 12:01 p.m.,  
in response to message #3 by Gene Wright*

Thank you Gene!

It is really my pleasure and if one can make something more or less useful from time to time, that is a real satisfaction :-)

Regards,

Miguel

### Little change, big improvement

Message #5 Posted by [Miguel Toro](#) on 1 Aug 2007, 8:36 a.m.,  
in response to message #3 by Gene Wright

How expensive a RCL is! I finally noticed that line I0010 is not necessary as written (duh myself), since I already have the value in the stack after line I008. So instead of RCL I, I use x<>y and voilà! 3min. 38sec. to sort 100 elements. This is 17% improvement in performance.

```

I001 LBL I
I002 IP
I003 STO B
I004 LAST x
I005 STO K
I006 ISG K
I007 RCL K
I008 STO I
I009 RCL (I)
I010 x<>y          -> RCL I becomes x<>y!
I011 IP
I012 STO J
I013 RCL B
I014 x=y?
I015 GTO I027
I016 RLDN
I017 1
I018 -
I019 STO I
I020 x<>y
I021 RCL (I)
I022 x<=y?
I023 GTO I028
I024 STO (J)
I025 x<>I
I026 GTO I012
I027 RLDN
I028 x<>y
I029 STO (J)
I030 ISG K
I031 GTO I007
I032 RTN

```

CK=11E4  
LN=97

Miguel

---

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## HP Forum Archive 17

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**35S - AU\$141**

Message #1 Posted by [DaveJ](#) on 29 July 2007, 8:26 a.m.

Looks like the 35s will be going for a very pricey AU\$141 in Australia (US\$120), from this supplier at least:  
<http://www.expansys.com.au/p.aspx?i=151668>

Dave.

**Re: 35S - AU\$141**

Message #2 Posted by [Les Wright](#) on 29 July 2007, 8:36 a.m.,  
in response to message #1 by [DaveJ](#)

I am Canadian and between expedited shipping and taxes and fees at the border I ended up paying around \$90US (\$100CDN) including all costs. I really like the calculator so was quite happy to splurge. I have spent a hundred bucks on stupider things in the past.

It is not a perfect calculator, but considering how outrageously expensive the HP65 was in 1974 (and that is hardly a perfect machine either), it really is a bargain even at the outrageous markups outside the US.

Les

**Re: 35S - AU\$141**

Message #3 Posted by [Dominic Richens](#) on 1 Aug 2007, 1:45 p.m.,  
in response to message #2 by [Les Wright](#)

Quote:

I am Canadian and between expedited shipping and taxes and fees at the border I ended up paying around \$90US (\$100CDN) including all costs....

That sounds about what it will cost from [YorkU bookstore](#) at \$84.95 CDN with 6\$ shipping, PST and GST = \$102.84

Don't know if they actually have them, tho - if you click on the B/W image of the calculator for more info you get a JPG of a B/W scan of the back of the brochure - not even the PDF from HP's web site?

**Re: 35S - AU\$141**

Message #4 Posted by [srayb](#) on 3 Aug 2007, 10:55 p.m.,  
in response to message #3 by [Dominic Richens](#)

Quote:

That sounds about what it will cost from [YorkU bookstore](#) at \$84.95 CDN with 6\$



shipping, PST and GST = \$102.84

Don't know if they actually have them, tho - if you click on the B/W image of the calculator for more info you get a JPG of a B/W scan of the back of the brochure - not even the PDF from HP's web site?

---

I got mine from York U. Slightly tilted LCD display, so buyer beware. But seriously, a nice calculator (to semi-retire my 32SII, due to more memory for programs). The display is by far the weak link in 35s. Next to my 20-year-old 32SII it is much inferior in contrast, even on highest setting. But I like the keys.

**Re: 35S - AU\$141**

*Message #5 Posted by [Paul Dale](#) on 29 July 2007, 5:46 p.m.,  
in response to message #1 by DaveJ*

Almost exactly twice what I payed buying in the USA and shipping to Oz.

- Pauli

**Re: 35S - AU\$141**

*Message #6 Posted by [DaveJ](#) on 29 July 2007, 6:14 p.m.,  
in response to message #5 by Paul Dale*

Quote:

---

Almost exactly twice what I payed buying in the USA and shipping to Oz. - Pauli

---

Who did you buy yours from Pauli?

Dave.

**Re: 35S - AU\$141**

*Message #7 Posted by [Paul Dale](#) on 29 July 2007, 6:17 p.m.,  
in response to message #6 by DaveJ*

Samson Cables.

The only problem I encountered was that the plastic blister the calculator came in was cracked by the time it got here. The calculator worked fine of course and nothing inside was damaged.

- Pauli

**Re: 35S - AU\$141**

*Message #8 Posted by [Seth Morabito](#) on 29 July 2007, 11:32 p.m.,  
in response to message #7 by Paul Dale*

You should be thankful! That probably made the damn thing easier to open.

I do so miss when calculators came in things called "boxes". Crazy idea, I know.

(And yes, I understand the economics of blister packaging. Doesn't mean I have to *like* it, though, does it?)

**Re: 35S - AU\$141**

*Message #9 Posted by [Reth](#) on 30 July 2007, 12:46 a.m.,  
in response to message #1 by DaveJ*

I got mine from Samson Cables (\$53+\$20 = A\$84) paid on 15-7, arrived here in Sydney on 26-7 and strangely enough, the blister pack was broken on top, not opened and no damages.

Cheers,

Reth

---

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# HP Forum Archive 17

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## Catalog Plus for HP75C/D Rev 2

Message #1 Posted by [gilen0](#) on 28 July 2007, 7:30 p.m.

### Catalog Plus for HP75C/D Rev 2

```

1 DELAY 0 @ I=1
2 A$=CAT$(I) @ IF A$="" THEN I=I
-1 @ GOTO 2 ELSE DISP A$
3 B$=WKEY$ @ IF B$="..." THEN I=I+
1
4 IF B$="," THEN I=I-1 @ GOTO 13
5 IF B$='p' THEN C$="Purge" @ GO
SUB 15 @ GOTO 16
6 IF B$='e' AND A$[12,12]="B" TH
EN C$="Edit" @ GOSUB 15 @ GOTO 2
1
7 IF B$='r' AND A$[12,12]="B" TH
EN C$="Run" @ GOSUB 15 @ GOTO 22
8 IF B$='c' THEN C$="Copy to car
d" @ GOSUB 15 @ GOTO 17
9 IF B$='d' THEN C$="Copy to dri
ve" @ GOSUB 15 @ GOTO 19
10 IF B$="b" THEN BYE
11 IF B$='i' THEN C$="Print" @ G
OSUB 15 @ GOTO 23
12 GOTO 2
13 IF I=0 THEN I=1
14 GOTO 2
15 A=GETMSG(A$[1,11]&C$&"? [YN]:
","yn") @ RETURN
16 IF A=1 THEN PURGE A$ @ GOTO 1
ELSE GOTO 2
17 IF A=1 THEN COPY A$ TO CARD
18 GOTO 2
19 IF A=1 THEN COPY A$ TO ":d0"
20 GOTO 2
21 IF A=1 THEN EDIT A$ @ END ELS
E GOTO 2
22 IF A=1 THEN RUN A$ ELSE GOTO
2
23 IF A=2 THEN GOTO 2 ELSE B$=CH
R$(27)&"&k" @ A$=A$[1,POS(A$," "
)-1]
24 PRINT B$&"1S";TAB((13-LEN(A$)
)/2);A$;B$&"0S"
25 FOR I=0 TO 99 @ C$=CAT$(I)
26 IF POS(C$,A$)>0 THEN PRINT TA
B(6);C$[13,18]&'bytes' @ GOTO 28
27 NEXT I
28 PRINT @ B$=DATE$ @ PRINT TAB(
3);B$[7,8]&B$[3,6]&B$[1,2]&" "&
TIME$ @ PRINT
29 PLIST A$ @ PRINT @ GOTO 2

```

934 bytes

Up = Up  
Down = Down  
p = Purge  
e = Edit \*  
r = Run \*  
c = Copy to Card  
d = Copy to Drive  
b = Bye

i = Print \*

\* Only basic file

Questions?  
Optimization?

### Re: Catalog Plus for HP75C/D Rev 2

Message #2 Posted by **J-F Garnier** on 30 July 2007, 4:48 p.m.,  
in response to message #1 by gileno

Hello Gileno,

Nice to read a post about the HP75!

Can you specify what ROM or LEX are you using? I noticed some keywords like WKEY\$ or GETMSG that are not part of the bare machine.

J-F

### Re: Catalog Plus for HP75C/D Rev 2

Message #3 Posted by **gileno** on 30 July 2007, 5:50 p.m.,  
in response to message #2 by J-F Garnier

KEYLEX75

Thank's :-)

### Re: Catalog Plus for HP75C/D Rev 2

Message #4 Posted by **Howard Owen** on 30 July 2007, 7:09 p.m.,  
in response to message #2 by J-F Garnier

Quote:

\_\_\_\_\_  
Nice to read a post about the HP75!  
\_\_\_\_\_

The HP-75C/D is neglected because, I think, of its younger, smarter brother, the HP-71B. I had a 75 several months before I got my first 71. It was lots of fun, what with all the software on the swap disks aimed at the platform. But my first 71B blew away the 75 in terms of memory and capability of the BASIC implementation. And there are depths to plumb on the 71 that either aren't there on the 75, or are far less capable. Still, it's almost possible to touch type on the 75's keyboard. And it's a capable HP-IL controller, with the addition of the I/O ROM.

It is very nice to see someone working on the platform. Thanks, Gileno!

Regards,  
Howard

### Re: Catalog Plus for HP75C/D Rev 2

Message #5 Posted by **gileno** on 30 July 2007, 7:14 p.m.,  
in response to message #4 by Howard Owen

Thank's

### **HP75C/D vs. HP-71B**

*Message #6 Posted by **Valentin Albillo** on 30 July 2007, 7:30 p.m.,  
in response to message #4 by Howard Owen*

Hi, Howard:

I also had an HP-75C at the time it was released, and was able to use it a little and write programs for it, then the HP-71B was released as well.

The HP-75C had some very good things when compared to the HP-71B but ultimately many shortcomings as well, for instance:

- Good: an 8-bit Capricorn CPU, the same as the HP-85, which I already knew how to program directly in Assembler. Matter of fact, many of the internal routines were taken directly from the HP-85 internal ROMs, with nearly the same inputs and outputs, so I already could make sense of them. And it was pretty fast, nearly as fast as the HP-85 itself.

In contrast, the HP-71B had a new 4-bit Saturn CPU, which was a mystery to me at the time, and it was nearly 5 times slower than the HP-75C's.

- Good: larger display, nice and wide keyboard, versus the utterly insufficient 71B display and small, calculator-like keyboard.
- Bad: very large and heavy, required a briefcase at the very least and considerable tabletop room.
- Bad: Very little RAM, even with expensive add-ons such as the Pod, versus the 512 Kb address space of the HP-71B, which was enormous by the usual standards back then (16 Kb, 32 Kb, 64 Kb, ...)
- Bad: No PEEK/POKE built-in, which made LEX-programming bootstrap impossible. You needed a PEEK/POLE LEX somehow before you could do anything of the sort. On the other hand, you could enter LEX files on a bare-bones HP-71B with a program using just standard instructions.
- Bad: The all-important Math ROM functionality and design couldn't hold a candle to that of the HP-71B, most specially regarding complex number dimensioning and functionality.
- Bad: The BASIC dialect of the HP-71B was much better than the one in the HP-75C in many important aspects, and with the exception of the so-called IO ROM, the HP-71B had better ROMs and peripheral capabilities.

Best regards from V.

### **Re: HP75C/D vs. HP-71B**

*Message #7 Posted by **Howard Owen** on 31 July 2007, 4:39 a.m.,  
in response to message #6 by Valentin Albillo*

Hi, Valentin,

Quote:

---

I also had an HP-75C at the time it was released, and was able to use it a little and write programs for it, then the HP-71B was released as well.

---

I actually never owned either until about three years ago. So, as in so many things having to do with HP machines, you were there way ahead of me.

Quote:

---

The HP-75C had some very good things when compared to the HP-71B but ultimately many shortcomings as well, for instance:

..

---

That's a very good list I would add one other thing the HP-75 had that the HP-71 lacked was an implementation of Visicalc. With the one line display and limited memory, it was a bit impractical as a spreadsheet. But you could call the Visicalc routines from BASIC, effectively giving you a language extension consisting of spreadsheet formulas.

Quote:

---

.. Good: an 8-bit Capricorn CPU, the same as the HP-85, which I already knew how to program directly in Assembler.

---

Does an assembler for the HP-75 exist, or did you cross assemble on the 85?

Regards,  
Howard

### **Re: HP75C/D vs. HP-71B**

*Message #8 Posted by [Valentin Albillo](#) on 31 July 2007, 8:08 a.m.,  
in response to message #7 by Howard Owen*

Hi, Howard:

Briefly, as I must go on a long trip right now:

1. Visicalc was a wonderful effort, but absolutely marred by the small one-line display and the utter lack of memory. Visicalc spreadsheets took large amounts of RAM for everything except trivial cases and forced you to do all kinds of tricks to be able to work with them in the limited RAM. The Pod was almost mandatory, a very expensive add-on to an already very expensive machine and very expensive Visicalc ROM. It was very difficult to justify so much expense.
2. I did cross-assemble in the HP-85. I don't remember the exact details, but I do remember it was quite convolute. After I while I got tired of it all, most specially when the HP-71B came out with its open IDS documentation and the Forth/Assembler ROM which made life considerably easier.

I have to go. "See" you all in 3 weeks.

Best regards from V.

**Re: HP75C/D vs. HP-71B**

Message #9 Posted by [Garth Wilson](#) on 2 Aug 2007, 2:56 a.m.,  
in response to message #8 by Valentin Albillo

Quote:

versus the utterly insufficient 71B display and small, calculator-like keyboard.

I touch-typed about 30wpm on the 71, versus about 45 on a full-size keyboard. Using a ton of LEX files that CHHU published from the Paris user group, I wrote a very feature-loaded text editor specifically for use with the tiny display, and I typed a lot on it until the 71 went out of production and I had visions of wearing out the keyboard and not being able to get any service for it. I wrote letters, took notes in meetings, etc.. The key (ie, secret) to making it do well with a small display is to think of the display as a keyhole through which you view your work, and make it so this keyhole can be moved around the work very nimbly.

Quote:

most specially when the HP-71B came out with its open IDS documentation and the Forth/Assembler ROM which made life considerably easier.

The 71 is where I learned Forth, although the Forth implementation in the Forth/Assembler ROM was a really bad one. Fortunately, since it is Forth, the user can improve it, and I was able to speed up many of the built-in words by a factor of up to 13 merely by re-writing them in Forth, not even assembly. (I never did learn the assembly language.)

**Re: HP75C/D vs. HP-71B**

Message #10 Posted by [Egan Ford](#) on 2 Aug 2007, 10:14 a.m.,  
in response to message #9 by Garth Wilson

Quote:

I wrote a very feature-loaded text editor specifically for use with the tiny display...

I need a good editor for the 71B, specifically for FORTH programming. What do you recommend. I have a LIF disk of LEX files with no descriptions or documentation.

Thanks.

**Re: HP75C/D vs. HP-71B**

Message #11 Posted by [Garth Wilson](#) on 3 Aug 2007, 6:55 p.m.,  
in response to message #10 by Egan Ford

I sent you a PM





## HP Forum Archive 17

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**Inputting HEX numbers on a 35S**

Message #1 Posted by [Steve Myers](#) on 28 July 2007, 6:41 p.m.

Maybe I'm missing something simple here (hope so), but .. How does one prompt for HEX numbers in a program with the 35S?

I want to write some programs to try and add some of the functionality of my 16C, but can't get this to work.

If I prompt for a number, then try to append BASE 6, I get INVALID DATA. Doesn't matter if I'm in HEX or DEC mode, it still errors.

I can't believe that the only way to do this is to have enter the number then BASE 6 everytime I need to work with a HEX number in a program...

**Re: Inputting HEX numbers on a 35S**

Message #2 Posted by [Don Shepherd](#) on 28 July 2007, 8:31 p.m.,  
in response to message #1 by Steve Myers

Well, I tried it on mine, and you are right! You can't "program" the h, you've got to enter it with the number by using Base 6. Crappy!

**Re: Inputting HEX numbers on a 35S**

Message #3 Posted by [Steve Myers](#) on 29 July 2007, 2:14 p.m.,  
in response to message #1 by Steve Myers

Well, in the chance that maybe HP does read these forums, I have just one small request.

**Please release a simulator of the next calculator before releasing the design to China so these problems can be fixed before mass production.**

I don't think that in doing so HP jeopardizes any sales of its calculators because most all buyers of this type of product are not going to settle for running it on a PC, but people will point out the major flaws like this one in the firmware.

BASE problems like this one are deal-breakers for people like me.

I know there are going to be quite a few happy used HP sellers on EBay...

---

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## HP Forum Archive 17

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### 35s Minor Complaint and Minor Correction

Message #1 Posted by [Trent Moseley](#) on 28 July 2007, 2:22 p.m.

Minor beef: The RND (round) function doesn't work on a complex number as it does on the 42s; you get "INVALID DATA". The wrong shift key is indicated for the RND (round) function on page G-13 of the User's Guide.

tm

### Re: 35s Minor Complaint (RND) and Minor Correction

Message #2 Posted by [Karl Schneider](#) on 29 July 2007, 1:07 a.m.,  
in response to message #1 by Trent Moseley

Hi, Trent --

Quote:

Minor beef: The RND (round) function doesn't work on a complex number as it does on the 42s; you get "INVALID DATA". The wrong shift key is indicated for the RND (round) function on page G-13 of the User's Guide.

Yep, I'd say that's either a bug, or the functional specification was undefined, so RND fell by default to "invalid for complex arguments".

Hmm, I'd never thought about that one, so I had to try it out:

RND for a complex number on the HP-42S rounds both components. This makes sense for its paradigm; to round only one component, use the following:

```
COMPLEX (RPL "C->R")
(x<>y for real)
RND
(x<>y for real)
COMPLEX (RPL "R->C")
```

On the HP-15C, RND operates only on the real component. This is consistent with its documentation on p. 24 of the Owner's Handbook, in that "Number Alteration Functions" operate only on the number in the display. This also makes more sense for its paradigm; to RND both parts, the following sequence is easier:

```
RND
Re<->Im
RND
Re<->Im
```

than for the user to separate and reassemble the components if only one component is to be RND'ed.

Another example of good thinking by those "A-team" H-P calculator engineers in the 1980's...

-- KS

*Edited: 29 July 2007, 1:11 a.m.*

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## HP Forum Archive 17

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**An HP addict?**

Message #1 Posted by [Geoff Quickfall](#) on 28 July 2007, 2:05 p.m.

Yes, the last thing I need is a new calculator, but I NEED the 35S for something to entertain me on long flights. My collection includes the following all in restored or as new condition:

- 3 hp 01 including one complete with inner and outer boxes in NOS condition
- 1 hp 35 in plastic container with manuals
- 1 hp 25c (my first HP calculator for use)
- 4 hp 67, two in boxes complete, one of which is unused NOS.
- 1 hp 91
- 1 hp 97
- 1 hp 41c
- 1 hp 41cv (used at university as was the HP 41cx which explains the accessories)
- 1 hp 41cx with 2 printers, 1 floppy drive, one plotter, one wand
- 3 repaired card readers.
- 48g
- 48g+ and infrared printer

The HP 25c was my first intro to HP and was used during my undergrad years. This was followed by the 41CV with stats, nav, and time modules with all the accessories used in a lab during my post grad. Went to the cx version as a professional.

The HP 01 is used in the office (cockpit) and I swap between my HP67, HP41cx, and HP48G+ in the office also depending on my retro mood. Also took the HP 97 with me once but it takes up alot of room in the flight bag!

The gist of this is, do I really need a new calculator? NO!, but I will be getting the HP35s to lay down beside the HP 35 and to get to know in the office.

For those of you that think the weight is to light I would suggest the following:

**Go to the local 'fish bait and tackle shop' and pick up some lead. Form it into shape to fill the various voids in the calc case, there are a few there. Glue them in with silicon or some other adhesive. This will give the calc a 'critical mass' worthy of the older versions!**

;-)

Cheers, Geoff

*Edited: 28 July 2007, 2:07 p.m.*

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## HP Forum Archive 17

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### **Finally, the 35s arrived in Germany!**

Message #1 Posted by [Doctor Bubu](#) on 28 July 2007, 5:52 a.m.

Today it came as a normal parcel. It was shipped from Spain? So there where no custom-tax for me.

My first impression, because i had no time to play around, is that someone who sayd that the blister is one of the best are completly right.

And it feels very good, i am finally happy. I do not think that it is not havy enough. the weight, even of the older calculators, depends mainly on the batteries.

The serial Number is 72 10 20 10

Greetings from Germany Jürgen

*Edited: 28 July 2007, 7:53 a.m.*

### **Re: Finally, the 35s arrived in Germany!**

Message #2 Posted by [Dave Johnson](#) on 28 July 2007, 11:05 a.m.,  
in response to message #1 by Doctor Bubu

Congrats! Have fun!

Dave

### **Re: Finally, the 35s arrived in Germany!**

Message #3 Posted by [joan cardenas](#) on 28 July 2007, 12:16 p.m.,  
in response to message #1 by Doctor Bubu

hello,

Where you've bought it from?. Here in Spain is no trace of the new calc.

Thanks

### **Re: Finally, the 35s arrived in Germany!**

Message #4 Posted by [Walter B](#) on 28 July 2007, 3:08 p.m.,  
in response to message #1 by Doctor Bubu

Hallo Jürgen,

wie teuer war's insgesamt? (how much was it?)

### **Re: Finally, the 35s arrived in Germany!**

*Message #5 Posted by **Doctor Bubu** on 29 July 2007, 4:00 a.m.,  
in response to message #4 by Walter B*

Hallo Walter and Joan!

I ordered, as i told, at samson cable. with world wide express 52,99\$ + 43\$.

After a long cnversation via email the last mail from customer service was:

Jurgen,

I do apologize for the time taken to ship your order. The usual two- to three-day shipment to us of our deliveries from HP manufacturing was delayed, so we were unable to ship as planned. Because your order was from the European Union, it additionally required us shipping the calculators to Europe, from where the shipment is actually made to you. (Using our partner in Spain, shipping from Europe avoids you paying customs taxes, avoids shipping and customs problems, and simplifies delivery for our products because the shipments originate from within the EU.) Our European office received their shipment of 35S calculators on the 23rd, the day we gave them your order.

Because our shipments are done through Spanish mail through our partner, we do not have a tracking number. We have forwarded tracking numbers in the past to a few customers, but our experience with European mail is that although the mail service is reliable, the tracking numbers give little information.

Regards,

Karren

It really come from spain,

FZInformatica samson europa, Llaudez No.1 Bajo, Alicante

so i have not payed any furher tax. But the shipping costs from spain was only 13,20 Euro (around 18 \$) so i wonder how i will deal with the different amount i payed, (espacialy because it took 2 weeks not 2 days).

Has anyone an Idea?

Greetings Jürgen

### **Re: Finally, the 35s arrived in Germany!**

*Message #6 Posted by **Andreas Haack** on 29 July 2007, 9:11 a.m.,  
in response to message #5 by Doctor Bubu*

Hi Jürgen,

I get exactly the same Email from Karren. I ordered my 35s on the 07/15 ( 52.99\$ + 43\$ S/H). But unfortunately until today I don't get my calculator.

If the shipping cost are only 18\$ then I will not pay 43\$ for S/H.

Get you an invoice with the german VAT ?

Greeting from Berlin

Andreas

**Re: Finally, the 35s arrived in Germany!**

*Message #7 Posted by [Rafael Millán](#) on 29 July 2007, 9:31 a.m.,  
in response to message #5 by Doctor Bubu*

Hello Jürgen,

This is similar to the shipping method used by Amazon USA. All shipments to the European Union go to a partner in Germany which then distributes them into the EU. But custom taxes exist anyway, just they are processed/negotiated/payed in bulk by the European partner, instead of by each individual customer. I think that this is very convenient for us, as dealing with customs becomes easily a nightmare, at least in my experience. Also, some couriers can do it on behalf of the customer, but usually at very expensive prices.

So the custom taxes would not be included in the shipping cost from Spain, as they would have been paid before. I also received my two units in Madrid from the same company in Alicante, but not thru Spanish mail, but a local courier.

By the way, I could sell one of them to someone in the Madrid area. The price is the same I payed for it: 68 euro. Compare with [Nomatica.es](#) which is accepting preorders at 95.95 euro. Use the forum mail if interested.

Best regards, R.

**Re: Finally, the 35s arrived in Germany!**

*Message #8 Posted by [Eduardo Muñoz](#) on 31 July 2007, 8:43 a.m.,  
in response to message #7 by Rafael Millán*

Hello Rafael,

did you buy those calculators from Samson Cables or from F7informatica directly?. How many days went by between payment and reception of the calculators?. BTW i live in Seville. Email me privately if you want.

Greetings,

**Re: Finally, the 35s arrived in Germany!**

*Message #9 Posted by [Rafael Millán](#) on 31 July 2007, 6:22 p.m.,  
in response to message #8 by Eduardo Muñoz*

Hi Eduardo,

I bought the 35s from Samson Cables, I had not heard of F7informatica before. I ordered on 15th, they charged my credit card on 16th, and I received the calculators on 26th. I think that this timing has been typical for European buyers. I paid for "world-wide express 1-2 days", but my price per unit was not very bad because the shipping cost for two units didn't double, it was more like multiplying by 1.35.

Regards, R.

**Re: Finally, the 35s arrived in Germany!**

*Message #10 Posted by [Ivan Latorre](#) on 1 Aug 2007, 1:49 p.m.,*

*in response to message #9 by Rafael Millán*

Joan, Rafael and Eduardo

In Spain "[Pont Reyes Informatica](#)" is selling the HP35s for €73,08 (including VAT). Its package/box is for Spain and Portugal (it comes with two user's guides: one in Spanish and one in Portuguese). I have bought a HP35s there and also ordered one at Samson Cables for collecting purposes (which will come with the user's guide in English).

Greets

**Re: Finally, the 35s arrived in Germany!**

*Message #11 Posted by [Rafael Millán](#) on 1 Aug 2007, 9:03 p.m.,  
in response to message #10 by Ivan Latorre*

Iván,

I cannot find any mention to the 35s in that website, could you give us a direct link? Also, they don't seem to sell online.

Regards, R.

**Re: Finally, the 35s arrived in Germany!**

*Message #12 Posted by [Ivan Latorre](#) on 2 Aug 2007, 2:41 a.m.,  
in response to message #11 by Rafael Millán*

Their site is not updated but they sell the calculator. I was surprised because I already had ordered the HP35s at Samson Cables (an it seems that last week Pont Reyes Informatica already had it in stock...).

I will keep the "English edition" for collecting purposes.

**Re: Finally, the 35s arrived in Germany!**

*Message #13 Posted by [Frank Balzer](#) on 30 July 2007, 6:59 a.m.,  
in response to message #1 by Doctor Bubu*

Mine, ordered on 07/17 from Samson Cables, arrived Saturday. Serial number 7210 2337.

Frank.

**Re: Finally, the 35s arrived in Germany!**

*Message #14 Posted by [Thomas Radtke](#) on 30 July 2007, 7:51 a.m.,  
in response to message #1 by Doctor Bubu*

Got my 35s today! Ordered July 15th, paid \$52.99 plus \$35 shipping & taxes.

Good 32SII replacement, key haptics ist even better than on my Singapore Pioneer, no missed keystrokes, perfectly aligned LCD, STO as second function ist a design flaw. All in all, I love it thus far.

**Re: Finally, the 35s arrived in Germany!**

*Message #15 Posted by [Frank Rottgardt](#) on 30 July 2007, 3:21 p.m.,*



*in response to message #14 by Thomas Radtke*

At [Dynatech Germany](#) one can order an 35s for 70 Euro (96 USD) plus 8 Euro (11 USD) UPS-shipment within Germany.

Search on the website for Taschenrechner / Hersteller / HP / 35s

Problem: item is listed as ready for shipment during fall 2007 !!

### **Re: Finaly, the 35s arrived in Germany!**

*Message #16 Posted by [Thomas Radtke](#) on 30 July 2007, 4:59 p.m.,  
in response to message #15 by Frank Rottgardt*

Well, in the end, the SC deal was not too bad. The 35s arrived sooner than expected so why would anyone pay more? As much as I'm enthusiastic about the new machine, I'm not sure if I would have paid more than what I actually did.

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## HP Forum Archive 17

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### **HP 35s - great opportunity?**

Message #1 Posted by *mark murphy* on 27 July 2007, 8:53 p.m.

Hmm - waiting for my next trip over to SFO to get hold of a HP35s - it would be a sin to break apart an HP41c - but the 35s hmm. It seems to have lots of room inside it. Isn't this the chance we've been waiting for to open it up and create a frankenstein monster based on Eric Smiths excellent previous work? Adding a mini usb and sd card should be simple - the CPU, well there are plenty of us around to get an open source version running ?

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## HP Forum Archive 17

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### 35s thoughts and a bug

Message #1 Posted by [Paul Dale](#) on 27 July 2007, 9:13 p.m.

Some quick initial thoughts before I go back to playing:

- Very light. I'm not sure if this is a plus or a minus just yet. I guess it will boil down to personal preference.
- The case seems decent enough, more like a gameboy case than a calculator one but I can live with that.
- Fast. I don't have a 33s so I cannot compare it with that but it feels a lot faster than my 32sii.
- What a poor selection of complex operations. I know they are the same as on the 32sii and 33s but those models lacked proper complex numbers. Why no x-th root of y, square root or square?
- Orange (left) shift C for off feels very unnatural. Luckily Blue (right) shift C does the same function.
- The keyboard layout will take a bit of getting used to but I'm fast warming to it.

And I think I found a bug. Enter a 999 line single label program. The calculator rightfully doesn't allow you to enter any more steps. However, it also doesn't allow you to enter a new LBL step either. Oops.

If you enter 998 steps, then the new label and then go back and fill in the 999th step, all is well. You also cannot create two programs whose combined length is > 999 steps and delete the LBL for the second, so some thought had been put into long program sizes.

- Pauli

### Re: 35s thoughts and a bug

Message #2 Posted by [Egan Ford](#) on 27 July 2007, 9:58 p.m.,  
in response to message #1 by Paul Dale

Quote:

What a poor selection of complex operations. I know they are the same as on the 32sii and 33s but those models lacked proper complex numbers. Why no x-th root of y, square root or square?

Add 0i0 to y, then  $y^x$  will work. I do not understand how 15C/42S thinking and functionality got dropped.

My tests:

1.  $\sqrt{-1}$  returns: SQRT(NEG)
2.  $-1.5 y^x$  returns: INVALID  $y^x$
3.  $\sqrt{-1i0}$  returns: INVALID DATA
4.  $-1i0.5 y^x$  returns: 0i1, finally. It should not be this hard.

### Re: 35s thoughts and a bug

Message #3 Posted by [bill platt](#) on 28 July 2007, 6:14 p.m.,  
in response to message #2 by Egan Ford

I really don't see why you consider this to be such a bad thing.  $y^x$  is the most general form for \*any\* exponential, and that includes roots. The machine is designed so that the sqrt function is for reals only. Furthermore, for complex numbers, the machine merely "asks" that you provide valid arguments. Therefore, a "-1" is invalid--on this machine it is a real number. Simply provide the complex equivalent and use  $y^x$  and you can do all.

I don't see anything so terrible about keeping the real and complex argument results separate. It would be a royal pain in the neck if it parsed a -1 as a complex number automatically.

### Re: 35s thoughts and a bug

Message #4 Posted by [Trent Moseley](#) on 28 July 2007, 10:51 p.m.,  
in response to message #3 by bill platt

Awwh, come on Bill. I like a calc, like the 15C or a 42s that can handle all numbers in stride.

tm

### Re: 35s thoughts and a bug

Message #5 Posted by [Rodger Rosenbaum](#) on 29 July 2007, 5:06 a.m.,  
in response to message #3 by bill platt

Bill, you say "...on this machine it (-1, that is) is a real number."

You also say "...the sqrt function is for reals only."

So if -1 is a real number and the sqrt function is for reals only, then there shouldn't be any problem with sqrt(-1), should there?

### Re: 35s complex-number functionality

Message #6 Posted by [Karl Schneider](#) on 28 July 2007, 8:00 p.m.,  
in response to message #2 by Egan Ford

Paul Dale posted,

Quote:

What a poor selection of complex operations. I know they are the same as on the 32sii and 33s but those models lacked proper complex numbers. Why no x-th root of y, square root or square?

Egan Ford posted,

Quote:

Add 0i0 to y, then  $y^x$  will work. I do not understand how 15C/42S thinking and functionality got dropped.

My tests:

1. sqrt(-1) returns: Sqrt(NEG)
2. -1 .5  $y^x$  returns: INVALID  $y^x$
3. sqrt(-1i0) returns: INVALID DATA
4. -1i0 .5  $y^x$  returns: 0i1, finally. It should not be this hard.

Addressing both of these insightful posts together:

Indeed, "15C/42S thinking and functionality" regarding complex numbers was the right target, but no other RPN calculator incorporated its three principles:

1. Complex-number functionality is provided for every transcendental mathematical operation for which it is defined.
2. The user is given the choice whether a complex-valued result or an error message is to be provided if no real-valued result is defined.
3. Complex numbers are handled as single entities for computation using *standard mathematical functions*, not special commands.

The first principle is self-explanatory, but few calculators fulfill it, even the ones that boast of "complex numbers".

On the HP-15C, the second principle was implemented by the status of Flag 8. On the HP-42S, it was implemented by the choice "RRES" (real result) or "CRES" (complex result).

The complex-number functionality of the HP-32S, HP-32SII, HP-33s, and now apparently the HP-35s, was essentially a porting of the HP-41 Math Pac's RPN routines. This set of routines was not mathematically complete, and could not fulfill the third principle due to design limitations.  $x^2$ ,  $\sqrt{x}$ , and  $x$ -th root of  $y$  for complex-valued  $x$  and  $y$  were not provided because they were not *absolutely* necessary:  $y^x$  can be used for those calculations.

It's apparent that  $y^x$  is defined in the complex domain on the HP-35s only when  $y$  is clearly identifiable as complex-valued. This is because

$$\begin{aligned} y^x &= e^{(\ln(y^x))} \\ &= e^{(x \cdot \ln(y))} \end{aligned}$$

and the second principle is not fulfilled. I'm sure that the same holds for all other transcendental functions that require natural logarithm of a complex-valued argument.

It seems that the main improvement was easier entry and one-line display of complex numbers. A more ambitious improvement that restored the capabilities of the HP-15C and HP-42S would have been the following:

#### [User-friendly complex-number calculations](#)

If you read the post, you'll see why I consider the omission of Rec->Pol, Pol->Rec, Cx->Re (disassembly of complex number), and Re->Cx (assembly of complex number) on the HP-35s to be blunders.

It cannot be said that we MoHPC'ers do not offer constructive product suggestions!

-- KS

*Edited: 29 July 2007, 2:12 a.m.*

### **Re: 35s complex-number functionality**

Message #7 Posted by **Paul Dale** on 29 July 2007, 5:23 p.m.,  
in response to message #6 by Karl Schneider

Quote:

$x^2$ ,  $\text{sqrt}(x)$ , and  $x$ -th root of  $y$  for complex-valued  $x$  and  $y$  were not provided because they were not *absolutely* necessary:  $y^x$  can be used for those calculations.

I really don't think this argument holds water. Following it merrily along, we also don't need any of the trig functions or even subtraction defined for complex arguments, they are available easily enough using other complex functionality.

Extend this argument to the real functions and we don't need both the hyperbolics and trig functions they relate naturally via complex numbers. LOG and LN? Why bother?  $e^x$ , use the constant  $e$  and  $y^x$ . I could go on and on.

The whole point of a calculator is to make life *easier*, providing a non-obvious but still complete set of functions doesn't gel with me.

- Pauli

### Re: 35s complex-number functionality (& US \$1 coin)

Message #8 Posted by [Karl Schneider](#) on 29 July 2007, 6:56 p.m.,  
in response to message #7 by Paul Dale

*" $x^2$ ,  $\text{sqrt}(x)$ , and  $x$ -th root of  $y$  for complex-valued  $x$  and  $y$  were not provided because they were not absolutely necessary:  $y^x$  can be used for those calculations."*

Hi, Paul --

You stated:

Quote:

I really don't think this argument holds water. Following it merrily along, we also don't need any of the trig functions or even subtraction defined for complex arguments, they are available easily enough using other complex functionality.

Hey, don't blame the messenger! :-)

The HP-41 Math Pac was a "quick and dirty" 4 kB ROM released in 1980 or 1981, to provide some lacking functionality such as complex numbers and hyperbolics, as well as other useful applications such as triangle solutions and Fourier analyses. All functions were implemented as RPN keystroke programs. Sure, dedicated complex-valued functions for square root and square would have been useful on the Math Pac, but space limitations might have precluded that. (The Math Pac did provide real-integer and complex-valued powers and roots for complex-valued arguments as " $Z^N$ ", " $Z^{1/N}$ ", " $Z^W$ ", and " $Z^{1/W}$ ".

Certainly, complex-valued functions for square root and square, as a minimum, ought to have been implemented in microcode for the HP-32S, HP-32SII, HP-33s, and HP-35s, even if the original HP-41 Math Pac didn't have them as RPN routines. But, for whatever reason, they weren't.

### A historical parallel: The misbegotten US \$1 coins since 1971

Unfortunately, mistakes have a way of becoming immortal by perpetuation. Consider the US \$1 coin. The old ones from the early 20th century were quite large, when a dollar was worth a lot and

metals were less pricey by comparison. The 1971 Eisenhower dollar was the same size, but few people wanted to use it, and few vending machines accepted them. As a reaction to that, the next \$1 coin -- the 1979 Susan B. Anthony dollar -- was barely larger than, or distinguishable from, a quarter-dollar. It was rejected by the public, minted only in 1979, 1980, and 1999 as a lead-in to -- the 2000 Sacagawea dollar coin. This new coin was made the *same size as the Anthony dollar* for compatibility with the machines that accepted it. However, the Sacajawea was goldtone, smooth-sided, and rimmed in order to distinguish it from quarters. It still failed to achieve public acceptance, as Americans preferred their beloved \$1 paper "greenback".

Now, there's a new upcoming set of \$1 coins that commemorate presidents. They look more like medallions, and yes, they will be the *same size as Anthony and Sacagawea dollars*. If that is true, I predict general failure once again to achieve widespread *usage* (as opposed to um, "seigniorage-producing collecting activity").

[http://www.usmint.gov/mint\\_programs/\\$1coin/index.cfm](http://www.usmint.gov/mint_programs/$1coin/index.cfm)

[http://money.cnn.com/2005/04/27/pf/new\\_dollar/](http://money.cnn.com/2005/04/27/pf/new_dollar/)

[http://money.cnn.com/2003/05/13/pf/banking/currency\\_miscues/index.htm](http://money.cnn.com/2003/05/13/pf/banking/currency_miscues/index.htm)

So, the bottom line of all that: If only the \$1 coins from 1971 or 1979 had been made a reasonable and practical size -- not too big, but not just barely larger than a quarter -- and if the \$1 paper bill had been politely but firmly phased out, we'd be using practical, long-lasting coins for small low-tech transactions, as most Western countries do. Instead, we use low-value coins and problematic paper currency -- all because of unsound thinking, perpetuation of mistakes, and an unwillingness to make unpopular decisions or expend the effort for progress.

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So today, if the HP-35s doesn't have a mathematically-complete set of complex-valued functions, that can be traced back originally to the compromises made in the HP-41 Math Pac 27 years ago -- and the unwillingness to research the product history, and to make the effort to rectify shortcomings.

-- KS

*Edited: 30 July 2007, 9:56 p.m. after one or more responses were posted*

## **Re: 35s complex-number functionality (& US \$1 coin)**

*Message #9 Posted by **Paul Dale** on 29 July 2007, 8:15 p.m.,  
in response to message #8 by Karl Schneider*

Quote:

\_\_\_\_\_  
Hey, don't blame the messenger! :-)  
\_\_\_\_\_

I wasn't :-) Sorry if it came out that way.

My objection is that we've a good and proper complex type but the set of operations on it are woeful. As has been pointed out, having the calculator work out  $\sqrt{-1}$  takes several attempts to get right.

Certainly the HP-41 Math Pac can be excused for its lack of coverage. Likewise, I can forgive the 32sii and 33s. They all implement complex numbers poorly. If I've a real complex type, I want to be able to use it easily.

As a not really related aside: I've a scientific calculator bought from a discount shop for about A\$5 which includes a "complex" button. I've never been able to figure out what it actually does.

- Pauli

### Re: 35s thoughts and a bug

Message #10 Posted by **DaveJ** on 28 July 2007, 2:41 a.m.,  
in response to message #1 by Paul Dale

Quote:

Some quick initial thoughts before I go back to playing:

- Very light. I'm not sure if this is a plus or a minus just yet. I guess it will boil down to personal preference.

If there is space inside the case then it should be easy to glue a thin strip of lead sheet inside, to give it some extra heft. Thin lead flashing sheet is available from hardware stores.

Dave.

### Re: 35s thoughts and a bug

Message #11 Posted by **Walter B** on 28 July 2007, 2:45 p.m.,  
in response to message #10 by DaveJ

That's what's called added value ;-)

### Re: 35s thoughts and a bug

Message #12 Posted by **Wayne Brown** on 28 July 2007, 9:43 p.m.,  
in response to message #10 by DaveJ

That would give it a more pleasant weight, but would add nothing to the structural strength or durability. Making the whole calculator of thicker, denser materials would be a much better solution.

### Re: 35s thoughts and a bug

Message #13 Posted by **Charles Bennett** on 29 July 2007, 12:42 p.m.,  
in response to message #1 by Paul Dale

OK... mine showed up on the 20th and I've had a chance to go over it. Just to be clear where I'm coming from: 34C, 15C, 32SII.

I like it. It's pretty. It could be heavier and thicker. I'm very happy to have BIG ENTER back since I won't buy a calculator without one. I'm twice as happy to have the south face of the keys back - I've always liked that.

I disliked the menus on the 32SII and I dislike them even more here. I'd gladly put 'f' and 'g' legends above the keys and take 'h' shifted functions on the south face.

Like everybody else said, the BASE capabilities are a disaster. The complex stuff is done quite nicely. Some features for packing/unpacking complex and vector types on the stack would have been nice.



Until I found XEQ foo ENTER, I was pretty cranky about XEQ foo 001 to get at programs. The programming/label paradigm has its ups and downs. Having line numbers being significant GTO and GSB destinations makes it really hard to develop programs in a text editor and then bang them in - this was much easier for the 32SII. On the other hand I use far fewer actual labels and internal labels take up no space. It feels a lot more like programming for HP33E.

More on this in a minute...

First thing I did was port one of my favorite programs from the 32SII:

```
# factor.hp35s
#   xeq a: factor REGX
#   xeq b: factor REGY, using known smallest factor in REGX
#
# X: number to factor
# Y: candidate factor
# Z: upper bound
#
# use:
#   REGX <- number to factor
#   xeq A enter
#
#   REGX <- number to factor
#   enter
#   REGX <- known cofactor
#   xeq B enter
#
# once it stops:
#   if REGX == 1: REGY holds your prime
#   else: REGX is smallest prime factor, REGY quotient
#
#   hit xeq B enter to find next smallest prime factor

# (A)
#   REGX: number to factor
#
A001   lbl A
A002   3                               # start search at 3

# (B)
#   REGX: known to be at least as large as any known factors of ...
#   REGY: number to factor
#
B001   lbl B
B002   fix 0                           # for rounding
B003   sto Y                             # start search here (REGX)
B004   Rv
B005   sto X                             # to be factored (REGY)
B006   2                                 # we always check 2, even if xeq B
B007   x >= y                             # REGX is 1 or 2
B008   gto B023                           # (Prime) signify!
B009   xeq B026                           # (Test) will stop if 2 is a factor
B010   rcl X                               # compute search upper bound
B011   sqrt
B012   rnd                                 # compensate possible rounding error
B013   sto Z                               # stash it

# (Loop)
#   main test loop
#
B014   rcl X                               # target
B015   rcl Y                               # candidate
B016   xeq B026                           # (Test) will stop if Y is a factor of X
B017   rcl Z                               # fetch upper bound
B018   2
B019   rcl + Y
B020   sto Y                               # increment candidate
B021   x <= y?
B022   gto B014                           # (Loop) not done, try next one

# (Prime)
#   REGY <- original number
```

```

#      REGX <- 1 to signal as prime, cheaper than eqn PRIME?
#
B023   rcl X
B024   1
B025   rtn                # all done

# (Test)
#      the factor test routine
#      REGX: candidate factor
#      REGY: the number we're trying to factor
#      halt if (REGY mod REGX) == 0
#
B026   rmdr                #
B027   x != 0?
B028   rtn                # scram, not a factor
B029   rcl X
B030   last x
B031   /                  # REGX <- quotient
B032   last x             # push factor
B033   stop

```

Runs pretty fast. I'm happy. Now for Gene, a word about the labeling paradigm:

```
B034   xeq B028
```

That's all for now.

For the guys at HP: Nice job. Many thanks.

### Re: 35s thoughts and a bug

Message #14 Posted by [Gene Wright](#) on 29 July 2007, 2:59 p.m.,  
in response to message #13 by Charles Bennett

What word about the labeling paradigm?

### Re: 35s thoughts and a bug

Message #15 Posted by [Charles Bennett](#) on 29 July 2007, 6:36 p.m.,  
in response to message #14 by Gene Wright

We're back to the days of GSB NNN - every line a subr destination. Once again we can write subrs with default args that we can jump into the middle of without burning a label...

Including an XEQ to a line that contains a RTN: provided you have subr levels to burn it's a slow NOP with no side effects.

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## HP Forum Archive 17

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### Some fun during lunch

Message #1 Posted by [Miguel Toro](#) on 27 July 2007, 7:15 p.m.

Reading complains about the 35s unable to separate real and imaginary parts from a complex number, I made these little and unambitious programs to "help" get them apart and to try some of the new features.

Usage:

- 1.- execute the program
- 2.- Enter complex number as xiy - R/S  
--> now you see the number in polar mode
- 3.- Enter angle - R/S  
--> you see the number in polar mode again
- 4.- Enter radius - R/S  
--> you get both x and y separated.

With programs A and B, they are in the X and Y registers, with program C you get a vector.

Program A

```
A001 LBL A
A002 STOP
A003 r@a      (polar mode)
A004 STOP
A005 x<>y
A006 STOP
A007 REGZ
A008 SIN
A009 x<>y
A010 *
A011 LASTx
A012 REGT
A013 COS
A014 *
A015 xiy     (rectangular mode)
A016 RTN
```

LN=56

Program B

```
B001 LBL B
B002 STOP
B003 r@a
B004 STOP
B005 x<>y
B006 STOP
B007 ENTER
B008 REGY * SIN(REGT)
B009 REGY * COS(REGT)
B010 xiy
B011 RTN
```

LN=61

Program C

```
C001 LBL C
C002 STOP
C003 r@a
C004 STOP
C005 x<>y
C006 STOP
C007 [ REGX*COS( REGZ ) , REGX*SIN( REGZ ) ]
C008 xiy
C009 RTN
```

LN=58

note: I am having fun like a little kid :-)

Well, pure RPN is smaller and faster (but speed does not really matters here) and this could be just the spark for someone to write a "real" converter.

Regards,

Miguel

### **P->R and R->P on the HP35s**

*Message #2 Posted by [Reth](#) on 27 July 2007, 10:10 p.m.,  
in response to message #1 by Miguel Toro*

Well this is my first attempt to deal with that problem :) I'm waiting for a real converter too

My program label S is dedicated for subroutines and here are the first ones:

```
S001      LBL S
S002      GTO S004
S003      GTO S015
S004      X<>Y
S005      SIN
S006      X<>Y
S007      LASTx
S008      COS
S009      X<>Y
S010      *
S011      X<>Y
S012      LASTx
S013      *
S014      RTN
S015      i
S016      *
S017      +
S018      ABS
S019      LASTx
S020      ARG
S021      360          ; optional, to get angles between 0 and 360
S022      RMDR        ; optional, to get angles between 0 and 360
S023      X<>Y
S024      RTN
```

If not obvious, XEQ S002 is equivalent of **theta,r -> x,y** on the HP-33s and XEQ S003 - of **x,y -> theta,r**

Cheers, Reth

### **Re: P->R and R->P on the HP35s**

*Message #3 Posted by [Les Wright](#) on 28 July 2007, 12:43 a.m.,  
in response to message #2 by Reth*

Reth, I think your steps S002 and S003 are redundant.

Take those out, and everything moves up two lines. One can call the polar->rect conversion with XEQ S001, or simply XEQ S ENTER, and the other conversion with XEQ S013.

This may even speed things up very slightly.

Les

### Re: P->R and R->P on the HP35s

Message #4 Posted by [Reth](#) on 28 July 2007, 1:40 a.m.,  
in response to message #3 by Les Wright

Sure Les, even XEQ S002 would do for the P->R routine reducing steps by 1 ;). I'm just trying to create permanent addresses for frequently used routines as list grows up for the expense of a few more bytes.  
thanks and best regards, reth

### Re: Some fun during lunch

Message #5 Posted by [Les Wright](#) on 28 July 2007, 12:37 a.m.,  
in response to message #1 by Miguel Toro

Miguel, I think that everyone here with a 35s is eventually going to need a short fast subroutine that returns the Re and Im parts of complex number. I have come up with one that does it in 14 or so steps, but I don't want to put it here yet because I really believe it can and should be briefer and faster. Fortunately, taking Re and Im components from the stack to create a complex number is much easier to program--a program with the equation  $REGY + i*REGX$  is just one way to do it.

One thing I do like--one has a choice of how one enters complex numbers on the 35S irrespective of whether one is in xiy or r@a mode, since both the i and @ keys are right there to choose from. Even on the 42s, the behaviour of a ENTER b COMPLEX is contingent on angle mode and whether one has set RECT or POLAR. I sometimes find this a nuisance.

I don't like ALG mode so I can't comment on x+iy mode with much intelligence.

Any takers out there regarding the smallest and fastest subroutine that returns the Re and Im parts of a complex number?

Les

*Edited: 28 July 2007, 12:38 a.m.*

### Re: Some fun during lunch

Message #6 Posted by [Les Wright](#) on 28 July 2007, 4:39 a.m.,  
in response to message #5 by Les Wright

Hi there, this is the shortest I have been able to come up with (at least the shortest in strict RPN). I would like to know if there are shorter and faster ways of decomposing a complex number to Re and Im parts

```
LBL I
ENTER
ABS
X<>Y
ARG
SIN
LASTx
COS
REGZ
*
```

```
X<>Y  
REGZ  
*  
RTN
```

Works simply. Place xiy (or the equivalent r@a) on the stack. XEQ I ENTER. And you get x in the Y register and y in the X register, just as though one executed COMPLEX on a complex number in rectangular mode on the 42S.

There is an annoying vulnerability to occasional rounding error. For example when executing the routine on 5i13, I get 5.00000000001 for the real part. If there is a work around for this I would be grateful. I want to blame the cosine bug, but since Arg(5i13) is approximately 70 degrees, and nowhere near the troublesome range between 89 and 90 degrees, I don't think it is the culprit in this example.

Les

*Edited: 28 July 2007, 5:07 a.m.*

### Re: Some fun during lunch

*Message #7 Posted by [Reth](#) on 28 July 2007, 5:18 a.m.,  
in response to message #6 by Les Wright*

Hi Les, that's shorter ;)

```
LBL I  
ABS  
LASTx  
ARG  
SIN  
LASTx  
COS  
REGZ  
*  
X<>Y  
REGZ  
*  
RTN
```

that's shorter too and doesn't depend on flag 10 :)

```
LBL I  
ABS  
LASTx  
ARG  
SIN  
LASTx  
COS  
ENTER  
R^  
*  
R^  
R^  
*  
RTN
```

to get rid of that 5.00000000001 I'd set the HP35s to say FIX 9 and then do RND after multiplications and finish with ALL

Cheers, Reth

### Re: Some fun during lunch

*Message #8 Posted by [Miguel Toro](#) on 28 July 2007, 5:37 a.m.,  
in response to message #6 by Les Wright*

Les,

You do not really need the first ENTER. Here:

```
I001 LBL I
I002 ABS
I003 LASTx
I004 ARG
I005 SIN
I006 LASTx
I007 COS
I008 REGZ
I009 *
I010 x<>y
I011 REGZ
I012 *
I013 RTN
```

Just one step shorter.

Miguel

Done!

*Edited: 28 July 2007, 10:06 a.m. after one or more responses were posted*

### **Re: Some fun during lunch**

*Message #9 Posted by [Les Wright](#) on 28 July 2007, 6:10 a.m.,  
in response to message #8 by Miguel Toro*

Take out what you have called step I005 and correct the numbering and I think it is right. Les

### **Re: Some fun during lunch**

*Message #10 Posted by [Ren](#) on 31 July 2007, 11:14 a.m.,  
in response to message #1 by Miguel Toro*

20070731

Hmmm, I am a loooooonngggg way from considering programming a calculator a "fun lunch" activity!

I guess that is why I'm only ranked "Geek, 3rd Class (G3C)"

B^)

Ren

dona nobis pacem

P.S. keep up the good work!

### **Re: Some fun during lunch**

*Message #11 Posted by [Miguel Toro](#) on 31 July 2007, 1:05 p.m.,  
in response to message #10 by Ren*

Please,

Do not call me geek in from of my children (Irene, the older, has read this message while I was looking at

it): they still think that I am cool. ;-)

Miguel

**Re: Some fun during lunch**

*Message #12 Posted by [Les Wright](#) on 1 Aug 2007, 11:57 p.m.,  
in response to message #11 by Miguel Toro*

Geek is the new cool.

Haven't you heard? ;)

---

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## HP Forum Archive 17

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### Emu28 MRU setup

Message #1 Posted by [Christoph Giesselink](#) on 27 July 2007, 5:48 p.m.

Configuration of the MRU (Most Recently Used) file list in [Emu28 v1.15](#).

By default Emu28 is using maximum 4 MRU files. This behavior can be changed from disabling the MRU list to the number of lines limited by your current desktop resolution.

To change this

1. close all Emu28 sessions
2. open the file Emu28.ini in your windows directory
3. goto the [MRU] section inside the ini file
4. change the number of the "FileCount=4" setting
5. save the ini file
6. restart Emu28 now using the new settings

Valid settings for "FileCount":

<0 = forbidden

0 = disable MRU list

>0 = maximum number of MRU entries in the "File" menu.

The MRU file list is saved in the MRU section of the ini file as "File1=", "File2=", ... When decreasing the number of MRU entries you should manually delete the become redundant "FileX=" lines.

Don't be sad, all other of my emulators will get the MRU file list also.

Cheers

Christoph

### Re: Emu28 MRU setup

Message #2 Posted by [Egan Ford](#) on 27 July 2007, 6:24 p.m.,  
in response to message #1 by [Christoph Giesselink](#)

Thanks for EMU 28/42/48. Will we ever see a non-Windows version? Linux or Mac perhaps?

### Re: Emu28 MRU setup

Message #3 Posted by [Howard Owen](#) on 27 July 2007, 8:44 p.m.,  
in response to message #2 by [Egan Ford](#)

They all run fine under WINE. The Crossover flavor, at least. Since there's a version of Emu48 that compiles under gcc (MINGW?), I assume it's mainly UI code that would have to change. It's GPL, too..

Regards,

Howard

**Re: Emu28 MRU setup**

*Message #4 Posted by [Egan Ford](#) on 28 July 2007, 4:40 p.m.,  
in response to message #3 by Howard Owen*

That solves 1/2 of my problem (other half is non-x86).

Thanks.

**Re: Emu28 MRU setup**

*Message #5 Posted by [Christoph Giesselink](#) on 30 July 2007, 3:30 p.m.,  
in response to message #2 by Egan Ford*

Quote:

Thanks for EMU 28/42/48. Will we ever see a non-Windows version? Linux or Mac perhaps?

Sorry, definitely not. On business also in private I don't have connections or installed any Unix based operating systems any more.

Over 10 years ago in 1995 I installed Linux, because I wanted to use x48, the only existing free and working HP48 emulator at this time. But everything changed in 1997, Emu48 was getting free under the GPL and the forthcoming OS in business for office and control applications was NT4.0. The dice had been fallen.

Cheers

Christoph

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## HP Forum Archive 17

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### **Thread for those receiving 35s calculators to post what they think**

Message #1 Posted by [Gene Wright](#) on 19 July 2007, 10:51 a.m.

Now that these are making their way into lucky people's hands, what does everyone think?

Post good things and things you may not like. :-)

Gene

### **Re: Thread for those receiving 35s calculators to post what they think**

Message #2 Posted by [Monte Dalrymple](#) on 19 July 2007, 3:22 p.m.,  
in response to message #1 by Gene Wright

Great machine. But having to press the blue arrow, then 1 (base), and the 6 ("h" data type) gets old really fast when I am working with hex numbers. And you get "syntax error" if you forget to tag the number this way. I much preferred the 33s in this regard, where I could just press "enter" after the digit entry was done.

And I had to look in the manual to find which keys to use for the ABCDEF digits... it isn't labelled on the keyboard.

Monte

### **Re: Thread for those receiving 35s calculators to post what they think**

Message #3 Posted by [Eric Smith](#) on 19 July 2007, 9:32 p.m.,  
in response to message #2 by Monte Dalrymple

Just got the pair of 35s' I ordered from HP on Tuesday (paid a bit extra for overnight shipping). The first thing I did was switch into RPN mode, and the second was to try hex. I wasn't able to figure it out without consulting the manual.

The suffix approach (same as the 28/48/49/50) is **extremely** annoying when simply trying to do calculations on the stack, but I suppose it was necessary to support use of non-decimal bases in equations and such.

### **Re: Thread for those receiving 35s calculators to post what they think**

Message #4 Posted by [Monte Dalrymple](#) on 19 July 2007, 11:37 p.m.,  
in response to message #3 by Eric Smith

I agree. It gets very annoying, very fast. While I understand the rationale behind this requirement, I would have much preferred at least a "dedicated" mode that assumed everything in hex mode was hex.

I think that this is an example of making something general enough for all cases (like mixing bases on entry) that it interferes with the "normal" case. Kind of anti-KISS...

Monte

**Re: Thread for those receiving 35s calculators to post what they think**

*Message #5 Posted by **Howard Owen** on 20 July 2007, 12:40 a.m.,  
in response to message #4 by Monte Dalrymple*

The Datafile special issue on the 35s contains an article by Wlodek that gives a possible explanation for this and other misfeatures. Due to cost constraints, the ROM and RAM sizes were the same as the 33s. HP crammed a fair amount of new functionality into the same space the 33S code occupied. Wlodek doesn't mention the base weirdness to show how HP had to "cut corners." He points out that you can enter all sorts of nonsense on the command line without a problem. Only when you press ENTER do you get an error message. But the base stuff may also be a result of cutting corners to save bytes. And the Ax + Bi unavailability in RPN mode could also have the same cause. It would explain what otherwise seems to me to be a series of purposeless limitations or awkwardnesses in an otherwise well-conceived machine.

Regards,  
Howard

**Re: Thread for those receiving 35s calculators to post what they think**

*Message #6 Posted by **Namir** on 19 July 2007, 4:55 p.m.,  
in response to message #1 by Gene Wright*

Gene,

I got my order from HP. Wooohoooo! The machine looks nice and the manual is good too. I think I will dive in reading it this weekend.

Namir

**Re: Thread for those receiving 35s calculators to post what they think**

*Message #7 Posted by **Mark W Paris** on 19 July 2007, 5:47 p.m.,  
in response to message #6 by Namir*

Argh - still waiting for HP to ship my order - placed on 12 July! A "problem with the inventory."

My hopes for low serial numbers seem dashed.

**Re: Thread for those receiving 35s calculators to post what they think**

*Message #8 Posted by **Seth Morabito** on 19 July 2007, 8:07 p.m.,  
in response to message #7 by Mark W Paris*

Yup -- I think I was one of the first handful of people to find the HP ordering link on Tuesday after the announcement. And mine hasn't shipped yet either.

I'm a bit peeved :)

**Re: Thread for those receiving 35s calculators to post what they think**

*Message #9 Posted by **Alain Mellan** on 19 July 2007, 8:34 p.m.,  
in response to message #8 by Seth Morabito*

There's hope! I ordered mine from HP on 7/12, and I found out today that it has shipped. HP gave me a tracking #, and my calc just left Indianapolis. Should be here on July 23. Can't wait!

## Video?

Message #10 Posted by [Howard Owen](#) on 19 July 2007, 7:32 p.m.,  
in response to message #1 by Gene Wright

A very preliminary impression: nobody has mentioned the DVD yet. Titled "The HP Calculator Story, 1972-2007," it sounds like it ought to be interesting.

Regards,  
Howard

*Edited: 19 July 2007, 7:33 p.m.*

## Re: Video?

Message #11 Posted by [Howard Owen](#) on 19 July 2007, 8:06 p.m.,  
in response to message #10 by Howard Owen

Unfortunately, the video doesn't want to play on my laptop.

Other first impressions:

The keys are as advertised, nice and snappy. Their shapes are very reminiscent of older machines.

The manual seems well organized and thorough.

The case is not a traditional type, but a clamshell. One half of the shell has netting very much like a PSP case. The PSP uses mini CDs for which the netting is very useful, but I can't imagine what this is for in calculator terms. There is no quick reference guide supplied with the calculator, which might give the netting a reason for being. Note paper, perhaps? The other side of the clamshell is better thought out. It has two elastic bands strategically placed so you can put the calculator in the case facing either direction. One of the elastic bands will reach across the machine between the display and top row of keys. The other band stays unused beneath the calculator. In this mode the machine is usable while in the case. I give this arrangement fairly high marks.

I'm off to learn more about the features of the calculator, before writing my first program. I'll post more as I go.

Regards.  
Howard

## HP 35s case

Message #12 Posted by [Don Shepherd](#) on 19 July 2007, 8:43 p.m.,  
in response to message #11 by Howard Owen

Quote:

\_\_\_\_\_  
Note paper, perhaps?  
\_\_\_\_\_

For documenting the the labels of programs you write, no doubt!

**Re: comments on Right-handed case**

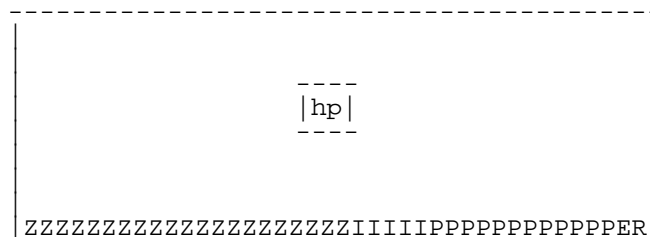
Message #13 Posted by **Allen** on 19 July 2007, 8:53 p.m.,  
in response to message #11 by Howard Owen

Quote:

I give this arrangement fairly high marks.

Try it with the case opening to the left.. you will find (and likely be annoyed) that while the case is advertised as ambidextrous, changing the direction leaves the HP logo conspicuously upside down.

If they were going to make this arrangement, they should have put the logo on both sides (to be symmetric) and arranged them like this:



with both logos facing the zipper. ( relative position of the HP is somewhat irrelevant.. centered here to show orientation with respect to the opening.)

Edited: 19 July 2007, 8:56 p.m.

**Re: 35s case and the 41CX**

Message #14 Posted by **Allen** on 19 July 2007, 9:02 p.m.,  
in response to message #13 by Allen

p.s. The case does not work very well with Palmtop or Voyager series, but I did find that a 41C/CV/CX will fit without much effort.. We could use the webbing for ZENGRANGE modules maybe?

**Re: comments on Right-handed case**

Message #15 Posted by **Howard Owen** on 19 July 2007, 9:53 p.m.,  
in response to message #13 by Allen

Yes, I noticed that. Left hand discrimination strikes again! 8)

Regards,  
Howard (right handed)

**More Nits**

Message #16 Posted by **Howard Owen** on 19 July 2007, 10:10 p.m.,  
in response to message #10 by Howard Owen

More impressions. Many of the following (and preceding) have been mentioned by others.

This calculator has some oddities whose causes aren't immediately apparent. For example, you can't use A+Bi format for complex numbers in RPN mode, but you can in ALG mode. The example for entry in

ALG mode is 'A + B i' which clearly won't work in RPN mode. But surely that can't be why it isn't supported?

A more egregious example of mysterious limitation is the hash made out of base number entry. Blue->base->6 to tag a number as hex is anti-ergonomic. If you are in hex mode, why not assume numbers are in hexadecimal? It's true that this way you can add 44h and 1000100b and get the result in the current base. But I'd far rather have easy entry of data than the ability to mix bases in calculations.

The manual is well organized and thorough, but it's full of errors. This can be expected for a brand new manual, but it detracts from the overall impression the calculator gives the new user.

Note that I'm quite pleased with this machine so far. I'm whining about things that are no big deal, in my view. But I can't help it, I'm a critic at heart.

Regards,  
Howard

### Re: More Nits

Message #17 Posted by [Gene Wright](#) on 20 July 2007, 12:03 a.m.,  
in response to message #16 by Howard Owen

Hi Howard.

As you read through the manual, please consider collecting errors you find and post them here. I have a list about a page and a half long that I will post soon of ones that have been found so far.

### Re: More Nits

Message #18 Posted by [Howard Owen](#) on 20 July 2007, 1:04 a.m.,  
in response to message #17 by Gene Wright

Sure thing, Gene. Here's one, not an error, but a style point. The typography of subscripted variables is poor, in at least one case. That is on on page 9-3, where the numbers in "z1 + z2" are much larger than the "z" characters. The number's base lines are lower than the z characters, yet the tops of both characters are aligned, so the numbers don't appear to be subscripts. The numbers are too large to be elegant looking as subscripts anyhow. Elsewhere, the same font sizes are used for superscripts, and that works fine. But in this case, the result is nearly illegible.

Regards,  
Howard

### Thoughts on Programming the 35S

Message #19 Posted by [Howard Owen](#) on 20 July 2007, 6:10 p.m.,  
in response to message #1 by Gene Wright

I just worked up a couple of subroutines on my new 35S in order to get a feel for how it is to program. Here's the commented code, followed by some additional thoughts.

This routine will prompt for four successive decimal numbers constituting 4 octets of an IP address. It will store them in a contiguous block of 4 registers starting with the register number passed in the X register.

```
I001 LBL I
I002 DEC          Ensure decimal entry
I003 SF 10       Inhibit evaluation of the "equation"
I004 ENTER OCTET RS 4 TIMES Long, hey?
```

```
I005 CF 10          1st octet entered is now in X
I006 (REGY+3)/1E3+REGY  ALG, complete with parentheses. Weird.
I007 STO I         Loop counter and address pointer
I008 x<>y         Get the first octet back
I009 STO(I)       STORe it in the base register
I010 ISG I        Second register is next
I011 DEG         No-op. Thanks Gene. 8)
I012 SF 10       Loop entry point
I013 NEXT OCTET  Not so long.
I014 CF 10       Octet is nw in X
I015 STO(I)     Store it in the next register
I016 ISG I
I017 GTO I012   My 1st line addressed GTO in 20 years. (Not really 8)
I018 RTN       Done
```

The following routine retrieves an IP address from registers whose base is pointed to by the number in X

```
I019 (REGX+3)/1E3+REGX  ALG here is more programmer-efficient
I020 STO I
I021 RCL(I)            The first octet
I022 ISG I
I023 DEG
I024 1E3              "E3" produces "INVALID DATA"
I025 X                Shift the IP 3 places to the left
I026 RCL(I)          Get the next octet
I027 +                And add it into the IP
I028 ISG I
I029 GTO I024
I030 RTN
```

The comment on line I006 says ALG mode is "weird." I mean that it feels weird to me in the context of an RPN program. The construct is far tidier than the corresponding RPN sequence would have been. I don't know if there are differences in execution time between the two forms. One of Gene's recent articles suggests that ALG may be less efficient. Nonetheless, these subroutines are not time critical, so even a large difference in execution time shouldn't matter. At the same time, fewer line numbers and succinct expression make it easier for this programmer to read the code, despite having to scroll right to see most equations. Six or seven fewer lines is a big advantage on a machine where you can only see two lines at a time, and can't print anything out.

It's also weird to be using indirect addressing for access to the main bank of storage registers. It makes the whole language feel more like assembly. I'm appreciative of the large jump in storage, but it has been implemented inelegantly, no doubt because of cost constraints. The same goes for line oriented GTOs. I actually have coded in line mode BASIC more recently than 20 years ago. (Last year in fact, on the 9816 and HP8X) but doing a GTO to a line number gives me a case of 1980s nostalgia. (I was miserable through the first two thirds of that decade, so nostalgia isn't a good thing. 8) Once again, the designers have found a creative way to address a shortcoming of the 33S, but constrained by cost to inadequate ROM space, they've had to compromise deeply to achieve it.

So, what will it take for HP to turn those very creative and skilled folks loose with a reasonable budget to create an RPN calculator without so many compromises? Is the HP 35S likely to change the economics of the calculator market and allow such a move? I hope so, but I fear not.

Regards,  
Howard

## Re: Thoughts on Programming the 35S

Message #20 Posted by [Namir](#) on 20 July 2007, 7:22 p.m.,  
in response to message #19 by Howard Owen

Howard,

I wrote the following program to test the speed of summing integers using pure RPN and hybrid AL/RPN



commands:

```
LBL A
INPUT N
0
STO I
STO S
LBL B
1
STO+ I
RCL I
STO+ S
RCL N
x>y?
GTO B001
RCL S
STOP
0
STO I
STO S
LBL C
I+1
STO I
I+S
STO S
RCL I
RCL N
x>y?
GTO C001
RCL S
RTN
```

When I enter 1000 at the prompt, the first loop takes about 31 seconds while the second loop takes 84 seconds. The ratio is about 2.8. Using ALG expressions slows down calculations.

Namir

PS: I used the timer of an HP41CX

*Edited: 20 July 2007, 7:23 p.m.*

## **Re: Thoughts on Programming the 35S**

*Message #21 Posted by [Howard Owen](#) on 20 July 2007, 8:01 p.m.,  
in response to message #20 by Namir*

Yes, that's what Gene's article reports too. That is a good reason to stick with pure RPN in time critical code.

I guess the difference must be due to the overhead of parsing the equation. That would imply they don't cache the decoded expressions.

Regards,  
Howard

## Re: Thoughts on Programming the 35S

Message #22 Posted by [Howard Owen](#) on 20 July 2007, 8:25 p.m.,  
in response to message #20 by Namir

Actually, it's not only ALG code that differs between the two approaches. In the RPN case, you are entering an increment value into X, then doing STO+ <var>. In the ALG case, you are recalling the value of the variable into X and incrementing in one step, then storing the result. Reads and writes between the alpha variable registers and the stack may not be equivalent in terms of the time they take.

It's not as easy as I first thought to formulate expressions in RPN and ALG that are equivalent with respect to register moves and so forth. The two models differ pretty sharply in how they use the stack in particular. If you have a RCL+ in RPN, for example, it will do the addition and *replace* the previous X contents with the result, without enabling stack lift. But if you do an ALG expression like 'I+1', the addition is carried out somewhere, and then the result is *pushed* on the stack. That necessitates an extra stack manipulation if you want to leave the number of iterations on the stack, like you can in RPN mode. (That is, you can do RCL+ <var> and then X?Y compare for loop control, since Y stays put.)

Regards,  
Howard

## Re: Thoughts on Programming the 35S

Message #23 Posted by [Gene Wright](#) on 20 July 2007, 10:19 p.m.,  
in response to message #19 by Howard Owen

Good job, Howard! Couple of thoughts:

- 1 ) NOP - DEG is good unless you need to do trig in radians of course. I'd be glad to have other options that are as easy to put in.
- 2 ) ALG mode use in RPN programs is very neat, particularly when it saves the RPN stack! It would have been much harder to write the indirect register store/recall program while saving the stack without the ALG tricks. By the way, anyone keyed that in to try it yet?
- 3 ) I do think this is about as good as it could get as an RPN calculator extension of the 32s line. Putting in these indirect registers and line number GTO and XEQs probably allowed the rom to be slightly changed, which allowed for faster development. Resources these days are scarce!
- 4 ) And you guys know this, but in most cases, there is no need to ever put a line like GTO B001 in a program. Execution can probably in most cases pick up at line 002 of the destination program. It will be a tad faster that way.

## Using GTO could be dangerous....

Message #24 Posted by [Allen](#) on 21 July 2007, 9:18 p.m.,  
in response to message #19 by Howard Owen

Quote:

\_\_\_\_\_

doing a GTO to a line number gives me a case of 1980s nostalgia

\_\_\_\_\_

It could be much **WORSE!**

*Edited: 21 July 2007, 9:23 p.m.*

### **Re: Using GTO could be dangerous....**

*Message #25 Posted by [Trent Moseley](#) on 21 July 2007, 10:15 p.m.,  
in response to message #24 by Allen*

I guess it's a case of what you don't know can hurt you. But if you learned to program on the the 25C there's no recourse.

tm

### **Re: Using GTO could be dangerous....**

*Message #26 Posted by [Howard Owen](#) on 22 July 2007, 3:47 a.m.,  
in response to message #24 by Allen*

That should stand as a warning to us all.

Regards,  
Howard

### **Re: Thoughts on Programming the 35S**

*Message #27 Posted by [Don Shepherd](#) on 22 July 2007, 7:13 a.m.,  
in response to message #19 by Howard Owen*

Howard, the NOP in line I011. Did you do this because you really only want to increment register I (without actually skipping anything), but you don't know the increment amount until execution time?

### **Re: Thoughts on Programming the 35S**

*Message #28 Posted by [Howard Owen](#) on 22 July 2007, 12:08 p.m.,  
in response to message #27 by Don Shepherd*

Yes, I do just want to increment, but no, I know in advance that the increment will be 1. I could use 1, STO+ I, but that would then require a RDN to restore the stack.

Regars,  
Howard

### **Re: Thoughts on Programming the 35S**

*Message #29 Posted by [Don Shepherd](#) on 22 July 2007, 12:55 p.m.,  
in response to message #28 by Howard Owen*

OK, I see your logic. I was thinking about that last night. I know that the HP-65 has a NOP instruction, but it is needed because an X=Y executes the next \*2\* instructions if true (because a Goto occupies 2 instructions in that machine). So if you only wanted to do one thing, a NOP was required.

It's kind of like the old BALR instruction on the IBM 360. That instruction was typically used at the beginning of the program, not to branch, but to initialize the index register.

### **More Fun With HP35 Programming**

*Message #30 Posted by [Howard Owen](#) on 21 July 2007, 1:36 a.m.,*

*in response to message #1 by Gene Wright*

OK, so now I want the input routine to either prompt as before, or else decompose a number in the form:

ABCDEFGHIJKL

Where the letters are the decimal digits of an IP address. For example, 192.160.20.1 would be encoded as 192168020001. This is a form I plan to use for manipulating addresses in various ways. I need a way to "explode" such a number into its octets. (I already have the routine to compose a number like that from its octets, the second one above.)

I'll use flag 0 to decide which mode to use on input. Flag 0 set will mean do the non-prompting routine. Conversely, flag 0 clear will do the original prompting method. I will make heavy use of ALG mode shortcuts in the new code, just to see if I can reach their limits. (Sneak peek: I can.)

To decompose a 10 to 12 digit number into "trigraphs" representing octets, I need to divide the whole number by a divisor that will leave the digits of interest lying just to the right of the decimal place. I will then take the fractional portion (FP), multiply the result by 1000, and take the integer portion. Hey presto! The octet is then left standing on its own. (This technique is surely not original, though I developed it independently. I have no idea who is responsible for the first use, or I'd give them credit here.)

So that means I need to compute the proper divisor to get the octet I'm interested down to the right of the decimal. What I have on hand is the loop counter in I. In the loop, which skips the first octet, since that is a special case, The loop counter's integer portion varies from B+1 to B+3, where B is the base register number passed in. What I need to start is the loop counter integer portion minus the base register value. The following ALG code gets me that:

```
IP(I) - B
```

Assuming the base is stored in B.

That gives me the following mapping of loop counters to three digit groups of interest:

```
000 000 000 000
      1   2   3
```

And what I need is a series of divisors, 1E9, 1E6 and 1E3. this equation gets me that:

```
ALOG( 3 + ( 3 - N ) * 3 )
```

Where ALOG() is what you get when you press 10^X in equation mode, and N is the loop counter normalized into the range 1..3.

Finally, I will implement the algorithm given above to isolate the octet of interest:

```
IP( FP(A/D) * 1E3
```

Where A is the IP address and D is divisor computed in the last step.

Now, what about ALG mode limits? Well, the preceding expressions could be combined (if I'm not mistaken, and heaven knows I might be,) into this:

```
IP( FP(A/10^( 3 + ( 4 - IP(I) + B ) * 3 ) ) * 1E3 )
```

What a mess! What does it do? Are the parentheses balanced correctly? RPN is *much* simpler. I might have errors in that expression, but since I'm not actually using it, I refuse to debug it! I'll implement the algorithm in its broken up form to save my sanity in working with the code later.

One last word before the code: I discovered (or rediscovered, actually,) the weaknesses in an auto-renumbering system that relies on the numbers as branch targets. Consider this code:

```
A001 FS? 0
A002 GTO A005
A003 SOMETHING OR OTHER (EQUATION)
A004 GTO A007
A005 ISG A
A006 GTO A005
A007 DEG
```

This is a two way branch skeleton waiting for the code to be filled in. I have a loop set up to go on line A005. But now I realize I need some set up before the loop, so I enter it. This is the result:

```
A001 FS? 0
A002 GTO A006
A003 SOMETHING OR OTHER (EQUATION)
A004 GTO A008
A005 STO A
A006 ISG A
A007 GTO A006
A008 DEG
```

Do you see the problem? Two out of three GTO lines renumbered as I expected. However the first one, on line A002, followed the ISG A command to line A006. I'll have to manually correct that one or leave a perhaps subtle bug in the code.

Now, the revised subroutine:

```
Subroutine to store the octets of an input IP Address
Copyright (C) 2007 Howard Owen
```

```
This program is free software: you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation, either version 3 of the License, or
(at your option) any later version.
```

```
This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.
```

```
You should have received a copy of the GNU General Public License
along with this program. If not, see <http://www.gnu.org/licenses/>.
```

```
Input an IP address in one of two forms, and place its separated
octets in four contiguous registers starting at the base register in
X. If flag 0 is clear, prompt for each successive octet before
storing it. If flag 0 is set, decompose the 10-12 digit integer
passed in Y into its constituent octets. Store these in the same way
as the flag 0 clear code does.
```

```
The address in Y is formatted as follows. If the octets are labeled
from left to right as 1, 2, 3 and 4, then the packed decimal IP
address is: 111222333444. For example, '192.168.20.1' would be
encoded as '192168020001'.
```

```
I001 LBL I
I002 DEC Ensure decimal entry
I003 FS? 0 Set = don't prompt. IP address is in Y
I004 GTO I009
I005 SF 10 Inhibit evaluation of the "equation"
I006 ENTER OCTET RS 4 TIMES Long, hey?
I007 CF 10 1st octet entered is now in X, base in Y
I008 GTO I014
I009 STO B Non-prompting needs base (in X) and address (in y) saved.
```

```
Base register
I010 x<>y
I011 STO A          IP address encoded as a 10-12 digit decimal integer
I012 RDN           Base back in X
I013 IP(A/1E9)     Leftmost (first) octet in X, base in Y
I014 (REGY+3)/1E3+REGY  Back together. Compute loop control number
I015 STO I         Loop counter and address pointer
I016 x<>y          Get the first octet back in X
I017 STO(I)        STORe it in the base register
I018 ISG I         Second register is next
I019 DEG           No-op. Thanks Gene. 8)
I020 FS? 0         Loop entry point Non prompt?
I021 GTO I026
I022 SF 10         Do octet-at-a-time prompting
I023 NEXT OCTET   Not so long.
I024 CF 10         Octet is now in X
I025 GTO I029
I026 IP(I)-B       Loop counter normalized to the range 1..3
I027 ALOG(3+(3-REGX)*3)  Divisor to bring the current octet just to the right of the
decimal
I028 IP(FP(A/REGX)*1E3)  The octet, masked out from the IP address
I029 STO(I)        Back to common code. Store the octet in the next register
I030 ISG I
I031 GTO I020     NOT My first line addressed GTO in 20 years.
I032 RTN          Done
```

## Re: More Fun With HP35 Programming

Message #31 Posted by [Ralph](#) on 22 July 2007, 12:06 a.m.,

in response to message #30 by Howard Owen

I have had mine for a little over a day now.

I like: the keyboard; layout (mostly) and color scheme. the display; better decimal readability and the LCD layer does not float so high over the backplate to cast drop shadows that made reading the 33S screen difficult.

Jury's out on: case, I like slipcases personally. The wonky way to define the range of the indirect registers. I had to read the manual several times on that one. Shades of Casio's changing list and matrix dimensioning on each model it seems. still don't like the text tag setup but I have a 32SII, 33S and this one so I must just get over it.

It seems slow. It took over 6 minutes to crank out the benchmark test posted [here](#) longer than on the 32. That might just need some tweaking as it does my pet program as fast as the 33S.

I don't know if I like the current trend of putting the serial number on a sticky tape. Then I've never sent one back for repair so I can't say a permanent ID is all that either.

All in all I give it a thumbs up and hope it points to better things to come. I can't wait till the 70th year model for them to get it right again ;p

## 35s indirect addressing done wrong?

Message #32 Posted by [mjcohen](#) on 23 July 2007, 9:39 a.m.,

in response to message #1 by Gene Wright

(This is a copy of a post to comp.sys.hp48)

In the 33s, indirect addressing is done with an independent register called i, distinct from the regular variables A to Z. A value is stored into i (from 1 to 32), and you store or recall (i) to access what it points to.

In the 35s, the ordinary variables I and J are used for indirect addressing. Values are stored into I or J (-1 to -26 for A to Z, positive values for the newly available memory array) and (I) and (J) are used to store or recall

the location pointed to.

In my opinion, THIS IS A SERIOUS MISTAKE.

Essentially, this prevents any use of A through Z as an array if it includes I and J. As a simple example, consider trying to write code that copies A through Z to (1) through (26). What happens when you hit I and J?

Here are some examples of code I have written for the 33s that is no longer possible on the 35s:

- 1) Input values into A through L. This is for a 3x3 linear equation solver that stores the coefficients in A through L.
- 2) Solve the equations referred to above.
- 3) Sort the first n elements of A through Z. This can now only be done if  $N < 8$  (or 9 if J is used).

This architectural deficiency forces any code that needs an array to either put it in the (1) through (800) area or restrict its use of A to Z variables to A to H and K to Z.

Again, in my opinion, it would have been far better to have separate i and j indirect variables completely distinct from A through Z.

The current system makes the natural use of A through Z as an array difficult, if not impossible.

True, in the 3x3 solver referred to above, the coefficients could be stored in K through V, but, to me, A through L is much more natural. Also, how would you do a 4x4 system?

I would be quite interested to see how those more knowledgeable in programming the 35s would handle these problems.

Thank you,

Martin Cohen

### **Re: 35s indirect addressing done wrong?**

*Message #33 Posted by **Gene Wright** on 23 July 2007, 11:12 a.m.,  
in response to message #32 by mjcohen*

Gene: Hi Martin. Here's the reply I posted to comp.sys.hp48 to your post there which was identical to your post here. :-)

The way you would do these things on the 35s is that you would use indirect registers 0 through 15 or higher. You have to change your way of thinking and your past personal preferences to take advantage of the great new features of the 35s.

Don't use A through Z for things like this any longer. Use the numbered indirect registers. On the 35s, it will be possible to write a matrix program capable of finding the determinant of at least an 18x18 matrix. How would you do that using only A through Z? You wouldn't. You also couldn't do it at all on the 33s.

HP made the design choice to use I and J as they did. They also made the design choice to give us 801 indirect registers. IMO, it is not an architectural deficiency so much as a changed architecture. The fix is to quit using A through Z in this manner. Use the 801 indirect registers. Use A through Z to store final or intermediate results.

I discussed the indirect addressing space in the 35s review found here:

<http://hpcc.org/datafile/V26Special/the35s.pdf>

Early on, I had posted responses to you on comp.sys.hp48 pointing you to the review and other learning modules available in response to your posts on comp.sys.hp48, but never got a reply or email. I hope you saw those posts?

The matrix utilities program I have already converted to the 35s (and which is in the current 35s Datafile special issue) uses the indirect registers and is very easy. Once a port of the HP41 PPC ROM RRM matrix program is done, matrices will be amazingly easy to use on the 35s without using any of the A through Z variables.

It is often this way when new versions of calculators come out. When the HP41 arrived, many HP67 users were very upset that HP no longer used the primary/secondary register arrangement they were used to on the HP67, for example.

Would looping through A ... Z be easier if the I and J index registers were not in the middle of the address space? Sure. But having 801 indirect registers to loop through is better still, IMO. I'll take that change any day.

### **Re: 35s indirect addressing done wrong?**

*Message #34 Posted by [Thomas Radtke](#) on 23 July 2007, 2:58 p.m.,  
in response to message #33 by Gene Wright*

Btw, why did HP stick to specialized index registers anyway? Why not using an IND keyword as found on TI programmables? That, along with the ability to partition the available memory, was really an advanced feature.

### **Re: 35s indirect addressing done wrong?**

*Message #35 Posted by [Howard Owen](#) on 23 July 2007, 4:45 p.m.,  
in response to message #34 by Thomas Radtke*

Hemlock Stones: "No, Watson, you might as well ask who's behind the Giant Rat of Sumatra!"

Watson: "Very well, whose behind *is* the Giant Rat of Sumatra?"

Regards,  
Howard

### **Re: 35s indirect addressing done wrong?**

*Message #36 Posted by [db \(martinez, ca.\)](#) on 23 July 2007, 11:27 p.m.,  
in response to message #35 by Howard Owen*

howard; watson should ask dr. science.

### **Re: 35s indirect addressing done wrong?**

*Message #37 Posted by [Walter B](#) on 23 July 2007, 4:52 p.m.,  
in response to message #34 by Thomas Radtke*

Quote:

Why not using an IND keyword as found on TI programmables?



Hallo Thomas,

you don't have to walk as far: also the 42s has this IND keyword, and you may use each and every register or variable for indirect addressing.

Grüße, Walter

### **Re: 35s indirect addressing done wrong?**

*Message #38 Posted by [Paul Dale](#) on 23 July 2007, 5:00 p.m.,  
in response to message #32 by [mjcohen](#)*

From the viewpoint of the keyboard and its layout, I'd prefer to have (I) and (J) on the keyboard than i and (i) even if it means one less directly addressable register. Wanting a second indirection capable register while programming has happened to me a lot of times over the years since my original 34c.

Of course an IND or equivalent would be better again...

- Pauli

### **Re: 35s indirect addressing done wrong?**

*Message #39 Posted by [Gene Wright](#) on 23 July 2007, 5:39 p.m.,  
in response to message #38 by [Paul Dale](#)*

It could have been many things.

Keyboard space and layout

ROM space

Preference of the designer even.

The way it was done allows for only 2 additional keyboard locations for (I) and (J) and does not require an additional 2 spaces for the store instructions to store the index value.

Yes, it does break any routines that want to loop through A ... Z, but it does seem a very small price to pay IMO for 801 indirect registers and two index registers.

Remember, on the 33s, the index was in the middle of the 33 registers which caused headaches trying to loop through only 30 something registers.

Now, on the 35s, you can loop through 801. Big improvement all around.

### **Re: 35s indirect addressing done wrong?**

*Message #40 Posted by [mjcohen](#) on 23 July 2007, 9:56 p.m.,  
in response to message #39 by [Gene Wright](#)*

imho, it is a real pain to not be able to use A..Z as an array. It is far easier to enter and recall values from A..Z than the indirect values.

E.g., rcl A is much easier than 1 sto I rcl (I).

### **Re: 35s indirect addressing done wrong?**

*Message #41 Posted by [mjcohen](#) on 24 July 2007, 1:19 a.m.,  
in response to message #40 by mjcohen*

How this could fit on the keys:

On one key have "IND" which brings up a menu of I, J, (I), and (J), where I and J are NOT part of A..Z. You could even have K and (K).

Then, on the other available key, have it COMPLEX which brings up a menu of REAL, IMAG, CONJ, ABS, ARG.

It is so stupid not being able to get the real and imaginary parts of a complex number, especially with the known bugs in COS.

Martin Cohen

### **Re: 35s indirect addressing done wrong?**

*Message #42 Posted by [sjthomas](#) on 24 July 2007, 2:19 a.m.,  
in response to message #39 by Gene Wright*

Granted, two index registers are better than one, and 801 loopable registers are better than 26-ish, but I just don't see the programming issues which would preclude ANY register from being used as an index register. They had to program it for I and J. Why not any register?

*Edited: 24 July 2007, 2:20 a.m.*

### **Re: Thread for those receiving 35s calculators to post what they think**

*Message #43 Posted by [Valentin Albillo](#) on 24 July 2007, 6:02 a.m.,  
in response to message #1 by Gene Wright*

Hi, Gene:

After having used the HP35S for a while, I must say I am *very* pleased with it.

It certainly looks and feels much better than what I expected. It is light but firm, appears quite solid and well built, the colors and form factor are really attractive, the display has good readability with a decent decimal point, and the keys feel good and positive as well, except for the cursor keys which, in my unit, do have a different, rather stiff feel to them, but never mind, the bottom line is I really like it very much, it looks and feels better than expected, and I'm all for promoting it among my HP-aware friends.

I'll certainly write programs for it and articles about it, matter of fact I intend to dedicate my efforts to it in full for the next months, in an attempt to generate interest for the machine and provide some useful software for it.

All in all, I think the community is up to enjoy great HP-calc times again. HP certainly has done its part, in spades, by releasing such a nice machine as the HP35S, and we must now do our best to support their efforts by trying and generating enthusiasm among HP-fans. A new golden era is dawning and we're fortunate for it !

*"May you live in interesting times", as Russell said the Chinese say ... Indeed ! Count me in ! :-)*

Best regards from V.

### **Re: Thread for those receiving 35s calculators to post what they think**

*Message #44 Posted by [bill platt](#) on 25 July 2007, 9:24 a.m.,  
in response to message #1 by Gene Wright*

First Impression:

WOW!

Not only do the buttons work, but they are noticeably better than the 33s. They have less bounce, but really nice pivot and snap action. Of course they feel different from a Singapore 48GX, but I think they are actually better than a voyager.

All of my "wishes" as it were circa "the end of the 32sii" have been fulfilled:

1. Keyboard 2. Display 3. Functions. 4. Reasonalbe size

All of these requirements have been met or exceeded. Only one function (for me) is missing: the "regualr" rectangular-polar conversion--which leaves real numbers in the stack. But this is minor and easily coded as a program.

I am very impressed.

### **Re: Thread for those receiving 35s calculators to post what they think**

*Message #45 Posted by [David McDonald \(Atlanta\)](#) on 25 July 2007, 6:31 p.m.,  
in response to message #44 by bill platt*

I got my HP-35 last night from the local Walmart via their ship to store program. It's not my old HP-34C but I like it. I wrote a program today on it to calculate the EGT ( exhaust gas temperature) margin for a jet engine . Cool, who needs excel.

### **Re: Thread for those receiving 35s calculators to post what they think**

*Message #46 Posted by [David McDonald \(Atlanta\)](#) on 26 July 2007, 9:02 a.m.,  
in response to message #45 by David McDonald (Atlanta)*

I forgot to mention my S/N CNA 72102299

*Edited: 26 July 2007, 9:03 a.m.*

### **Re: Thread for those receiving 35s calculators to post what they think**

*Message #47 Posted by [Greg Whitfield](#) on 26 July 2007, 12:46 a.m.,  
in response to message #1 by Gene Wright*

I received my HP 35s on Tuesday, July 24th from Wal-mart using the Site-to-Store method. The cost was \$49.99 plus local sales tax; shipping was free. The serial number of the calculator is CNA 72101939.

I haven't had much time to work with it yet, but overall I'd say that it appears to be solidly built and much more professional looking than many of HPs other recent calculators.

The first thing I did when turning it on was note the mode: it was RPN. Then I ran the self-test. It was on the first press of any key when I noticed that the annunciators seemed higher on the left than on the right. Apparently the LCD is crooked in my HP 35s, but not so much as to make me call HP on it. Has anyone else noticed this with theirs?

Also, I was initially a little confused by the left-shifted (yellow) and right-shifted (blue) function terminology in the user manual. The blue functions are on the bottom left side of the keys! The yellow functions are on the top center. It appears that the LCD of the HP 35s is identical to that of the HP 33s which had true left-shifted and right-shifted functions (and horrible colors). Apparently, the left and right shift symbols correspond to the annunciators and one must match the yellow and blue colors to the proper shifted keys. Perhaps it would have been better to leave the direction (left or right) out of the manuals and describe the keys in the documentation by color only.

Why did they use I and J for indirect addressing? Why not lowercase i and j? (the complex notation for i could have been a cursive type i like on the LCD)

Well, despite my minor complaints, I still am glad HP released this calculator and I plan to show it and RPN off whenever I can. However, I'm still looking forward to the 25th Anniversary HP 15c calculator and the successor to the HP 42s.

Cheers,

Greg

### **Re: Thread for those receiving 35s calculators to post what they think**

*Message #48 Posted by **Wayne Brown** on 26 July 2007, 7:50 a.m.,  
in response to message #47 by Greg Whitfield*

Quote:

---

Also, I was initially a little confused by the left-shifted (yellow) and right-shifted (blue) function terminology in the user manual. The blue functions are on the bottom left side of the keys! The yellow functions are on the top center. It appears that the LCD of the HP 35s is identical to that of the HP 33s which had true left-shifted and right-shifted functions (and horrible colors). Apparently, the left and right shift symbols correspond to the annunciators and one must match the yellow and blue colors to the proper shifted keys. Perhaps it would have been better to leave the direction (left or right) out of the manuals and describe the keys in the documentation by color only.

---

I've seen several people mention the shift keys being confusing, either because of the arrows pointing left and right, or because they both point upward. That confusion was surprising to me, because I've *always* used the color-coding to match functions with the shift keys on HP calculators. I'd always assumed that these keys were called "shift" keys as a reference to the shift keys on computer (and before that, typewriter) keyboards. Such keys are used to shift "upward" to upper-case letters, so it made sense to me for them *both* to have upward-pointing arrows (as the shift keys on many computer and typewriter keyboards do). Also, since the shift keys on calculators aren't physically located on the left and right sides of the keyboard, I thought the left- and right-pointing arrows were simply meant to be ways of distinguishing the keys from each other: "We know these keys are located one above the other, but this is the key that would have been on the left side if this were a typewriter keyboard, and that other key would have been on the right side." I thought that was the only reason for the "left-shift" and "right-shift" terminology.

It never occurred to me that the "left" and "right" designations had anything to do with how the labels were placed on the keys. But I just checked my HP48GX, and sure enough, the left-shifted labels are on the left, and the right-shifted labels are on the right! Funny that I never noticed that before. I just always matched the colors without paying any attention to the physical orientation of the labels.

**Re: Thread for those receiving 35s calculators to post what they think**

Message #49 Posted by [Don Shepherd](#) on 26 July 2007, 9:07 a.m.,  
in response to message #48 by Wayne Brown

I, also, use the colors as my guide. But some folks are color-challenged, so the arrows are the only thing they can use to distinguish between the two.

**Re: Thread for those receiving 35s calculators to post what they think**

Message #50 Posted by [Walter B](#) on 26 July 2007, 10:54 a.m.,  
in response to message #49 by Don Shepherd

And under these circumstances, arrows pointing in the wrong direction are extremely confusing, as you can imagine. To use your terms, HP was quality-challenged in this detail ;-)

BTW, I love political correctness as it has grown overseas, e.g.: When the horizontally-challenged person in its best age could not keep his attention at an appropriate level (due to above-average long-wave radiation from above) next the urban area of the vertically-challenged people, they made him mobility-challenged by elongated textile products. I.e. when big old Gulliver slept in the sun next the city of the dwarfs, they tied him down with ropes.

In other languages you call such a person "color-blind", and that's what it is.

**Re: Thread for those receiving 35s calculators to post what they think**

Message #51 Posted by [Steve Myers](#) on 26 July 2007, 11:38 a.m.,  
in response to message #50 by Walter B

Quote:

\_\_\_\_\_

...In other languages you call such a person "color-blind", and that's what it is.

\_\_\_\_\_

Most of us are not completely devoid of seeing any color.

It's more can't tell Red from Green, Blue from Purple (and I have no idea what Teal is..)

This is why we prefer it be Color Deficient, not Color Blind.

It's not being politically correct, just correct. :)

**Re: Thread for those receiving 35s calculators to post what they think**

Message #52 Posted by [Walter B](#) on 26 July 2007, 4:52 p.m.,  
in response to message #51 by Steve Myers

Sorry Steve, that was the short and simple version. AFAIK the most frequent deficiency concerns red and green, and in fact it's called "rot-grün-blind" (blind for red and green). It was said to have been the reason behind some traffic lights not only showing different colors, but these also in different shapes. Nowadays, however, everybody knows green is at the bottom ;-)

So "blind" is a short word indicating some visual deficiency, not meaning I would see nothing at all.

**Re: Thread for those receiving 35s calculators to post what they think**

*Message #53 Posted by [Steve Myers](#) on 26 July 2007, 9:19 p.m.,  
in response to message #52 by Walter B*

Quote:

---

Sorry Steve, that was the short and simple version. AFAIK the most frequent deficiency concerns red and green, and in fact it's called "rot-grün-blind" (blind for red and green). It was said to have been the reason behind some traffic lights not only showing different colors, but these also in different shapes. Nowadays, however, everybody knows green is at the bottom ;-)

---

No offence taken Walter.

I know it as "Top Stop, Low Go" but that doesn't work on those sideways lights in Texas..

The lack of seeing Red is why I can't tell Blue from Purple. Unless I've been lied to all this time, Purple is Blue+Red and I'm "blind" to the red part.

All my friends know when I do my own laundry. "Shirt looks grey to me", how would I know it's bright pink.

I'm happy its not so bad as I can still see the difference in the shift keys on my 32SII ;)

**Re: Thread for those receiving 35s calculators to post what they think**

*Message #54 Posted by [Ed Look](#) on 26 July 2007, 10:13 p.m.,  
in response to message #51 by Steve Myers*

Quote:

---

... and I have no idea what Teal is...

---

It's a bird.

;)

**Re: Thread for those receiving 35s calculators to post what they think**

*Message #55 Posted by [Paul Dale](#) on 26 July 2007, 10:18 p.m.,  
in response to message #54 by Ed Look*

Quote:

---

It's a bird.

---

A type of duck in fact :-)

- Pauli

**Re: Thread for those receiving 35s calculators to post what they think**

*Message #56 Posted by [Paul Brogger](#) on 26 July 2007, 12:27 p.m.,*

*in response to message #1 by Gene Wright*

Fabulous! I loved the 33s (I had to get past its appearance) and so find the 35s a really welcome upgrade.

I share the woe of several regarding the BASE handling, and would rather the roll down & swap keys were adjacent to ENTER.

Taken as a whole, it's not as near-perfectly-realized as was, say, the 15c, but it's a *really* nice, *readily available*, programmable, shirt-pocket RPN calculator. Thanks to all involved!

*Edited: 26 July 2007, 2:23 p.m.*

## **Re: Thread for those receiving 35s calculators to post what they think**

Message #57 Posted by **Katie Wasserman** on 26 July 2007, 9:44 p.m.,

*in response to message #1 by Gene Wright*

My first impression is that I like it better than the 33S, but nowhere near as much as the earlier machines.

pros:

- The function set is good as is the memory access.
- The case seems like more thought went into it than for the 12C anniversary edition.
- The keyclicks are okay.
- The manual seems complete and well written.

cons:

- There's a lot of LCD segment shadowing on the display.
- The keys themselves are really cheap feeling.
- The calculator is too large -- why should it be any bigger than a 32SII?
- The window reflection is annoying.
- I really hate having to press ENTER after XEQ <letter> and <right arrow> before STO.
- The ALL display mode should not overflow the display area it should cut back on the number of places displayed in order to fit the exponent in. I view this as a bug, I see no advantage in it working the way it does.

Summary:

The prices of the 32SII on ebay are going to keep going up!

-Katie

*Edited: 26 July 2007, 10:17 p.m.*

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## HP Forum Archive 17

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**HP 35s... The Good, the Bad and the Ugly**

Message #1 Posted by [Chris Haltiner](#) on 27 July 2007, 2:35 p.m.

I have made some notes based on my first week with the HP 35s. Most of my observations deal with cosmetic aspects since I haven't had the time to really put the calculator to heavy use. The "good" are commendable features and qualities. The "bad" are design issues--material compromises, part selection, lack of quality assurance testing, or short-sightedness. The "ugly" are production issues and, basically, are inexcusable. The "indifferent" are items that I don't have strong feelings about either way.

**Good**

Appearance and ergonomics--this calculator looks great.

Body material. The plastic feels good although it could be prone to showing fingerprints.

Big enter key in the correct position.

Key-bound functions are intelligently grouped.

Key label colors are pleasing and easily discerned. The labels are symmetrically positioned relative to each other and on the keys themselves. Only a few of the blue shift labels exhibit any fuzziness--very, very slight, however.

Key tactile feedback. The best since the 1980s.

Key texture. The keys do not have a shiny, slippery feel, but, instead, have a nice barely perceptible coarse surface.

No key or cover rattles. The body, battery cover, and keys have a tight fit (I have one 12c that has loose, rattling keys).

Every key stroke has registered. After having to tweak the 50g key timing several times, I found this to be a relief.

Also, two thumb calculations are fast and accurate.

Solid and stiff body, no flex.

Good rubber feet and no rocking during data entry.

Display data (not the top row annunciators!) is easy to view under many conditions. The display still is not of the same quality seen in earlier HP models.

Quick calculation feedback with few busy signals. I entered a couple of simple programs and did a series of statistical tests and the performance was good.

Price seems equitable for what you're getting.

**Bad**

While the body plastic is good, it still somewhat soft and suprisingly easy to scratch. A textured plastic would have been better. The 41CV plastic was superior in this respect.

Base conversions. I'll give the designers a "SYNTAX ERROR" for this one. When you have to use the manual to figure it out and it's still clumsy to use, then the designers failed.

Reflective and soft (i.e. easily scratched) plastic display lens.

Top row display annunciators are too close to the upper edge of the display bezel. Shadows make these difficult to read.

No box. Putting a product in hard plastic packaging implies that it is temporary and disposable. Cheap cell phones still come in boxes--I'll be using this calculator far longer than any given cell phone.

**Ugly**

Display alignment. I had to disassemble the unit to realign the LCD glass against its metal backing.

Soldering holding the power wires to the system board was not consistently well done.

Why can't the Chinese find anyone who can stick a serial number label on straight?



### **Indifferent**

The carrying case is not as good as the 50g's, but it's still better than the TI-89 Titanium (a plastic sleeve that slides on either the front or the back).

Product manual seems to be accurate and effective, however, the paper quality is about par for manuals these days. A flat laying binding would be preferred so I don't have to wedge the book under things while working through examples. Regardless, I'll download the PDF version and use it when it's available.

I bought my first HP back in high school. It was a 41CV and I still get it out every once in a while to admire the craftsmanship and feel. Since then, I've bought an HP 28S, a couple of 12Cs, a 50g, and now an HP 35s. However, none of these have ever come close to the HP 41CV. While I don't really require a scientific calculator for my job as a software developer, I have always had an HP handy and the buzz surrounding the HP 35s was too much to ignore. And, just as I was losing faith in HP's ability to make a quality calculator, they introduced the 35s.

In summary, I find this to be an excellent calculator. I found the display alignment issue to be the worst aspect of my particluar unit--something annoying enough that I had to fix it. I hope this signals HPs return and future commitment to better quality calculators. Welcome back big enter key!

### **Re: HP 35s... The Good, the Bad and the Ugly**

*Message #2 Posted by **Ren** on 31 July 2007, 11:22 a.m.,  
in response to message #1 by Chris Haltiner*

Quote:

\_\_\_\_\_

### **Ugly**

Why can't the Chinese find anyone who can stick a serial number label on straight?

\_\_\_\_\_

Because once they get good at it, they get promoted to painting faces on figurines. (a five cent per day raise in pay!)

<Grin> B^)

Ren

dona nobis pacem

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## HP Forum Archive 17

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### More 35s Musings

Message #1 Posted by [Chuck](#) on 27 July 2007, 11:06 a.m.

The 35s arrived a few days ago, and all in all, it's a good little calculator. The only complaint so far is that the four arrow keys make a much more audible "plasticity" click than the other keys. It could get a little annoying if several students have these during a quiet test.

To get used to finding the various commands, I took out my 11C manual and converted the Moon Rocket Lander game for the 35s (a little geeky, but what the heck.) Works perfectly.

Also...I figured out what the little pouch is for... [Pickett N600](#) :)

and of course, I hade to make a [table stand](#)

Cheers, CHUCK

*Edited: 27 July 2007, 11:14 a.m.*

### Re: More 35s Musings

Message #2 Posted by [Trent Moseley](#) on 27 July 2007, 2:42 p.m.,  
in response to message #1 by Chuck

Glad to see someone else still has their Pickett N600!

tm

### Re: More 35s Musings

Message #3 Posted by [Wayne Brown](#) on 27 July 2007, 8:21 p.m.,  
in response to message #2 by Trent Moseley

I still have my N600-ES, too, but there's no way I'd put it next to one of *those* things (shudder).

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## HP Forum Archive 17

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### Graphing Calculator suggestion

Message #1 Posted by [Vincze](#) on 27 July 2007, 10:57 a.m.

Good morning.

I find out from my son (Dezso), just now, that he will need a graphing calculator for his math class next year. School recommend a TI brand, but I do not like TI. What is good calculator by HP that have good feel and good functions for graphing calculator. Should I be looking for used calculator, or new. I would like to find the best one for him is possible, but I do not want to pay a fortune for it.

*Edited: 27 July 2007, 11:08 a.m.*

### Re: Graphing Calculator suggestion

Message #2 Posted by [Egan Ford](#) on 27 July 2007, 11:26 a.m.,  
in response to message #1 by Vincze

Go with what the school recommends. My 16-year-old uses a TI-83+, as does every student and teacher in her school. It is required. All the homework, tests, lectures, etc... assume a TI-83+. If she had a 50g and had a problem during a test, then she would be SOL. No other 50g around to borrow, no teachers for help, no peers for help. My kid's future could be at risk.

The best solution is usually the best supported (vendor, software, peers, community, etc...) solution, not always the best technical solution.

### Re: Graphing Calculator suggestion

Message #3 Posted by [Wayne Brown](#) on 27 July 2007, 8:36 p.m.,  
in response to message #2 by Egan Ford

Both my sons used their HP48GXes in high school, and both were the only ones in their classes with an HP of any kind. Neither had any problem adapting the TI-centric instructions and examples in their textbooks to their HPs.

### Re: Graphing Calculator suggestion

Message #4 Posted by [Maximilian Hohmann](#) on 27 July 2007, 12:20 p.m.,  
in response to message #1 by Vincze

Hello!

Quote:

... but I do not like TI.

Have a closer look at a Ti84, Ti89 or Voyage 200 (or the new nSpire, once it becomes available everywhere) and you may change your mind, much as I did mine. Ti have produced some, let's call them 'inferior', products

(especially regarding the keyboards!) in the 70ies and 80s, but those times are long over. There is presently no hp graphing calculator that comes close to the current Ti products in terms of build and keyboard quality, functionality and IO/connectivity. The Ti-GraphLink software also runs on MacOS which alone would be reason enough for me to choose Ti...

Second hand Ti graphing calculators can be found on eBay in large numbers and it should not be difficult to find a good '84 for less than 50\$/Euros and an '89 or Voyage for less than 100. (I paid 70 Euros for my Voyage 200 with graph-link cable included).

Greetings, Max

### **Re: Graphing Calculator suggestion**

*Message #5 Posted by [Jonathan Eisch](#) on 27 July 2007, 12:43 p.m.,  
in response to message #4 by Maximilian Hohmann*

I think the TI calculators have terrible keyboards. It feels like you're pressing them into oatmeal or soggy cardboard. I don't know how that qualifies as quality, especially compared to the HP-50g...

The TI-84 has the same interface as the 83, which is amazingly unintuitive to anyone. And the Voyage 200 isn't allowed on many standardized tests, at least in the US.

If you'll go with the 89, then your son probably won't be able to follow along key-for-key with the class, so there is no particular reason to choose a TI over anything else.

No idea how a HP-50g doesn't match on functionality with, as you listed a TI-84....? Seriously?

-Jonathan

### **Re: Graphing Calculator suggestion**

*Message #6 Posted by [Maximilian Hohmann](#) on 27 July 2007, 1:30 p.m.,  
in response to message #5 by Jonathan Eisch*

Hello!

Quote:

\_\_\_\_\_

No idea how a HP-50g doesn't match on functionality with, as you listed a TI-84....?  
Seriously?

\_\_\_\_\_

Of course, you cannot compare the hp-50G to the Ti-84. The hp-50G is a competitor to the Ti89/Voyage/nSpire. About standardised tests in the U.S. I know nothing, but they were not mentioned in the original posts.

Here in Germany we don't have much choice anyway, because it is the school who decides which calculator or CAS is to be used (and nowadays, they even provide them for the students much to the annoyance of my wife, an arts teacher, because the costs involved are taken away from her budget).

Greetings, Max

### **Re: Graphing Calculator suggestion**

*Message #7 Posted by [Jonathan Eisch](#) on 27 July 2007, 12:34 p.m.,  
in response to message #1 by Vincze*

If he'll continue in math through highschool or college, he would be best served with either a TI-89 model, or an HP-50g. If the school is suggesting a lower TI model than that then he'll want to upgrade in the future anyway, so why not get the TI-89 or HP-50g now?

Some will argue that getting a TI-83/84 is good because "everyone else will have it", but I found that not to be the case when I was in school (graduated high school in 2002). In lower level classes, the functions used are pretty limited, and finding them on the 89 or 50 is straight forward. I'd say I didn't miss any educational benefit by not being able to type "yellow button, window button, five button..." with the teacher.

As to which between the HP-50g or the TI-89, I'd certainly recommend the HP, but that's me. Which ever one he can get interested in enough to learn for himself would be the best. Beyond the interface, he won't run into the technical limitations of either (really I mean the TI) for quite some time.

That's my take on it, anyway. -Jonathan

### **Re: Graphing Calculator suggestion**

*Message #8 Posted by [Vincze](#) on 27 July 2007, 1:31 p.m.,  
in response to message #7 by Jonathan Eisch*

Quote:

\_\_\_\_\_

If he'll continue in math through highschool or college...

\_\_\_\_\_

Well, he is a sophomore in high school and he wants to go to MIT when he goes to college. He is interested in computer science, so I think he will need a good calculator, but I don't see the need for graphing calculator in real world.

Well, I still puzzled as to what to do.

### **Re: Graphing Calculator suggestion**

*Message #9 Posted by [Don Shepherd](#) on 27 July 2007, 1:43 p.m.,  
in response to message #8 by Vincze*

If the school recommends TI, it is probably because the teachers are using TI and can give support. HP may be technically superior to TI, but take my word for it (as a middle school math teacher), if he can't get something to work and he has an HP, no one at the school will be able to help him. I've only met one public school math teacher who even knew what HP stands for, and even he used TI in the class. Face it, TI has that market locked up, and the TI-83 and 84 are not bad calculators and graphers.

### **Re: Graphing Calculator suggestion**

*Message #10 Posted by [Chan Tran](#) on 27 July 2007, 1:45 p.m.,  
in response to message #8 by Vincze*

If he is willing to learn how to use the calculator then the 50G is good. I don't see any advantages from the 49, 49G+, 48GII. The 48GX may have some advantages over the 50G but it's no longer available new. But then the 50G has a lot more functions than the 48GX. However, I found that most students don't care to learn how to use their calculators and in such cases it's best to buy what the school recommended. To many students nowadays, calculators are just the necessary evil. Something they must have but they hate them.

## **Laziness brings struggle**

*Message #11 Posted by **Vincze** on 27 July 2007, 2:03 p.m.,  
in response to message #10 by Chan Tran*

And to think I went to Technical University of Budapest (BME) with a slide rule. I just shake my head that students need calculator in high school. Students NEED to understand how to do math, and how is calculator going to teach them that? Calculator necessary after you understand how to do math and it makes things solve quicker, but that should not be concern until in college.

We have saying in Hungary, Nem akarasnak nyoges a vege, which means laziness brings struggle. Maybe I to old school, but I do not want Dezsó to struggle like I have. I shall see. Maybe I give him slide rule and graph paper and say that is 100% Hungarian graphing calculator. Ha-ha, I think he would not like me for doing. :)

## **Re: Graphing Calculator suggestion**

*Message #12 Posted by **Matthew W. Milligan** on 28 July 2007, 8:50 a.m.,  
in response to message #8 by Vincze*

Hi Vincze,

I am a long-time high school physics teacher and long-time HP calculator user and fan. My school also strongly recommends TI graphing calculators and it has been years since I saw a student carrying an HP. So I have been forced to learn how to use TI calculators and I am very familiar with the graphing models and spend a good deal of class time interacting with students as they use TI calculators. In the meantime I refuse to stop using HP so my students must think I am a freak (and are sometimes a little in awe) when I am brandishing my 48g or 49g+ (or soon my 50g).

On TI calculators: Over the years I have come to respect TI calculators. These are reliable, well designed machines. I believe TI calculators are easier to use for graphing than HP. The programming languages are fairly complete and easy to use - very similar to BASIC. In my mind there are really only a couple of disadvantages. The buttons are indeed "mushy" in a sense, because there is no "click" or "tactile feedback", if you will, as on HP models. On the other hand, I have never seen a TI graphing calculator that missed key strokes or doubled them as some recent HP's have been known to do. The biggest disadvantage to TI in my mind is the reliance on parentheses to enter complex calculations - I see it all the time, students missing problems for lack of or misplacement of parentheses.

On HP calculators: As I mentioned I am firmly an HP fan. (I may be unusual because I can find merits in TI.) Advantages for HP are the opposite of the disadvantages for TI mentioned above; the tactile feedback of the keys and RPN (or RPL) entry. In particular, based on your comments about truly understanding math and an interest in MIT, I would think the "HP way" would be desirable. As you probably well know, when solving a problem with RPN you must think about order of operations, you can see intermediate results, and you do not need parentheses. This forces one to really think about what the calculator is doing. The programming on HP is very different from TI. It is not BASIC but rather RPL, which is very similar to RPN in that you basically mimic the keyboard strokes that you would press on the calculator to achieve the desired result. One disadvantage is the rather steep learning curve for recent HP graphing models and lack of a comprehensive and well written manual. Also, as implied above, working with graphs is a bit awkward and counterintuitive (I hate to say it but I usually grab a TI if I need to do some graphing).

Now a few particulars. The TI 83/84 line is easiest for most students to use and these are solid well established calculators. The TI 89 and HP 49/50 calculators are tougher to learn how to use and also have Calculator Algebra Systems (CAS) that can solve equations, derivatives, integrals, series, etc. (Something I suspect you would frown upon based on your comments.)

**Re: Graphing Calculator suggestion**

Message #13 Posted by **Vincze** on 30 July 2007, 8:45 a.m.,  
in response to message #12 by Matthew W. Milligan

Good morning Matthew. Would you tell me more about the calculator algebra system? I have not heard this before.

Also, I looking online to maybe get a used 48gx. Is this good HP or would the 49 or 50 be better for Dezso?

**CAS and Graphing Calculator suggestion**

Message #14 Posted by **Matthew W. Milligan** on 31 July 2007, 7:32 a.m.,  
in response to message #13 by Vincze

CAS allows for symbolic solutions and manipulation of equations and algebraic expressions. For example type in equation  $3x^2-7x=17$  and tell the calculator to solve for x and you immediately get both solutions  $x=-1.484\dots$ ,  $x=3.817\dots$ . Or, enter  $ax^2 + bx + c=0$  and tell the calculator to solve for x and it will return the well known quadratic formula:  $x=(-b\pm\sqrt{b^2-4ac})/(2a)$ . And the ability to solve is not limited to polynomials. Likewise the CAS will "do" calculus and give numeric or symbolic derivatives, integrals, series, limits, etc.

The reason I mentioned it in the context of your original post is the potential impact of CAS on students. Here are my observations from the classroom. Students get in the habit of using the CAS to solve equations. It really is a very powerful tool. A common problem in physics is solving an elastic collision using conservation of momentum and energy which results in a nonlinear system of equations. The student with CAS can get the answer by simply typing in both equations and which two variables to solve for! I often accuse my students of becoming SOLVE addicts! (the name of the function on the calculator) Through all of my AP Physics C course (equivalent to 1st yr college) there are only one or two algebraic problems that CAS cannot solve. Likewise with the calculus problems in that course. Keep in mind that I teach a physics course, not algebra or calculus (well, yes physics IS all that too) so I don't really have a problem with students using CAS; I require them to show work. Also I think my best students are as good or better than ever, in spite of being SOLVE addicts.

However, I would think that CAS could indeed be detrimental in algebra or calculus classes - especially if the student is not disciplined enough to refrain from using it while doing homework. In this regard HP may have a slight advantage simply in the fact that its CAS is a bit harder to learn and harder to use than TI's CAS. I can imagine a student getting an HP 50g not really understanding all that it can do until several years later when the use of CAS is more appropriate.

As far as 48g vs 49g vs 50g (I have owned all three - just got my 50g the other day), I would just go with the 50g. It does everything that 48g does and more and it has a much better LCD display. Yes the original 48g is probably a little bit better made and has the big ENTER button . . . things that are more important to a long-time HP enthusiast than to today's students (it would seem to me).

**Re: CAS and Graphing Calculator suggestion**

Message #15 Posted by **Vincze** on 31 July 2007, 10:36 a.m.,  
in response to message #14 by Matthew W. Milligan

Does 48gx have CAS? I found someone I work with who own one and is willing to sell me

it. He say I can buy for \$50. Is that good price? He no have books, but I find online someplace and make my own.

I too worried that Dezso might "cheat" and use CAS to solve those type of equation. As me say before, I believe student should know math first by doing hard way, and avoid laziness (laziness lead to struggle). I do understand what you say though that it is not an issue since you teach physics and not math. I guess that go along with saying of use all tool available to you. In life, I use slide rule in college, but in work world I no longer use slide rule, I use calculator or computer as those tools available to help me.

Maybe I look at 50g. I think it ugly looking. 48gII look nicer, but looks not calculate. I think they all very expensive though.

So sorry for my bad english.

### **Re: CAS and Graphing Calculator suggestion**

*Message #16 Posted by [bill platt](#) on 31 July 2007, 12:26 p.m.,  
in response to message #15 by Vincze*

48GX does not have CAS; however the CAS for the 49G was developed from programs written for the 48GX as an independent programs: Erable and ALG48. Furthermore the shell in the 49G (and the later 50G) came from "Metakernel" which was also developed for the 48GX (by Jean-Yves Avenard).

If you buy two ram cards for the 48GX, you can load Metakernel, ALG48 and Erable as well as other stuff and you have the supercharged CAS-enabled 48GX.

BTW \$50 for a 48GX is a very good price.

The software is all free and available here: <http://www.hpcalc.org>

*Edited: 31 July 2007, 12:47 p.m.*

### **Re: CAS and Graphing Calculator suggestion**

*Message #17 Posted by [Vincze](#) on 31 July 2007, 1:21 p.m.,  
in response to message #16 by bill platt*

Good afternoon Bill. Thank you for the information. Where can one find memory card? How much should they cost? Wife very money conscious and say I adopt American spending sickness, more I am in this country. I tell her I \*am\* American, so this good I have sickness. Although, this calculator for our son, so I have good excuse here to have American spending sickness.

Also, is CAS what they also say "textbook entry"? I think I understand what CAS might be, but it seem like it is a program to isolate variable, and also other thing.

### **Got 48GX Today**

*Message #18 Posted by [Vincze](#) on 2 Aug 2007, 10:16 a.m.,  
in response to message #16 by bill platt*

Holy Wow... I pay co-worker for 48GX yesterday and he bring in today. Wow... this monster calculator. He did find one of book. I think you need PhD to understand this



calculator. I can see why student may have trouble with this. He even show me that it have mine sweeper, and way to enter equations graphically. That very cool. It seem very hard to use though. Is 50g easier to use that 48gx?

### Re: Got 48GX Today

Message #19 Posted by [Dallas Osborne](#) on 2 Aug 2007, 10:24 a.m.,  
in response to message #18 by Vincze

Vincze, I would highly suggest taking a look at Thomas Barber's guide to the 48-50G series, *The Definitive User's Guide to the HP 48g/49/50g Calculators*. You can find this on the **Sampson Cables** website. For the price, this is one of the best explanations and guides to using this series of calculators. I would say neither the 50g or 48g are harder to use than the other; they have different approaches to certain types of problem entry, but both are outstanding RPL machines. I prefer the 48g series due to the well-placed ENTER key and the key pad layout and feel. Regards, Dallas

*Edited: 2 Aug 2007, 10:29 a.m.*

### Re: Got 48GX Today

Message #20 Posted by [bill platt](#) on 2 Aug 2007, 11:04 a.m.,  
in response to message #18 by Vincze

The 50G is not fundamentally different to use than the 48G--the 50G uses the same RPL language and paradigm.

The "quick start guide" is also good to read, as well as the original manuals. You can download them from [HTTP://www.hpcalc.org](http://www.hpcalc.org)

IT is RPL not RPN, so there are some small differences (such as if you want to SWAP the 1st two levels in the stack, you have to first ENTER to put the command line into level 1.)

You can make algebraic objects by typing the ' character first. The algebraic object lives on the stack, can be duplicated etc. If you push EVAL it will be evaluated....

You can save to variables, for instance:

123 ' [alpha alpha] VAR1 ' [alpha] STO

This will store the value 123 into a variable named VAR! into the current directory.

You can recall this variable. You can use it in algebraic objects or programs. The variable can be an equation or a program etc...

*Edited: 2 Aug 2007, 11:33 a.m.*

### Re: Got 48GX Today

Message #21 Posted by [Vincze](#) on 2 Aug 2007, 2:09 p.m.,  
in response to message #20 by bill platt

Good afternoon Bill. Thank you for the information. I am a bit confused at RPL as I have never seen it before. I was looking for R/S button for awhile, and then someone told me that there was not one because of RPL.

I like the fact that assigning variables is that easy, and it seem like RPN is there in the background with doing math.

I looked on the HPCALC site and did find the books. Thank you. The one came with the calculator, but the advanced one I do not have so that will help.

Is there something that describe main difference between RPN and RPL, like a short dummies guide? I know there must be quite a big difference, but it would be nice to see the main points.

### Re: Got 48GX Today

Message #22 Posted by *Egan Ford* on 2 Aug 2007, 2:42 p.m.,  
in response to message #21 by Vincze

Read the RPL page:

<http://www.hpmuseum.org/rpl.htm>

Read the 48GX documentation:

<http://www.hp48.org/docs/misc/hp48gqsg.zip>  
<http://www.hp48.org/docs/misc/hp48gug.zip>  
<http://www.hp48.org/docs/misc/hp48gaur.zip>

You'll also find a 48GX emulator helpful:

<http://hp.giesselink.com/emu48.htm> (Windows)  
<http://emu48mac.sourceforge.net> (Mac - old)  
<http://x48.berlios.de> (Unix/Linux)

### Re: Got 48GX Today

Message #23 Posted by *bill platt* on 2 Aug 2007, 2:47 p.m.,  
in response to message #21 by Vincze

There might be a guide for when the 28c was developed.

RPN = Reverse Polish Notation RPL = Reverse Polis Logic (or Lisp, or...?)

RPN is an input paradigm, of which RPL is related, but RPL is also a whole programming language.

|                                    |   |  |
|------------------------------------|---|--|
| feature<br>stack<br>1,2...infinite | rpn<br>x,y,z,t; t replicates  | rpl<br>cmd line,                         |
| registers<br>variables             | STO RCL to ltr or #   | true named                               |
| Programs<br>merely<br>stack,       | dedicated line interpreter<br>in its own logical space<br>separate from GUI | Programs are<br>items on the<br>saveable |

like any  
variable.

other

*Edited: 2 Aug 2007, 2:48 p.m.*

### **Re: Got 48GX Today**

*Message #24 Posted by **Vincze** on 2 Aug 2007, 3:00 p.m.,  
in response to message #21 by Vincze*

As always, Egan and Bill, you are very helpful. Thank you!

### **Re: Graphing Calculator suggestion**

*Message #25 Posted by **Les Wright** on 27 July 2007, 4:04 p.m.,  
in response to message #1 by Vincze*

I can't figure out the programming language on my TI83+ to save my life, but I must admit the thing has grown on me for some things. The pretty fast and accurated Gauss-Kronrod integrator is superior to the Romberg routines found in HPs, up to and including the 35s, and sort of impressed me.

Maybe when he can more easily afford it he will have some choice--the calculator he must have in order to jump through the academic hoops, and the one he really would like to use just for himself.

As for further comments in this thread about calculators in math education, I must admit I struggle with this one. I love calculators, have since I was a kid and got some Novus 4-banger, now long broken and lost. But I at some point learned long division, multiplication, and addition of sums--heck, even square roots, but I can't remember the algorithm any more--with pencil and paper. So for me electronic calculators have never seemed a crutch or the lazy way. But I know my experience is exceptional. I have heard stories from teachers that every calculator in the class comes out when the kids are called upon to compute the simplest sum as part of an exercise.

Les

### **Re: Graphing Calculator suggestion**

*Message #26 Posted by **Chan Tran** on 27 July 2007, 4:20 p.m.,  
in response to message #25 by Les Wright*

Today any calculator can be had for less than \$200 (except them collectible HP's), so the issue of affordability is not there.

### **Re: Graphing Calculator suggestion**

*Message #27 Posted by **Vincze** on 27 July 2007, 4:31 p.m.,  
in response to message #25 by Les Wright*

Good afternoon Les. I agree with you that a calculator is needed in the real world, but children need to have experience and exposure to numbers to they get a sense of number familiarity. They will develop recognition of patterns by doing math by hand. In fact, Dezso can very quickly find the square root to four decimal places very quickly (as can I). You say you do not remember algorithm no loger for finding square root, but it is so simple. All you do is estimate the square root to at least 1 digit, then divide this into the number whose square root you want to find. You then find average of the quotient and the divisor, and the result is your new estimate. When I learn this many years ago it was called the Babylonia method and is

truly very quick.

For example... let's try and find square root of 30. With calculator, I can see that it is 5.4772, but using my method here is how you would do. Let's make our first guess 10. We take  $30/10 = 3$ . We then take  $(10+3)/2=6.5$ . Now we use 6.5 as new guess, and  $30/6.5=4.6154$ . Get average of  $(4.6154 + 6.5)/2=5.5577$ . New guess is 5.5577 and  $30/5.5577=5.3979$ . Average of  $(5.5577+5.3979)/2=5.4778$ . Use new guess  $30/5.4778=5.4767$ . Average of  $(5.4778+5.4767)/2=5.4772$ . And there is our answer. Yes it takes a four guesses, but in four guesses I have it to four decimal places.

I bet you ask child in school now, and they have no idea how to figure square root without a calculator. Maybe I am wrong, my myself and wife teach Dezso how to do this in 4th grade and he caught on very fast because it just uses simple addition and division.

I don't try and knock people because they use calculator, as I use too, but I'm more concerned of children not understanding basic knowledge of math and I think that puts them at a serious disadvantage. I know I sound dumb because I don't have good English skills, and that's ok, but I want my boy to be smart, like me, even though I speak badly.

### **Re: Graphing Calculator suggestion**

*Message #28 Posted by [Don Shepherd](#) on 27 July 2007, 8:47 p.m.,  
in response to message #25 by Les Wright*

Les, it's just BASIC! Instead of typing the commands, however, you insert them via a menu, just like many systems. But it's actually much easier to write the BASIC code on the PC using TI-Connect software (which has always worked flawlessly for me) and then download it to the calc.

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## HP Forum Archive 17

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### HP32SII Keyboard fix

Message #1 Posted by [Ketih Shelley](#) on 27 July 2007, 3:01 a.m.

For those who know, the keys on the right side of the HP32SII tend to get extremely unresponsive after many years. Many year ago, I did a lot of hop-up mods to my HP41 calculators, permanent extra memory and doubled the processor speed. I've seen the disassembly instructions for the 32 and I don't care to get into all of that. The HP32SII would never be the same after so much maintenance. I read somewhere that if you press on the metal display frame just below the display, the right side keys will work with normal finger pressure. My quick and dirty repair implementation of that fix is you take two no.64 rubber bands and double wrap them around the lower section of the display frame. Then stick two of the batteries that the 32 uses under the rubber bands side by side on the front of the calculator on the metal display frame between the top row of keys and the display. Its not pretty, but now the keys on the right side of the calculator work with normal pressure as the other keys have always done.

### Re: HP32SII Keyboard fix

Message #2 Posted by [Curtis Tom](#) on 27 July 2007, 1:32 p.m.,  
in response to message #1 by Ketih Shelley

If you're willing to remove the calculator back, a much more elegant and permanent fix would be to tighten the lower three metal tabs that hold the LCD to the circuit board. Besides holding the LCD in place, the metal frame serves to compress the conductive rubber strip ("zebra strips") between the electrically conductive regions of LCD glass to the printed circuit board pads. GENTLY twist the tabs by 20 degrees or so (counterclockwise, with the back of the calculator facing you) to increase the compressive force and that should resolve the problem - hopefully! If the key pad contacts are dirty or damaged, this procedure will not help...

### Re: HP32SII Keyboard fix

Message #3 Posted by [y.miyata](#) on 2 Aug 2007, 2:53 a.m.,  
in response to message #2 by Curtis Tom

> "... tighten the lower three metal tabs that hold the LCD to the circuit board."

I'm very interested in this, because mine has the same problem with the keyboard.

How can I find "the lower three metal tabs"? Do you mean that the calculator should be disassembled to access the metal tabs ?

Thank you very much in advance, Sincerely

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## HP Forum Archive 17

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**Pioneer touch-up paint**

Message #1 Posted by [Seth Morabito](#) on 27 July 2007, 2:26 a.m.

I have an early 42S with a paint chip and a few scratches around the LCD bezel. It's really very minor.

[http://www.loomcom.com/junk/42s\\_scratches.jpg](http://www.loomcom.com/junk/42s_scratches.jpg)

The practical and safe side in me says that I should ignore it, live with it, there's nothing I can do, and besides it's incredibly insignificant. It doesn't affect how well the calculator works, why should I care what it looks like?

But the irrational, obsessive-compulsive side of me is drawn to that paint-chip like a moth to a light bulb every time I pick up my calculator. My beautiful bezel, ruined!

If I were to be crazy enough to want to try to touch that chip up, what sort of paint would I use? Has anyone here ever done that?

**Re: Pioneer touch-up paint**

Message #2 Posted by [Namir](#) on 27 July 2007, 8:20 a.m.,

in response to message #1 by Seth Morabito

Seth,

My guess you had a parent or a caregiver that was very hard to please. I think the issue is not the paint chipped off the HP-42s. It's in your childhood. I suggest investing some of your energy and time there and leaving a good functional HP-42s be. Just have fun with the calculator.

Namir

PS: There is a lot of psychology behind our "love" or "obsession" with vintage calculators. I wonder why are we so attached to old machines when our current computers offer software (Excel, MatLab, Mathematica, Maple, SPSS, MINITAB, and so on) that we would have drooled over in the days of the old calculators. The vintage machines are kinda like songs that connect us with the past and what that era represented for us--most commonly an era full of promises and potential. Somehow we want to go back and relive the past, because ??? ? that's where each person fills in the blanks. Our unconscious mind is using vintage calculator to draw our attention to something ... not get us in more debt or get us hooked on buying stuff.

That's what happens when one visits Freud's apartment in Vienna. The place is still contagious!!! He may have died long time ago, but his energy is still there.

**Re: Pioneer touch-up paint**

Message #3 Posted by [Eric Smith](#) on 27 July 2007, 10:58 a.m.,

in response to message #2 by Namir

Quote:

\_\_\_\_\_

I wonder why are we so attached to old machines when our current computers offer software (Excel, MatLab, Mathematica, Maple, SPSS, MINITAB, and so on) that we would have drooled over in the days of the old calculators.

I don't think there's any mystery there.

It is not very convenient to carry around Mathematica in a pocket device, even if one is willing to spend several thousand dollars on a UMPC or OQO style device. I don't have to wait for my calculator to boot up, I don't need a stylus or an itty bitty "thumb keyboard" to operate it, and I don't need to recharge it after two hours of use.

Spreadsheets, Mathematica, Maple, etc. are great for some things, but when what I need is a calculator, they are a poor substitute. It's like using a BLU-82B to swat a fly.

### **Re: Pioneer touch-up paint**

*Message #4 Posted by **Vincze** on 27 July 2007, 2:33 p.m.,  
in response to message #3 by Eric Smith*

Quote:

Spreadsheets, Mathematica, Maple, etc. are great for some things, but when what I need is a calculator, they are a poor substitute. It's like using a BLU-82B to swat a fly.

Slide rule can do as well, AND can use to swat flies too. :)

As for me, I would leave the chip be. Worn looking calculator shows love. Fixed up and painted calculator shows vanity. Sort of like old lady getting bigger breasts. God give you what he gives you. Be happy with it. Always remember, not everything is gold that is shinny.

### **Re: Pioneer touch-up paint**

*Message #5 Posted by **Paul Brogger** on 27 July 2007, 1:07 p.m.,  
in response to message #1 by Seth Morabito*

Once upon a time, I wanted to touch up an HP-48G that I'd scratched in disassembly.

I scoured the local art supply stores. They have felt-tip art markers in quite a variety of shades. I was able to match the dark blue quite closely, but not perfectly. It did reduce the scratches from glaringly obvious to subtly discolored.

Good hunting!

*Edited: 27 July 2007, 1:08 p.m.*

### **Re: Pioneer touch-up paint**

*Message #6 Posted by **Ron G.** on 28 July 2007, 4:19 p.m.,  
in response to message #1 by Seth Morabito*

Leave it. It won't make it any more useful. It won't make it any more valuable. Most touch-ups look like... You guessed it - Touch-ups.

*Edited: 28 July 2007, 4:20 p.m.*

**Re: Pioneer touch-up paint**

Message #7 Posted by [Seth Morabito](#) on 28 July 2007, 6:17 p.m.,  
in response to message #6 by Ron G.

Yeah, I figured that would be the end result. I'll just have to deal with my absurd OCD responses and get over it ;)

**Re: Pioneer touch-up paint**

Message #8 Posted by [Les Wright](#) on 28 July 2007, 7:47 p.m.,  
in response to message #6 by Ron G.

I find a black sharpie worked fine to improve the appearance of a well used 11C. But the keydeck was black. Dark brown is a tougher match.

I paid too much for a field grade 42S, with the initials DOE carved thereon. Probably govt surplus. Writing over the name branding made it less attractive. But, strangely, cleaning over the scratch made the carve job look less rough, and to me less noticeable.

Les

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## HP Forum Archive 17

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### 35S Benchmark test

Message #1 Posted by [Ralph](#) on 27 July 2007, 1:40 a.m.

I ran the benchmark tests from the page on this [forum here](#). and got some odd results.

The 33S program fitted to the 35S ran very slow, about 471 seconds on my stopwatch. I read there is probably some internal work because of the vector math function added. It might add some overhead. OK I can accept this, it makes sense to me.

Then for grins I converted the 41/42 program to the 35S. 323 seconds. Slow but not as slow!?! I dug out the 33S and it runs it's test in 129 seconds. All to my stop watch and skills.

From the chart on the forum page, there are the following times:

42S 425 sec.

32S 262 sec.

32SII 344 sec.

And my timer:

33S 129 sec.

35S/33S 417 sec.

35S/42S 323 sec.

Next is to put the 42S version on the 33S. I'm guessing it should be faster if it fits.

### Re: 35S Benchmark test

Message #2 Posted by [Xerxes](#) on 27 July 2007, 6:30 a.m.,  
in response to message #1 by [Ralph](#)

Hi Ralph,

the 41/42 version of the benchmark was already tested on the 33S by Gerson, with some modifications of course, with 251 seconds.

The main reason for the different versions is the way how the calculators handle indirect addressing and the fastest way to increment or decrement variables. Considering the new concept of the 35S, I guess it is necessary to make an implementation especially for this calculator. As soon as the 35S is available in Germany, I will try it out and add the result to the data base.

Are you sure with the 42S result? In the table you will find the 42S with 732 sec (fast mode: 362 sec).

*Edited: 29 July 2007, 6:29 a.m. after one or more responses were posted*

**35S Benchmark test**

Message #3 Posted by **Ralph** on 27 July 2007, 9:12 a.m.,  
in response to message #2 by Xerxes

Thanks. I didn't find the conversion but it was getting late last night. You are correct on the time for the 42S. I didn't search the page, just eyeballed it. And misread or typed, common for me. I know it's blazing fast on my HP4705 Pocket PC.

I think the use of the two indirect register variables, I&J plus using the ISG & DSE commands over the math make the 42 version run faster on the 35S. Given the calculator is said to check whether the math is conventional or vector.

The 42 code went in almost as written. I put a little bit in the front to set the index range so to not have to do it manually. Probably added a second or two.

I find these tests fascinating. For my use, my program runs at the same speed on the 33 or 35 as far as I can tell.

**Re: 35S Benchmark test**

Message #4 Posted by **Gerson W. Barbosa** on 27 July 2007, 9:19 a.m.,  
in response to message #1 by Ralph

Ralph,

Can you post both your 35s versions, or at least the fastest one? Just for reference.

Perhaps you'd like to take a look at these old threads:

<http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv016.cgi?read=106865>

<http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv016.cgi?read=107447>

I've noticed Xerxes's article include a Lua version, but I wasn't able to run it in HP-Lua. Has anyone tried it?

Regards,

Gerson.

*Edited: 27 July 2007, 9:28 a.m.*

**35S Benchmark test**

Message #5 Posted by **Ralph** on 27 July 2007, 10:59 p.m.,  
in response to message #4 by Gerson W. Barbosa

Here is the 42 version placed on the 35S T003-T008 make sure the indirect registers are allocated in case I have reset things previously.

```

35S
LN=28   CK=53FC
T001   LBL T
T002   CLVAR
T003   9
T004   STO I
T005   1
T006   STO (I)

```

```

T007      0
T008      STO I
T009      8
T010      STO R

LN=24     CK=FF6C
U001      LBL U
U002      RCL I
U003      RCL R
U004      X=Y?
U005      GTO Y001
U006      ISG I
U007      DEG
U008      STO (I)

LN=15     CK=7ECA
V001      LBL V
V002      ISG S
V003      DEG
V004      RCL I
V005      STO J

LN=51     CK=8CB6
W001      LBL W
W002      DSE J
W003      DEG
W004      RCL J
W005      X=0?
W006      GTO U001
W007      RCL (I)
W008      RCL (J)
W009      -
W010      X=0?
W011      GTO X001
W012      ABS
W013      RCL I
W014      RCL J
W015      -
W016      X<>Y?
W017      GTO W001

LN=15     CK=BB97
X001      LBL X
X002      DSE (I)
X003      GTO V001
X004      DSE I
X005      GTO X001

LN=9      CK=DC18
Y001      LBL Y
Y002      RCL S
Y003      RTN

```

### Re: 35S Benchmark test

*Message #6 Posted by [Xerxes](#) on 29 July 2007, 9:05 a.m.,  
in response to message #5 by Ralph*

I have added your program to the list as the best solution so far. Thank you for testing.

*Edited: 29 July 2007, 4:27 p.m.*

### Re: 35S Benchmark test

*Message #7 Posted by [Xerxes](#) on 29 July 2007, 6:48 a.m.,  
in response to message #4 by Gerson W. Barbosa*

Hi Gerson,

Can you explain the problem with HPLua please? I led from that the Lua version is usable for all lua interpreters.

**Re: 35S Benchmark test**

*Message #8 Posted by [Gerson W. Barbosa](#) on 29 July 2007, 9:13 a.m.,  
in response to message #7 by Xerxes*

Hi Xerxes,

By what I can remember, I reset the calculator after waiting for one minute or so. I'll try again later.

Regards,

Gerson.

**Re: 35S Benchmark test**

*Message #9 Posted by [Xerxes](#) on 29 July 2007, 4:39 p.m.,  
in response to message #8 by Gerson W. Barbosa*

The Lua version on the Casio ClassPad takes 110 seconds if you use the 100 iterations in the original listing. On what calculator did you test it?

**Re: 35S Benchmark test**

*Message #10 Posted by [Gerson W. Barbosa](#) on 31 July 2007, 7:50 p.m.,  
in response to message #9 by Xerxes*

Hi Xerxes,

HP-50g (HPLua version 0.4) -> 1000 iterations in 4 min 3.5 sec. That's 0.2435 seconds per iteration.

Regards,

Gerson.

**Re: 35S Benchmark test**

*Message #11 Posted by [Xerxes](#) on 1 Aug 2007, 5:44 a.m.,  
in response to message #10 by Gerson W. Barbosa*

Thanks Gerson.

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## HP Forum Archive 17

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### How to erase a RAM card in the 48GX?

Message #1 Posted by [Ron G.](#) on 26 July 2007, 10:44 p.m.

I want to completely erase a RAM card. How do you do it?

### Re: How to erase a RAM card in the 48GX?

Message #2 Posted by [Wayne Brown](#) on 27 July 2007, 7:44 a.m.,  
in response to message #1 by Ron G.

The easiest way is to remove the card from the calculator and remove the backup battery. Otherwise, you'll need to PURGE each individual file on the card.

If you remove the battery, you'll need to do PINIT after you put the card back in the calculator, or else you'll get an 'Invalid Card Data' error every time you turn it on.

### Re: How to erase a RAM card in the 48GX?

Message #3 Posted by [James M. Prange \(Michigan\)](#) on 27 July 2007, 11:29 p.m.,  
in response to message #1 by Ron G.

I'm not sure how long a RAM card has to be left without power before it loses memory, but, as Wayne noted, that's no doubt the easiest way to clear one. Note that with the card inserted and the calculator turned on, the card gets its power from the calculator. Some SMI and TDS cards use a non-removable rechargeable battery (recharged by a turned-on calculator), which (if fully charged) should hold its charge for a month or so. For the 48GX's slot 1, be sure that port 1 is "free" (see below) before removing the card (or its battery).

Of course when a card is powered up again, it will contain random data. To easily "organize" the memory of all ports in a 48GX, use the PINIT command.

If you choose to clear the card by purging objects, of course first off, the card has to be write-enabled.

For the 48GX's slot 1, port 1 has to be "free", not "merged" with system RAM, to use it as an independent memory port. To check, do 1 PVARs; if this returns a list to level 2 and a number to level 1, then port 1 is already free. If 1 PVARs returns { } to level 2 and "SYSRAM" to level 1, then port 1 is merged. To free (and clear) a merged port 1, do { } FREE1 (or { } 1 FREE). Port 1 can be merged by the MERGE1 command (or 1 MERGE), but note that will also move anything that was in port 1 to port 0.

Port objects "in use", for example, referenced on the stack, by a local environment, a "user-defined" error message, or as an attached library, cannot be purged. A warmstart ([ON] and [C] together) may be the easiest way to make sure that nothing is referenced except auto-attaching libraries. For the libraries, maybe use the LIBS command to get a list of the attached libraries and the DETACH command (which can also take a list of library numbers as its argument) to detach all libraries in the port(s) that you want to clear. Note that if the 48 series is turned off (even an automatic turn-off) and back on again, then any library configuration routines will be run, and most libraries will auto-attach.

To purge a port variable ("backup object"), use its port-tagged name, for example :1:TEST PURGE. To

purge a library, use its port-tagged library number instead, for example, :1:999 PURGE.

The PURGE command can also take a list of port-tagged names and library numbers, and, with a free port, the PVARs command returns a list of the port-tagged names and library numbers of all objects stored in a given port to level 2, followed by its available capacity in level 1. So, for example, 1 PVARs DROP PURGE should clear everything in port 1, unless something there is still referenced, in which case it will stop purging with an "Object In Use" error.

The slot 1 card can have only a single port, but the slot 2 card of a 48GX may have multiple ports of 128KiB each. If you want to purge everything on a multi-port card, you could loop through all ports and clear them with one command line or program, but it may be just as easy to handle each one separately.

Some TDS cards have multiple banks of 128KiB each, but with only one bank at a time available as a port. These are intended for the 48SX, but they work in the 48GX. These cards include a SWITCH library, to control which bank is available as a port. For these, it may be best to leave a copy of the SWITCH library in each bank (unless the card is going to be stored without power). For these, start with bank 1, clear the port, then switch to the next bank and clear the port again, and so on. If you have one of these cards, then it's best to have the SWITCH library safely backed up to your PC at least.

Oliver Klotz makes (made?) a 4MiB (32-bank) card for the 48GX's slot 2, with 30 banks available at a time as ports 2 through 31, and a physical switch on the card to control which 2 banks are used as ports 30 and 31. Of course in this case you'd clear ports 2 through 31, and then toggle the switch and clear ports 30 and 31 again.

There's also a multi-bank Klotz card intended for the 48SX (but usable in a 48GX) with only one 128KiB bank (selected by physical switch settings) at a time available as a port. These can be treated much like the TDS multi-bank cards.

For a 48SX the above would mostly apply, except that its slot 2 is like the 48GX's slot 1, and the FREE1 and MERGE1 commands aren't available, so the FREE and MERGE commands would have to be used instead. The 48SX also doesn't include the PINIT command, so to "organize" a card's memory, just store any object in each port, after which the "dummy object" can be purged.

Regards,  
James

*Edited: 28 July 2007, 2:26 a.m.*

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## HP Forum Archive 17

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### How do I clean a 41CX display?

Message #1 Posted by [Egan Ford](#) on 26 July 2007, 8:20 p.m.

My very nice fullnut 41CX has dust on the display behind the *glass*. What is the best way to clean this? This 41CX is nearly flawless (just a bit of wear on the feet), so I want to be careful.

Thanks.

### Re: How do I clean a 41CX display?

Message #2 Posted by [db \(martinez, ca.\)](#) on 26 July 2007, 8:57 p.m.,  
in response to message #1 by Egan Ford

i think you should be able to un-solder the - about a dozen or so - contacts and lift out the lcd to access the back of the screen on a fullnut. i'm not sure if it will automatically got back in straight. if that sounds excessive then you could wait till the 22nd century and have the dust transported out.

### Re: How do I clean a 41CX display?

Message #3 Posted by [PeterP](#) on 28 July 2007, 1:26 a.m.,  
in response to message #1 by Egan Ford

Egan, I once read a thread where someone sugested to use an airblower on the side of the glass panel, I think just from the top.

I used that technique once with success, it blows the dust 'away', meaning out of sight. The thread also mentioned to be very careful to not have the air-can upside down as then liquid can seep under the display and that wont go away so quickly.

Maybe I can find the thread or info again and then I will repost it, but I know I have cleared a couple of full-nut(!) displays from dust (afair, this does not work for halve-nuts)

Cheers

Peter

### Re: How do I clean a 41CX display?

Message #4 Posted by [Egan Ford](#) on 28 July 2007, 9:24 a.m.,  
in response to message #3 by PeterP

Thanks.

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## HP Forum Archive 17

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### 35s initial thoughts

Message #1 Posted by [Egan Ford](#) on 26 July 2007, 8:16 p.m.

My 35s (S/N 1904) arrived from Walmart on July 21st. I just got home from a road trip. Today is the first day I got a chance to use it.

Thoughts:

1. The internal case nylon webbing used to hold whatever feels like sandpaper if you run your fingers over it. I am curious if this may rub off key paint. I am interested in other cases. My favorite is the 50g case, a mini version of that would be great. I find the 48,41,71 zipper cases catch on the keys often when being unholstered. However the 35s zipper case does not have this problem.
2. My screen is square, unlike a few others. However the annunciators at the top are too close to the edge, the wrong lighting casts a shadow that make them a bit hard to read.
3. I have missed 3 keystrokes. At least one other has reported this. Unsure if there is a physical problem or if I just need to learn how to use it. I have not had this problem with any other HP (12C,15C,16C,41CX,42S,48GX,50g,71B). Only happened within the first 30 seconds of use, perhaps my brain figured it out.
4. I have not finished the documentation, but I was surprised that the first page didn't start out with "Congratulations, ..." or "You have in your hand...". Nothing about the significance of the original 35 and the last 35 years. The manual just starts out with "Getting started". I like how the 12C manual starts, "Although the excitement of acquiring this powerful financial tool may prompt you to set this handbook aside and immediately begin 'pressing buttons,'..." How many of you did that? Where's the hype?
5. The orange letters are a bit difficult to read. And I have good eyes. The shade of orange used by the 50g is much better. White would have been good too.
6. Feels solid, almost as solid as my 15C. Little to no flex when twisted.
7. Value. Excellent. I got my 15C in 1984 for \$135. In 1984 this 35s would have been \$25. I would have taken it over the 15C for the savings.

### Re: 35s initial thoughts

Message #2 Posted by [Les Wright](#) on 26 July 2007, 9:11 p.m.,  
in response to message #1 by [Egan Ford](#)

I like the clamshell case but may use it for something else. Maybe putting some so

The 33S slip case I always liked, and it is a perfect fit.

Les



## Re: 35s initial thoughts

Message #3 Posted by [Thomas Radtke](#) on 27 July 2007, 3:41 a.m.,  
in response to message #1 by Egan Ford

Quote:

- 
- I have missed 3 keystrokes. At least one other has reported this. Unsure if there is a physical problem or if I just need to learn how to use it. I have not had this problem with any other HP (12C,15C,16C,41CX,42S,48GX,50g,71B). Only happened within the first 30 seconds of use, perhaps my brain figured it out.
- 

I guess there is some kind of coating from production that wears whith use.

## Re: 35s initial thoughts

Message #4 Posted by [Nenad \(Croatia\)](#) on 27 July 2007, 7:18 a.m.,  
in response to message #1 by Egan Ford

Quote:

---

I have not finished the documentation, but I was surprised that the first page didn't start out with "Congratulations, ...", or "You have in your hand...". Nothing about the significance of the original 35 and the last 35 years. The manual just starts out with "Getting started". I like how the 12C manual starts, "Although the excitement of acquiring this powerful financial tool may prompt you to set this handbook aside and immediately begin 'pressing buttons,'..." How many of you did that? Where's the hype?

---

These times have certainly gone. From a point of view of an ordinary person (not a HP addict) who nowadays needs a calculator, what should be so exciting and outstanding in buying one? Finally, 35s is nothing more than a calculator. In most cases calculators do not mean anything at all to the generation who is now e.g. 14 to 24 years old. They are much more interested in mobile phones, but this is another story.

We have to face these facts. Maybe, the manual of my dishwasher starts with "Congratulations!", but who knows. Nobody of us at my home have ever read the manual, just started to press buttons...

## Re: 35s initial thoughts

Message #5 Posted by [Vincze](#) on 27 July 2007, 8:35 a.m.,  
in response to message #1 by Egan Ford

Quote:

- 
- I have missed 3 keystrokes. At least one other has reported this. Unsure if there is a physical problem or if I just need to learn how to use it. I have not had this problem with any other HP (12C,15C,16C,41CX,42S,48GX,50g,71B). Only happened within the first 30 seconds of use, perhaps my brain figured it out.
- 

Egan, what do you mean that you have missed 3 keystroke? Do you mean your fingers pushed wrong button?

## Re: 35s initial thoughts

Message #6 Posted by [Egan Ford](#) on 27 July 2007, 8:41 a.m.,

*in response to message #5 by Vincze*

Press "ENTER", nothing. Press again it works. Pressed "55", got "5".

### **Re: 35s initial thoughts**

*Message #7 Posted by [Katie Wasserman](#) on 27 July 2007, 9:40 a.m.,  
in response to message #6 by Egan Ford*

I have found a few dropped keystrokes as well. My 35s also has a slight LCD alignment problem -- that's not too disturbing.

### **Re: 35s initial thoughts**

*Message #8 Posted by [Gene Wright](#) on 27 July 2007, 11:17 a.m.,  
in response to message #7 by Katie Wasserman*

I wonder if the keys are being pressed too quickly, one after the other.

If you look closely at the display, you'll see the BUSY indicator (it's a B) come on each time you press a key, whether digit or ENTER or ...

Perhaps if the calculator is busy when you press the next keystroke, it isn't registering?

I have no idea what type of input buffer (if any) the machine has.

### **Re: 35s initial thoughts --> Lost keystrokes**

*Message #9 Posted by [Katie Wasserman](#) on 27 July 2007, 12:19 p.m.,  
in response to message #8 by Gene Wright*

I thought that might be the problem too, keying too fast. But there does seem to be a keystroke buffer and it is 5 characters in length. Try doing a long computation time function like: 300 ENTER 150 nCr. While the calculator is busy type 1 2 3 4 5 6 ... at a slow/normal entry speed and when the function ends you'll get 1 2 3 4 5. Now do the same thing but type in 1 2 3 4 5 6 .... really fast and you see that the calculator misses some of the digits and might show that you entered 1248 for example.

Admittedly this is not a normal thing to do, but I think demonstrates the missing keystroke problem. My guess is that the keyboard scanning routine isn't running fast enough to capture everything and the keystroke buffer isn't going to help this problem.

Try the same thing on a 32SII, and you'll find the keystroke buffer is just 3 characters in length, but the keyboard scanning routine never misses any keys.

-Katie

### **Re: 35s initial thoughts**

*Message #10 Posted by [bill platt](#) on 27 July 2007, 2:07 p.m.,  
in response to message #8 by Gene Wright*

I don't get a "B". I don't have missed keystrokes.

### **Re: 35s initial thoughts**

*Message #11 Posted by **Egan Ford** on 27 July 2007, 3:39 p.m.,  
in response to message #8 by Gene Wright*

Quote:

---

I wonder if the keys are being pressed too quickly, one after the other.

---

No. It happened within the first 30 seconds, key presses were slow since I was not familiar with the keyboard.

---

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## HP Forum Archive 17

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### More N-Queens benchmark results

Message #1 Posted by [Egan Ford](#) on 26 July 2007, 7:31 p.m.

I stumbled across this <http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/articles.cgi?read=700> from a recent post and thought I'd contribute a few more results. I am unsure who tracks/updates this list.

71B/FORTH (about 3x faster than 71B/BASIC, faster than 50g UserRPL):

#### Output:

```
S=876 IN 46.27 SEC
```

#### Code:

```
: NQUEENSF ;

FVARIABLE TIMER

: STARTTIMER CLOCK TIMER STO ;
: DISPLAYTIMER CLOCK TIMER RCL F- STD F. ." SEC" ;

8 CONSTANT RR
VARIABLE SS
VARIABLE XX
VARIABLE YY
CREATE AA RR 1 + ALLOT

: RCLAA @ 2 * AA + C@ ;
: STOOA @ 2 * AA + C! ;

: NQCORE
0 SS !
0 XX !
BEGIN
  1 XX +! RR XX STOOA
  BEGIN
    1 SS +!
    XX @ YY !
    BEGIN YY @ 1 > WHILE
      -1 YY +!
      XX RCLAA YY RCLAA - DUP
      0 = SWAP ABS XX @ YY @ - = OR IF
      0 YY !
      BEGIN XX RCLAA 1 - DUP XX STOOA 0 = WHILE
        -1 XX +!
      REPEAT
    THEN
  REPEAT
  YY @ 1 = UNTIL
  RR XX @ = UNTIL
;

: NQUEENS
STARTTIMER
NQCORE
." S=" SS @ . ." IN "
```

```
DISPLAYTIMER CR
```

71B/RPN (HP41 emulator, about 4x faster than 41CX):

Output:

```
S=876 IN 269.87 SEC
```

Code:

```
LBL "NQ41"  
FIX 0  
CLRG  
TIME  
HR  
STO 12  
8  
STO 11  
LBL 00  
RCL 00  
RCL 11  
X=Y?  
GTO 04  
ISG 00  
DEG  
STO IND 00  
LBL 01  
ISG 10  
DEG  
RCL 00  
STO 09  
LBL 02  
DSE 09  
DEG  
RCL 09  
X=0?  
GTO 00  
RCL IND 00  
RCL IND 09  
-  
X=0?  
GTO 03  
ABS  
RCL 00  
RCL 09  
-  
X#Y?  
GTO 02  
LBL 03  
DSE IND 00  
GTO 01  
DSE 00  
GTO 03  
LBL 04  
"S="  
ARCL 10  
"} IN "  
TIME  
HR  
RCL 12  
-  
3600  
*  
FIX 02  
ARCL X  
"} SEC"  
AVIEW  
RTN
```

## Re: More N-Queens benchmark results

Message #2 Posted by [Xerxes](#) on 27 July 2007, 7:49 a.m.,  
in response to message #1 by Egan Ford

Thank you for testing. The list was updated with your interesting results.

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## HP Forum Archive 17

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### 35s high-glare display

Message #1 Posted by [Alex](#) on 26 July 2007, 5:44 p.m.

I received my 35s yesterday and was enormously excited! However, when I took it to class and set it down on my desk, all I saw in the display was a perfect reflection of the overhead lighting. The display surface is amazingly reflective, and no matter where I moved my calculator all I saw was glare. The calculator was, in effect, rendered unusable, and I ended up having to shove it back into my pack and pull out my trusty 20s for my exam.

I've never noticed light reflecting off a calculator display before, so when I got home I checked all my other calcs. They all have matte finishes on their displays, and all of them diffuse reflected light quite nicely.

It's an inconvenience, not a deal-breaker... but I don't like inconveniences. This will only be a problem, obviously, when there is a light source at the proper angle. But I'll bet that light source will always seem to be in \*just\* the right place, and I'll have to position the calculator to some spot where it just doesn't feel natural.

On the positive side, if I get lost in the wilderness, it'll make a great signaling device!

Anyone else have any thoughts on this?

Thanks!

Alex H.

### Re: 35s high-glare display

Message #2 Posted by [Seth Morabito](#) on 26 July 2007, 5:55 p.m.,  
in response to message #1 by Alex

The 33s has the same display, and I agree it's annoying.

It's not unique, though: One of my 42S calculators, the earlier one, also has a glossy, reflective display. The later 42S model has a much nicer matte display.

If I wasn't sure I'd destroy it, I might take some very fine grit sandpaper to the 35S display to see what happens. But I predict I'd end up with an unevenly frosted, unreadable display. :)

### Re: 35s high-glare display

Message #3 Posted by [Walter B](#) on 26 July 2007, 6:13 p.m.,  
in response to message #2 by Seth Morabito

There are protective foils for PDAs -- maybe this helps. At least it's better than sandpaper ;-) )

HTH

Walter

**Re: 35s high-glare display**

Message #4 Posted by [Seth Morabito](#) on 26 July 2007, 7:22 p.m.,  
in response to message #3 by Walter B

This is a good idea. They're inexpensive, and easy to find -- I'll give it a try!

**Re: 35s high-glare display**

Message #5 Posted by [Alex](#) on 26 July 2007, 10:21 p.m.,  
in response to message #4 by Seth Morabito

Excellent idea!

I had the sandpaper thought as well, but I don't think I could bring myself to do it. :-)

- Alex

**Re: 35s high-glare display**

Message #6 Posted by [Vincze](#) on 27 July 2007, 9:57 a.m.,  
in response to message #5 by Alex

I notice same thing. I take eraser and rub the screen a little, and problem go away. Not perfect, but better.

**Re: 35s high-glare display**

Message #7 Posted by [Karl Schneider](#) on 27 July 2007, 12:05 a.m.,  
in response to message #1 by Alex

Alex posted,

Quote:

I received my 35s yesterday and was enormously excited! However, when I took it to class and set it down on my desk, all I saw in the display was a perfect reflection of the overhead lighting. The display surface is amazingly reflective, and no matter where I moved my calculator all I saw was glare. The calculator was, in effect, rendered unusable,

Seth posted,

Quote:

The 33s has the same display, and I agree it's annoying.

Egan posted in a different thread,

Quote:

However the annunciators at the top are too close to the edge, the wrong lighting casts a shadow that make them a bit hard to read.

Now, I don't expect that HP had scoured the MoHPC Forum for feedback and chatter about the HP-33s, but [I had mentioned these very problems three years ago](#), which have unfortunately been carried over without



remedy. An excerpt:

### Display:

- Tiny, virtually-indistinguishable decimal point and comma. Inexcusable!
- Shadowing when viewed at a sharp angle.
- Glary, reflective screen. (The 1990 Pioneer upgrades addressed that one.)
- Tiny, hard-to-read annunciators on the upper part of the display, in the shadows
- The display instantly changes to name of function when a key is pressed, instead of after a time delay when the key is held down, as on the 32S, 32SII, and 42S. It is disconcerting to watch the display flash each time an operation is performed.

(In fairness, most of the problems I described have been addressed, either with the revised HP-33s or the new HP-35s.)

Nonetheless, I plan to purchase an HP-35s soon, in a retail store if reasonably convenient. I also plan to attend the late-September HHC conference in San Diego, where I can point out a few things.

The HP-35s looks like a big leap in the right direction, but there's still room for improvement...

-- KS

*Edited: 27 July 2007, 12:26 a.m.*

### Re: 35s function preview

*Message #8 Posted by [Gene Wright](#) on 27 July 2007, 9:27 a.m.,  
in response to message #7 by Karl Schneider*

Karl wrote: "The display instantly changes to name of function when a key is pressed, instead of after a time delay when the key is held down, as on the 32S, 32SII, and 42S. It is disconcerting to watch the display flash each time an operation is performed."

Gene: This no longer occurs. No preview of the function is shown in run mode.

### Re: 35s function preview

*Message #9 Posted by [Karl Schneider](#) on 29 July 2007, 12:35 a.m.,  
in response to message #8 by Gene Wright*

Karl wrote: "The display instantly changes to name of function when a key is pressed, instead of after a time delay when the key is held down, as on the 32S, 32SII, and 42S. It is disconcerting to watch the display flash each time an operation is performed."

Gene: This no longer occurs. No preview of the function is shown in run mode.

Karl again: Not even after a time delay? A nice feature to add would have been the HP-41/42 "NULL" to cancel the function after holding the key down an extended time.

-- KS

### Re: 35s function preview

*Message #10 Posted by [Gene Wright](#) on 29 July 2007, 8:07 a.m.,*

*in response to message #9 by Karl Schneider*

I don't believe the NULL will ever come back. I don't exactly understand the technical reasons why, but I don't believe we will ever see it.

Under those circumstances, it seemed a bit silly to have the function preview AT ALL so it was removed.

### **A way to get NULL on the HP-32S/II & HP-33S**

*Message #11 Posted by **Karl Schneider** on 30 July 2007, 9:32 p.m.,*

*in response to message #10 by Gene Wright*

If you want to preview a function on the HP-32S, HP-32SII, or HP-33s, then back out of executing it if desired, hold down the function key while pressing and releasing clear ("C"). The function will abort, but the stack x-register might be cleared as well. If so, it can be recovered with "LASTx".

Interestingly, only the scientific Pioneer-series models offered function preview -- not the algebraic models. The preview is also useful because some functions are abbreviated in the menus with ambiguous names: e.g.,

- "R" for "RANDOM" (random number generator)
- "r" for correlation coefficient
- "RD" for "RAD" (not "RND")
- "SD" for "SEED" (not standard deviation);
- "RND" on the keyboard is for rounding (not random number generator)

-- KS

*Edited: 31 July 2007, 2:02 a.m.*

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## HP Forum Archive 17

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**Disappointed**

Message #1 Posted by [Vincze](#) on 26 July 2007, 2:39 p.m.

Jó napot everyone...

I received my HP-35s today, and I hate to admit this, but I am disappointed.

Yes, this a much better calculator than HP has made in some time, but it doesn't feel the same. I thought it would feel more solid, have a little more weight to it, would be made in the USA, and where is the S/n on it? All in all, it is very nice, considering what they have been producing, but HP can do much better than this. I hate to say this, but it feels cheap.

I don't know, just my thoughts.

Vincze

**Re: Disappointed**

Message #2 Posted by [bill platt](#) on 26 July 2007, 3:43 p.m.,  
in response to message #1 by Vincze

Well, it \*is\* cheap! :-)

**Re: Disappointed**

Message #3 Posted by [Vincze](#) on 26 July 2007, 3:51 p.m.,  
in response to message #2 by bill platt

I know, I should not be so critical.

One funny trick I have already found out is if (with the unit off) press yellow shift and OFF, it will turn calculator ON. If you then press blue shift and ON, it will turn calculator off. And lastly, if you just press C (clear button), it will turn it on, if it was off. I can see batteries advancing dead real fast.

**Re: Disappointed**

Message #4 Posted by [Dave Johnson](#) on 26 July 2007, 6:45 p.m.,  
in response to message #3 by Vincze

Please let me know what other calculator does not have an ON button? It has been a universal design (TI, HP, Sharp and Casio employ them) since slide switches went out...

**Re: Disappointed**

Message #5 Posted by [Namir](#) on 26 July 2007, 6:59 p.m.,  
in response to message #3 by Vincze

Pressing Left-Shift and then C turns the machine on and off. You get the same effect with the right-shift and the C buttons!!!

How interesting!

Namir

### **Re: Disappointed**

*Message #6 Posted by **Fred Lusk** on 26 July 2007, 8:09 p.m.,  
in response to message #3 by Vincze*

With the machine off, [left shift] doesn't do anything. Pressing [left shift]+[OFF} is really just [ON].

I did notice that either shift key followed by [OFF/C/ON] turns the machine off. I didn't see that in the manual.

Fred

### **Re: Disappointed**

*Message #7 Posted by **bill platt** on 27 July 2007, 8:08 a.m.,  
in response to message #3 by Vincze*

A little history is in order here.

It is the labelling that is confusing you; the functionality is perfectly legitimate.

The 32sii has exactly the same functionality of the lower left hand corner key (the on/c key).

1. If the machine is off, the On/C turns the unit on.
2. If the machine is on, pressing either shift key, followed by the On/C, turns the unit off.
3. With the unit off, pressing any key before the On/C has no effect.
4. With the unit on, On/C functions as either Cancel (or exit with save) or Clear depending on context.

Even on the 32sii, the yellowshift-On to turn off was undocumented. It was just one of those enjoyable little insider features:-)

*Edited: 27 July 2007, 8:19 a.m.*

### **Re: Disappointed**

*Message #8 Posted by **Vincze** on 27 July 2007, 8:30 a.m.,  
in response to message #7 by bill platt*

Thank you for clarification Bill. I guess it strange to me that On may also mean off. I always thought On is On and Off mean Off, but now I have to think a little different which OK.

Also, please excuse my poor english. I from Hungary, and come to America a few years back and still trying learn english better.

### **Re: Disappointed**

*Message #9 Posted by **bill platt** on 27 July 2007, 9:27 a.m.,*

*in response to message #8 by Vincze*

Note that all the Voyagers (10c,11c,12c,15c,16c) have an "On" button but no "off" printed anywhere. The most common thing I hear from people whom I have allowed to use my 11c, 15c, 12c etc is, "where's the off button" and "how do I clear it".

Then after fumbling for a while they finally say, "it doesn't work right." (which is the RPN aspect).

### **Re: Disappointed**

*Message #10 Posted by **Vincze** on 27 July 2007, 9:47 a.m.,  
in response to message #9 by bill platt*

Ha.. I remember when I first come to USA, and I had never owned calculator before. I had used one before, so I had some understanding on how you use. I found a 16C at garage sale and bought for \$10. It not have book and not have battery, so I didn't know if it worked or not. I found battery for it and I remember how mad I was when I entered simple math problem and answer was not what I had expected. Luckily for me, a friend of mine was familiar with RPN and he show me how to use. I remember thinking that americans do math funny, and  $2+2$  does not = 4 in america. Im glad i was just misunderstanding how to use the calculator. Now I have 16C, 45, and now 35s. 45 is my favorite as 16c seem slow, and 35s I still get used to.

Jó nap

### **Re: Disappointed**

*Message #11 Posted by **Fred Lusk** on 27 July 2007, 8:12 p.m.,  
in response to message #8 by Vincze*

Vincze...

No need to apologize for your english skills. It's a tough language and you have made yourself very understandable.

I was born in the USA nearly 49 years ago and I'm still trying to improve my english skills. Perhaps it's a curse being an engineer.

Fred

### **Re: Disappointed**

*Message #12 Posted by **Eric Smith** on 26 July 2007, 8:26 p.m.,  
in response to message #1 by Vincze*

Quote:

\_\_\_\_\_

have a little more weight

\_\_\_\_\_

More weight would just be more expense, and wouldn't necessarily make it any "better". Some people like their calculators to be light. The important thing is whether it is rugged. The 35s seems OK in that regard; I'm not sure how it will compare in drop tests to a 1980s-vintage 41C, 12C, or the like.

Quote:

---

would be made in the USA

---

Expecting it to be made in USA is absurd. Very little consumer electronics is made in USA now. Making it in the USA would make it more expensive but not necessarily better in any measurable way. Where it is made doesn't matter to me in the least; I only care about the build quality. The 35s build quality seems to be fine, at least for the two I've purchased.

Quote:

---

and where is the S/n on it

---

A sticker on the back. Does yours not have one?

It's not obvious to me why you would care whether it has a S/N label. The S/N is generally only useful to the manufacturer for tracking units for warranty and repair purposes, and calculators haven't actually been repaired for almost two decades now.

If you want something that uniquely identifies your 35s in case it is misplaced or stolen, engrave your name and contact information on the back. That's far more useful to you than the serial number.

Quote:

---

I hate to say this, but it feels cheap.

---

I disagree. It feels fine. Better than I expected, actually. If Corvallis Division had introduced this in the 1990s, I wouldn't have thought there was anything seriously wrong with it. That's not to say that I have no criticism of it, but I didn't think Corvallis Division products were perfect either. There's always some room for improvement.

The 35s does have a different feel than the Pioneer series, but then the Pioneers had a different feel from the Voyagers, which had a different feel from the Spice series.

### **Re: Disappointed-not me**

*Message #13 Posted by **Ralph** on 27 July 2007, 12:55 a.m.,  
in response to message #12 by Eric Smith*

I like mine just fine. Like my old 33E in the keyboard department rather than my 41C in look and feel. Decimal point is better in the visibility department over the 33S and the readability of the key functions is fantastic over the 33S!

My only gripe is the sigma key should switch places with the R/S key in my opinion. But they don't have me on the payroll. ;)

Nothing a deal breaker.

The light weight means it's less apt to fall out of my shirt pocket if I bend over.

### **Re: Disappointed**

*Message #14 Posted by **pynnonen** on 27 July 2007, 1:12 a.m.,  
in response to message #1 by Vincze*

I am not disappointed at all. The HP-35s is a great calculator. It has the timeless classic HP look. It light, yet solid. It is a true shirt pocket calculator. The keys feel perfect and have worked perfectly for me. It has limitations, but for \$60 its a great calculator.

I am looking forward to a similarly designed upgrade to the HP-50g. I would like to see it USB rechargable, USB 2.0 High Speed support, color display for graphics, SDHC (SD card High Capacity) support, sound support, keyboard overlay support, JTAG debugging support for its ARM9 CPU, real-time clock, and other features. I would like to be able to use it for lab equipment control, vehicle communications (using the USB as an interface to a vehicle communication device). I would like to be able to use it for a basis of an embedded system.

But back to the topic, the HP-35s is a great calculator for the money and definitely not a disappointment, but a delight.

## **Re: Disappointed**

*Message #15 Posted by [Vincze](#) on 27 July 2007, 9:59 a.m.,  
in response to message #14 by pynnonen*

Quote:

I am looking forward to a similarly designed upgrade to the HP-50g. I would like to see it USB rechargable, USB 2.0 High Speed support, color display for graphics, SDHC (SD card High Capacity) support, sound support, keyboard overlay support, JTAG debugging support for its ARM9 CPU, real-time clock, and other features. I would like to be able to use it for lab equipment control, vehicle communications (using the USB as an interface to a vehicle communication device). I would like to be able to use it for a basis of an embedded system.

Sound like you want PocketPC to me.

---

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### **to argentinian members/para foristas argentinos**

Message #1 Posted by [Ricardo Guerreiro \(Argentina\)](#) on 26 July 2007, 12:50 p.m.

Hi:

If you want to contact me, in my profile my email is not anymore private. anyway, you can contact me at comprarhp at yahoo P com P ar

Hola:

para los que quieran contactarme, en mi perfil mi email ya no es más privado

de todas maneras es

comprarhp ...

Alfredo:yesteday I sent you an email thorough the site Alfredo: ayer te mandé un mail via la página.

---

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## HP Forum Archive 17

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### HP 35s display misaligned

Message #1 Posted by [Dave](#) on 26 July 2007, 11:35 a.m.

I now have 2 35s and both have a crooked display. One is tilted slightly up from the left and the other slightly down. I thought I could ignore it, but my eyes are immediately drawn to it. Is there an easy way to correct this?

### Re: HP 35s display misaligned

Message #2 Posted by [bill platt](#) on 26 July 2007, 11:40 a.m.,  
in response to message #1 by Dave

return it?

Or hold onto it as a collector's item?

### Re: HP 35s display misaligned

Message #3 Posted by [Thomas Radtke](#) on 26 July 2007, 12:02 p.m.,  
in response to message #1 by Dave

How frequent ist this problem? If it's not another lie, my 35s has been shipped on the 24th and will arrive probably in four weeks (after having paid at the 15th). I'd hate to return it and wait another month for a replacement :-).

### Re: HP 35s display misaligned

Message #4 Posted by [ChristianB.](#) on 26 July 2007, 3:09 p.m.,  
in response to message #3 by Thomas Radtke

Thomas,

if I am right you live in Germany. You just have to wait and see. If you have a display misalignment you could send the calc to the authorized dealer in Germany "Bandermann GmbH" for a replacement instead of back in the states.

I did this with my HP49G+, which was bought from "dynatech.de", about six times. The woman from Bandermann I talked to, was very convenient.

Good luck

Christian B.

P.S.: This is the first dealer who has the 35s in Germany.

<http://www.nomatica.de/p.aspx?i=151668>

Seems a bit overprized with 88,- EUR, doesnt it?

---

**Re: HP 35s display misaligned**

*Message #5 Posted by [Thomas Radtke](#) on 26 July 2007, 4:41 p.m.,  
in response to message #4 by [ChristianB](#).*

Thank you for your hint, Christian! Fortunately, Chris Haltiner pointed out how to overcome this problem.

Indeed, 88 EUR seem to be much, too much for me actually. I have fond memories at the pre-Euro times where one could get HP calculators quite cheap elsewhere in Europe (Bought my 20S in France, the 32SII in the Netherlands). This is history now.

---

**Re: HP 35s display misaligned**

*Message #6 Posted by [Mike H](#) on 26 July 2007, 12:02 p.m.,  
in response to message #1 by [Dave](#)*

When you do a self test (hold down the ON button and XEQ) and press any button twice, you should see all of the superscript annunciators at the top of the display. Are they parallel with the top bezel or do they in fact tilt up or down?

Mike

Press ON and GTO to exit self test.

---

**Re: HP 35s display misaligned**

*Message #7 Posted by [Dave](#) on 26 July 2007, 12:54 p.m.,  
in response to message #6 by [Mike H](#)*

The tilt is quite noticeable in the self test, almost a pixel lower (or higher) on one end. After the second one arrived misaligned, I figured they were all that way, and a replacement wouldn't be any better. Unless I can fix it myself, I'll just live with it.

*Edited: 26 July 2007, 1:22 p.m.*

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**Re: HP 35s display misaligned**

*Message #8 Posted by [Mike H](#) on 26 July 2007, 1:35 p.m.,  
in response to message #7 by [Dave](#)*

My display is correct S# 72103849. I would hope it is an isolated event.

Call HP and let them know. When I called HP about my 1st 33s, (small decimal point, bugs, etc.) they told me they would send me a new one, and I could keep the old one. They did. I gave the old one to a friend with a worn out 32S and better eyes.`

Mike

*Edited: 26 July 2007, 1:38 p.m.*

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**Re: HP 35s display misaligned**

*Message #9 Posted by [Josh](#) on 26 July 2007, 12:44 p.m.,  
in response to message #6 by [Mike H](#)*

The display on my 35s is not crooked, but it does appear to be positioned slightly too close to the top of the window. The annunciators, etc. are all visible at the top, but are just a tiny bit underneath the edge of the window if viewed from a 90 degree angle.

### Re: HP 35s display misaligned

Message #10 Posted by [Kevin Kitts](#) on 26 July 2007, 2:02 p.m.,  
in response to message #1 by Dave

I have a 35s (bought directly from HP) with Serial Number CNA 72104204. I can detect a very slight tilt which goes up as you look at the display from left to right.

However, I'm not sure I would have ever noticed this if I had not run the self-test noted in this thread (so that all enunciators across the top are on at the same time). Also, everything is visible. I'm a bit of a perfectionist - and things like this tend to bother me - but this tilt is so small I don't think it would be worth the trouble to return. I don't think it will really bother me. Perhaps different units are affected a different amount - or more likely different people are more troubled by these kinds of things than others.

Just to show the kind of nut that I am - I noted that the serial number taped to the back slopes up going from left to right when I first got the 35s - and kind of wanted to pull it off and properly position it in the middle of the area it was intended to go in. It's a sickness... ;-)

### Re: HP 35s display misaligned

Message #11 Posted by [Paul Brogger](#) on 26 July 2007, 2:13 p.m.,  
in response to message #10 by Kevin Kitts

Quote:

It's a sickness.

It's a *sensitivity*. An *awareness*.

:-)

### Re: HP 35s display misaligned

Message #12 Posted by [Chris Haltiner](#) on 26 July 2007, 2:25 p.m.,  
in response to message #1 by Dave

The display on my HP 35s exhibits the slight upward slant from left to right. The misalignment was apparent without using the self test. I opened the unit and shifted the position of the LCD glass which is glued to a metal backing. The glue is flexible, but also has some memory. After reassembling the unit, the display is basically level now.

One minor note about disassembling: the soldering holding the power wires to the system board appears to be of suspect quality, so any stress placed on the case front and backing while separating could break the connection. (Yes, I had to resolder one wire.)

Also, sorry, no pictures as I did this at the office.

### Re: HP 35s display misaligned

Message #13 Posted by [Dave](#) on 27 July 2007, 10:29 a.m.,  
in response to message #12 by Chris Haltiner

Thanks for the tip. I fixed mine just like you fixed yours (minus the soldering). As you saw, the problem is that the LCD is not placed squarely onto the metal backing. Holding the metal backing and twisting the glass into place does the trick, although you have to move it quite a bit to overcome the glue memory. It is a bit dangerous, since a little slip using such force could damage the glass or the ribbon cable. Perhaps HP will see this post and start doing QC checks on this part ;-). Thanks to all for your replies.

### **Re: HP 35s display misaligned**

*Message #14 Posted by [Les Wright](#) on 26 July 2007, 2:53 p.m.,  
in response to message #1 by Dave*

I have four Classic series calculators and in each one the middle LED package is slightly out of alignment with the first.

This means that in the LED display there is a discernable "step" between a couple of the digits. Subtle, but I have noticed it. Drove me nuts until Randy Sloyer reminded me that these gizmos were assembled at a bench by real human hands and such variances merely add to their charm. Besides, those LED packages are soldered in there pretty immovably, so there is no way to easily fix any perceived misalignment.

Maybe the variances in the 35s display will be know as charming one day?

Les

### **Re: HP 35s display misaligned**

*Message #15 Posted by [brianh](#) on 27 July 2007, 9:40 p.m.,  
in response to message #1 by Dave*

I am on my second 35S. The first arrived Tuesday and with great anticipation I opened the package (no small feat), installed the batteries, turned it on and... the LCD display misalignment was immediately noticeable and annoying. The last annunciator just about disappeared underneath the bezel, it was so badly aligned. How something so obviously defective could slip through QC is beyond me. I immediately called HP and to their great credit they overnighted a new one to me at no charge and told me to keep the defective one (which is not really defective, just misaligned).

Many have experienced the crooked LCD display issue and the annunciator row being too close to the top of the bezel. Hopefully these are all first generation issues that will be worked out as the manufacturer tweaks the production process. I'll most likely pick up another one in a year when the manufacturing process has matured and hopefully the display issues have been cleaned up.

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## HP Forum Archive 17

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### HP Pioneers Time Travelling!!!

Message #1 Posted by [Namir](#) on 26 July 2007, 10:23 a.m.

I was watching a program in the Science Channel the other day about time travel. I heard a comment from a prominent physicist that the law of physics that include time as a variable never state that time must move forward. We just take it for granted based on experience.

Well HP has **Invented** (true to their motto) time traveling and I have the proof. If you look at certain HP-32s calculators being sold on eBay you see that they have the 50th Anniversary. The new HP-35s (which came a few years after the HP-32s) celebrates 35 years!!! Oh my!! What happened? Something has set the time clock backward!!

I contacted my friend and confidant Carlos Mencia (who has a PHD in physics from New Mexico State University) and asked him what he thought. He said "Dee dee dee!! It's time travel hombre!! HP has done it!". Now I am a believer!

Namir

DISCLAIMER! DON'T BELIEVE A SINGLE WORD IN THIS POST!!!

### Re: HP Pioneers Time Travelling!!!

Message #2 Posted by [Ren](#) on 26 July 2007, 11:40 a.m.,  
in response to message #1 by Namir

Namir, I believe the 32Sii calcs are genuine, they celebrate HP's 50th anniversary, not 50 years of HP calculators. You might want to snap one up (if you are a collector).

Ren

dona nobis pacem

### Re: HP Pioneers Time Travelling!!!

Message #3 Posted by [Namir](#) on 26 July 2007, 3:12 p.m.,  
in response to message #2 by Ren

Ren,

I was aware of the difference between what each anniversary meant. I was in a silly mood and I thought it was funny when one looks at an older machine celebrating 50 years and the new one celebrating 35 years (and deliberately ignoring the actual occasion being celebrated) .

Namir

### Re: HP Pioneers Time Travelling!!!

*Message #4 Posted by **Ren** on 30 July 2007, 11:08 a.m.,  
in response to message #3 by Namir*

Namir, My humor is often missed by others too!

A few years back I had a cow-orker that owned a 50 Anniversary calculator. He wouldn't let me touch it, much less, buy it from him.

Ren

dona nobis pacem

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## HP Forum Archive 17

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### HP41 CX Speaker Cable connectin to board

Message #1 Posted by [raudzus](#) on 26 July 2007, 6:30 a.m.

Hello,

I have a HP41 CX build in 1987. The speaker inside is fixed inside on the backside. When I opened the HP41 the two cables of the speakers are broken. Can you tell where I must connect the speaker cables on the board. Many thanks. Greetings Dieter

### Re: HP41 CX Speaker Cable connectin to board

Message #2 Posted by [Diego Diaz](#) on 26 July 2007, 10:08 a.m.,  
in response to message #1 by [raudzus](#)

Hi,

Please take a look at:

[http://www.clonix41.org/Maintenance/hp-41\\_PCBs.htm](http://www.clonix41.org/Maintenance/hp-41_PCBs.htm)

You'll find Halfnut board on the left-bottom of this page, there is a "big" brown capacitor (center bottom of the board) and a couple of pads to the right of said capacitor (between the cap and the [hp] logo on the board)

One of these pads is square (the rightmost) solder the black wire there, and the red wire to the round pad.

Hope this helps.

Diego.

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## HP Forum Archive 17

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**35s arrives safe and sound**

Message #1 Posted by [Fred Lusk](#) on 26 July 2007, 12:00 a.m.

My new 35s arrived today (please note that the "s" is lower case on the calc and documentation). It came this afternoon while I was at work. Had it shipped on time I would have gotten it last week, but once it did ship it matched the schedule promised on the tracking website. When I told my 22-yr-old daughter what I had bought, she just rolled her eyes. Hey, this is only my 11th HP. I don't have it nearly as bad as some of you other MoHPC'ers.

For those keeping track, the serial number on my machine is 72103808.

My first impressions:

-- That's the strongest, thickest plastic packaging I have encountered in quite a while. It put up a fight, but in the end I prevailed.

-- That's an awfully big door for button batteries. However, it is much easier to open and close and change batteries than on my 42S, 32Sii, and 10B.

-- The machine has a very nice feel. I think the quality of the case is up there with HP's best. The feel of the keys I would rate 9 out of 10. Not quite the near-perfect tactile feedback of the 41, but much quieter. I'm very happy that HP went back to the sloped front face like on the 41.

-- I like the placement of the rubber feet. On the 41, the top feet were too far south and pressing the ON/USER/PRGM/ALPHA keys too hard would pitch the machine forward.

-- This is one of the best looking machines HP has produced. The colors work really well, even with my aging eyes. It looks more powerful than my 42S, even though we all know it isn't.

-- I would have preferred to give up a digit to have a more easily seen decimal place like on the 42S.

-- I would have preferred in<>mm instead of in<>cm. The rest of the conversions are useful to me. I live in a metric-challenged country (USA), but I have done the site civil engineering for three federal prisons, and the Feds use metric.

-- I would have swapped R/S and Sigma+, but I understand how the keys are functionally grouped.

-- The case is OK. Not the best, but certainly not the worst. However, I don't have a use for the foam. Maybe I'll sell it :-)

-- I have only glanced at the manual, but it looks OK for a modern manual.

Now to play with my new machine.

Fred

*Edited: 26 July 2007, 12:01 a.m.*



## **Re: 35s arrives safe and sound**

*Message #2 Posted by [Fred Lusk](#) on 26 July 2007, 8:15 p.m.,  
in response to message #1 by Fred Lusk*

A couple of other points that came out of playing with this last night:

-- The display is too reflective, but the contrast is excellent. I think I may add a PDA screen protector as someone else mentioned in another thread.

-- The theta symbol look way too much like an 8. Good thing complex numbers don't turn up in storm drainage design.

-- I wish there was a feet<>meters conversion instead of mile<>km.

-- I would have placed X<> above x<>Y and moved VIEW and INPUT to the left.

Fred

## **Re: 35s arrives safe and sound**

*Message #3 Posted by [Les Wright](#) on 26 July 2007, 9:00 p.m.,  
in response to message #1 by Fred Lusk*

Got it today, and so far I love it.

It has a lot of the familiarity of the 33S, which I must admit I grudgingly loved despite its limitations.

But it looks gorgeous, and the keys feel very nice indeed.

I don't mind having to use the arrow keys to see the full result in ALL mode, since I really like all of the 12 digit mantissa there without using SHOW.

I almost didn't get it (see other thread) because I gave Samson the wrong address--off by one digit! Glad I caught it.

I am going to port over one of my fave 33S programs tonight and let all know what I think then.

Les

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## HP Forum Archive 17

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### HP 48GX Freezes with Cancel/On button

Message #1 Posted by [Brad Connelly](#) on 25 July 2007, 5:14 p.m.

Hello all "listeners",

I have a beloved HP 48GX that's 10 years old, and it recently started locking up on me. It turns on with a zero and a cursor, and when I hit "cancel", it freezes. I can hit "enter" and it displays a regular stack, and I can perform operations and access menus, but the calculator is very slow. But ultimately it locks up and I have to perform a hard reset or removed a battery to get it going again. It's basically inoperable, and I've ordered an HP 35S (already have a 33S which stinks), because I've pretty much written my 48GX off as dead.

Anyone had this happen and been able to revive theirs?

Brad

### Re: HP 48GX Freezes with Cancel/On button

Message #2 Posted by [Randy](#) on 26 July 2007, 10:22 a.m.,  
in response to message #1 by Brad Connelly

The zero key is failing, that's why it appears when the unit powers up. While you might be able to get a few more miles out of it with several cycles through an ultrasonic cleaner (the only way to clean the key internals), but ultimately it is a lost cause as the key will short completely at some point and then it will no longer turn on.

### Re: HP 48GX Freezes with Cancel/On button

Message #3 Posted by [Brad Connelly](#) on 26 July 2007, 3:04 p.m.,  
in response to message #2 by Randy

Thanks for the response. I don't know whether to have it cremated or embalmed!!

### Re: HP 48GX Freezes with Cancel/On button

Message #4 Posted by [Randy](#) on 26 July 2007, 3:22 p.m.,  
in response to message #3 by Brad Connelly

Do what just about everybody else seems to do... sell it on eBay. With a disclaimer of course.

*Edited: 26 July 2007, 3:23 p.m.*

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## HP Forum Archive 17

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### **Duracell DC2400B4N Rechargeable Batteries, NiMH, AAA Size for Hp 50g?**

Message #1 Posted by [PhysicsNerd](#) on 25 July 2007, 3:14 p.m.

Will Duracell DC2400B4N Rechargeable Batteries, NiMH, AAA Size work well for my HP 50g?

Also, I've come across this thread: [http://groups-beta.google.com/group/comp.sys.hp48/browse\\_frm/thread/96e4695744e66f37/920cf0b84ab84d3c?lnk=gst&q=Re%3A+4+batteries+vs.+3+batteries&rnum=1#920cf0b84ab84d3c](http://groups-beta.google.com/group/comp.sys.hp48/browse_frm/thread/96e4695744e66f37/920cf0b84ab84d3c?lnk=gst&q=Re%3A+4+batteries+vs.+3+batteries&rnum=1#920cf0b84ab84d3c)

Someone on there said that replacing batteries when the low battery indicator comes on will cause the calculator to have a shorter battery life span. Is this true? If so, should I just change it when the batteries are dead? Will there be any negative affects on doing this (memory wiped out)?

### **Re: Duracell DC2400B4N Rechargeable Batteries, NiMH, AAA Size for Hp 50g?**

Message #2 Posted by [Les Wright](#) on 25 July 2007, 7:54 p.m.,  
in response to message #1 by [PhysicsNerd](#)

Hi 'Nerd--

I use 1000mAh Duracells in my 49G+ and love it. I monitor the level (roughly) with Cordoba's BatStatus. I have a quick charger and give them a rejuice when LowBat warning appears. Indeed, with NiMH's the window between LowBat and "dead" is brief.

The coin battery should preserve your memory for awhile, but better yet, maybe you should plug the 50G into the USB power option to preserve memory while you rejuice the batteries. Better yet, do regular backups of your HOME directory and flags to an SD card using the commands intended for the purpose (RCLF, STOF, ARCHIVE). I have a little applet that does that and thus back up obsessively.

Maybe NiMH battery life is diminished between rechargings, but I don't care. Anything is better than gobbling up all those alkalines. The 49G+ actually gets used now!

Finally, and I know you have been concerned about this before, a fully juiced set of NiMH's is more than enough to get you through an exam.

hth,

Les

### **Re: Duracell DC2400B4N Rechargeable Batteries, NiMH, AAA Size for Hp 50g?**

Message #3 Posted by [PhysicsNerd](#) on 26 July 2007, 12:12 a.m.,  
in response to message #2 by [Les Wright](#)

I do not know why, but after I've replaced the old batteries with the new rechargeable ones, the low battery sign is still on? Is this some kind of error or do I have to replace the coin battery?

Btw, the batteries I've put in place of the old ones are brand new rechargeables.

*Edited: 26 July 2007, 12:13 a.m.*

**Re: Duracell DC2400B4N Rechargeable Batteries, NiMH, AAA Size for Hp 50g?**

*Message #4 Posted by [Les Wright](#) on 26 July 2007, 12:42 a.m.,  
in response to message #3 by [PhysicsNerd](#)*

Does anyone know if BatStatus will give interpretable readings on the 50G? If so, it could help you (look for it at [hpcalc.org](http://hpcalc.org)--it is a very tiny program and easy to run).

I don't want to insult your intelligence, but did you give the NiMHs a full charge before you put them in? If so, you may wish to drain them down and charge again--I understand it may take a few charge/discharge cycles to maximize capacity.

Les

**Re: Duracell DC2400B4N Rechargeable Batteries, NiMH, AAA Size for Hp 50g?**

*Message #5 Posted by [PhysicsNerd](#) on 26 July 2007, 2:15 a.m.,  
in response to message #4 by [Les Wright](#)*

Quote:

Does anyone know if BatStatus will give interpretable readings on the 50G? If so, it could help you (look for it at [hpcalc.org](http://hpcalc.org)--it is a very tiny program and easy to run).

I don't want to insult your intelligence, but did you give the NiMHs a full charge before you put them in? If so, you may wish to drain them down and charge again--I understand it may take a few charge/discharge cycles to maximize capacity.

Les

You did not insult my intelligence in any way. In fact, I never knew that they are not fully charged when taken out of the package. lol Thanks guys, I'll charge them now and see if it works later.

**Re: Duracell DC2400B4N Rechargeable Batteries, NiMH, AAA Size for Hp 50g?**

*Message #6 Posted by [James M. Prange \(Michigan\)](#) on 28 July 2007, 12:43 a.m.,  
in response to message #4 by [Les Wright](#)*

Quote:

Does anyone know if BatStatus will give interpretable readings on the 50G? If so, it could help you (look for it at [hpcalc.org](http://hpcalc.org)--it is a very tiny program and easy to run).

Yes, but for some information on improving the constants for use on a 50g, and having the program check which model it's running on, see this [comp.sys.hp48](#) thread.

Maybe also check out other threads found by <http://groups.google.com/groups/search?>

[q=BatStatus+group:comp.sys.hp48.](#)

If you're going to always use rechargeables instead of alkalines, then it may be useful to add another tweak so that a fully-charged battery shows 100%.

I should note that the "percentage remaining" seems to assume that the voltage to energy stored ratio is linear over the operating range, which isn't quite true.

GaaK is supposed to have a 49g+/50g BatStatus library available on his web site, but at the moment, it seems that his bandwidth limit has been reached; maybe wait for it to show up on hpcalc.org.

Regards,  
James

*Edited: 28 July 2007, 2:45 a.m.*

### **Re: Duracell DC2400B4N Rechargeable Batteries, NiMH, AAA Size for Hp 50g?**

*Message #7 Posted by [DaveJ](#) on 26 July 2007, 1:03 a.m.,  
in response to message #3 by [PhysicsNerd](#)*

Have you actually charged the "new" rechargeable batteries?

Rechargeable batteries do not come with much residual charge (they loose it through self discharge in a few months), unless you get the new technology Eneloop brand.

Dave.

### **Re: Duracell DC2400B4N Rechargeable Batteries, NiMH, AAA Size for Hp 50g?**

*Message #8 Posted by [PhysicsNerd](#) on 26 July 2007, 2:51 a.m.,  
in response to message #7 by [DaveJ](#)*

Quote:

Have you actually charged the "new" rechargeable batteries?

Rechargeable batteries do not come with much residual charge (they loose it through self discharge in a few months), unless you get the new technology Eneloop brand.

Dave.

Okay, I've charged the batteries and put them back in and now the low battery sign is gone. However, my text has reverted to default. Is this a memory erase? I've had this happen to me 2 times already when changing batteries. Why does this happen and how can I prevent it from doing so? Thanks again in advance.

### **Re: Duracell DC2400B4N Rechargeable Batteries, NiMH, AAA Size for Hp 50g?**

*Message #9 Posted by [Les Wright](#) on 26 July 2007, 4:17 a.m.,  
in response to message #8 by [PhysicsNerd](#)*

On my 49G+ at any rate, putting batteries in after they are out seems to activate a soft reset, as though you hit ON+C

If I change my stack font to the 6 pt system font, then take out the batteries then put them back in, the stack font is restored to default 8 pt font.

This happens too when I do ON+C.

My variables are NOT deleted. This is not memory erasure.

I don't know how to prevent this resetting of the stack font size. I don't think display font is controlled by flag settings you can save then restore. Maybe someone else knows?

*Edited: 26 July 2007, 4:19 a.m.*

## **Re: Duracell DC2400B4N Rechargeable Batteries, NiMH, AAA Size for Hp 50g?**

Message #10 Posted by [PhysicsNerd](#) on 26 July 2007, 2:38 p.m.,  
in response to message #9 by Les Wright

Quote:

On my 49G+ at any rate, putting batteries in after they are out seems to activate a soft reset, as though you hit ON+C

If I change my stack font to the 6 pt system font, then take out the batteries then put them back in, the stack font is restored to default 8 pt font.

This happens too when I do ON+C.

My variables are NOT deleted. This is not memory erasure.

I don't know how to prevent this resetting of the stack font size. I don't think display font is controlled by flag settings you can save then restore. Maybe someone else knows?

Also, note only does my font reset back to the default one, but the TIMEKEY rate changes also. I have to type ->TIMEKEY(500) to change the rate of the buttons back to fast.

## **Re: Duracell DC2400B4N Rechargeable Batteries, NiMH, AAA Size for Hp 50g?**

Message #11 Posted by [James M. Prange \(Michigan\)](#) on 28 July 2007, 1:13 a.m.,  
in response to message #9 by Les Wright

Quote:

On my 49G+ at any rate, putting batteries in after they are out seems to activate a soft reset, as though you hit ON+C

For me, this seems to happen only if I remove the battery while the calculator is turned on, or I press the ON key while the battery is removed. I'm not certain, but it might also occur if

the battery is left out for more than a couple of minutes.

Quote:

---

If I change my stack font to the 6 pt system font, then take out the batteries then put them back in, the stack font is restored to default 8 pt font.

This happens too when I do ON+C.

My variables are NOT deleted. This is not memory erasure.

---

Quite so; it's what's usually known as a "warmstart", sometimes called a "system halt". Of course, if left without power (including from the CR2032 cell) indefinitely, then it will eventually lose the RAM contents, so a TTRM (Try To Recover Memory?) would occur when power is restored.

Quote:

---

I don't know how to prevent this resetting of the stack font size. I don't think display font is controlled by flag settings you can save then restore. Maybe someone else knows?

---

Flag -72 controls whether the current font or the mini font is used for the stack. Of course you can use the \->FONT command to set the "current font" to any built-in or user-defined font.

If you store a program in the reserved variable STARTUP, then it will be run at the end of every warmstart, and it can be useful for restoring your preferred modes and attaching/detaching libraries.

To prevent STARTUP and any library configuration routines from being run, hold down the backspace key while warmstarting.

Regards,  
James

*Edited: 28 July 2007, 1:26 a.m.*

### **Re: Duracell DC2400B4N Rechargeable Batteries, NiMH, AAA Size for Hp 50g?**

*Message #12 Posted by [Les Wright](#) on 28 July 2007, 4:23 a.m., in response to message #11 by James M. Prange (Michigan)*

Hey 'Nerd, did you catch that?

I actually had totally forgotten about the STARTUP variable--I never use it.

Les

### **Re: Duracell DC2400B4N Rechargeable Batteries, NiMH, AAA Size for Hp 50g?**

*Message #13 Posted by [PhysicsNerd](#) on 30 July 2007, 1:40 a.m.,  
in response to message #11 by James M. Prange (Michigan)*

Quote:

---

Flag -72 controls whether the current font or the mini font is used for the stack. Of course you can use the \->FONT command to set the "current font" to any built-in or user-defined font.

If you store a program in the reserved variable STARTUP, then it will be run at the end of every warmstart, and it can be useful for restoring your preferred modes and attaching/detaching libraries.

To prevent STARTUP and any library configuration routines from being run, hold down the backspace key while warmstarting.

Regards,  
James

---

I have no idea what you are taking about. This calculator is VERY complicated to use and I'm not familiar with how things are stored. I do know where the STARTUP variable is, I do not see it when I browse through the files of VAR. How long does it take you to get used to this calculator and be able to transfered files, etc.?

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## HP Forum Archive 17

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### Will we see a vibrant exchange of 35s programs?

Message #1 Posted by [Les Wright](#) on 25 July 2007, 2:17 p.m.

I have noticed in the MoHPC software library we find precious few 33S contributions. This is not surprising--with the "hard cap" on storage registers and labels, it makes it hard to write really powerful programs of much complexity, even though one would think the speed of the 33S would encourage programming. I have one routine that computes the incomplete gamma function on the 33S in about a second or less. The same routine on the 42S is somewhat slower, the 41CV version is slower yet, and the 11C/15C version can take the better part of a minute for typical arguments.

I hope that the 35S will open up new vistas for RPN programming, with its 800+ registers and XEQ and GTO by line address and not just alpha labels. The programming environment isn't nearly as comprehensive and flexible as that of the 41 series or 42S, but the calculator is still a lot faster than its forebears (even if it is slower at times than the maligned 33S), and this I think should inspire a flurry of interest in porting routines from 41 series, 42S, 65, 67/97, the Spice series, etc., as well as creation of new ones.

The one drawback is the lack of I/O, and I can see that most will not want to key in a 500 step program. That said, there is a lot one can do in smaller programs--Gerson's recent cosine and tangent routine is an example of a tight fast program that is well suited to the 33S (and 35S too).

When I get my 35S, I will start the ball rolling. I have already pledged to Dave Hicks that I will contribute programs to compute the incomplete beta and gamma functions and well known special cases of these (like the error function, cumulative normal distribution, t distribution, F distribution, and chisquare distribution). I do have 33S versions of these but they gobble up almost all of the labels. I have in essence ported the routines from Numerical Recipes, and my work is therefore a little different from those offered by JM Baillard in the HP41 Software Library, though I give JM considerable credit for inspiring me to program the special functions in RPN, UserRPL, and SysRPL.

Is anyone else working on something with their 35S that they would like to share, either here, in an article, or in the Software Library?

Les

*Edited: 26 July 2007, 12:43 a.m. after one or more responses were posted*

### In this case...

Message #2 Posted by [Vieira, Luiz C. \(Brazil\)](#) on 25 July 2007, 4:30 p.m.,  
in response to message #1 by [Les Wright](#)

... what about a kinda HP35 KeySet TTF? The HP33S LCD TTF seems to have the same LCD characters in the HP35S (are both LCD's the same?), but having a new TTF that matches the HP35S keyboard resources might help. Although I'm somehow far from having a blip of a chance to get one (no news at all where I am), the already existing pictures are enough to guide me through.

Any ideas?

Cheers.

Luiz (Brazil, about to be back more often...)

*Edited: 25 July 2007, 4:32 p.m.*

### **A 35s font already exists**

*Message #3 Posted by **Gene Wright** on 25 July 2007, 5:39 p.m.,  
in response to message #2 by Vieira, Luiz C. (Brazil)*

was used for the learning modules and manual.

Mostly, it is the same as the 33s font. There are only a few new keys/functions.

I'll see if it can be made public.

Gene

### **Re: Will we see a vibrant exchange of 35S programs?**

*Message #4 Posted by **Howard Owen** on 25 July 2007, 5:10 p.m.,  
in response to message #1 by Les Wright*

I'm working on a subnet calculator, part of an early version of which I published here. I was thinking of submitting an article about it to Datafile, but the code could live here.

Regards,  
Howard

### **Re: Will we see a vibrant exchange of 35s programs?**

*Message #5 Posted by **Bruce Bergman** on 26 July 2007, 7:14 a.m.,  
in response to message #1 by Les Wright*

I too hope we have a real influx of great programs, ports of old programs and so on. When I get some time, I will try to put some stuff together. If there is anything else we can do to evangelize the programs for this unit, count me in! ;-)

thanks, bruce

### **Re: Will we see a vibrant exchange of 35s programs?**

*Message #6 Posted by **Karl Schneider** on 26 July 2007, 11:38 p.m.,  
in response to message #1 by Les Wright*

Hi, Les --

Quote:

\_\_\_\_\_

I have noticed in the MoHPC software library we find precious few 33S contributions...

I hope that the 35S will open up new vistas for RPN programming,

\_\_\_\_\_

Well, I certainly plan to port my "Two-bus AC Power Transfer" program to the HP-35s, after I get one. I have

posted four versions of the program to date, each one tailored respectively to the HP-32S, HP-32SII, and HP-33s (RPN mode and ALG mode):

<http://www.hpmuseum.org/software/software.htm>

Porting the program will be an interesting exercise, because the HP-35s handles complex numbers in a manner different from that of the three predecessor models.

-- KS

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## HP Forum Archive 17

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### Stack preservation in the HP35S

Message #1 Posted by [Valentin Albillo](#) on 25 July 2007, 1:05 p.m.

Hi all:

In a different thread (Gerson W. Barbosa's "alternative cos(x) and tan(x) [HP-33S]"), Les Wright posted:

*"[...] Unfortunately the routines don't keep the entire stack in its original state, but this is a nice touch. One problem about RPN programs is they make a mess of the stack sometimes, unlike the internal routines."*

The HP35S' ability to mix RPN and algebraic equations in a single program in RPN mode can be used to perform what you want, i.e., program a complicated function that behaves as built-in ones, i.e., the argument is taken from ST X, ST X is replaced by the function's value, and the original argument is stored in LAST X.

For instance, suppose that you want to program a two-term version of Stirling's approximation to the factorial function X!, namely:

$$f(X) = (X/e)^X * \text{Sqrt}(2 * \text{Pi} * X) * (1 + 1/(12 * X) + 1/(288 * X^2))$$

and you want it to behave as a built-in function as far as stack behaviour is concerned. You can achieve that in the HP35S without using any auxiliary registers or variables with this simple trick, key in this little proof-of-concept program in your HP35S:

```
A001 LBL A
      ABS
      Roll Down
      (LASTx/e)^LASTx*SQRT(2*Pi*LASTx)*(1+INV(12*LASTx)+INV(288*LASTx^2))
A005 RTN
```

where I've used "/" to denote the division key and "\*" to denote the multiplication key, as well as "Pi" to denote the Pi key.

To run it, just key in you argument in ST X, and XEQ A [ENTER]: the result will be returned to ST X, the previous contents of ST X will be stored in LASTx, and the rest of the stack will be unaffected.

For instance, in FIX 4, press:

```
4 [ENTER] 3 [ENTER] 2 [ENTER]
5 [XEQ] A [ENTER] -> 120.0025
[ROLLDOWN] -> 2.0000
[ROLLDOWN] -> 3.0000
[ROLLDOWN] -> 4.0000
[LASTx] -> 5.0000
```

Perhaps this is a little slower than pure RPN, but quite convenient indeed. Of course the same trick will work with any f(X) you care to define as long as it can be defined as an equation.

I'll hope you'll like this little neat technique but if not, just stick to pure RPN and you'll be no worse than before :-)

Best regards from V.

---

---

### **Re: Stack preservation in the HP35S**

*Message #2 Posted by [Les Wright](#) on 25 July 2007, 2:25 p.m.,  
in response to message #1 by Valentin Albillo*

Another option would be to write a little subroutine that stuffs the Y, Z, and T register values into unused data registers and returns the values to the stack when you want to. The temp registers would need to be lettered registers I think, since if you try to access indirect registers putting the value of the index in X register before storing it in I or J will bump off the contents of the T register.

Just a thought.

Les

*Edited: 25 July 2007, 2:25 p.m.*

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### **Re: Stack preservation in the HP35S**

*Message #3 Posted by [Gene Wright](#) on 25 July 2007, 3:27 p.m.,  
in response to message #2 by Les Wright*

Yes, that option would work, but then anyone wanting to use the routine would have to make sure the temporary registers you used to store the stack were not being used by their own programs.

Valentin's idea, and the similar ideas found in the 35s learning modules and datafile issue, make no such requirement. No other registers are affected and the stack is preserved.

---

---

### **Re: Stack preservation in the HP35S**

*Message #4 Posted by [Howard Owen](#) on 25 July 2007, 6:17 p.m.,  
in response to message #1 by Valentin Albillo*

That is PDK! (Pretty Darned Kewl.) And not at all obvious. For example, LASTx doesn't show up on the RDN menu in equation mode, since there is a dedicated key.

Thanks for that tip, Valentin! It is now part of my repertoire!

Regards,  
Howard

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## HP Forum Archive 17

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### **Any idea as to an HP 35s source in Toronto, Canada**

Message #1 Posted by [Geoff Quickfall](#) on 25 July 2007, 12:47 p.m.

or Vancouver?

Cheers, Geoff

### **Re: Any idea as to an HP 35s source in Toronto, Canada**

Message #2 Posted by [Les Wright](#) on 25 July 2007, 1:47 p.m.,  
in response to message #1 by [Geoff Quickfall](#)

Geoff,

I have gotten other HPs from Larry at auctions@techcomm.ca. He is in Oakville. He tells me he will get the 35S in stock. He is not bargain cheap, but will certainly be cheaper than the Canadian MSRP. Tell him I sent you.

York University Bookstore is on hp.ca as the official Canadian reseller of all HP models. But they are obscenely expensive. When they get the 35S, they will no doubt be overpriced.

I was impatient and ordered one from Samson Cables. Despite the grievances in the group mine seemed to leave the US in a timely fashion. I splurged on express mailing and am paying \$77US, or about \$83CDN. I expect the CBSA to assess another \$16CDN--\$8 for their admin fee, \$8 for the 14% GST/PST on the original \$52US purchase. So just under \$100CDN, or \$90US. A lot more than our American friends are paying, but less than those in Europe. Considering that the HP65 was about \$800US in 1974 money, I still think this is a bargain if it is good as people say it is.

Les North York

p.s. please look me up if you ever want to meet in person. I am on the lookout for HP lovers in the GTA. Also, you should know that the eminent Namir Shammas, a sort of legend in these circles, has family in Burlington and we hope to meet one day when he is next up from VA.

*Edited: 25 July 2007, 1:48 p.m.*

### **Re: Any idea as to an HP 35s source in Toronto, Canada**

Message #3 Posted by [Geoff Quickfall](#) on 25 July 2007, 8:05 p.m.,  
in response to message #2 by [Les Wright](#)

Les,

Many thanks for the info. I actually live in White Rock south of Vancouver. I was going to be in Toronto on Monday during the day while staying at the Westin Harbour Castle Inn and thought it would be a good day for a walk to a local retailer.

I know what you mean, the UBC bookstore will no doubt triple the value also so I might be relegated to the web for mine.

Current collection includes:

HP25c

Four HP 67, two in boxes with original papers etc and one NOS in box. All have been repaired in house for gummy wheels including the NOS!

One HP 97 restored

One HP 91 restored

HP 41C, CV, CX with plotter, printer, wand, floppy drive and 3 card readers also with gummy wheel problem corrected.

HP 48g and g+ which I currently use with a 67 as back up and of course

Three HP 01 including one in NOS condition with inner and outer box, pen and papers.

Cheers, Geoff

[http://i45.photobucket.com/albums/f96/geoff\\_q/digital/groupcalc.jpg](http://i45.photobucket.com/albums/f96/geoff_q/digital/groupcalc.jpg)

[http://i45.photobucket.com/albums/f96/geoff\\_q/closegroup.jpg](http://i45.photobucket.com/albums/f96/geoff_q/closegroup.jpg)

[http://i45.photobucket.com/albums/f96/geoff\\_q/groupa-1.jpg](http://i45.photobucket.com/albums/f96/geoff_q/groupa-1.jpg)

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## HP Forum Archive 17

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### [for Gene Wright] HP 35S speed

Message #1 Posted by [Antonio Maschio \(Italy\)](#) on 25 July 2007, 12:03 p.m.

Hi, Gene,

reading up your excellent HP-35S essay found through HPCC, I have a question for you:

You set the program for the HP-35S this way:

```
LBL A
+
GTO A002
```

and the program for the HP-33S this way:

```
LBL A
+
GTO A
```

My question (having no 35s to play with) is: what if you use the exact program of the 33S, that is using a call to label A?

Maybe some optimization occurs with labels calling.

It seems strange to me that the new machine is 2.5x slower than the 33S!

Thanks in advance.

-- Antonio

### Re: [for Gene Wright] HP 35S speed

Message #2 Posted by [Namir](#) on 25 July 2007, 12:23 p.m.,  
in response to message #1 by Antonio Maschio (Italy)

Antonio,

I did a test by using a loop like the ones you mentioned, but with one difference. I used the multiple operator. I start with a stack filled with the number of 2 and run the program. It took 30 seconds for the version with GTO A002 to display the OVERFLOW error message. The version with GTO A001 took 31.4 seconds. Not much difference for a loop that iterates about 1660 times.

Namir

*Edited: 25 July 2007, 12:23 p.m.*

### Re: [for Gene Wright] HP 35S speed

Message #3 Posted by [Gene Wright](#) on 25 July 2007, 12:25 p.m.,  
in response to message #1 by Antonio Maschio (Italy)



Thank you very much.

The 35s requires a GTO with a label-line number. GTO A by itself won't work on the 35s.

I tried the same program using GTO A001, and got these results:

LBL A

+

GTO A001

only counted to 3344 in 60 seconds. Putting the GTO A002 line back in increased the count to 3584. The differences to the count given in the review may relate to the amount of free memory in the unit now vs. then, or the current distance from the earth to the sun, for all I know. :-)

I don't know for sure, but I would suspect there is increased overhead given the new complex number and vector abilities of the 35s that show up when doing addition (and other math). After all, the 35s now has to check whether one of the values in X or Y is a vector rather than a real number. Just guessing.

### **Re: [for Gene Wright] HP 35S speed**

*Message #4 Posted by [Don Shepherd](#) on 25 July 2007, 2:59 p.m.,  
in response to message #3 by Gene Wright*

Gene, not to mention that for every memory or stack reference, it moves 296 bits (37 bytes \*8 bits) into the CPU, instead of (in olden days, anyhow) 56 bits. That's got to be costly.

### **Re: [for Gene Wright] HP 35S speed**

*Message #5 Posted by [Antonio Maschio \(Italy\)](#) on 26 July 2007, 3:14 a.m.,  
in response to message #4 by Don Shepherd*

Well, I didn't think about it, but I guess you're right. The 35S seems to deal with different entities than its ancestors, so a computational stress must be added.

Probably, this is not so important, as long as the calculator is fast enough.

Thanks for your efforts.

-- Antonio

### **Re: [for Gene Wright] HP 35S speed**

*Message #6 Posted by [Les Wright](#) on 27 July 2007, 11:25 a.m.,  
in response to message #5 by Antonio Maschio (Italy)*

Antonio,

I have noted that the 35s is perceptibly slower for some of my favourite 33s applications, and must share that at first this was a bit disappointing. The 33s has so many headaches and limitations, but at least it was the fastest HP RPN calculator hands down, and that won it a place in my heart. I had hoped that this speed would be inherited unchanged by the 35s.

But I must put this in perspective. Yes a one second calculation on the 33s seems to take about two on the 35s. But the similar program may take up to 30 seconds on the 41CV, and the better part of a

minute on the 11C or 15C.

Besides the flexibility introduced by indirect register access and line number addressing (so that alpha labels can be conserved) is fair compensation for the slowing.

I like the complex number capacity, which I find mostly easy to use. I have one routine that computes the sine and cosine integrals for larger arguments by complex continued fraction, and it seems to run faster than the 42S version. I miss the ability to simply decompose a complex number in rectangular form into its real and complex parts, but the proposed workaround ( $\text{Re}(z) = \text{abs}(z) \cdot \cos(\text{arg}(z))$  and  $\text{Im}(z) = \text{abs}(z) \cdot \sin(\text{arg}(z))$ ) is not hard to program.

The ability to recall certain stack levels directly by accessing REGX, REGY, REGZ, etc., by way of EQN Rv is reminiscent of RCL ST X, etc., of the 41 series and 42S and can be very useful at times, though I must I would have appreciated fully appointed stack register arithmetic like in those older machines. STO+ ST X is a great way to double the contents of the X register without molesting the stack, and I wish the 35S had that capacity.

I can get to like the vector capacity, but I think it is not straightforward to compose a vector from stack input. It can be done in an equation, and it may be prudent to write a subroutine to do this automatically. It is, however, easy to isolate a component--on simply dot multiplies the vector by the relevant unit vector--e.g.,  $[3,4,5] \cdot [0,1,0] = 4$ . Being able to isolate individual vector components like this is useful when one wants to increase storage capacity by put, effectively, three real numbers in each register.

So far, a real winner. I look forward to seeing how the special features influence programming style.

Les

## Re: [for Gene Wright] HP 35S speed

Message #7 Posted by [Katie Wasserman](#) on 27 July 2007, 12:42 p.m.,  
in response to message #6 by Les Wright

Simple program changes can make a dramatic difference on the 35s. In particular: DON'T USE CONSTANTS INSIDE LOOPS. Try a simple count test:

```
A001 LBL A
A002 1
A003 +
A004 GTO A002
```

This will count to 1442 in 60 seconds.

```
A001 LBL A
A002 1
A003 STO A
A004 RCL A
A005 +
A006 GTO A004
```

This will count to 2939 in 60 seconds (twice as fast).

```
A001 LBL A
A002 1
A003 STO A
A004 RCL+ A
A005 GTO A004
```

This will count to 5157 in 60 seconds (almost twice again as fast, but not a fair comparison

since there's one less instruction in the loop).

-Katie

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## HP Forum Archive 17

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### Magnetic Cards/Strips

Message #1 Posted by [Kostas Kritsilas](#) on 25 July 2007, 11:20 a.m.

Hi,

I own two HP-97 calculators, and one HP-67. They all currently have the "gummy wheel" problem, which will be fixed shortly. My question concerns the magnetic strips/cards used in the various HP calculators, specifically, the HP-65, the HP-67/97, and the card reader on the HP 41 C/CV/CX.

1. Are the raw cards themselves the same? i.e. can the same card type be written and read on all the calculators, and by this I mean is there a difference in the heads/magnetic surface that the card readers in each of the calculators are designed for, or is there only one card type that is usable for all 3 machines/card readers?
2. I have read that the HP-67/97 cards can be read by the HP-41 card reader, and the HP-67/97 programs are translated in the card reader to allow them to be executed by the HP-41. Is this correct? Can the HP41 write onto the magnetic cards/strips that are readable or executable on the HP-67/97 (I am suspecting no, but would like confirmation)?
3. Can the HP-67/97 read or execute HP-65 programs? The recording density of the HP 67 is much greater, so I am assuming that the HP-65 cannot read the HP-67/97s cards.

Kostas

### Re: Magnetic Cards/Strips

Message #2 Posted by [Les Wright](#) on 25 July 2007, 11:52 a.m.,  
in response to message #1 by [Kostas Kritsilas](#)

Quote:

1. Are the raw cards themselves the same? i.e. can the same card type be written and read on all the calculators, and by this I mean is there a difference in the heads/magnetic surface that the card readers in each of the calculators are designed for, or is there only one card type that is usable for all 3 machines/card readers?

The same cards are usable in the 65, 67/97, and 41 series.

Quote:

2. I have read that the HP-67/97 cards can be read by the HP-41 card reader, and the HP-67/97 programs are translated in the card reader to allow them to be executed by the HP-41. Is this correct? Can the HP41 write onto the magnetic cards/strips that are readable or executable on the HP-67/97 (I am suspecting no, but would like confirmation)?

Correct on both counts. 67/97 programs can be read and executed on the 41 series with the card reader installed (the module contains routines like 7ISZ, etc, that replicate 67/97 commands). But not the other way.

Quote:

3. Can the HP-67/97 read or execute HP-65 programs? The recording density of the HP 67 is much greater, so I am assuming that the HP-65 cannot read the HP-67/97s cards.

Correct again.

Les

## **Re: Magnetic Cards/Strips**

*Message #3 Posted by **Tony Duell** on 25 July 2007, 1:21 p.m.,  
in response to message #2 by Les Wright*

A minor correction to (2). Although the HP41 with card reader will read HP67/97 cards, and contains the 'compatibility functions', there are a few features of the HP67 which are not available on the HP41+card reader

The main one is 'rapid reverse branching'. That does not work at all on the HP41 (I think it gives a NONEXISTANT error).

IIRC, there's a section of the HP41 card reader manual which gives the (few) changes needed to the HP67 application Pacs to get them to run correctly on the HP41. But of course for other programs (including the solution books), you are on your own.

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## HP Forum Archive 17

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### HP-41 programming problem

Message #1 Posted by [ems22](#) on 25 July 2007, 10:17 a.m.

Hello, I found this old listing and put in my HP-41 CV with Time-Modul: But I am not able to enter line 44. The Function ARCL will always ask for a numeric argument. What is wrong?

You will come to my GMX-Account, where you must click "GMX Media Center starten"

Greetings,

Edgar Meyer-Schönfelder

[Listing](#)

*Edited: 25 July 2007, 10:19 a.m.*

### Re: HP-41 programming problem

Message #2 Posted by [gilen0](#) on 25 July 2007, 10:26 a.m.,  
in response to message #1 by [ems22](#)

ARCL . X :-)

*Edited: 25 July 2007, 10:26 a.m.*

### Re: HP-41 programming problem

Message #3 Posted by [ems22](#) on 25 July 2007, 10:31 a.m.,  
in response to message #2 by [gilen0](#)

Thank you very much. That is the solution.

Greetings,

Edgar

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## HP Forum Archive 17

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### TI-Nspire, TI-Nspire CAS, early Prototype

Message #1 Posted by [Joerg Woerner](#) on 25 July 2007, 10:15 a.m.

Yesterday I received two different TI-Nspire CAS calculators and found some astonishing details:

- 1) The TI-Nspire and TI-Nspire CAS are COMPLETELY different! Internal pics of them are on the Datamath.org website
- 2) The prototype of the TI-Nspire CAS, manufactured in 2006, made use of the Texas Instruments OMAP processor instead the later LSI LOGIC ASIC!

Regards, Joerg

### Re: TI-Nspire, TI-Nspire CAS, early Prototype

Message #2 Posted by [Tim Wessman](#) on 25 July 2007, 11:01 a.m.,  
in response to message #1 by Joerg Woerner

Wow. Only thing I can imagine is that they wanted to make it impossible to put the ROM from one into the other. If I understand correctly, one doesn't have symbolic calculations. Since we all know software locks can always be defeated. . . maybe separate HW was their solution? Concerns about test cheating?

Either that or all new units will use the same more recent HW.

TW

*Edited: 25 July 2007, 11:02 a.m.*

### Re: TI-Nspire, TI-Nspire CAS, early Prototype

Message #3 Posted by [Dave Boyd](#) on 25 July 2007, 1:30 p.m.,  
in response to message #2 by Tim Wessman

Quote:

\_\_\_\_\_

Either that or all new units will use the same more recent HW.

\_\_\_\_\_

I haven't seen the NSpire up close yet, but for what it's worth, I don't think so. There appear (from the TI web-site) to be other physical and software differences, for instance the CAS version does not have the provision for the swappable TI-84-style keyboard, and therefore the internal software probably dispenses with the compatibility code to emulate the 84. (It also appeared to me that the keyboard swap feature was also used as a battery compartment cover for the non-CAS version -- I don't know what the CAS version uses. Maybe access from the back?)

### Re: TI-Nspire, TI-Nspire CAS, early Prototype

Message #4 Posted by [Joerg Woerner](#) on 25 July 2007, 2:03 p.m.,

*in response to message #3 by Dave Boyd*

You are right - the TI-Nspire CAS has battery access from the back of the calculator. Lots of pics here: [http://www.datamath.org/Graphing/NSpire\\_CAS.htm](http://www.datamath.org/Graphing/NSpire_CAS.htm) I just compared all components, the basic chips are identical between the production versions of the Nspire and Nspire CAS.

Regards, Joerg

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## HP Forum Archive 17

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**35s sorting routine challenge**

Message #1 Posted by [Gene Wright](#) on 25 July 2007, 8:49 a.m.

In this learning module:

[Indirect sorting program](#)

A really, really bad sorting routine is presented in Example 2 (ok, I wrote it - that's why it's bad). I was in a hurry, etc. :-)

I'd like to challenge new 35s owners to work on developing a fast, short indirect register sorting program.

Input to the program should be a number like X.YYY, specifying the first and last indirect register to be sorted. I would assume ascending order.

All lettered registers are available for use, but try not to use many. :-)

Winner ought to be determined by the size x run time method used at HHC conferences.

For the sample matrix, I'll try digging up the old "Cheeseman" array used in the PPC Journal to test PPC ROM sorting routines. Might be fun to see how long it takes.

Regardless, now that we have some registers worth sorting, it is time to dramatically improve upon my pitiful effort!

Gene

*Edited: 25 July 2007, 8:49 a.m.*

**Re: 35s sorting routine challenge**

Message #2 Posted by [Valentin Albillo](#) on 25 July 2007, 9:02 a.m.,  
in response to message #1 by Gene Wright

Hi, Gene:

Gene posted:

*"Winner ought to be determined by the size x run time method used at HHC conferences."*

May I suggest that, for practical, real-life purposes other criteria would be more useful, namely (a) The shortest routine, running time a secondary consideration within reason, and (b) The fastest routine, size a secondary consideration, again within reason.

The rationale is that, usually, you are either constrained for space (because you need to be capable to process as much data as possible) in which case you'll certainly want to minimize program size above all, or else you're not specially constrained for space, in which case you'll want your sort to proceed as fast as possible.

The size x run time criterium seems to me to fulfill neither of those practical requirements and it was probably used just to ease the judges' cumbersome and difficult task of objectively selecting a winner.

As such, I'll propose that people accepting the challenge would submit either one or two routines, each individually optimized for the speed/size criteria. That's certainly what I'll do, as my primary goal is to produce maximally useful routines, not winning challenges. :-)

P.S.: Sorting methods also greatly vary in performance depending on the nature of the data being sorted, i.e., some methods that are nearly optimal for quasi-random data may perform abysmally if the data are already almost sorted or reverse-sorted.

So I would suggest that timings should be given for:

1. *A random-data array*, generated by using the HP35S' built-in random-number function starting from the seed **Pi**. This will guarantee repeatability and the same array for everyone.
2. *A perfectly sorted array*: 1, 2, 3, ..., n
3. *A perfectly reverse-sorted array*: n, n-1, ..., 3, 2, 1
4. *An array with all elements equal*: 1, 1, 1, ... , 1

I guess many participants will find that their routine does well with some of the array types but not so well with others. Depending on the real-life application this might be important, as having data which is almost perfectly sorted to begin with is quite common, actually.

Best regards from V.

*Edited: 25 July 2007, 9:13 a.m.*

### **Re: 35s sorting routine challenge**

*Message #3 Posted by [Maximilian Hohmann](#) on 25 July 2007, 10:07 a.m.,  
in response to message #2 by Valentin Albillo*

Hallo!

Quote:

\_\_\_\_\_

... for practical, real-life purposes ...

\_\_\_\_\_

I think, that for practical, real-life purposes nobody will ever enter large numbers of data into a pocket calculator with no I/O capabilities whatsoever with the intention of sorting them as quickly as possible ;-)

So I would rather consider this challenge as an intellectual exercise akin to solving a chess-puzzle and forget everything I ever knew about real-life issues while working at it...

Greetings, Max

### **Re: 35s sorting routine challenge**

*Message #4 Posted by [Gene Wright](#) on 25 July 2007, 10:14 a.m.,  
in response to message #3 by Maximilian Hohmann*

Quite good points, Valentin. The shortest routine would be nice as would the fastest, particularly with random data.

I do think these have a value. There are often times one needs to rearrange numbers in a program, even without I/O. It may only be 10, 20, or 30 numbers, but that's not unreasonable, IMO.

So, who will be first to dramatically improve upon my pitiful efforts? :-)

### **Re: 35s sorting routine challenge**

*Message #5 Posted by [Valentin Albillo](#) on 25 July 2007, 10:41 a.m.,  
in response to message #3 by Maximilian Hohmann*

Hi, Maximilian:

Maximilian posted:

*"I think, that for practical, real-life purposes nobody will ever enter large numbers of data into a pocket calculator with no I/O capabilities whatsoever with the intention of sorting them as quickly as possible ;-)"*

I beg to differ. I certainly don't do it very frequently, if at all, but can think of many instances where this could be desirable, from a surveyor out in the field (rough terrain) taking a number of measurements and doing some computations with them on the fly, to someone trying to come up with a solution to some "lottery numbers" challenge which requires sorting 6 numbers as fast as possible, say. The possibilities are limitless and there are incredibly varied users out there engaged in a myriad activities.

I think that a powerful, solid, and relatively inexpensive calc such as the HP35S will indeed get used for many real-life purposes, be they work-related, fun-related, or whatever. This being so, developing programs for it deserves to be taken with a professional attitude, as I'm sure most of us always strive for actually.

Thanks for your comments and

Best regards from V.

### **Re: 35s sorting routine challenge**

*Message #6 Posted by [Tim Wessman](#) on 25 July 2007, 10:48 a.m.,  
in response to message #5 by Valentin Albillo*

While surveyors do need to enter lots of numbers into handheld calculators, I can't think of a time when they'd need to sort a list of numbers. . .

The biggest issues that they are grumbling about right now are:

1) Lack of good R>P P>R conversions. 2) lack of HMS+ HMS-

TW

### **Re: 35s sorting routine challenge**

*Message #7 Posted by [Namir](#) on 25 July 2007, 10:53 a.m.,  
in response to message #6 by Tim Wessman*

Some statistical calculations, like Spearman Rank correlation require the data to be sorted in order to obtain the ranks (sort order) for the values.

Namir

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## HP Forum Archive 17

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### Thank you HP for the 35S

Message #1 Posted by [Steve Myers](#) on 24 July 2007, 9:52 p.m.

Is it just me, or did anyone else basically go into a panic when HP started releasing calculators that looked like rejects from Casio ?

For me this is part of the reason why I was so upset over the problems /delays with the release of the 35S. Until I had one (make that 3) in my hands, I was very edgy.

What would happen if all HP ever came out with again were things like the 33S and the 50g ? I was thinking "Was HP really going to make me buy one of those and expect me to like it?"

When they started making Algebraic only models, I seriously got very worried. I have used RPN for so long, that's all I know.

Up until a few days ago I was spending way too much time on Ebay watching the prices for "real" HP calculators like the 32SII skyrocket and wondering if I should sell the farm and buy as many of them as I could while they were still available. Not to put them in some sort of collection but to have them to actually use as I go through life.

I don't consider myself a collector as I use these things everyday. Any "collector" would have a heart attack if they saw me sitting down in my chair with a 15C in my back pocket or when I bend down to reach for something and a 11C falls out sliding across the floor.

No, I consider myself an addict, not a collector.

A world void of a true user calculator... scary to even think about.

Thank you HP for the 35S....

I sleep better now.

### Re: Thank you HP for the 35S

Message #2 Posted by [Thomas Radtke](#) on 25 July 2007, 7:08 a.m.,  
in response to message #1 by [Steve Myers](#)

Quote:

Is it just me, or did anyone else basically go into a panic when HP started releasing calculators that looked like rejects from Casio ?

Until then, I was quite careless about my 32SII. You know, there will always be some replacement \*sigh\*

Now there really is :-).

...and with lots of luck, I'll eventually get one from Samson \*another sigh\*

### Re: Thank you HP for the 35S

Message #3 Posted by [Steve Myers](#) on 25 July 2007, 11:28 a.m.,

*in response to message #2 by Thomas Radtke*

Quote:

---

Until then, I was quite careless about my 32SII. You know, there will always be some replacement \*sigh\*

Now there really is :-).

...and with lots of luck, I'll eventually get one from Samson \*another sigh\*

---

I'd still take mighty good care of that 32SII

I see this 35S as a day-to-day desktop calculator to replace maybe a 41-C.

Unlike the 32SII, it's too big for my shirt pocket.

*(hmmm...maybe it would fit if I didn't use my pocket protector... j.k.)*

Seriously, after thinking about this I did hop on EBay and plop down way too much money to buy a couple of 32SII's

Of course this time I was a bit more educated and made sure they were not coming from a particular company...

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## HP Forum Archive 17

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**Home made calculator**

Message #1 Posted by [Ricardo Guerreiro \(Argentina\)](#) on 24 July 2007, 5:23 p.m.

In this forum, it was discussed several times the feasibility of a home made calculator. The conclusion was that electronics are the easy part, and the case the difficult part. ¿Could it change in the near future? Take a look at [www.fabathome.org](http://www.fabathome.org), or [www.reprap.org](http://www.reprap.org)

If this technology arrives to a happy end, everyone could have a totally personalized calculator, according to their own desires (or necessities).

Ricardo

**Re: Home made calculator**

Message #2 Posted by [DaveJ](#) on 24 July 2007, 5:32 p.m.,  
in response to message #1 by [Ricardo Guerreiro \(Argentina\)](#)

You can already do this yourself with the eMachineShop software <http://www.emachineshop.com/> Just choose the "rapid prototype" option, push a button, and your prototype case comes to you in the mail.

Dave.

**Re: Home made calculator**

Message #3 Posted by [Alfredo Pinkus \(Argentina\)](#) on 24 July 2007, 9:09 p.m.,  
in response to message #1 by [Ricardo Guerreiro \(Argentina\)](#)

Hi Ricardo Trate de enviarte un mensaje para dejarte mi correo pero todavía no me habilitaron esa posibilidad. Me interesa contactarme con personas en Argentina que participan del foro ya que no creo que seamos muchos.

Fijate si podes enviarme vos un mensaje.

Un cordial saludo

**Re: Home made calculator**

Message #4 Posted by [Andres C. Rodriguez \(Argentina\)](#) on 26 July 2007, 12:18 a.m.,  
in response to message #3 by [Alfredo Pinkus \(Argentina\)](#)

Pueden ver mis datos en el Memories Forum... (You can see my data in the Memories Forum)

**Re: Home made calculator**

Message #5 Posted by [Frank Boehm \(Germany\)](#) on 25 July 2007, 5:02 a.m.,  
in response to message #1 by [Ricardo Guerreiro \(Argentina\)](#)

Home made calculators have been built since 1972, when the first kits became available. If you are really into it, I'd suggest to grab some old TMS0105-based calculators with Klixon keyboard and desolder them, pick up an existing PCB layout and modify it to your needs. As the keyboard is the hardest part, the robust Klixon keyboard eliminates one of the most difficult parts in the construction. Case tooling is available online, or you might want to try on of those "instant molding" kits...

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## HP Forum Archive 17

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**HP 35s Case Alternatives?**

Message #1 Posted by [Dave](#) on 24 July 2007, 2:31 p.m.

I love the factory case, but there are occasions I'd like to travel lighter. For those of you 35s owners who may also have an older slip case from a 32s, 42s, 20s, etc., how does the 35s fit? According to the specs, it sticks out a bit more than a third of an inch. Does this still provide adequate protection? Apparently old 32s cases can still be had from some online vendors.

**Re: HP 35s Case Alternatives?**

Message #2 Posted by [Alex](#) on 26 July 2007, 5:05 p.m.,  
in response to message #1 by Dave

I had the same thoughts as you about slimness, so I did try the 35s in my 20s' case. It's an ever-so-slightly snugger fit, and it sticks out the top almost .5".

Overall I didn't really care for it... I'm on the lookout for some better alternatives.

I do love the stock case, especially for when there might be some knockin' around going on!

- Alex H.

**Re: HP 35s Case Alternatives?**

Message #3 Posted by [Paul Brogger](#) on 26 July 2007, 5:45 p.m.,  
in response to message #1 by Dave

The 33s case is a not-very-snug fit (the 35s wants to slide right out), but otherwise is perfect.

Maybe the inclusion of the quick reference card . . . (oh, rats!)

Maybe including something else will help it stay inside. But then, you won't be traveling any more lightly, as overall they're almost the same size.

**Re: HP 35s Case Alternatives?**

Message #4 Posted by [Dave](#) on 27 July 2007, 10:41 a.m.,  
in response to message #3 by Paul Brogger

Thanks, guys. So the 20s and 33s cases aren't the best solutions. If I ever run across anything, I'll let you know.

**Re: HP 35s Case Alternatives?**

Message #5 Posted by [Vincze](#) on 27 July 2007, 10:49 a.m.,  
in response to message #3 by Paul Brogger

Good morning.

How come I no have a quick reference card? I hope I no throw it away, or was in book maybe?

**Re: There is no HP-35s Quick Reference Card (It was a joke)**

*Message #6 Posted by [Paul Brogger](#) on 27 July 2007, 11:11 a.m.,  
in response to message #5 by Vincze*

Sorry -- I was trying to be funny.

(I keep forgetting to add the smiley.) :-(

**Re: There is no HP-35s Quick Reference Card (It was a joke)**

*Message #7 Posted by [Vincze](#) on 27 July 2007, 11:55 a.m.,  
in response to message #6 by Paul Brogger*

I understand now. I am stupid Hungarian, so I not get joke sometimes. It would be nice if quick reference card with calculator though. Maybe I make one and laminate it.

**Re: There is no HP-35s Quick Reference Card (It was a joke)**

*Message #8 Posted by [Ed Look](#) on 27 July 2007, 12:28 p.m.,  
in response to message #7 by Vincze*

No, don't feel too bad; the joke is an OLD TIMER'S joke. HP calculators from a long time ago came in a box, had lots of literature in it including the manual, like a laminated quick reference card, extra application booklets, basic functions booklet in addition to full manual, etc.

I still have somewhere this stuff, except for the box, for my old 34C.

**Re: There is no HP-35s Quick Reference Card (It was a joke)**

*Message #9 Posted by [Vincze](#) on 27 July 2007, 1:36 p.m.,  
in response to message #8 by Ed Look*

I see.

I really wish books that come with units now were spiral bound. Am I only one who think that spiral bound book much easier to lay flat and use than the type of binding they use now? I wonder why they switch?

I hope PDF come out soon for 35s as I want to print it and bind it in spiral bound so I can use it easier.

Since english is not my native language, sometimes words confusing and I have to look up in Magyar <-> English dictionary to find out what they meen. With spiral bound book, that is much simpler since book will stay flat. I would think this would be common desire for all users, and would think HP would realize this, or do they not think at sometimes?

**Re: There is no HP-35s Quick Reference Card (It was a joke)**

*Message #10 Posted by [Gene Wright](#) on 27 July 2007, 2:26 p.m.,  
in response to message #9 by Vincze*

Spiral bound manuals are much more expensive than flat bound. Particularly when you add the incremental cost up by hundreds of thousands of copies.

That's why we don't get them any more.

**Re: There is no HP-35s Quick Reference Card (It was a joke)**

*Message #11 Posted by [Vincze](#) on 27 July 2007, 3:08 p.m.,  
in response to message #10 by Gene Wright*

you sound as if you work for HP and have been said to say that. Yes, more expensive, be we all know that the cost passes onto the buyer, so why would HP care. That would be like saying, lets use junk for calculator and make it less good. Same thing with plastic container that calculator come in. It make it cheap, but box make it look more like quality. Cost is eventually passed to buyer, so why would HP care.

**Re: There is no HP-35s Quick Reference Card (It was a joke)**

*Message #12 Posted by [Kevin Kitts](#) on 27 July 2007, 3:46 p.m.,  
in response to message #11 by Vincze*

Because HP needs to sell a certain volume to be profitable. If they make the price too high then they won't sell enough to make a profit and cover the costs of R&D and manufacturing.

They've likely calculated (no pun intended) the number of units they'll be likely to sell at a given price point and number of months that it will take them to reach the break-even point and start making a profit.

It may seem cruel and cold - but if they don't make a profit there is little incentive to make the next iteration of products.

**Re: There is no HP-35s Quick Reference Card (It was a joke)**

*Message #13 Posted by [bill platt](#) on 27 July 2007, 4:01 p.m.,  
in response to message #11 by Vincze*

The Pioneers were the last machines to come with spiral bound manuals. Later in their production runs, they were bound like a book. For instance the 27s, 32s, 42s had spiral, but the 32sii had book-bound. The 12c of course started out spiral, and switched to book-bound. But don't forget that many of the 41c publications and manuals were not spiral bound.

The cost of making a manual (even spiral-bound) used to be a much smaller percentage of the cost of the calculator. In real terms, there was much more room for price in the old days. Today, the margins are slim, and the buyers are price-conscious to a fault. The current buyer doesn't look at the price and compare it to days of old in real terms: rather he compares it to other offerings on the shelf. There is only so much "premium" he is apt to be willing to pay for the HP quality.

Remember, while we are the "early adopters" and promoters, it is in much larger, more brand-neutral buyers that the market is won or lost.

**Re: There is no HP-35s Quick Reference Card (It was a joke)**

*Message #14 Posted by [Vincze](#) on 27 July 2007, 4:45 p.m.,  
in response to message #13 by bill platt*

Good afternoon Bill. You bring up good points, as I forgot to include price elasticity of buyers. I only consider like minded people of here as buyers but you right that there are many other people out there that may be less elastic in price sensitivity. I still wonder though how much more price would be with spiral bound book. We will never know I guess.

But with quality they can't go less with. I remember days when ceramic chips used in computers and many were considered military spec. I remember using old AT&T 3B2 computer back in Hungary, and it was built like tank. I just think that HP should use high quality parts so unit last long time like my HP45. I hope HP did that with 35s. I guess time will tell.

Please excuse my poor english.

**Re: There is no HP-35s Quick Reference Card (I was joking.)**

*Message #15 Posted by [Paul Brogger](#) on 27 July 2007, 5:22 p.m.,  
in response to message #14 by Vincze*

I'll gladly excuse your (actually not-at-all) "poor" English, if you'll please excuse my non-existent Magyar.

**Re: There is no HP-35s Quick Reference Card (It was a joke)**

*Message #16 Posted by [Gene Wright](#) on 27 July 2007, 5:21 p.m.,  
in response to message #11 by Vincze*

Actually, I'm an author who has had his own work printed and bound with a spiral binding. My costs were \$1 more per book to use it.

Economics would say a higher price will lose sales.

**Re: There is no HP-35s Quick Reference Card (I was joking)**

*Message #17 Posted by [Paul Brogger](#) on 27 July 2007, 2:55 p.m.,  
in response to message #9 by Vincze*

. . . and I believe you would find that most of the contributors at this site agree with you: the old-style spiral-bound manuals are better.

*Edited: 27 July 2007, 2:56 p.m.*

**Re: There is no HP-35s Quick Reference Card (I was joking)**

*Message #18 Posted by [Dallas Osborne](#) on 29 July 2007, 4:53 p.m.,  
in response to message #17 by Paul Brogger*

Is there enough room to lop off the spine, punch and spiral bind it? If there is more

than 1 cm after using bulk paper shear (.1-.2 cm) to cut the spine, the late-night crew at a Kinko's may be talked into punching and running a spiral through the manual.

Just a thought; I have yet to get mine and scratch my head over how I am going to get this thing to lay flat. This isn't crucial but it is certainly nice.

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## HP Forum Archive 17

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### **(deleted post)**

Message #1 Posted by [deleted](#) on 24 July 2007, 1:33 p.m.

This Message was deleted. This empty message preserves the threading when a post with followup(s) is deleted. If all followups have been removed, the original poster may delete this post again to make this placeholder disappear.

### **Re: Samson Cables - The Final Insult**

Message #2 Posted by [Dave Boyd](#) on 24 July 2007, 2:02 p.m.,  
in response to message #1 by [deleted](#)

Well, if you get it tomorrow, then maybe you'll feel better. Mine, shipped from Samson Friday evening, was last noted by UPS as being in Idaho on Saturday morning, and is due to arrive here in Connecticut this coming Friday (FRIDAY! WHAT ARE THEY DOING, DRIVING IT HERE ON A TRUCK? Oh yeah, UPS ground...). Ah well, I'm glad I can be patient about this -- if I'd been more emotionally invested in getting it NOW NOW NOW I'd be climbing the walls like the rest of the posters who ordered from Samson.

Nonetheless, this may not be "The Final Insult". There could be lots more insults pending! So cheer up! ;)

### **Re: Samson Cables - The Final Insult**

Message #3 Posted by [Andreas Haack](#) on 24 July 2007, 2:23 p.m.,  
in response to message #1 by [deleted](#)

The same happens to me one hour ago.

I ordered my 35s on the 07/15 with the UPS World Wide Express 1-2days (43\$)option and now 2 - 4 weeks ??  
?

Andreas Haack, Germany

### **Re: Samson Cables - The Final Insult**

Message #4 Posted by [Maximilian Hohmann](#) on 24 July 2007, 3:17 p.m.,  
in response to message #3 by [Andreas Haack](#)

Hello!

For he who can wait, everything comes in time.

(François Rabelais, around 1530) :-)

Greetings, Max

NB: I will be happy enough if I get my hp-46 repaired before the 35s will be regularly available in Europe...

### **Re: Samson Cables - The Final Insult**

*Message #5 Posted by **Mvdn** on 24 July 2007, 3:28 p.m.,  
in response to message #3 by Andreas Haack*

I think it will become a bit more difficult at customs! I think good coming from US needs to be cleared based on a proforma invoice! Normally customs ask the 'courier service' to declare the goods. Percentage to be paid on value!

Can anybody that receives the 35S let us know the complete story?

### **Re: Samson Cables - The Final Insult**

*Message #6 Posted by **Doctor Bubu** on 24 July 2007, 3:30 p.m.,  
in response to message #1 by deleted*

Hallo Matt!

I've got the same mail! And i am angry.

That is last \*%#!ed shop. And i hope it is really only a mistake in the Mail and not in the shipping.

In any way i will not buy any thing at Samson Cable in the future.

Let us hope and pray (4 weeks grrrrr)

Jürgen

### **(deleted post)**

*Message #7 Posted by **deleted** on 24 July 2007, 8:41 p.m.,  
in response to message #6 by Doctor Bubu*

This Message was deleted. This empty message preserves the threading when a post with followup(s) is deleted. If all followups have been removed, the original poster may delete this post again to make this placeholder disappear.

### **Re: Samson Cables - The Final Insult - Oh no! There's MORE!**

*Message #8 Posted by **ECL** on 24 July 2007, 11:59 p.m.,  
in response to message #7 by deleted*

This may further infuriate those awaiting the Samson Cables ordered 35s machines:

[http://cgi.ebay.com/New-HP-35S-HP35S-Just-Released-Compare-to-HP-33S\\_W0QQitemZ200131741239QQcmdZViewItem?hash=item200131741239](http://cgi.ebay.com/New-HP-35S-HP35S-Just-Released-Compare-to-HP-33S_W0QQitemZ200131741239QQcmdZViewItem?hash=item200131741239)

Note that the ad says

- QUANTITY: 37 Available

- It is a "BUY NOW" auction

-- Only by scrolling to the bottom, and reading the information do you learn that they won't ship until the TWENTY-SEVENTH of August!!

Granted, they HAVE maintained a presence despite the recent years of RPN-drought.

Still, kinda frustrating.

ECL

**Re: Samson Cables - The Final Insult - Oh no! There's MORE!**

*Message #9 Posted by [Howard Owen](#) on 25 July 2007, 12:18 a.m.,  
in response to message #8 by ECL*

They no doubt are selling 50 or so pieces of air that they expect the manufacturer to make good on by next month. Sleazy.

Regards,  
Howard

**Re: Samson Cables - The Final Insult - Oh no! There's MORE!**

*Message #10 Posted by [Steve Borowsky](#) on 25 July 2007, 1:08 a.m.,  
in response to message #9 by Howard Owen*

I'm not defending Samson Cables deceptive practices, but the ebay ad says it ships 7/27, that's July, not August.

**Re: Samson Cables - The Final Insult - Oh no! There's MORE!**

*Message #11 Posted by [Howard Owen](#) on 25 July 2007, 2:57 a.m.,  
in response to message #10 by Steve Borowsky*

That *does* make a difference! Instead of thinking that they are selling air, I'm back to my former opinion that they are just making a hash out of a supply problem from HP. Adding the insult of incorrect shipping to the injury of not shipping when promised just isn't smart business. The latter *might* be excusable, depending on the circumstances. But the former looks to me like an entirely optional dig under the fingernails of already annoyed customers.

On the bright side, we can hope these supply problems are caused by unexpected heavy demand. I don't know that they are. It could be a problem ramping up the pipeline to predicted volumes. But if customers are beating down retailers doors, then I'd say the features that make the 35S unique, like the styling and build quality, may become benchmarks for future calculators from HP. Nice thought.

Regards,  
Howard

**Re: Samson Cables - The Final Insult - Oh no! There's MORE!**

*Message #12 Posted by [koendv](#) on 25 July 2007, 5:24 a.m.,  
in response to message #11 by Howard Owen*

FYI: I have received my HP35s, ordered on July 15th. (=\$52.99) Shipping was USPS (=\$20.00). Later I received a mail from Samson cables, stating charges to Europe were higher, but included all customs taxes. "\$35.00 Standard mail, 2-4 week delivery" was chosen and an additional \$15.00 paid.

Total costs were \$87.99 - about 63.65€ Total delay in delivery was 8 working days.



"All good things come to those who wait".

regards,

koen

### **Re: Samson Cables - The Final Insult**

*Message #13 Posted by **Les Wright** on 25 July 2007, 5:03 a.m.,  
in response to message #1 by deleted*

I have been fortunate.

Tracking on the usps website indicates that my parcel left O'Hare yesterday and is now in Canada. I should see it in a couple of days.

Apart from the initial shipment delay I haven't been too disappointed with Samson so far.

I wonder what's up?

Les

### **Re: Samson Cables - The Final Insult**

*Message #14 Posted by **Miguel Toro** on 25 July 2007, 7:23 p.m.,  
in response to message #13 by Les Wright*

So far, a good experience. I received my two 35s calculators today, here in Canada:

S/N:  
CNA 72102361  
CNA 72102362

Bought at Samson Cables, the 15th July at \$52.99 each (thank you Les, for tip).

My credit card was charged the 20th. I received a message from Samson the 21th, telling that the calculators had been shipped and I could track it, thanks to the code they gave me. My wife received the parcel today in the morning. One calculator is for me, the other is for my 12-year old daughter.

Now I am up to Gene's challenge...

Regards,

Miguel

### **Re: Samson Cables - The Final Insult**

*Message #15 Posted by **Les Wright** on 25 July 2007, 8:02 p.m.,  
in response to message #14 by Miguel Toro*

Miguel, did you have to pay any taxes or fees to claim them?

I am expecting that, at worst, I will have to fork over another \$13 to \$16CDN to claim mine. I am in Ontario, so that means 14% GST/PST on the CDN value (works out to about \$8CDN), plus the infernal admin fee (\$5 or \$8 depending on the situation).

What about you?

Les

P.S. you can use USPS tracking numbers to track parcel movement in Canada at Canadapost.ca--to my great pleasure they seem to use the same codes. My parcel is in town, having cleared customs, and I expect it tomorrow.

**Re: Samson Cables - The Final Insult**

*Message #16 Posted by Miguel Toro on 25 July 2007, 8:11 p.m.,  
in response to message #15 by Les Wright*

Hi Les,

To my surprise, I paid none. My wife even ask the postman and he told her there were nothing else to pay (?!?!). That made me happier, of course.

I hope it will be the same for you. Please tell, when you get yours.

**Re: Samson Cables - The Final Insult**

*Message #17 Posted by Les Wright on 26 July 2007, 8:51 p.m.,  
in response to message #16 by Miguel Toro*

Miguel, I got mine, but barely!

I have been tracking it very closely at Canadapost.ca. Delivery was attempted today. But I was home all day! No delivery attempt card left today.

The post office had it, but I had to do some fast talking and present my driver's license as proof.

You see, in my excitement I had mistyped my address in the Samson order form. The attempted delivery was to the neighbour at 32. I am at 22!

And, sadly, Canada Customs too another \$15.75CDN. Just about what I guessed they would!

Les

**Re: Samson Cables - The Final Insult**

*Message #18 Posted by Miguel Toro on 27 July 2007, 7:20 p.m.,  
in response to message #17 by Les Wright*

So, We Quebequers have some privileges...

; -)

**About to arrive!**

*Message #19 Posted by Gerson W. Barbosa on 26 July 2007, 6:23 p.m.,  
in response to message #13 by Les Wright*

Hello Les,

From USPS Track & Confirm page:

-----

Status: Arrived Abroad

Your item arrived in BRAZIL at 3:59 AM on July 25, 2007.  
Information, if available, is updated every evening. Please check  
again later.

-----

I just hope it doesn't get stuck at Customs. The 60% tax ought to be enough!

I ordered it on the 15th but I was never impatient about the delay. I will be impatient if it takes too much time to run program though :-)

Regards,

Gerson.

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## HP Forum Archive 17

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### HP-35s shipping price to Europe ?

Message #1 Posted by [Etienne](#) on 24 July 2007, 2:59 a.m.

Dear HP fans,

this is my first post although I have been reading this forum regularly for some time now. To introduce myself, I'm a 33-yo engineer living in Freiburg, Germany.

My interests include music, photography, aviation and science & technology in general.

Now back to the topic: I ordered a 35s from Samson Cables on July 15.

I paid \$52.99 + \$20 for shipping.

On July 17 they asked me for additional \$20 for shipping. I agreed so far.

Today I got an email requiring me to pay yet another \$15 for shipping. This seems a bit excessive to me. AFAIK there are other European members of the Forum who ordered a 35s from Samson Cables. Did all of you really pay \$55 for shipping ?

Thank you :-)

Etienne

### Re: HP-35s shipping price to Europe ?

Message #2 Posted by [Giancarlo \(Italy\)](#) on 24 July 2007, 11:39 a.m.,  
in response to message #1 by Etienne

Hi Etienne.

here follows a copy-and-paste of the confirmation e-mail from Samson Cables after my order I placed yesterday:

Ship From:  
Samson Cables  
1168 W. 11625 S.  
South Jordan, UT 84095-7809

Ship To:

Indesit Company SpA  
Giancarlo Mattioni  
Via L. Corsi, 55  
Fabriano (AN), Italy 60044  
ITALY

Items Ordered

(1) HP 35S RPN Scientific Calculator \$59.99

Sub Total: \$59.99

Shipping & Handling (US International Air Mail (2-4 weeks)): \$20.00  
UT State Sales Tax: \$0.00  
Total: \$79.99 (Pay Via: CreditCard)

As you can see, the S&H fees are 20.00 USD, and no additional fee has been required so far.

By the way, the shipping status reads "SHIPPED" as of today.

Hope this helps (and hope not to have any bad update ;-)

Best regards.

Giancarlo

*Edited: 24 July 2007, 11:44 a.m.*

### **Re: HP-35s shipping price to Europe ?**

*Message #3 Posted by [Bruce Bergman](#) on 24 July 2007, 1:29 p.m.,  
in response to message #1 by Etienne*

As much as I've had good results with them, THIS is definitely puzzling. I saw the other thread about this. I just can't understand why any company would ask for additional shipping fees and then jack it up AGAIN. I mean, aside from piss-poor business practice, and alienating their sole customer base, it just doesn't make sense. They should know up front what the costs are, or tell international customers to get a quote.

Really, I just don't get it.

thanks, bruce

### **Re: HP-35s shipping price to Europe ?**

*Message #4 Posted by [Nenad \(Croatia\)](#) on 24 July 2007, 2:32 p.m.,  
in response to message #1 by Etienne*

Willkommen Etienne,

For your information, I ordered the calculator from Samson Cables on 15th July at the price of 52,99 USD, choosing USPS Shipping & Handling (35 USD). After they charged my VISA card, they sent me an e-mail with the USPS tracking number. In accordance with the USPS information, the package left the USA yesterday morning from San Francisco on its way to Split, Croatia/Kroatien.

They did not ask me to pay any additional shipping costs.

MfG

### **Re: HP-35s shipping price to Europe ?**

*Message #5 Posted by [Diego Diaz](#) on 24 July 2007, 3:26 p.m.,  
in response to message #4 by Nenad (Croatia)*

Hi all,

Mmmm... Seems that they don't know much about international trading... Ok they're in the States thus they won't probably know of European regulations... but... they ask for \$15 in order to cover Euro-VAT expenses + S&H from their "European affiliate"...

Quote:

---

Diego,

The last email I sent you didn't seem to go through.

We are asking you to pay an extra \$15.00.

Because you are purchasing from one of the European Union countries, your order will ship from our European affiliate. All customs taxes (VAT) will be paid by us. In order to process your order, your payment needs to include the shipping, customs taxes, and handling charges according to the following:

El costo del envío incluye todos impuestos de la aduana (IVA). Le coût d'expédition inclut tous impôts de douanes (TVA). Il costo di spedizione include tutta le tasse di dogana (l'imposta sul valore aggiunto).

\$35.00 Standard mail, 2-4 week delivery (+ \$15 each additional item) \$45.00 Expedited mail, 2-3 day delivery (+ \$10 each additional item)

Please include phone number. This is required by international mail carriers.

Customer Support Samson Cables <http://www.samsoncables.com/> <http://www.hpcalculators.com>

---

Sure such "European affiliate" should have to know that Canary Islands (like Madeira or Açores) are excluded from VAT.

Whatever the case, what seems unconceivable is that they do behave with such a random procedure... asking for extra expenses to some customers while shipping others' orders... mostly once an order is marked as "PAID IN FULL"...

Still to see what they will say as I mail'em with this little Euro-taxes lesson... ;-)

Cheers!!

Diego.

---

### **Re: HP-35s shipping price to Europe ?**

*Message #6 Posted by **Nenad (Croatia)** on 25 July 2007, 5:02 a.m.,  
in response to message #5 by Diego Diaz*

Quote:

---

Diego, ... We are asking you to pay an extra \$15.00.

Because you are purchasing from one of the European Union countries, your order will ship from our European affiliate. All customs taxes (VAT) will be paid by us. In order to process your order, your payment needs to include the shipping, customs taxes, and handling charges according to the following:

---

Hi Diego,

in this case it is obviously an advantage (at least for me) that Croatia is not (yet) a part of EU. They shipped "my" HP-35s directly from the US. Now, I understand why they did not require any additional

costs.

Sometimes a disadvantage transforms into an advantage.

Best regards,

---

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## HP Forum Archive 17

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### **Where to find Optical Physics and laser dynamics/properties formulas for the 50G**

Message #1 Posted by [Scott Blakely](#) on 24 July 2007, 10:54 a.m.

Hi all,

So I have a 50G and it looks and feels really nice.

I am now trying to find some programs related to microscopy, etc for it before I take the time to write my own.

I have looked through the hpcalc.org stuff and 1) I haven't found much specific to this area of physics (yet) and 2) much of the stuff seems to have been written for much older calcs and I am not enough of a guru in the programming area to be able to tell which ones will run on the 50G.

So if anyone knows of a place that specialized in optical physics, etc. I would really appreciate knowing about it.

Thanks!

Scott

### **Re: Where to find Optical Physics and laser dynamics/properties formulas for the 50G**

Message #2 Posted by [Ed Look](#) on 24 July 2007, 12:44 p.m.,  
in response to message #1 by Scott Blakely

I have found that over the years, most programs or equations available, free or otherwise, are for engineering, surveying, and to a smaller extent, finance.

If you want ones more quickly and directly applicable to physics or chemistry, you may have to open your textbook or journal article and key it in yourself.

I needed a program to calculate Miller indices and a formula to quickly convert between eV and nm or angstroms and had to write or input them myself in both the 33S, 48G/G+, and 49G+. Fortunately, in the case of these five calculators, there is either a built in or downloaded constants library I could use to ease the writing.

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## HP Forum Archive 17

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### What Calculator Do You Think PC Uses in that Mac Commercial

Message #1 Posted by [Les Wright](#) on 24 July 2007, 7:06 a.m.

It is one of the familiar series--nerdy and anal-retentive PC shown up yet again by hip and relaxed Mac.

In the one in question, there is a flashback to the characters as kids. Young Mac wants to show Young PC a picture he produced. PC produces a calculator "to calculate how much time you've wasted."

The gag is reproduced by adult Mac and PC at the end of the commercial.

I wonder what calculator PC would use?

Les

### easy solution

Message #2 Posted by [Frank Boehm \(Germany\)](#) on 24 July 2007, 7:54 a.m.,  
in response to message #1 by [Les Wright](#)

As kids:

PC user: That's an easy one. It will most likely be a Novus 650 with low batteries. This one probably even has an A20 gate.

The Mac user will use - without doubt - a Sharp EL-8130. (Talk about round elements, brushed aluminium design and a keyless keyboard.)

As adults:

PC user: Windows calculator, using Win 3.11 skin

Mac user: iPhone calculator, not using any keys (still)

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### **[for Italians] Anyone has bought a 35S in Italy?**

Message #1 Posted by [Antonio Maschio \(Italy\)](#) on 24 July 2007, 6:19 a.m.

-- Antonio

*Edited: 24 July 2007, 6:19 a.m.*

### **Re: [for Italians] Anyone has bought a 35S in Italy?**

Message #2 Posted by [Giancarlo \(Italy\)](#) on 24 July 2007, 7:08 a.m.,  
in response to message #1 by Antonio Maschio (Italy)

Ciao Antonio.

I ordered mine from Samson Cables yesterday.

Status order reads: " 07/23/2007 Order received, 07/23/2007 Credit card charged, Shipped".

Customer order reads: "very impatiently waiting" ;-)

Best regards.

Giancarlo

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## HP Forum Archive 17

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### Dual HP-IL adapter for HP-71B

Message #1 Posted by [Olivier \(Wa\)](#) on 24 July 2007, 3:47 a.m.

I just came accross [this](#) Dual HP-IL adapter HP82402A for HP-71B. Does anyone know what it is and what its purpose is ?

### Re: Dual HP-IL adapter for HP-71B

Message #2 Posted by [Rodger Rosenbaum](#) on 25 July 2007, 5:18 p.m.,  
in response to message #1 by [Olivier \(Wa\)](#)

It allows two HPIL modules to be controlled by a single HP71.

As an example of its use, one could connect an RS-232 adapter to one of the HPIL modules, and some other device to the other. Then the output of a debugger (say) could be sent to a monitor connected to the RS-232, while the other device performance could be tested with the debugger, completely independent of the IL loop sending debugger output to the monitor.

### Re: Dual HP-IL adapter for HP-71B

Message #3 Posted by [Garth Wilson](#) on 26 July 2007, 3:40 a.m.,  
in response to message #2 by [Rodger Rosenbaum](#)

Since you can put dozens, even hundreds, of things on one IL at the same time, the reason I was given for the dual IL module is that you could have the 71 be the controller on one loop and a device on the other at the same time. I think the maximum I've had on the IL at once was six or seven devices.

*Edited: 26 July 2007, 3:41 a.m.*

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## HP Forum Archive 17

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### HPCC club and Valentin Albillo

Message #1 Posted by [Wlodek Mier-Jedrzejowicz](#) on 24 July 2007, 12:29 a.m.

This posting is about Valentin Albillo's membership agreement with the HPCC HP calculator club, and criticisms of it. Some people have said this is a subject for the HPCC club only, not for discussion on the MoHPC Forum. Others have suggested they will leave the club because the club has made no official posting here. As so much has been written on this Forum, and because Valentin asked for it, here is a statement on behalf of the club. If you are not interested in goings-on at HP calculator clubs, feel free to skip the rest :-)

\* Valentin Albillo does NOT have a free membership of the club. That is Valentin's understanding of the arrangement, and that of most of the club Committee. After paying for membership in the usual way for 4 years, he offered to make payment instead by writing a guaranteed and regular set of articles for our journal, Datafile. The Editor liked the idea, the club Committee accepted it, the Annual General Meeting in 2005 approved the agreement, the AGM in 2006 confirmed it, and it's been running satisfactorily for two years and is now well into its third. Not everyone agreed, but this was an officially made agreement that Valentin paid by providing articles regularly, not a free membership.

\* An arrangement like this, where a regular supply of quality articles is guaranteed, is very valuable to an editor. It is like the difference between a journalist with a contract to provide a weekly newspaper column and bloggers who post when and what they like. The blogs might or might not be more interesting than the column, but they do not provide the guarantee an editor needs that pages will be filled in every issue. The HPCC Editor offered to make similar agreements with other members who could satisfy the Editor and the Committee that they would provide a regular supply of substantial articles of interest to HPCC members.

\* Two members of HPCC opposed this agreement, and voted against it at the AGMs, because the club works on the basis that all members pay money for their membership. As in most clubs, it would be considered wrong for the Treasurer or the Editor, for example, to get their membership in exchange for the work they do. The Committee recognized this concern, but considered Valentin's offer to be for the good of the club and voted to accept it.

\* Two other members have expressed some opposition, and one of them has recently suggested that the agreement is contrary to the club constitution. This objection has been made only after the agreement had been working successfully for more than two years. The Committee believes that the constitution allows it to make such special arrangements for the good of the club, but the question will be discussed at the next AGM, and appropriate changes will be made to the constitution if the AGM so decides.

\* The members who are opposed to the agreement have every right to continue in their personal opposition to it, but I ask them not to publicly misrepresent the position, and not to be rude to Valentin on this Forum, nor anywhere else for that matter.

\* Until the situation is discussed at the AGM, the Editor has withdrawn the offer of similar agreements. Further, to avoid any more arguments, Valentin has now paid with money for his membership for the rest of the current year. Despite this, he will hold to his agreement with the club and will continue to write for Datafile – he has already offered a set of articles about the new HP35s.

Apologies for the length of the above, but I hope it clarifies matters.

Wlodek Mier-Jedrzejowicz on behalf of the HPCC club Committee

**Re: HPCC club and Valentin Albillo**

*Message #2 Posted by [Geir Isene](#) on 24 July 2007, 3:27 a.m.,  
in response to message #1 by Wlodek Mier-Jedrzejowicz*

Would everyone be satisfied if Valentin paid his membership fee as usual and the club paid him the exact same money back for the guaranteed contributions? (on the chance that the club's constitution allows for paying contributors).

**Re: HPCC club and Valentin Albillo**

*Message #3 Posted by [Walter B](#) on 24 July 2007, 4:32 a.m.,  
in response to message #2 by Geir Isene*

IMHO this would make a simple agreement more complicated, and only feed the banks. Within the framework set by the HPCC constitution, majority rules. As Wlodek explained very well, the agreement was accepted regularly. This isn't mathematics, it's democracy. Hopefully, every member shall be able to accept this.

Just my 0,02 Euros.

**Re: HPCC club and Valentin Albillo**

*Message #4 Posted by [Howard Owen](#) on 24 July 2007, 4:00 a.m.,  
in response to message #1 by Wlodek Mier-Jedrzejowicz*

Quote:

Apologies for the length of the above, but I hope it clarifies matters.

Thank you for clearing that up. And *thank* you for rescuing Datafile's relationship with Valentin. I believe that is the right outcome for Datafile and the HPCC membership. I'm looking forward to issues containing more great articles, both from Valentin, Gene and others.

Thank you, once again.

Regards,  
Howard

**Re: HPCC club and Valentin Albillo**

*Message #5 Posted by [Wayne Brown](#) on 24 July 2007, 10:47 a.m.,  
in response to message #1 by Wlodek Mier-Jedrzejowicz*

Thank you very much for explaining it all so clearly. It seems a fair and equitable arrangement to me, and I would have no objection to it continuing for as long as Valentin and the Committee wish it. In any case, my chief concerns (the apparent secrecy surrounding this issue, and the lack of an official public statement that would put to rest the rumors) have been satisfied and I no longer have any hesitation about renewing my membership next year.

**Re: HPCC club and Valentin Albillo**

*Message #6 Posted by [Bruce Bergman](#) on 24 July 2007, 1:45 p.m.,*

*in response to message #1 by Wlodek Mier-Jedrzejowicz*

It's interesting to read some of the thought process and history from the club perspective, so thanks for that.

This whole thing got into the public eye in a weird way, so I'm not sure any of us even have the "right" to comment on any of this. Especially me, because I am not an HPCC member (but would really like to be, BTW). The workings of this really don't involve us.

However. ;-) I might offer an opinion or two, just to get on a soapbox for a second. Please take it with a grain of salt. ;-)

I personally think this situation was WAY too political. Maybe that's because of the make up of the group, or it being in the UK or whatever, but really guys, this is a **\*\*CLUB\*\***. You're not running a company, or leading the take over of a country, you don't have tens of thousands of members, it's not rocket science, etc. You basically have a group of folks who are enthusiastic about calculators. It doesn't HAVE to be this hard. In fact, it shouldn't be hard at all.

Everything that happened, according to Wlodek's recap, is wonderfully normal and appropriate. It appears just a few dissenters caused all the ruckus, and that's...unfortunate.

My humble opinion probably means nothing to anyone here, but I believe I have relevant background, both having been in the publishing industry as a columnist and editor, being involved with HP calcs for 30 years, and also in having helped start, govern, run and manage many non-profit organizations and clubs for over 15 years. In all that time, I've never seen something as small and petty as this get so many folks riled, and cause such lengths of procedure and process to be expended. It boggles the mind.

A technical journal like this is a heart and soul of a user community, and it stands to reason that getting quality content is one of the most important considerations. Exchange for (something else) is accepted, normal and highly ethical. In fact, I'd go so far as to say it is "necessary". I support that idea.

Dr. Laura has a really great perspective on disagreements like this. I wish more people took this advice. Simply said "just be polite".

Good luck to Wlodek (who I respect immensely), Valentin (who writes great stuff) and HPCC (who needs to send me a membership application). :-)

thanks, bruce

*Edited: 24 July 2007, 1:52 p.m.*

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**Re: HPCC club and Valentin Albillo**

*Message #7 Posted by [John Cadick](#) on 24 July 2007, 3:20 p.m.,  
in response to message #6 by Bruce Bergman*

Hi Bruce:

The membership form is found at [HPCC Membership](#).

John

---

**Re: HPCC club and Valentin Albillo - thanks**

*Message #8 Posted by [Wlodek Mier-Jedrzejowicz](#) on 25 July 2007, 10:48 p.m.,  
in response to message #7 by John Cadick*

Many thanks to all who responded on this subject for your very positive reactions. My thanks as well to HPCC's journal Editor, Bruce Horrocks and to everyone in our club Committee who had to go through the experience. Thanks to Dave for providing this Forum, and special thanks to Valentin Albillo, for his enthusiasm, for his articles, and for his support of HPCC.

Politics are indeed unavoidable once a group sets out to achieve more than just meeting and talking. Groups can have written rules, unwritten rules, or a mixture - yet there will always be circumstances that are not foreseen by the rules. When that happens, some people will think the group is best served by sticking rigidly to the existing rules, while others will prefer a loose interpretation for the perceived good of the group. It usually takes some time to find out who was right in any particular case! Here we wanted to be circumspect, but we finally did decide to post a statement - and to discuss the matter again at the next Annual General Meeting of the club. Till then, I trust the matter is sorted out and I look forward to Valentin's coming articles.

Thanks again, Wlodek

## "Politics" and Calculators

Message #9 Posted by **Howard Owen** on 24 July 2007, 7:14 p.m.,  
in response to message #6 by Bruce Bergman

I don't want to rake the coals of this particular episode, but I felt I needed to respond to some of the general points you made. Please be assured that I don't undertake this, nor should it be interpreted as a personal attack. It's the ideas I want to discuss.

- Firstly, becoming "political" is what organizations with more than two members do unconsciously, and appropriately. If you want to avoid politics, don't write a charter or bylaws or anything like that. Politics is essential to those processes. Do you want to make a decision at a group level? Dust off the politics. Does a strong leader make the decision without consulting anyone? That's autocracy. Does the group informally decide? That's one form of democracy. Politics is simply unavoidable.
- You note that dissenters were the cause of this particular imbroglio. I'm not entirely sure about that. But that's the way people tend to be in groups greater than two in number anyway. Should you suppress the natural tendency in people to disagree, and to get annoyed behind those disagreements? I submit that it's not possible to do that anywhere over the 50% level in an organization that isn't tightly restricted to a single code of behavior and discourse. And even there, in military organizations for example, you *still* have dissent.
- You suggest that the common enthusiasm for calculators ought to be enough to avoid unpleasantness. As a thought experiment, imagine that there are two auto enthusiasts who happen to like the same cars. However, each one belongs to a different church, has different political affiliations, comes from a different corner of the world, speaks a different language, and so forth. Is it likely these two will agree on everything because of their shared interest in automobiles? It's not likely. And an organization made up of people who all share one another's opinions on everything strikes me as uninteresting, at best.

So I wouldn't disparage the political process in this case. After all, hostile viewpoints that resulted in significant harm to the community in question were reconciled by a political process. I count that as a very good thing.

Regards,  
Howard

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## HP Forum Archive 17

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### alternative cos(x) and tan(x) [HP-33S]

Message #1 Posted by [Gerson W. Barbosa](#) on 23 July 2007, 9:36 p.m.

Each of the following programs takes up only one label and will always give at least 11 correct digits for arguments in degrees (  $-999,999,999,909 \leq x \leq 999,999,999,999$  ).

Gerson.

```

L0001 LBL L
L0002 x<>y
L0003 STO A
L0004 x<>y
L0005 +/-
L0006 90
L0007 +
L0008 360
L0009 RMDR
L0010 STO B
L0011 90
L0012 INT/
L0013 STO C
L0014 ENTER
L0015 ENTER
L0016 2
L0017 INT/
L0018 -
L0019 180
L0020 *
L0021 RCL- B
L0022 -1
L0023 RCL C
L0024 ENTER
L0025 x!
L0026 +
L0027 y^x
L0028 *
L0029 STO B
L0030 x^2
L0031 ENTER
L0032 ENTER
L0033 ENTER
L0034 2.0934E-26
L0035 *
L0036 4.47566E-20
L0037 -
L0038 *
L0039 5.55391606E-14
L0040 +
L0041 *
L0042 3.28183761372E-08
L0043 -
L0044 *
L0045 5.81776417331E-03
L0046 +
L0047 RCL* B
L0048 ENTER
L0049 x^2
L0050 4
L0051 *
L0052 +/-
L0053 3
L0054 +
L0055 *
L0056 RCL A
L0057 x<>y

```

L0058 RTN

LN=330  
CK=AE03

```

M0001 LBL M
M0002 DEG
M0003 x<>y
M0004 STO D
M0005 x<>y
M0006 SIN
M0007 LASTx
M0008 XEQ L
M0009 /
M0010 RCL D
M0011 x<>y
M0012 RTN

```

LN=36  
CK=3737

```

89.9999999 XEQ L -> 1.74532925199E-9
89.9999999 COS -> 1.74532000000E-9
      actual -> 1.74532925199433E-9

```

```

89.9999999 XEQ M -> 572,957,795.132
89.9999999 TAN -> 572,960,832.397
      actual -> 572,957,795.1308232

```

```

-5555 XEQ L -> -9.06307787035E-1
-5555 COS -> -9.06307787037E-1
      actual -> -9.06307787036650E-1

```

**Re: alternative cos(x) and tan(x) [HP-33S]**

Message #2 Posted by [Les Wright](#) on 23 July 2007, 10:59 p.m.,  
in response to message #1 by Gerson W. Barbosa

Thanks Gerson for sharing yet another version of your minimax polynomial approximations of some of the trigonometric functions.

For fussy budgets like me, this will be very useful, and I will enter them in my HP35S (the porting should be easy) when I get it.

I am actually more troubled by the persistence of the cosine bug than the inconvenient entry of hex numbers everyone seems so fussed about. The persistence of the digit loss for arguments approaching 90 degrees has accuracy implications for the sine of very small angles, the tangent function, complex number math, and of course rectangular-polar conversions.

FWIW, can someone with a 35S compute the cosine for 89.99, 89.999, 89.9999, and 89.99999, etc., degrees and let us all know?

Les

**Re: alternative cos(x) and tan(x) [HP-33S]**

Message #3 Posted by [sjthomas](#) on 23 July 2007, 11:13 p.m.,

*in response to message #2 by Les Wright*

Quote:

FWIW, can someone with a 35S compute the cosine for 89.99, 89.999, 89.9999, and 89.99999, etc., degrees

$$\cos(89.99) = 1.74532924306 \text{ E-4}$$

$$\cos(89.999) = 1.74532925091 \text{ E-5}$$

$$\cos(89.9999) = 1.74532925 \text{ E-6}$$

$$\cos(89.99999) = 1.7453292 \text{ E-7}$$

$$\cos(89.999999) = 1.745329 \text{ E-8}$$

$$\cos(89.9999999) = 1.74532 \text{ E-9}$$

$$\cos(89.99999999) = 1.74532925199 \text{ E-10}$$

$$\cos(89.999999999) = 1.74532925199 \text{ E-11}$$

$$\cos(89.9999999999) = 1.74532925199 \text{ E-12}$$

$$\cos(89.99999999999) = 1.74532925199 \text{ E-12}$$

$$\cos(89.999999999999) = 1.74532925199 \text{ E-12}$$

.  
. .  
.

*Edited: 23 July 2007, 11:14 p.m.*

### **Re: alternative cos(x) and tan(x) [HP-33S]**

*Message #4 Posted by [Les Wright](#) on 24 July 2007, 12:48 a.m.,  
in response to message #3 by [sjthomas](#)*

Thanks!

Yep, the cosine bug has survived unchanged.

I am actually intrigued that when one gets to 89.99999999, full 12-digit accuracy in the result returns. Weird! I am sure someone once explained the cause of this bug.

Les

*Edited: 24 July 2007, 5:35 a.m.*

### **Re: alternative cos(x) and tan(x) [HP-33S]**

*Message #5 Posted by [Gene Wright](#) on 24 July 2007, 11:29 a.m.,*

*in response to message #4 by Les Wright*

Hi Les (and all).

The 35s review at the hpcc.org site stated that the COS bug was still there. This was available the day the 35s was announced.

[Datafile 35s review](#)

### **Re: alternative cos(x) and tan(x) [HP-33S]**

*Message #6 Posted by [Gerson W. Barbosa](#) on 24 July 2007, 10:55 a.m.,*

*in response to message #2 by Les Wright*

Quote:

I will enter them in my HP35S (the porting should be easy) when I get it.

Hello Les,

I think it will run with no modification on the HP-35s. But it will require three keystrokes to access the function, by what I've read: [XEQ] [L] [ENTER], for instance, instead of the more convenient [XEQ] [COS] on the HP-33s.

Best regards,

Gerson.

### **Re: alternative cos(x) and tan(x) [HP-33S]**

*Message #7 Posted by [Les Wright](#) on 25 July 2007, 5:35 a.m.,*

*in response to message #6 by Gerson W. Barbosa*

Gerson,

Your routines are very fast. Say what you like about the now obsolete 33S, but it does run keystroke programs with lightning quickness. I understand that in many cases the 35S may actually be slower!

I also like how you preserve the contents of the Y register for subsequent calculations. Unfortunately the routines don't keep the entire stack in its original state, but this is a nice touch. One problem about RPN programs is they make a mess of the stack sometimes, unlike the internal routines. RPL programs tend not to do this, unless you want them too.

Les

### **Re: alternative cos(x) and tan(x) [HP-33S]**

*Message #8 Posted by [Gerson W. Barbosa](#) on 27 July 2007, 2:22 p.m.,*

*in response to message #7 by Les Wright*

Hello Les,

Quote:

Your routines are very fast. Say what you like about the now obsolete 33S, but it does

run keystroke programs with lightning quickness. I understand that in many cases the 35S may actually be slower!

---

Too bad they don't run fast enough on the 35s: about 1.5 seconds. They appear to run 10 times faster on the 33s (no timing so far). Also, [XEG] [COS] [ENTER] is very inconvenient. And having to press [>] to see the exponent is pretty cumbersome. Didn't they realize the exponent is much more important than the least significant digits? I prefer ALL mode, not that I don't care about all those digits, but because I don't like integers being displayed with all those zeros. I am very inclined to getting rid of this 35s and getting another obsolete 33s...

Regards,

Gerson.

---

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## HP Forum Archive 17

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### First Impressions HP 35s

Message #1 Posted by [Richard Garner](#) on 23 July 2007, 7:04 p.m.

I got my 35s today. I ordered it from the HP website on the 13th. Here are my first impression of the 35s. The description on the website is a little misleading. It implies that the 35s is in box not a blister pack as it actually is. They should restate it to say what is in the package not what is in the box. But I can live with that.

The 35s is a nice size, it fits well in the hand. The keys work well and have a nice click to them. I would still have changed the Sigma and R/S keys. I am very pleased with the return of the double wide Enter key and it being back in its right place. The display is easy to read. Depending on the light source there is a slight glare. The overall color scheme is spot on. The overall design is very pleasing to the eye and it looks like something you would be proud to pull out of your pocket and use. That's all for now. I'm going to go play now.

SN CNA 72103826

### Pocket Size

Message #2 Posted by [DaveJ](#) on 23 July 2007, 9:57 p.m.,  
in response to message #1 by [Richard Garner](#)

Quote:

\_\_\_\_\_

The overall design is very pleasing to the eye and it looks like something you would be proud to pull out of your pocket and use.

\_\_\_\_\_

I've heard quite a few people now say it's a nice pocket size. What kind of pockets do you guys have??

15.8 x 8.2 x 1.82 cm is BIG in my book, too big to be called a pocket calculator IMHO.

It could fit in my lab coat pocket maybe , but not my shirt pocket.

Dave.

### Re: Pocket Size

Message #3 Posted by [sjthomas](#) on 23 July 2007, 11:19 p.m.,  
in response to message #2 by [DaveJ](#)

I too would like a decent RPN scientific calculator which is truly shirt-pocket size. Something about the size of the 35s' keyboard portion -- and a bit narrower. Back in the days when dinosaurs roamed the earth, I used to keep my 25c in my pants pocket most of the time (without its case).

The 35s is even taller than the 33s, yet it seems thinner (but it isn't).

*Edited: 23 July 2007, 11:21 p.m.*

## Re: Pocket Size

Message #4 Posted by **Richard Garner** on 24 July 2007, 12:27 a.m.,  
in response to message #2 by DaveJ

Pocket size that I speak of is dress shirt pockets. With out its case the 35s will fit in a dress shirt pocket with room to spare. Although I have recently bought some polo style shirts that have pockets that I could put 2 48gx in and still have room to spare. I don't care too much for the butterfly case that comes with the 35s. I will be looking for something smaller for pocket use or something for belt use. What would be nice, if some one would come out with an Astec type hard case for the 35s.

## Re: Pocket Size

Message #5 Posted by **sjthomas** on 24 July 2007, 2:12 a.m.,  
in response to message #4 by Richard Garner

Quote:

I have recently bought some polo style shirts that have pockets that I could put 2 48gx in and still have room to spare.

That's just the opposite of my polo-style shirts compared to dress shirts. [Those who may scoff at this statement haven't seen me for a few years!]

Quote:

I don't care too much for the butterfly case that comes with the 35s.

Nor I, but I've used worse. I don't understand why it is a dual-ended zipper. This isn't necessary even though the case can (thoughtfully) be used either right- or left-handed. I yanked the dangling zipper-tab-thing off the lower zipper-end. It was just getting in the way. More recently, I have been using the case from my 33s; it's just faster. The 35s case looks nice though.

Quote:

What would be nice, if some one would come out with an Astec type hard case for the 35s.

Oh yeah! Would that an Astech case was made for every model of calculator!! Interestingly, hp refers to the 35s' case as a "hard" case -- I think that's pushing the meaning of "hard" a bit. It's certainly better than the thin plastic slip-covers they started including with the Pioneers though.

*Edited: 24 July 2007, 2:13 a.m.*

## Re: Pocket Size

Message #6 Posted by **Howard Owen** on 24 July 2007, 4:11 a.m.,  
in response to message #2 by DaveJ

Quote:

I've heard quite a few people now say it's a nice pocket size. What kind of pockets do you guys have??

Well, the HP-35 was described as a pocket calculator. It was a tiny bit shorter and a *really* tiny bin

narrower than the 35S, but the latter is much thinner. Not to ignore your point that "pocket size" means smaller than that to you, but I think the benchmark ought to be the stereotypical engineer's shirt pocket. These are commonly thought of as lined with a pocket protector, and stuffed full of drafting pens, notebook and yes, an HP calculator. The 35s's thinness would be a positive boon in that sort of pocket. 8)

Regards,  
Howard

### Re: Pocket Size

Message #7 Posted by [DaveJ](#) on 24 July 2007, 6:57 a.m.,  
in response to message #6 by Howard Owen

Quote:

---

Well, the HP-35 was described as a pocket calculator. It was a tiny bit shorter and a *really* tiny bin narrower than the 35S, but the latter is much thinner. Not to ignore your point that "pocket size" means smaller than that to you, but I think the benchmark ought to be the stereotypical engineer's shirt pocket. These are commonly thought of as lined with a pocket protector, and stuffed full of drafting pens, notebook and yes, an HP calculator. The 35s's thinness would be a positive boon in that sort of pocket. 8)

---

Well I'm an engineer and I don't think I've ever owned a shirt pocket that would fit the new 35S, the old 35, or even my Pioneer. I think we've all been conned!

Technology has progressed just a tad in 35 years and the best they can do is make the 35S thinner than the original? :-/

Dave.

### Re: Pocket Size

Message #8 Posted by [Matt Kernal](#) on 24 July 2007, 2:27 p.m.,  
in response to message #6 by Howard Owen

Quote:

---

.. the stereotypical engineer's shirt pocket.. commonly thought of as lined with a pocket protector, and stuffed full of drafting pens, notebook and yes, an HP calculator.

---

Right now, the daily "gear" in my shirt pocket is a pen, mechanical pencil, small screwdriver, company photo-ID badge (w/ RFID chip for locked-door entry), and my 11C.

IMHO, the Voyager series is the only true "shirt pocketable" size calculator HP ever made. Everything else is either too tall, too thick, or too wide. This excludes the 6S, 8S, 9G, 9S, and 30S, which aren't "real" HP's anyway, now are they? While, the 10BII fits in a shirt pocket, I don't remember the last time I needed to amortize anything while troubleshooting a control system ;-)

Your friendly, neighborhood stereotypical engineer :-)

### Re: First Impressions HP 35s

Message #9 Posted by [Art Litka](#) on 23 July 2007, 10:10 p.m.,



*in response to message #1 by Richard Garner*

Received my 35s (CNA 72103883) from the HP store today too. I ordered it on July 13th and my first impressions are favorable as well. Opening blister packs is a real pain but this product seems to be heading HP back to the calculator reputation it once had; a big improvement over the 33s for sure. If I think as highly of it after some further practice, I will strongly suggest it to my calculus based physics students in the fall. I'd love to introduce RPN into the hearts and minds of today's engineering and science majors and this machine may be the vehicle to do it!

## **Sigma, R/S, and functional grouping**

Message #10 Posted by **Karl Schneider** on 24 July 2007, 4:56 a.m.,  
*in response to message #1 by Richard Garner*

Richard Garner posted:

Quote:

\_\_\_\_\_

The 35s is a nice size, it fits well in the hand... I would still have changed the Sigma and R/S keys.

\_\_\_\_\_

I noted the same thing. The basic issue is *functional grouping*, a good thing which seems to have been followed here at the expense of practicality.

Sigma+ is a data-entry key that also belongs to statistics and probability. On the Voyager-series models (e.g., HP-15C, HP-11C, HP-10C), Sigma+ and Sigma- are adjacent to the main data-entry keys, and also grouped with the prob/stat keys on the bottom row. R/S is grouped on the left side with other keys for programming, such as GTO, GSB, and SST. R/S can be used to allow entry of data, but without prompting, usage is not very obvious.

However, on the programming-friendly HP-41, HP-42S, HP-32S, and HP-32SII, R/S is much more of a data-entry key -- used immediately following a number key. Hence, it took the place of Sigma+, which is seldom used anyway.

The HP-32SII and HP-33S use R/S for completing data entry in Equation mode, and with the INPUT command for programs. Sigma+ was placed on the top row along with the other prob/stat keys. This would have been worth preserving on the HP-35s. However, the cursor keys on the top row displaced the prob/stat keys, which were all moved toward the bottom along with Sigma+. R/S went to the upper-left corner along with other keys for programming. This is very much like -- the HP-15C!

So, the bottom line: Good functional grouping, but diminished practicality for this aspect of the HP-35s.

-- KS

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## HP Forum Archive 17

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### hp 35s hexadecimal math....what were they thinking?

Message #1 Posted by [Tom Lianza](#) on 23 July 2007, 6:14 p.m.

Here's a line from the manual that we should take note of....

"In RPN mode, the keys sin, cos, tan, sqrt,  $y^x$  and  $1/x$  act as a short cut to enter the digits A to F. In ALG mode, press the RCL A,B,C,D,E,F to enter the digits A to F."

To finish an entry, you have to hit the base key again, use the down arrow key to append a "h" to the number and you are all done! You have to do that with each entry... I guess they want to punish the user for trying to do hexadecimal math...

### Re: hp 35s hexadecimal math....what were they thinking?

Message #2 Posted by [Monte Dalrymple](#) on 23 July 2007, 7:08 p.m.,  
in response to message #1 by Tom Lianza

Yes, this is a major PITA. But it gets even worse. If you forget to append the "h" one of two things will happen... If the hex number contains one of "ABCDEF" it will complain about a syntax error and leave the cursor under the first digit. But if the number does not contain one of "ABCDEF"... it will happily enter the number... and assume that the number is decimal and convert it to hexadecimal.

I end up cursing at least once for every time I try to use the hexadecimal, which is a large fraction of what I use a calculator for.

But the 35s is so much nicer to look at, with the ENTER key in the right place, that I haven't gone back to the 33s or 16c yet.

Monte

### Re: hp 35s hexadecimal math....what were they thinking?

Message #3 Posted by [Bruce Bergman](#) on 23 July 2007, 7:28 p.m.,  
in response to message #1 by Tom Lianza

Agreed on almost all comments. It's a mess.

The good news is that this begs for a decent set of quick and easy programs for doing this the right way. I.e., taking what they've given us and creating a proper implementation.

Anyone?

thanks, bruce

### Re: hp 35s hexadecimal math....what were they thinking?

Message #4 Posted by [bill platt](#) on 23 July 2007, 7:50 p.m.,

*in response to message #3 by Bruce Bergman*

Now that's the spirit!

### **Re: hp 35s hexadecimal math....what were they thinking?**

*Message #5 Posted by **Chuck** on 23 July 2007, 8:08 p.m.,*

*in response to message #1 by Tom Lianza*

I'll probably get completely raked over the coals for this comment; I'm ready for it.

How many users of "scientific calculators" actually use hexadecimal? I realize some programmers and computer techs may. But I'm talking engineers, chemists, physicists, mathematicians, statisticians, etc. I know a lot of people rely on binary, octal, and hexadecimal in their professions, but I'm curious to know a percentage of actual users who do. I'm guessing a lot fewer than 1%. Is the 16C not the preferred device for this group?

I'm more interested in a calculator that can operate in any base, including e, pi etc. Some extremely interesting mathematics occurs in these bases. I wrote a program for the 50g to do this. Maybe one for the 35s is the way to go. But I still have two days to wait for mine. :(

Let me have it! :)

CHUCK

### **Re: hp 35s hexadecimal math....what were they thinking?**

*Message #6 Posted by **Bruce Bergman** on 23 July 2007, 8:38 p.m.,*

*in response to message #5 by Chuck*

Coals? No -- you've asked a reasonable question.

As a programmer, I probably use hex or binary once a week or so. I probably do at least some sort of basic functionality in these bases that often, sometimes more. It's generally limited to switching between bases, but frequently includes basic math, and basic logic operations too.

Personally, I think the issue is less about how MUCH we need it, but more about how EASY it is to use.

I would really prefer to use the 16c for this work -- as you postulated -- but it is such a rare and valuable calc that I won't subject it to use at work; dust, spills, theft, etc., are all concerns. If the 16c's were still in production, or available in copious quantities, then yes, I would totally be using that calc instead. There has been nothing like it since it came out.

Since they aren't prolific, I rely on my "desk calc", whatever model that is, to do my occasional base work. Here lies the second half of the problem...

If it's difficult to use, or not obvious in how to do something, then I have a big problem with that calc. Partly because I want to be able to just pound out my answers, but also because I have to trust the numbers. If I have to really carefully watch as I type in each number, make sure I've pressed the right operation, check to see the number makes sense, no errors, etc., then I've worked too hard at it. Some would argue that I should \*always\* do that anyhow. True. But with the 16c, for example, I never have to doubt my work -- it was so intuitive that the results were rock solid. With the new 35s (and the 33s before it; the 50g which is still different yet; etc), I always had to make sure I clearly was doing the right thing and the answers were plausible in context. That sucks. It needs to be easy to use, and rock solid in what it does without making me doubt my work.

A good example is what someone already posted. Go into hex mode and enter a number. Notice that if you

enter "25c", it complains of syntax error. Ugh. If I just enter "25", it takes it and converts it. Dangerous. I have to go put a "h" at the end to make sense in that context (a multi-keystroke step). At that point, I'm working too hard. That's not even talking about math or logic -- that's just entering a number.

I still think a program to emulate the 16c behavior is needed -- or something of that sort. Anyone else have ideas or comments?

My \$0.02 anyhow.

thanks, bruce

*Edited: 23 July 2007, 8:44 p.m.*

### **Re: hp 35s hexadecimal math....what were they thinking?**

*Message #7 Posted by [sjthomas](#) on 23 July 2007, 11:25 p.m.,  
in response to message #6 by Bruce Bergman*

Quote:

\_\_\_\_\_

I still think a program to emulate the 16c behavior is needed -- or something of that sort.

\_\_\_\_\_

Jake????

### **Re: hp 35s hexadecimal math....what were they thinking?**

*Message #8 Posted by [Paul Dale](#) on 23 July 2007, 8:40 p.m.,  
in response to message #5 by Chuck*

Quote:

\_\_\_\_\_

How many users of "scientific calculators" actually use hexadecimal?

\_\_\_\_\_

I, for one, do on a daily basis.

Quote:

\_\_\_\_\_

Is the 16C not the preferred device for this group?

\_\_\_\_\_

I keep a 16c with me at work for just this reason. However I frequently have to reach for a different model to do other calculations. The 16c is retarded for most things apart from binary/hex stuff :-)

A simple programmable calculator which had base arithmetic and the normal scientific functions all equally accessible would be a real win for me. I don't care for complex support, matrices or hyperbolics...

- Pauli

### **Re: hp 35s hexadecimal math....what were they thinking?**

*Message #9 Posted by [Thomas Okken](#) on 23 July 2007, 8:52 p.m.,  
in response to message #5 by Chuck*

Quote:

\_\_\_\_\_

How many users of "scientific calculators" actually use hexadecimal?

I don't know how many, but I'm one of them. I'm actually a programmer by trade, who happens to want the "scientific" functionality because I'm also interested in math, physics, and whatnot.

If only they'd implemented bin/oct/hex like they did in the HP-42S! I use that functionality a lot, and in the 42S it never trips me up, and it doesn't annoy me by requiring lots of keystrokes. (Which is more than I can say for the RPL series, and, from what I hear, the 35S!)

- Thomas

*Edited: 23 July 2007, 8:55 p.m.*

### **Re: hp 35s hexadecimal math....what were they thinking?**

*Message #10 Posted by **Karl Schneider** on 26 July 2007, 3:08 a.m.,*

*in response to message #9 by Thomas Okken*

Quote:

If only they'd implemented bin/oct/hex like they did in the HP-42S! I use that functionality a lot, and in the 42S it never trips me up, and it doesn't annoy me by requiring lots of keystrokes. (Which is more than I can say for the RPL series, and, from what I hear, the 35S!)

Certainly agreed here: For bin/oct/hex and logic, I'd say that the HP-16C is most robust, the Pioneer-series models are well-conceived, and the RPL-based models are cumbersome. Here's a lengthy post of mine from the Archives, which morphed into a discussion of simulators vs. emulators:

<http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv015.cgi?read=77331#77331>

### **Re: hp 35s hexadecimal math....what were they thinking?**

*Message #11 Posted by **DaveJ** on 23 July 2007, 9:46 p.m.,*

*in response to message #5 by Chuck*

Quote:

How many users of "scientific calculators" actually use hexadecimal? I realize some programmers and computer techs may. But I'm talking engineers, chemists, physicists, mathematicians, statisticians, etc. I know a lot of people rely on binary, octal, and hexadecimal in their professions, but I'm curious to know a percentage of actual users who do. I'm guessing a lot fewer than 1%. Is the 16C not the preferred device for this group?

I'm an electronics design engineer and I need both binary and hex capability (rarely care about octal). Not on a daily basis, but when I need it, I need it, and as a not often used function it must be easy and foolproof to use. I don't want to have to read the manual after 6 months to figure it out again.

For that purpose I find the way the base functions work on my 20S to be ideal. It's the same as the Casio models where the HEX, BIN, OCT, DEC keys put the calc into the required mode and automatically convert the current displayed number from whatever mode it was in. The SHOW button switches between groups of 8 bits in binary mode.

Dave.

### **Re: hp 35s hexadecimal math....what were they thinking?**

*Message #12 Posted by [Steve Myers](#) on 23 July 2007, 10:09 p.m.,  
in response to message #5 by Chuck*

No coal raking here...sounds like a legitimate question. Most people don't need this functionality everyday, but some of us do.

As an embedded device developer, I use Hex-Bin every day. This is the only way to make any sense of complex port register settings and controlling things like LED matrices.

Another big use is in explaining in my comments how the hex numbers being used in a program reflect the settings of bitwise flags, pointers and port control settings.

Also, I am an Engineer, both Computer Science and Electronics

*Edited: 23 July 2007, 10:14 p.m.*

### **Re: hp 35s hexadecimal math....what were they thinking?**

*Message #13 Posted by [Tom \(UK\)](#) on 24 July 2007, 9:49 a.m.,  
in response to message #5 by Chuck*

Well in electronics and some programming I use hex and binary conversions to and from decimal now and then. I can do binary <-> hex in my head. I'm surprised it looks so clumsy on the new HP35S with those extra button presses needed and it can trip you up with some numbers if you just press enter (sounds like a recipe for disaster), my HP32Sii seems to be much more elegant.

For those who don't use hex: I hardly ever use statistic functions (or SIN COS and TAN) but I'd be disappointed if my shiny new HP calc didn't do them very well.

### **Re: hp 35s hexadecimal math....what were they thinking?**

*Message #14 Posted by [Howard Owen](#) on 23 July 2007, 10:41 p.m.,  
in response to message #1 by Tom Lianza*

I'm writing a subnet calculator suite. Hex mode has me so annoyed, I do all the binary math in decimal mode. I do switch to hex occasionally to do a quick conversion or to verify I have my masks working right. It's really awkward, but not nearly so as the native base modes are.

The one advantage I can see to tagging the integer on the stack is so you can do mixed-base calculations. But who needs to do integer math with numbers of different bases? The only other thing I can figure is that, for some reason, they couldn't use the current base as a clue for what base to put an entry into. I'd hate to think that this major annoyance was intentional and optional! I can see requiring the tag when you are in, for instance, binary mode, and want to do hexadecimal input. But the assumption of decimal input in base modes other than decimal is evil, evil, evil!

Regards,  
Howard

### **Re: hp 35s hexadecimal math....what were they thinking?**

*Message #15 Posted by [Alain Mellan](#) on 23 July 2007, 11:34 p.m.,  
in response to message #1 by Tom Lianza*

I'd be curious to see the rationale for having to add the trailing 'h'. The only justification I can see would be

that from a decimal mode, you can enter some 1s and 0s and decide it's a binary and hit BASE 8. But to enter an hex number, the HEX mode has to be active to access ABCDEF, so ENTER should be enough!

### **Re: hp 35s hexadecimal math....what were they thinking?**

*Message #16 Posted by [bill platt](#) on 24 July 2007, 7:32 a.m.,  
in response to message #1 by Tom Lianza*

I've never ever used alternative bases for any real work, ever. But I'm not a "programmer" nor do I write machine code (other than RPN programs:-)

### **Re: hp 35s hexadecimal math....what were they thinking?**

*Message #17 Posted by [Jonathan Eisch](#) on 24 July 2007, 1:10 p.m.,  
in response to message #1 by Tom Lianza*

Easy to use (fast) logic operations are one of the main reasons I use a calculator.

I was trying to understand what was going on in the Base Logic function learning module, and now I understand... this is crazy. While I'm happy that the logic functions are there (I really miss them on the 33s), when I'm working in hex, I'm only working in hex, and my mind just switches as if decimal doesn't exist. I'm going to forget the little h, and it's going to be a mess.... Darn it!

-Jonathan

### **Re: hp 35s hexadecimal math....what were they thinking?**

*Message #18 Posted by [Gene Wright](#) on 24 July 2007, 1:38 p.m.,  
in response to message #17 by Jonathan Eisch*

Well, it doesn't help matters that I have a typo in the answer for problem 1, does it?

I've sent the correction off to HP to be replaced on the site.

At least the answer shown in the screen captures is correct.

### **Re: hp 35s hexadecimal math....what were they thinking?**

*Message #19 Posted by [Paul Brogger](#) on 26 July 2007, 12:17 p.m.,  
in response to message #1 by Tom Lianza*

Easily, the BASE handling is the most unfortunate aspect of an otherwise delightful 33s upgrade.

And why did they make the SIN, COS, etc. row serve as the hexadecimal A-F input keys?

I can see that many of the keys actually *labeled* A-F are assigned primary functions that should terminate number entry.

So why, then, not put the SIN, COS, etc. row across the top of the keyboard and label its keys A-F?

Well, yes, then the arrow keys would be one row lower, but would that have made any real difference?

So, let me get this straight: The roll down and swap keys are removed from logical proximity with ENTER, etc. -- to make room for a six-key row of real-number functions (SIN, COS, etc.) -- which can then run completely across the keyboard and *hint* at an otherwise unapparent A-F sequence -- so that the (some might say ill-advised) arrows may be placed immediately below the display?

My, what tangled webs we weave . . .

And the requirement for trailing bits of syntactic sugar ("h", "o", etc.)? Bummer!

I'm trying to remember what was the device or system for which the simple use of a leading zero during integer entry was the sole requirement for forcing conversion in the chosen alternate base rather than the default base 10 . . . There are simpler ways!

Even the lowly 33s had a much more straightforward implementation of the BASE feature.

--

This is, of course, a design critique benefiting from my total ignorance of any other pertinent issues there may have been, as well as something like 20/20 hindsight. Still, it does all seem more than a bit *strained*.

But, hey! The 35s is certainly a refreshing piece of work, otherwise & overall.

### **Re: hp 35s hexadecimal math....what were they thinking?**

*Message #20 Posted by **Thomas Okken** on 26 July 2007, 3:04 p.m.,  
in response to message #19 by Paul Brogger*

Quote:

I'm trying to remember what was the device or system for which the simple use of a leading zero during integer entry was the sole requirement for forcing conversion in the chosen alternate base rather than the default base 10

I don't know where that convention first appeared, but the C programming language has it, and it was inherited by several other languages (C++ of course, and also tcl, perl, Java, JavaScript...)

So, should they also add the **0x** prefix for hexadecimal? Do you think prefixes are better than suffixes? ;-)

- Thomas

### **Re: hp 35s hexadecimal math....what were they thinking?**

*Message #21 Posted by **Paul Brogger** on 26 July 2007, 4:15 p.m.,  
in response to message #20 by Thomas Okken*

No, what I remember is this:

- \* Entering something like "123" was assumed decimal.
- \* Entering something like "123A" was assumed hexadecimal.
- \* But if you wanted "123h", you simply entered "0123".
- . (No special character, no "x".)

Maybe it was WYLBUR, an obscure text editor / RJE facility on IBM mainframes. (I was the resident expert . . .)

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## HP Forum Archive 17

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### Finally got my HP-42S

Message #1 Posted by [Seth Morabito](#) on 23 July 2007, 3:39 p.m.

Actually, two HP-42S's, and I have a question about the difference between them.

One of them has a flat, glossy LCD (1990 serial number), while the other has a recessed, matte LCD (1993 serial number). The newer LCD seems to be a little higher quality, maybe. Both were made in Singapore. I haven't checked the software version on them yet, but I imagine the newer one has a higher ROM rev. Are there any other differences I should be looking for?

I have to say, I really can see why people love them so much. Both of the 42S's I got are in really good condition, and I've decided to make one of them my "daily calculator" (next to my new 35s) for a while to get used to it. So far I love it! It's like having a teeny tiny 41CV in my pocket. I can easily see it has such a cult status.

The only things I don't like about it are the LCD, which people have already discussed ad nauseum, and the alpha entry mode. Alpha entry isn't terrible, but it's certainly not as nice as the 41C.

Overall, impressive. I look forward to playing with it more!

### Re: Finally got my HP-42S

Message #2 Posted by [Mike Morrow](#) on 23 July 2007, 4:17 p.m.,  
in response to message #1 by [Seth Morabito](#)

Quote:

One of them has a flat, glossy LCD (1990 serial number), while the other has a recessed, matte LCD (1993 serial number). The newer LCD seems to be a little higher quality, maybe...

I haven't checked the software version on them yet...

I bought two 1993 versions that the local university bookstore still had in stock in 1997. Serial numbers start with 3328S.

Turn it on, push LN and EXIT, and the self-test will start. My units say the firmware version is HP-42-E.

Quote:

...It's like having a teeny tiny 41CV in my pocket.

It's much better than that. The HP42S is five times faster, has much greater precision, has many more built-in functions, operates naturally in the complex domain, manipulates matrices much easier, has built-in solve and integrate functions, etc. The HP-41C/CV/CX has none of these, and even a HP-41C with Advantage module leaves much to be desired in comparison. The only thing that I miss that's on my HP-41CX is the clock/calendar/time functions.

Quote:

The only things I don't like about it are the LCD...and the alpha entry mode.

I've no real complaints about the LCD. It is good for a 20-year old calculator design. And it really wasn't designed to be a text processor.

Quote:

Overall, impressive. I look forward to playing with it more!

Take a look at the information at:

<http://www.finseth.com/~fin/hpdata/hp42s.html>

The built-in memory scanner/debugger is described on that page. By poking the appropriate value in the appropriate location, you can double the speed, at least until the value gets re-initialized on the next machine reset. This is not all that useful, but it's fun to be able to play with the machine's internal settings.

Mike

### **Re: Finally got my HP-42S**

*Message #3 Posted by [Christoph Giesselink](#) on 23 July 2007, 7:01 p.m.,  
in response to message #2 by Mike Morrow*

Quote:

Turn it on, push LN and EXIT, and the self-test will start. My units say the firmware version is HP-42-E.

This isn't the firmware version.

To check the ROM revision recall the memory scanner of the calculator with

EXIT + LOG

<-

You see something like 023F5:710D... The address and content differs from ROM to ROM, then press the <.> key to evaluate this address. In the top left corner of the display you see one alphanumeric character. The character is the ROM Rev. of the ROM. Known ROM revisions are A, B and C.

Cheers

Christoph

### **Re: Finally got my HP-42S**

*Message #4 Posted by [Mike Morrow](#) on 23 July 2007, 8:03 p.m.,  
in response to message #3 by Christoph Giesselink*

Quote:

This isn't the firmware version.

To check the ROM revision recall the memory scanner...

---

Thanks for that info, Christoph. I never came across that before.

I wonder what the significance of "HP-42-E" shown during the self-test is, then.

Mike

---

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## HP Forum Archive 17

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### hp 35s price hike at Wal-M?

Message #1 Posted by [ECL](#) on 23 July 2007, 3:03 p.m.

Somehow, I seem to recall the online price at WalMart last week was \$49 and some change...

Now it's up to 59:

[http://www.walmart.com/catalog/product.do?product\\_id=6015793](http://www.walmart.com/catalog/product.do?product_id=6015793)

I'm bummed that I still can't get an in-person look at either Fry's, Circuit City, or WalMart.

Oh well...guess I'll have to resort to the online thing.

ECL

### Re: hp 35s price hike at Wal-M?

Message #2 Posted by [Howard Owen](#) on 23 July 2007, 4:41 p.m.,  
in response to message #1 by [ECL](#)

Well now, *that's* a bummer. I wonder what could be behind such a move by the world's leading exponent of "price rollbacks?" Perhaps they are finally getting pinched with supply problems?

Regards,  
Howard

### Re: hp 35s price hike at Wal-M?

Message #3 Posted by [John Ioannidis](#) on 23 July 2007, 4:54 p.m.,  
in response to message #1 by [ECL](#)

Is it really worth your time and effort to drive to Fry's just to save a couple of dollars?

I got mine at buy.com, \$52 with free shipping if I didn't mind the standard delivery (I didn't).

### Re: hp 35s price hike at Wal-M? + I'm not pinching pennies! :)

Message #4 Posted by [ECL](#) on 23 July 2007, 11:47 p.m.,  
in response to message #3 by [John Ioannidis](#)

I'm certainly not trotting to Fry's to save money on shipping, if that's what you were implying.

Its just been a long time since one could find a truly solid RPN calculator on the shelves. That implying a conservative-ish layout, solid color scheme, beckoning memory (mostly), native vector support, and a proud and functional ENTER key.

ECL

---

**Re: hp 35s price hike at Wal-M? + I'm not pinching pennies! :)**

Message #5 Posted by **Howard Owen** on 24 July 2007, 3:09 p.m.,  
in response to message #4 by ECL

Quote:

\_\_\_\_\_  
.. and a proud and functional ENTER key.  
\_\_\_\_\_

Yes, indeed! In fact, although it might be stretching delicacy to the breaking point, it could be said that some other modern RPN calculators are now suffering from "finis envy."

8)

Regards,  
Howard

---

**Re: hp 35s price hike at Wal-M? + I'm not pinching pennies! :)**

Message #6 Posted by **Walter B** on 24 July 2007, 5:21 p.m.,  
in response to message #5 by Howard Owen

Oooh, really wide spread interests here in this honourable forum ;-) )

You made me laugh loudly!

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## HP Forum Archive 17

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**PC Library Editor for HP 48/49/50**

Message #1 Posted by [Howard Boardman](#) on 23 July 2007, 1:38 p.m.

Is there a PC based library editor for libraries for the above calculators?

**Re: PC Library Editor for HP 48/49/50**

Message #2 Posted by [Howard Owen](#) on 23 July 2007, 10:47 p.m.,  
in response to message #1 by Howard Boardman

Hi, Howard,

There are some 48/49/50 experts here, but this forum is mostly about older HP calculators. The best place to post questions like that is the comp.sys.hp48 news group. If you don't use a usenet news reader, you can follow the group through [Google Groups](#).

Regards,  
Howard

**Re: PC Library Editor for HP 48/49/50**

Message #3 Posted by [Howard Owen](#) on 23 July 2007, 10:52 p.m.,  
in response to message #1 by Howard Boardman

I should note that the 35S is not an "older HP calculator," obviously. The excitement on this board is because it's brand new, and because HP returned to some of the things folks around here cherished in the older models.

Regards,  
Howard

**Re: PC Library Editor for HP 48/49/50**

Message #4 Posted by [Tim Wessman](#) on 24 July 2007, 12:39 a.m.,  
in response to message #1 by Howard Boardman

What do you mean by library editor? Do you mean a program that will (attempt) to automatically convert libraries from the 48 to the 49/50? Do you mean a tool to program and create libraries?

Both of those are available.

TW

**Re: PC Library Editor for HP 48/49/50**

Message #5 Posted by [Howard Boardman](#) on 24 July 2007, 1:37 a.m.,  
in response to message #4 by Tim Wessman

Well what I was wondering if its possible to disassemble libraries for any of these calculators, edit them and then re-compile them... if thats the right term.

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## HP Forum Archive 17

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### HP 33s programs compatible with HP 35s

Message #1 Posted by [Howard Boardman](#) on 23 July 2007, 1:26 a.m.

Are programs for the two calculators interchangeable?

### Re: HP 33s programs compatible with HP 35s

Message #2 Posted by [Namir](#) on 23 July 2007, 9:46 a.m.,  
in response to message #1 by Howard Boardman

Howard,

My first guess is that the HP-35s should be able to run most if not all HP-33s programs. The reverse is not true especially if the HP-35s program uses the indirect addressing feature, step-numbered GTO and XEQ statements, and so on.

One can deliberately write HP-35s programs that are void of new features and make them compatible with the HP-33s. This makes sense if you only have an HP-35s at hand and you need to write a program for someone else who only has the HP-33s.

So the bottom line is: Yes and No ... depending on the features used in the HP-35s.

Namir

### Re: HP 33s programs compatible with HP 35s

Message #3 Posted by [mjcohen](#) on 23 July 2007, 9:51 a.m.,  
in response to message #1 by Howard Boardman

Not if you use indirect addressing to look at A to Z.

I have submitted a longer post about this.

### Re: HP 33s programs compatible with HP 35s

Message #4 Posted by [Namir](#) on 23 July 2007, 11:00 a.m.,  
in response to message #3 by mjcohen

Good point!

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## HP Forum Archive 17

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### **Coordinates conversion to bearing and distance**

Message #1 Posted by [rodj](#) on 23 July 2007, 12:43 a.m.

Hi,

I stumbled onto this forum while looking for an old calculation I used to perform with my HP11C back in my civil draughting days.

The quick calculation involved converting latitude and longitude coordinates into a bearing and a distance using only the functions on the 11C : hr/hms, sigma +/-, polar/vector.

The old 11C finally broke down and I now have a 32sII (- once an rpn user, always an rpn user -) but for the life of me I can't remember how to perform the conversion and was wondering if there was a forum member here that may know the correct way to do it??

I'm an avid fisherman and I'm keen to find the answer so I can use it for quick navigation purposes. Any help is greatly appreciated.

Apologies if this has already been discussed and answered.

Regards, Rod

### **Re: Coordinates conversion to bearing and distance**

Message #2 Posted by [Chan Tran](#) on 24 July 2007, 12:55 p.m.,  
in response to message #1 by [rodj](#)

I think the formula is in the 11C manual. I don't have the manual now but I remember that there is such a formula in the book. It would be easy to adapt it to the 32SII.

---

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## HP Forum Archive 17

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### [OT] It all began with them...

Message #1 Posted by [Olivier TREGER](#) on 22 July 2007, 8:49 p.m.

Hello,

Although we're all here for HP calcs, I thought some of you may be interested in seeing the other side of my humble collection: [slide rules](#).

This section still has to get some text since it's now only a list of the slide rules I own with specs but no history, no interesting text.

Thanks for your feedback, if you've got time to cruise on it.

Cheers, Olivier (\_from\_Paris)

### Re: [OT] It all began with them...

Message #2 Posted by [Namir](#) on 22 July 2007, 9:15 p.m.,  
in response to message #1 by [Olivier TREGER](#)

Olivier,

Slide rules are analog devices since they are always giving you all kinds of results--you pick which one you want. Calculators are digital devices. The two types are very different in many ways (accuracy, ability to chain calculations, memory, programmability).

I feel slide rules and calculators are as different as water and oil.

I used slide rules in high school and college. I also used scientific calculators in college. I was the only student on the engineering campus of Baghdad University who had a programmable HP calculator (at least until I graduated).

Namir

### Re: [OT] It all began with them...

Message #3 Posted by [Howard Owen](#) on 23 July 2007, 2:06 a.m.,  
in response to message #2 by [Namir](#)

Quote:

\_\_\_\_\_  
I feel slide rules and calculators are as different as water and oil.  
\_\_\_\_\_

You make a good case for the difference between slide rules and calculators, Namir, but there is one similarity you may have missed. Both tools were used for the same purposes. The HP-35 made the slide rule obsolete. It was a better tool, but that just underlines the similarity. The HP-35 was specifically designed to do the same jobs a slide rule did. The fact that it did so faster, with better accuracy and

precision, and was easier to boot, are all differences in quality, not in kind. Later, when the programmable hand held calculator came along, you started into territory no slide rule could go. At that point, the distinction becomes clearer, in my mind.

Regards,  
Howard

**Re: [OT] It all began with them...**

*Message #4 Posted by **Hans de Moor** on 23 July 2007, 2:22 a.m.,  
in response to message #3 by Howard Owen*

I switched from a slide rule to an HP-45 in college and never looked back.

However, one thing that is very deceptive with a calculator is it can give you a false sense of precision. In most real world applications measurements are only known to two or three digits. For example, if I drive 110 km in 3.2 hours, my average speed would properly be stated as 34 km/hr, not 34.375 km/hr.

**Re: [OT] It all began with them...**

*Message #5 Posted by **Howard Owen** on 23 July 2007, 3:30 a.m.,  
in response to message #4 by Hans de Moor*

Are "significant digits" more apparent when using a slide rule? Or is it just that all those digits are there on the calculator, whether they are significant or not, whereas with a slide rule you have to continue manipulating to get successive digits?

Regards,  
Howard

**Re: [OT] It all began with them...**

*Message #6 Posted by **Bill (Smithville, NJ)** on 23 July 2007, 6:54 a.m.,  
in response to message #5 by Howard Owen*

While I don't collect slide rules, I do still have my original Post Log-Log slide rule I used in high school and college. I keep it out so that I am reminded of it and it's just fun to pick up and play with.

Several years ago I read an article about how the change from the slide rule to the calculator/computer has resulted in the loss of the ability to make accurate back of envelope estimates. Especially when dealing with orders of magnitude. Slide rules required you to normalize numbers and to know where you need to place the decimal point in the results. Fascinating article. I've observed this tenancy in some of the young engineers at work. They will believe the answers from the calculator or computer even when, with just a quick rough calculation, it can be shown that the results are way off base.

Bill

**Re: [OT] It all began with them...**

*Message #7 Posted by **Namir** on 23 July 2007, 9:40 a.m.,  
in response to message #6 by Bill (Smithville, NJ)*

Bill,

"Know Your Data" is a good motto to apply. The calculator, computer, slide rule, and so on are just tools that can (under whatever input and processing conditions) give wrong answers. So a person should have an idea of what the results are. If not, double checking the calculations is always a good idea.

I work with statistics a lot, and "Know Your Data" is a good concept to observe, because all these regression tools are not thinking for me, they are just crunching whatever input I give them.

Namir

**Re: [OT] It all began with them...**

*Message #8 Posted by [koendv](#) on 23 July 2007, 7:14 a.m.,  
in response to message #5 by Howard Owen*

I'd say a pocket slide rule has about the same accuracy as most physical values you come across: two digits and a reasonable guess at a third.

**Re: [OT] It all began with them...**

*Message #9 Posted by [Dan W](#) on 23 July 2007, 10:49 a.m.,  
in response to message #4 by Hans de Moor*

Quote:

\_\_\_\_\_

I switched from a slide rule to an HP-45 in college and never looked back.

However, one thing that is very deceptive with a calculator is it can give you a false sense of precision. In most real world applications measurements are only known to two or three digits. For example, if I drive 110 km in 3.2 hours, my average speed would properly be stated as 34 km/hr, not 34.375 km/hr.

\_\_\_\_\_

From my experience a lot of engineers, back then as well as now, either don't pay attention to precision or forgot how important this is. With a slide rule you only calculate results to a limited precision. The HP-35 gave many more digits of accuracy.

HP must have realized this to be a problem. On the HP-45 they limited the precision at boot to 2 digits past the decimal point. One had to manually change the precision to something greater. I believe they did this through all of the Classics.

-- Dan

**Re: [OT] It all began with them...**

*Message #10 Posted by [Dan W](#) on 23 July 2007, 10:43 a.m.,  
in response to message #3 by Howard Owen*

Quote:

\_\_\_\_\_

The HP-35 was specifically designed to do the same jobs a slide rule did. The fact that it did so faster, with better accuracy and precision, and was easier to boot,

Regards,

Howard

---

Booting the HP-35 was a fairly complex process actually. When turned on, the surge of current starts an oscillation in a DC-DC converter, and charges several capacitors to smooth out 3 different internal voltages. As those ramp up and become stable, a one-shot Schmitt trigger fires which turns on the Sync pulse - a synchronization heartbeat if you will, and resets memory. With Control & timing active the other IC's begin operations and the display drivers start operating.

;) )

-- Dan

**Re: [OT] It all began with them...**

*Message #11 Posted by [Namir](#) on 23 July 2007, 11:03 a.m.,  
in response to message #10 by Dan W*

Dan,

What a coincidence!! My old "solar-powered" slide rule did these tasks too!!

:-)

Namir

**Re: [OT] It all began with them...**

*Message #12 Posted by [Howard Owen](#) on 23 July 2007, 1:53 p.m.,  
in response to message #10 by Dan W*

I almost changed that to "in the bargain," but then I forgot at the last minute. 8)

Regards,  
Howard

**Re: [OT] It all began with them...**

*Message #13 Posted by [Trent Moseley](#) on 23 July 2007, 10:50 p.m.,  
in response to message #2 by Namir*

Namir,

You were on the cusp of the cutting edge. We oldtimers did not view the sliderule as water viz-a-viz oil with the new electronic calcs. Our sliderule was a lovely lady, she could be long and slim, short and fat, or even round! And sometimes her answers to questions could be very misleading!

tm

**Re: [OT] It all began with them...**

*Message #14 Posted by [Ren](#) on 23 July 2007, 12:03 p.m.,  
in response to message #1 by Olivier TREGER*

JUST IN CASE there are a few of you who haven't seen this...

Why a slide rule is better than a computer...

<http://www.physicsforums.com/archive/index.php/t-106586.html>

Ren

dona nobis pacem

**Re: [OT] It all began with them...**

*Message #15 Posted by [Dave Shaffer \(Arizona\)](#) on 23 July 2007, 6:32 p.m.,  
in response to message #14 by Ren*

From that amusing reference: "9. A Slide Rule doesn't need scheduled hardware maintenance."

Maybe not "scheduled maintenance" but I must have aligned the two sides of the slider on my K&E "Deci-log-trig-trig (etc)" at least once a year, trying to make sure that I could really derive and believe that extra half a digit in my results!

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## HP Forum Archive 17

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**resume**

Message #1 Posted by [Matthias Wehrli](#) on 22 July 2007, 11:13 a.m.

Back from honeymoon.... Maybe someone can resume what I missed on ebay and in the forum / community... Does anybody in Germany has got his HP-35S?

Matthias

**Re: resume**

Message #2 Posted by [Namir](#) on 22 July 2007, 11:49 a.m.,  
in response to message #1 by Matthias Wehrli

Hi Matthias,

The HP-35s has hit the streets and the reaction is good. You have a lot to read.

If you are interested in the new machine I *may be able* get you one in two weeks. eMail me at 'nshammas AT aol DOT com' if you are interested and I will give you more details.

Namir

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## HP Forum Archive 17

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**Math Challenge**

Message #1 Posted by [Chuck](#) on 21 July 2007, 10:40 p.m.

Something to keep your mind occupied whilst waiting for your 35s.

This may be an old problem for some, but still a nice challenge.

Three panes of glass are arranged parallel to each other. Each pane allows 70% light through, reflects 20%, and absorbs 10%. What percentage of light will pass entirely through all panes of glass? Assume a beam of light is emitted to the left of the three panes and exits to the far right; how much emits out to the right? Careful.

**Re: Math Challenge**

Message #2 Posted by [Scott Blakely](#) on 22 July 2007, 1:30 p.m.,  
in response to message #1 by Chuck

I admit I am being picky here, but can we assume the following while answering this question:

1) The beam of light is exactly perpendicular to the long axis of the panes of glass (really weak ND filters?) 2) That the beam of light is non-monochromatic? 3) That the beam of light is not polarized and that the "filters" are not polarizing the light passing through them?

I deal with these types of questions in microscopy all of the time, so I am a bit sensitive to the particulars, I guess ;)

**Re: Math Challenge**

Message #3 Posted by [Chuck](#) on 22 July 2007, 1:51 p.m.,  
in response to message #2 by Scott Blakely

Don't over-analyze the problem. It's intended to be a "simple" math exercise, not a twisted optical-microscopy head basher. Assume the percentage of light transmission, reflection, and absorption is the same in all directions regardless of frequency, polarization, etc.

Also, after a solution is devised, can it be evaluated on an HP calculator. (I did mine with Mathematica.)

**Re: Math Challenge**

Message #4 Posted by [John Gustaf Stebbins](#) on 22 July 2007, 2:57 p.m.,  
in response to message #3 by Chuck

I managed to work out a solution with a 50g. It would have taken me longer to look up the correct functions in Mathematica.

**Re: Math Challenge**

Message #5 Posted by [Chuck](#) on 22 July 2007, 3:16 p.m.,



*in response to message #4 by John Gustaf Stebbins*

I haven't yet tried it in my 50g yet. I'll attempt it today to see if it (or I) can manage it.

### **Re: Math Challenge**

*Message #6 Posted by **BruceH** on 22 July 2007, 3:26 p.m.,  
in response to message #3 by Chuck*

Quote:

Don't over-analyze the problem. It's intended to be a "simple" math exercise

Well, if we're not supposed to over-analyze then the answer is a bit more than 70% of 70% of 70%. :-)

### **Re: Math Challenge**

*Message #7 Posted by **Chuck** on 22 July 2007, 3:56 p.m.,  
in response to message #6 by BruceH*

Quote:

Well, if we're not supposed to over-analyze then the answer is a bit more than 70% of 70% of 70%. :-)

Okay, okay. You can analyze the "bit more" as much as possible. :) That does give you a lower-bound estimate though.

### **Re: Math Challenge**

*Message #8 Posted by **Allen** on 22 July 2007, 4:03 p.m.,  
in response to message #3 by Chuck*

Quote:

Don't over-analyze the problem. It's intended to be a "simple" math exercise

I was already hoping to use some of these [lessons](#) to work on it. GRIN!! (Actually a pretty good collection, and the only online recording I have ever seen of the good Dr.)

*Edited: 22 July 2007, 4:08 p.m.*

### **Re: Math Challenge**

*Message #9 Posted by **ECL** on 22 July 2007, 2:11 p.m.,  
in response to message #1 by Chuck*

Ok, so it looks like a limit problem, where 0.7L passes through the first pane (p1), and then there is an infinitely decaying portion that is reflected between p1 and p2, and similarly between p2 and p3. I'm headed out to breakfast w/ my sweet wife (who is tapping her foot while standing at the door)...so at least I have some fun napkin-math at the table :)

I suspect that I can devise a series that will converge on the sum percentage (x) of incident light that may pass

through:  $x * L$

ECL

### Re: Math Challenge

Message #10 Posted by **Chuck** on 22 July 2007, 3:13 p.m.,  
in response to message #9 by ECL

There's also light that will exit to the left and be lost. The light is zig-zagging back and forth infinitely; some is absorbed, some exits to the right, some exits all the way back to the left and is lost. That's what makes it a great problem.

Without giving too much away, my solution involves a couple of summations, a combination, and a limit. Crazy. But I'm very interested in other solutions. We'll have to request answers in a few days.

"Napkin-math". That's great. Many times my wife has caught me doing that during dinner. :)

### Re: Math Challenge.. Yuck.. infinite series..

Message #11 Posted by **Allen** on 22 July 2007, 3:53 p.m.,  
in response to message #9 by ECL

Quote:

...my sweet wife (who is tapping her foot while standing at the door...

I myself have made many posts here under the EXACT circumstances!!

### Re: Math Challenge

Message #12 Posted by **Hans de Moor** on 22 July 2007, 9:20 p.m.,  
in response to message #1 by Chuck

This is a straight-forward problem in linear algebra.

Draw a picture, work from the far right and set up the equations using the transmitted light and relected light from every pane. You'll end up with six equations with six unknowns. Using the equation solver for matrices in my HP-49g+ I found that the light transmitted out of the third pane is 38.03% of the original light.

I'll e-mail the solution if anyone likes.

### Re: Math Challenge

Message #13 Posted by **Chuck** on 22 July 2007, 11:11 p.m.,  
in response to message #12 by Hans de Moor

Very nice Hans. I tried a matrix solution on my first attempt, but must have had something out of place. I went with the brute force method. Email me your solution, I'd like to see various methods. Hopefully we'll get a few more.

CHUCK

### Re: Math Challenge

Message #14 Posted by [Arnaud Amiel](#) on 23 July 2007, 5:15 a.m.,  
in response to message #13 by Chuck

I tried the matrix approach as well and found a result for transmission a bit higher. I also got just above 30% reflected

Arnaud

## Re: Math Challenge

Message #15 Posted by [Katie Wasserman](#) on 23 July 2007, 5:47 a.m.,  
in response to message #13 by Chuck

5 equations suffice I think:

Picture the 3 panes of glass arranged left to right with the light source on the left.

let:

A = light transmitted from 1st pane to 2nd pane (left to right)  
B = light transmitted from 2nd pane to 3rd pane (left to right)  
C = light transmitted from 3rd pane on (left to right)  
(this is what we want to solve for)

X = light transmitted from 2nd pane back to 1st pane (right to left)  
Y = light transmitted from 3rd pane back to 2nd pane (right to left)

Then:

A = .7 + .2X  
B = .7A + .2Y  
C = .7B  
X = .2A + .7Y  
Y = .2B

It's pretty simple to solve these exactly:

A = .672/.902  
B = .7/.96 \* A  
C = .7 \* B  
C = 38.0266075388%

*Edited: 23 July 2007, 5:50 a.m.*

## Re: Math Challenge

Message #16 Posted by [Arnaud Amiel](#) on 23 July 2007, 6:20 a.m.,  
in response to message #15 by Katie Wasserman

What about light reflected back towards the source by the second panel and back again in the right direction by the first panel?

I believe the matrix approach takes care of this one.

Arnaud

## Re: Math Challenge

Message #17 Posted by **Hans de Moor** on 23 July 2007, 9:50 a.m.,  
in response to message #15 by Katie Wasserman

Five equations are all you really need. I set up one additional for the light reflected back towards the source. It's really not needed for the solution but it allows you to get all the light paths.

Hans

## Re: Math Challenge

Message #18 Posted by **Chuck** on 23 July 2007, 10:12 a.m.,  
in response to message #15 by Katie Wasserman

Katie. This is wonderful. It's VERY close to what I had originally, but had a Z (in your notation) for the light lost to the left, which gives a 6th equation (albeit unnecessary). When I solved it with a matrix I must have missed one of those darn negative signs.

CHUCK

## A Monte Carlo approach

Message #19 Posted by **Valentin Albiilo** on 23 July 2007, 6:48 a.m.,  
in response to message #1 by Chuck

Hi, Chuck:

Chuck posted:

*"Something to keep your mind occupied whilst waiting for your 35s"*

It's been a fair number of days since I got an HP35S but I'll take your interesting challenge anyway.

*"Three panes of glass are arranged parallel to each other. Each pane allows 70% light through, reflects 20%, and absorbs 10%. What percentage of light will pass entirely through all panes of glass? Assume a beam of light is emitted to the left of the three panes and exits to the far right; how much emits out to the right?" [...] Also, after a solution is devised, can it be evaluated on an HP calculator [?]"*

The symbolic solution for arbitrary parameters is pretty trivial from a purely mathematical point of view and writing a program to numerically evaluate it holds no difficulty either, just a little drudgery, so for a change and as this kind of 'physical/engineering' problem is ideally suited to simulation, here's a novel **Monte Carlo** approach which can be concocted in a very few lines, requires no mathematical knowledge whatsoever, can be adapted to run on the simplest calc models without requiring solvers or matrix operations, and delivers a fair approximation to the exact theoretical result.

The program simulates 10, 100, 1000, ..., 1000000 photons entering through the left side of the leftmost panel, one at a time, simulates their random interactions with each side of each panel, and duly counts how many of them do exit to the far right. The logic is crystal-clear ('P1L' stands for 'Panel 1, Left side', 'P1R' stands for 'Panel 1, Right side', and so on):

```
10 DESTROY ALL @ FOR D=1 TO 6 @ C=0 @ FOR N=0 TO 10^D-1
20 'P1L': R=RND @ IF R<.7 THEN 'P2L' ELSE 'NXT'
30 'P1R': R=RND @ IF R>.2 THEN 'NXT'
40 'P2L': R=RND @ IF R<.7 THEN 'P3L' ELSE IF R<.9 THEN 'P1R' ELSE 'NXT'
50 'P2R': R=RND @ IF R<.7 THEN 'P1R' ELSE IF R>.9 THEN 'NXT'
60 'P3L': R=RND @ IF R<.7 THEN C=C+1 ELSE IF R<.9 THEN 'P2R'
70 'NXT': NEXT N @ DISP USING "2(7D),5D.2D,A";N,C,C/N*100,"%" @ NEXT D
```

A sample (repeatable) RUN would be:

```
>RANDOMIZE PI @ RUN
```

| # Photons | Transmit | %      |
|-----------|----------|--------|
| 10        | 5        | 50.00% |
| 100       | 30       | 30.00% |
| 1000      | 367      | 36.70% |
| 10000     | 3755     | 37.55% |
| 100000    | 38068    | 38.07% |
| 1000000   | 380338   | 38.03% |

so it seems that some **38.03%** of the photons are transmitted, which agrees with the theoretical result to all four given digits.

The simulation can be easily adapted to coefficients other than 70%-20%-10% by changing the inline constants, and can also count the number of photons emerging at the *left* instead by inserting an incrementing counter at the proper place in the code.

The same approach will also work for any number of panels and for unequal panels (different coefficients for each panel and/or different coefficients for each side of a panel) by simply changing their inline constants. Thus, it's quite general in nature and, for a real-life engineering problem, would give decent, useable results with *very little intellectual effort* even in circumstances where the underlying math necessary for a theoretically exact result would quickly get tremendously complex or even possibly out of hand.

Best regards from V.

## Re: A Monte Carlo approach

Message #20 Posted by **Chuck** on 23 July 2007, 10:20 a.m.,  
in response to message #19 by Valentin Albillo

Valentin, you never cease to amaze me with your prowess. Unfortunately I have two more days to go until my 35s arrives [skrimped on postage :( ], but I may need those two days to decipher your method (excuse my programming naivety, but what is the language?)

```
"...requires no mathematical knowledge whatsoever..." hmmm?  
Valentin
```

Reminds me of:

```
"Everything should be made as simple as possible, but not simpler."  
Einstein
```

Edited: 23 July 2007, 10:22 a.m.

## Re: A Monte Carlo approach

Message #21 Posted by **Valentin Albillo** on 23 July 2007, 11:56 a.m.,  
in response to message #20 by Chuck

Hi, Chuck:

Chuck wrote:

*"Valentin, you never cease to amaze me with your prowess."*

Thanks, very kind of you.

*"Unfortunately I have two more days to go until my 35s arrives [skrimped on postage :( ], but I may need those two days to decipher your method (excuse my programming naivety, but what is the language?)"*

As most of my posted productions, the program is written in HP-71B's native BASIC dialect, using plain-vanilla statements (no ROMs, etc), as it achieves the *perfect* balance between *power* (very short programs) and *clarity*, so that most people will be able to understand the underlying algorithms and port them to whatever other languages they might prefer (RPN, RPL, ...) with ease.

Thanks a lot for your *very* interesting challenge, keep them coming :-)

Best regards from V.

### Re: A Monte Carlo approach

Message #22 Posted by [Vincze](#) on 27 July 2007, 10:02 a.m.,  
in response to message #21 by Valentin Albillo

How would you do problem on 35s?

### HP35s conversion (was Re: A Monte Carlo approach)

Message #23 Posted by [Valentin Albillo](#) on 28 July 2007, 9:26 p.m.,  
in response to message #22 by Vincze

Hi, Vincze:

Vincze posted:

*"How would you do problem on 35s?"*

This is a trivial, on-the-fly straightforward conversion of my original HP-71B BASIC program:

```

LBL S
STO M          RCL V          100
STO N          X<Y?          RCLx C
0              GTO F002      RCL/ M
STO C          GTO B002      FIX 2
0.7            LBL D          RTN
STO U          RCL U
0.9            RANDOM
STO V          X<Y?
0.2            GTO B002
STO W          RCL V
LBL A          X<Y?
RCL U          GTO F002
RANDOM          LBL E
X<Y?          RCL U
GTO C002      RANDOM
GTO F002      X>Y?
LBL B          GTO E009
RCL W          1
RANDOM          STO+ C
X>Y?          GTO F002
GTO F002      RCL V
LBL C          X>Y?
RCL U          GTO D002
RANDOM          LBL F
X<Y?          DSE N
GTO E002      GTO A002

```

where "/" stands for the division key. Some sample runs:

```
Pi, SEED

      10, XEQ S [ENTER] -> 50.00 (%)
      100, XEQ S [ENTER] -> 30.00 (%)
     1000, XEQ S [ENTER] -> 36.70 (%)
    10000, XEQ S [ENTER] -> 37.55 (%)
```

You might want to optimize it by removing all labels except for the first one (LBL S), but in any case it runs much too slow in the HP35s to be of any use other than as a didactic example of a Monte Carlo simulation.

Notice that the results are exactly the same as the ones given by my original HP71B BASIC program, which strongly suggests both machines are using the *exact same* pseudorandom-number generator.

Thanks for your interest and

Best regards from V.

## Re: Math Challenge, 2 N panes solutions.

Message #24 Posted by **Egan Ford** on 26 July 2007, 7:18 p.m.,

in response to message #1 by Chuck

Quote:

---

Three panes of glass are arranged parallel to each other. Each pane allows 70% light through, reflects 20%, and absorbs 10%. What percentage of light will pass entirely through all panes of glass? Assume a beam of light is emitted to the left of the three panes and exits to the far right; how much emits out to the right? Careful.

---

Hello Chuck,

Since others already provided a solution for three panes, I worked on two N panes solutions. The first is calculated (quick, but needs RAM) and the other is simulated (low RAM, but needs time).

Calculated solution:

The following 71B program builds a  $2*N-1$  order sparse matrix to find the exact answer for any N (as long as you have enough RAM). The code should be easy to port to any other HP model with matrix support (sorry no 35S).

```
10 STD @ DESTROY ALL @ OPTION BASE 1
20 T=.7 @ R=.2
30 M=INT(SQR(MEM/2/8)) @ M=INT((M+1)/2)-1
40 INPUT "MAX N=",STR$(M);NO
50 FOR N=1 TO NO
60 DESTROY A,B,X
70 M=2*N-1
80 M0=MEM @ REAL A(M,M),B(M,1),X(M,1) @ M1=MEM
90 FOR I=1 TO M @ A(I,I)=-1 @ NEXT I
100 FOR I=N+1 TO M @ A(I-N,I)=R @ A(I,I-N)=R @ NEXT I
110 FOR I=1 TO N-1 @ A(I+1,I)=T @ NEXT I
120 FOR I=N+1 TO M-1 @ A(I,I+1)=T @ NEXT I
130 B(1,1)=-T
140 MAT X=SYS(A,B)
```

```

150 IMAGE "P(",2D,")= ",2D.10D,"% ",6D," ppm using",6D," bytes"
160 DISP USING 150;N,X(N,1)*100,X(N,1)*1000000,M0-M1
170 NEXT N
180 DESTROY ALL

```

Lines 10-40 setup the environment and prompts for the MAX N to calculate. The 71B, 48/49/50 matrix solver requires 2x the RAM used by the matrix. I assume that this is to preserve the original matrix. My 71B has ~64K free, so I am limited to ~32K for my matrix, or N=32.

Lines 90-120 setup the matrix, 140 solves.

### Output:

```

P( 1)= 70.00000000000% 700000 ppm using 62 bytes
P( 2)= 51.04166666667% 510417 ppm using 148 bytes
P( 3)= 38.0266075388% 380266 ppm using 308 bytes
P( 4)= 28.6686567164% 286687 ppm using 532 bytes
P( 5)= 21.7595919186% 217596 ppm using 820 bytes
P( 6)= 16.5796748933% 165797 ppm using 1172 bytes
P( 7)= 12.6612595201% 126613 ppm using 1588 bytes
P( 8)= 9.6815861690% 96816 ppm using 2068 bytes
P( 9)= 7.4088116685% 74088 ppm using 2612 bytes
P(10)= 5.6721177756% 56721 ppm using 3220 bytes
P(11)= 4.3436617759% 43437 ppm using 3892 bytes
P(12)= 3.3268533494% 33269 ppm using 4628 bytes
P(13)= 2.5482999981% 25483 ppm using 5428 bytes
P(14)= 1.9520479145% 19520 ppm using 6292 bytes
P(15)= 1.4953536068% 14954 ppm using 7220 bytes
P(16)= 1.1455268133% 11455 ppm using 8212 bytes
P(17)= .8775487825% 8775 ppm using 9268 bytes
P(18)= .6722642349% 6723 ppm using 10388 bytes
P(19)= .5150036989% 5150 ppm using 11572 bytes
P(20)= .3945314511% 3945 ppm using 12820 bytes
P(21)= .3022410597% 3022 ppm using 14132 bytes
P(22)= .2315397822% 2315 ppm using 15508 bytes
P(23)= .1773772706% 1774 ppm using 16948 bytes
P(24)= .1358846583% 1359 ppm using 18452 bytes
P(25)= .1040981355% 1041 ppm using 20020 bytes
P(26)= .0797472129% 797 ppm using 21652 bytes
P(27)= .0610925284% 611 ppm using 23348 bytes
P(28)= .0468015997% 468 ppm using 25108 bytes
P(29)= .0358536442% 359 ppm using 26932 bytes
P(30)= .0274666640% 275 ppm using 28820 bytes
P(31)= .0210415888% 210 ppm using 30772 bytes
P(32)= .0161194843% 161 ppm using 32788 bytes

```

The first numeric column is the number of panes, the 2nd is the percentage of photons expected to make it through, the 3rd is the number of photons/million expected to complete the journey, and the 4th is the amount of RAM required for the matrix.

### Simulated (fun) solution:

```

10 DESTROY ALL @ RANDOMIZE PI @ OPTION BASE 1
20 FOR P=1 TO 5
30 T0=TIME @ L0=0 @ P0=0 @ DIM P0$[1000],P$[1000]
40 N=1000000 @ A=.1 @ R=.2+A @ C=0
60 FOR J=1 TO LOG10(N)
70 FOR I=10^(J-1) TO 10^J-1
80 T=0 @ D=1 @ L=0 @ P$=""
90 'A': IF D=1 THEN P$=P$&">" ELSE P$=P$&"<"
100 CALL PHOTON(D,T,A,R) @ L=L+1
110 IF T=P THEN C=C+1
120 IF T<P AND T>=0 THEN 'A'
130 IF T=P AND L>L0 THEN L0=L @ P0=I @ P0$=P$
140 NEXT I
150 IMAGE 2D,8D,8D,4D.2D,"% in ",5D.2D," sec LP:"
160 DISP USING 150;P,I,C,C/I*100,TIME-T0,L0
170 NEXT J
180 DISP "Longest Path:";L0;"Photon:";P0
190 T=0 @ D=1
200 FOR I=1 TO L0
210 T$=STR$(T)
220 IF T<10 THEN DISP " ";
230 IF P0$[I,I]=">" THEN DISP P0$[I,I];T$; ELSE DISP T$;P0$[I,I];

```



```

240 DISP " ";
250 IF MOD(I,18)=0 THEN DISP
260 IF P0$[I+1,I+1]=">" THEN D=1 ELSE D=-1
270 T=T+D
280 NEXT I
290 DISP @ DISP
300 NEXT P
310 END
320 SUB PHOTON(D,T,A,R)
330 X=RND
340 IF X<A THEN T=-1 @ GOTO 380
350 IF X>R THEN 370
360 IF D=1 THEN D=-1 ELSE D=1
370 T=T+D
380 END SUB

```

This is a lot longer that it needs to be because I wanted to track and display the longest path. The real work is done by lines 100-120 and 320-380. Lines 320-380 take the current direction and target and randomly determine the next target and direction. Lines 100-120 call PHOTON repeatedly until the target (0,1,2,...N-1) is -1 (i.e. right back at you or absorbed) or N (exited on the other side).

### Output:

```

1      10      4  40.00% in      .06 sec LP: 1
1     100     76  76.00% in      .22 sec LP: 1
1    1000    714  71.40% in     1.54 sec LP: 1
1   10000   7040  70.40% in    14.82 sec LP: 1
1  100000  70036  70.04% in   144.43 sec LP: 1
1 1000000 700309  70.03% in  1441.46 sec LP: 1

```

Longest Path: 1 Photon: 1  
>0

```

2      10      3  30.00% in      .06 sec LP: 2
2     100     60  60.00% in      .33 sec LP: 2
2    1000    554  55.40% in     2.74 sec LP: 4
2   10000   5213  52.13% in    25.60 sec LP: 6
2  100000  50960  50.96% in   254.35 sec LP: 8
2 1000000 510826  51.08% in  2546.96 sec LP: 8

```

Longest Path: 8 Photon: 27392

>0 >1 0< >1 0< >1 0< >1

```

3      10      3  30.00% in      .05 sec LP: 3
3     100     29  29.00% in      .38 sec LP: 5
3    1000    355  35.50% in     3.66 sec LP: 9
3   10000   3714  37.14% in    35.11 sec LP:13
3  100000  37656  37.66% in   348.25 sec LP:13
3 1000000 380791  38.08% in  3485.29 sec LP:17

```

Longest Path: 17 Photon: 100498

>0 >1 >2 1< 0< >1 0< >1 >2 1< >2 1< 0< >1 >2 1< >2

```

4      10      1  10.00% in      .06 sec LP: 4
4     100     34  34.00% in      .49 sec LP:10
4    1000    295  29.50% in     4.32 sec LP:14
4   10000   2894  28.94% in    42.99 sec LP:16
4  100000  28728  28.73% in   428.70 sec LP:22
4 1000000 286649  28.66% in  4272.79 sec LP:24

```

Longest Path: 24 Photon: 228237

>0 >1 >2 1< 0< >1 >2 >3 2< 1< 0< >1 >2 >3 2< >3 2< 1<  
0< >1 >2 1< >2 >3

```

5      10      3  30.00% in      .11 sec LP: 9
5     100     14  14.00% in      .61 sec LP:13
5    1000    224  22.40% in     5.31 sec LP:15
5   10000   2147  21.47% in    48.95 sec LP:21
5  100000  21485  21.49% in   490.99 sec LP:25
5 1000000 216278  21.63% in  4916.19 sec LP:37

```

Longest Path: 37 Photon: 743909

>0 >1 >2 >3 2< 1< 0< >1 >2 >3 >4 3< 2< 1< 0< >1 >2 >3  
2< >3 >4 3< 2< 1< >2 >3 2< 1< 0< >1 >2 >3 2< 1< >2 >3  
>4

```

10     10     1  10.00% in      .11 sec LP:10

```

```

10      100      5   5.00% in      .71 sec LP:12
10     1000     70   7.00% in     6.62 sec LP:26
10    10000    573   5.73% in    66.77 sec LP:44
10   100000   5638   5.64% in   662.65 sec LP:54
10  1000000  56891   5.69% in  6629.49 sec LP:60
Longest Path: 60 Photon: 146690
>0 >1 0< >1 >2 >3 2< >3 >4 3< 2< 1< >2 >3 >4 >5 4< >5
>6 5< >6 >7 6< 5< 4< 3< >4 >5 4< 3< >4 >5 >6 >7
6< >7 >8 >9 8< 7< 6< 5< >6 >7 6< 5< >6 >7 >8 >9 8< 7<
6< >7 >8 7< >8 >9

32      10      0   0.00% in      .11 sec LP: 0
32     100     0   0.00% in      .76 sec LP: 0
32    1000     1   .10% in     7.33 sec LP:44
32   10000    1   .01% in    73.61 sec LP:44
32  100000   19   .02% in   732.32 sec LP:60
32 1000000  162   .02% in  7337.15 sec LP:82
Longest Path: 82 Photon: 698717
>0 >1 >2 >3 >4 >5 >6 >7 >8 >9 >10 9< 8< 7< >8 >9 8< 7<
6< >7 >8 7< 6< 5< >6 5< 4< 3< 2< 1< >2 >3 >4 >5 >6 >7
6< 5< >6 >7 >8 >9 8< 7< >8 >9 >10 >11 >12 >13 >14 >15 >16 >17
>18 >19 >20 >21 >22 21< 20< 19< 18< 17< >18 >19 >20 >21 >22 >23 >24 >25
>26 >27 >28 >29 >30 >31 30< 29< >30 >31

```

The output is formatted number of panes, number of transmitted photons, number of photons that made it out the other side, percentage of escaped photons, simulation time, and the current longest path.

The funny output below chronicles the journey of the photon that took the longest path (in the output directly above that would be photon 698717). The > indicates forward (< backwards) movement and the number is the target. Above photon 698717 breezed through panes 0-9, bounced on 10 back through 9 and 8, bounced around the high single digit numbers and eventually make a break for the low 20s, then the low 30s, and eventually emerged a bit wiser (or a wiser bit).

Comparison of calculated to simulated:

| N  | Calculated | Simulated |
|----|------------|-----------|
| 1  | 700000     | 700309    |
| 2  | 510417     | 510826    |
| 3  | 380266     | 380791    |
| 4  | 286687     | 286649    |
| 5  | 217596     | 216278    |
| 10 | 56721      | 56891     |
| 32 | 161        | 162       |

Thanks for the challenge.

## Re: Math Challenge, 2 N panes solutions.

Message #25 Posted by [Valentin Albillo](#) on 27 July 2007, 6:30 a.m.,  
in response to message #24 by Egan Ford

Hi, Egan:

Once again, an awesome effort on your part, and that makes at least two in a row, I still remember your wonderful solutions to my latest S&SMC#19 challenge.

I want to thank you for taking the trouble to create those excellent solutions in the first place and, further, take the time and considerable effort to post them here, I really do appreciate them very much, collect them for future reference, and find them extremely interesting, so thanks a lot for doing it.

If I remember correctly, you mentioned in some of your posts that you weren't all that fluent in HP-71B BASIC, but it seems to me that you manage pretty well to write perfectly adequate code. Nevertheless (and please do not take this as any kind of criticism, far from it), it's true that your code

could at times be optimized to take less space and run faster, which in the case of the present simulation, can make quite a difference, even if only simple optimizations are attempted.

For instance, you have this subprogram that gets called a significant number of times:

```

320 SUB PHOTON(D,T,A,R)
330 X=RND
340 IF X<A THEN T=-1 @ GOTO 380
350 IF X>R THEN 370
360 IF D=1 THEN D=-1 ELSE D=1
370 T=T+D
380 END SUB

```

so any savings will make a fairly noticeable, worthwhile difference. You can trivially optimize it like this:

```

320 SUB PHOTON(D,T,A,R) @ X=RND @ IF X<A THEN T=-1 @ END
350 IF X>R THEN T=T+D ELSE D=-D @ T=T+D

```

this version will take less memory but, more importantly, will run appreciably faster as it doesn't have any GTO's, which are really slow in HP-71B's BASIC implementation, and there's also one IF statement less. Also, as you can see, no END SUB is ever necessary in a subprogram, any subprogram.

Similar trivial optimizations can be performed in a number of places with ease, which can be important for long-running programs or when you're squeezing every available byte of RAM to accommodate large matrices.

Best regards from V.

## Re: Math Challenge, 2 N panes solutions.

*Message #26 Posted by [Egan Ford](#) on 27 July 2007, 9:42 a.m.,  
in response to message #25 by Valentin Albillo*

Hello Valentin,

I initially dismissed the 71B/BASIC. I was once offered a free 71B and turned it down, but your code snippets caught my attention and ~4 months back I picked one up. Now equipped with MATH and HP41/FORTH ROMs, more RAM, and a little knowledge it is quite a machine.

Thanks for the tips. Keep them coming. Eventually I'll think BASIC, I still write prototypes in Perl or C, then port to BASIC without much thought.

OT: BTW, looking forward to your first 35s mini challenge.

Thanks again.

---

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## HP Forum Archive 17

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### Hp-50G- is it RPN "native"?

Message #1 Posted by [Scott Blakely](#) on 21 July 2007, 11:26 a.m.

Hi all,

What I mean by my question is this: Does the HP-50G run RPN as the default and is the documentation written primarily for the RPN user?

I have a HP-49G (one of the very first, with all of the issues). Frankly I didn't use it much at all because I quickly tired of beating my head against trying to parse the algebraic manual into the RPN key stroke equivalents.

I don't have the time to "argue" with my calculator. If the HP-50G makes using a graphing calculator in RPN essentially transparent to the RPN minded-user, then I will consider purchasing one (if I can find one \*anywhere\*).

I own 2 HP 32SII and a HP 20S, I don't use the 20S much either because it isn't RPN. It was a gift, and it is too good of a calculator to just toss. It stays in my truck to do quick calculations as I am very protective of my 2 32sIIs.

Alternately, if someone knows of a site where the HP 49G manual has been translated into RPN, then I would be interested in that as well. Although my HP-49G has the bad display, etc. An unfortunate result of my not using it enough to keep aware of the revisions and HP offerings early on.

### Re: Hp-50G- is it RPN "native"?

Message #2 Posted by [Matt](#) on 21 July 2007, 1:32 p.m.,  
in response to message #1 by Scott Blakely

The 50G is in algebraic by default.

The 'manual' is horrible, IMO.

Some functionality is described for ALG only, some for RPN only. It really is very poor. You get a printed user manual, which is full of typo's and is only 184 pages. If you hate trees, the 'proper' manual is nearly 900 pages.

You can download the manuals [here](#)

[Link to manuals](#)

If you can put up with those frustrations it's actually pretty good in RPN, but some inconsistencies in menu display do remain.

*Edited: 21 July 2007, 1:34 p.m.*

### Re: Hp-50G- is it RPN "native"?

Message #3 Posted by [John Keith](#) on 21 July 2007, 2:25 p.m.,  
in response to message #1 by Scott Blakely

Hi Scott,

The HP 50g does default to algebraic mode (a marketing decision no doubt) but is easily changed to RPN via the MODE key. The paper manual that comes with it is pretty useless, but the Advanced User's Manual,

available from HP or hpcalc.org, will have all the information you need.

There are some differences between the 50g and traditional HP calculators, mainly due to the 50g having an unlimited-depth stack, but most HP users have no problem adjusting.

You can get them from many on-line retailers including Amazon, or from hpcalc.org, which is a great site worth supporting. Of course, if you want a more traditional RPN calc, there's always the new HP 35s, which has been the subject of much recent discussion on this site.

John

### **Re: Hp-50G- is it RPN "native"?**

*Message #4 Posted by [Scott Blakely](#) on 21 July 2007, 3:31 p.m.,  
in response to message #3 by John Keith*

Thanks all,

So let me ask, as an example, how easy is it to convert units if the 50G is in RPN mode. The 49G really gave me a headache when it came time to do things like this.

I am often teaching and/or demonstrating and need to quickly access the built in functions. The 49G was a real bottle-neck for me in this area. Would you say the 50G is improved in this regard?

Thanks,

Scott

### **Re: Hp-50G- is it RPN "native"?**

*Message #5 Posted by [Matt](#) on 21 July 2007, 4:23 p.m.,  
in response to message #4 by Scott Blakely*

It's really nice to do this in RPN.  
Example..  
(Assuming you have soft menus enabled)  
R-shift 6 (to get the units menus)  
Put '10' on the stack, then choose a unit to attach to it (eg, inches)  
You would then see

```
1:                10_in
```

To convert to, say, metres, you just press...  
L-shift F1  
To get the conversion

```
1:                .254_m
```

And thats it.  
Much easier than doing it in ALG.

You might like to try this 50G emulator (for Windows)

<http://www.educalc.net/2140088.page>

Edited: 21 July 2007, 4:35 p.m.

### **Re: Hp-50G- is it RPN "native"?**

Message #6 Posted by [Scott Blakely](#) on 21 July 2007, 6:37 p.m.,  
in response to message #5 by Matt

That looks nice.

Also, a quick look through some sections of the user manual pdf show that there are dual instructions for ALG and RPN. That looks really good.

So I found one at a local Circuit City. A bit more than Amazon, but when you factor in shipping and sales tax it is not so bad.

I think I will go and get it tomorrow.

So that leaves the question of is there anyone out there that would like to buy a HP49G (early version) all docs and cable, but no cover - it went missing some time ago.

Thanks for all of the feedback.

Scott

### **Re: Hp-50G- is it RPN "native"?**

Message #7 Posted by [Scott Blakely](#) on 21 July 2007, 6:42 p.m.,  
in response to message #6 by Scott Blakely

Okay, one more question,

Will most 48 and 49 programs run on the 50G?

### **Re: Hp-50G- is it RPN "native"?**

Message #8 Posted by [Bruce Bergman](#) on 21 July 2007, 7:12 p.m.,  
in response to message #7 by Scott Blakely

HP \*really\* did an awesome job with the units conversion functionality in the 48/49/50 family. I haven't seen a better implementation of that since it first came out in the late 80's. As with the example given above, you enter a value, then the units, and then convert to the other unit you want. You can even do math on the units (like taking cm and making cm<sup>2</sup> or that kind of thing). You won't be disappointed, I think.

As for programs, I'd say 70%-80% of the 48/49 programs will run on the 50. Where you have to be careful are compiled SysRPL programs and libraries, or where certain SYSEVALs are used -- those are all different per machine. User RPL programs will run with almost no problem though. Out of about 30 programs I found on the web for the 48/49 family, all but 3-4 worked fine on the 50. The ones I had problems with, I \*really\* had problems with (like locking up the calc, erasing memory, etc). As long as you're careful, and make backups from time to time, you can try just about anything.

James M. Prange (Michigan), who posts on this board, probably knows more about the 49/50 family than anyone I've ever met. Every post of his is comprehensive, enlightening and rock solid accurate. He can probably tell you exactly what to watch out for when considering 48/49 programs to run on the 50. He's truly a guru of this calc.

thanks, bruce

*Edited: 21 July 2007, 7:15 p.m.*

**Re: Hp-50G- is it RPN "native"?**

*Message #9 Posted by [Scott Blakely](#) on 22 July 2007, 4:40 p.m.,  
in response to message #8 by Bruce Bergman*

Very good.

Last (hopefully) question

It is a bit confusing from reviews I've been reading. You can upload programs to the 50G via the USB, correct?

**Re: Hp-50G- is it RPN "native"?**

*Message #10 Posted by [Matt](#) on 22 July 2007, 4:43 p.m.,  
in response to message #9 by Scott Blakely*

Yes, you can use the USB cable for uploading, downloading, screenshots, etc.

**50g on sale! (Was: Re: Hp-50G- is it RPN "native"?)**

*Message #11 Posted by [Bruce Bergman](#) on 22 July 2007, 8:52 p.m.,  
in response to message #10 by Matt*

You can use the USB, but the SD card is easier. Buy a \$9 512MB card, put your stuff on there and use it or install it that way. It's much easier, IMHO.

BTW, I see that Circuit City has the HP-50g on sale this weekend, at a low price of \$129. That's \$10-\$40 lower than other places, depending on where you buy it from. It's a great price.

thanks, bruce

**Re: 50g on sale! (Was: Re: Hp-50G- is it RPN "native"?)**

*Message #12 Posted by [Scott Blakely](#) on 22 July 2007, 8:57 p.m.,  
in response to message #11 by Bruce Bergman*

Actually the Circuit City website has them for 124.99.

I called the store and spoke to the manager. He said that if I bring a printout of the website, they will match the price.

I also have to pick up an SD card reader for my computer....

*Edited: 22 July 2007, 8:58 p.m.*

**Re: 50g on sale! (Was: Re: Hp-50G- is it RPN "native"?)**

*Message #13 Posted by [Dave Johnson](#) on 22 July 2007, 10:06 p.m.,  
in response to message #12 by Scott Blakely*

Well you can get them through Walmart for \$120 + tax

But I would use hpcalc.org myself....

*Edited: 22 July 2007, 10:07 p.m.*

**Re: 50g on sale! (Was: Re: Hp-50G- is it RPN "native"?)**

*Message #14 Posted by [Olivier \(Wa\)](#) on 22 July 2007, 11:39 p.m.,  
in response to message #13 by Dave Johnson*

Actually \$117.99 at Buy.com, with free shipping...

**Re: 50g on sale! (Was: Re: Hp-50G- is it RPN "native"?)**

*Message #15 Posted by [Bruce Bergman](#) on 23 July 2007, 12:31 a.m.,  
in response to message #14 by Olivier (Wa)*

WoW! Okay, so can anyone beat \$117?? :-)

thanks, bruce

**Re: 50g on sale! (Was: Re: Hp-50G- is it RPN "native"?)**

*Message #16 Posted by [Alex](#) on 26 July 2007, 5:23 p.m.,  
in response to message #15 by Bruce Bergman*

\$117.99 at Amazon, and their customer service is far superior to any other mass-marketer, in my experience!

ooh, so tempted...

- Alex

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## HP Forum Archive 17

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### 35s - can you display this?

Message #1 Posted by [Gene Wright](#) on 21 July 2007, 12:49 p.m.

<http://home.comcast.net/~genela/35sdisplay.jpg>

### Re: 35s - can you display this?

Message #2 Posted by [Tim Wessman](#) on 21 July 2007, 2:51 p.m.,  
in response to message #1 by Gene Wright

<http://pssllc.com/pub/pics/response.jpg>

### Re: 35s - can you display this?

Message #3 Posted by [Seth Morabito](#) on 21 July 2007, 3:19 p.m.,  
in response to message #1 by Gene Wright

Almost, but not quite.

[http://www.loomcom.com/junk/hpmuseum\\_isgreat.jpg](http://www.loomcom.com/junk/hpmuseum_isgreat.jpg)

How'd you do the lowercase "S"?

### Re: 35s - can you display this?

Message #4 Posted by [Namir](#) on 21 July 2007, 5:19 p.m.,  
in response to message #3 by Seth Morabito

Insert the standard deviation  $S_x$  and then delete the x to get the small s. Of course this has to be done in program mode using the EQN button.

### List of 35s lowercase letters and where they can be found

Message #5 Posted by [Gene Wright](#) on 21 July 2007, 7:41 p.m.,  
in response to message #4 by Namir

It appears that 20 of the 26 lowercase letters can be produced that I've found so far. Haven't found an f, j, l, q, v, or z yet.

The list of lowercase letters and where they can be found is shown below. These may not be the ONLY places to generate the lowercase letters, but these do work. Any suggestions on the missing letters?

```
a - CONST atm
b - L.R. b
c - CONST c
d - BASE d
e - CONST eV
f - ?
```

g - CONST g  
h - CONST h  
i - i key  
j - ?  
k - CONST k  
l - ?  
m - CONST Vm  
n - CONST Mn  
o - BASE o  
p - CONST mp  
q - ?  
r - L.R. r  
s - s,sigma - sx  
t - CONST atm  
u - CONST u  
v - ?  
w - x-bar,y-bar Xw  
x - SUMS Sumx  
y - SUMS Sumy  
z - ?

### Re: List of 35s lowercase letters and where they can be found

Message #6 Posted by [Howard Owen](#) on 23 July 2007, 2:05 p.m.,  
in response to message #5 by Gene Wright

The Z in 'Zo' looks like a capital, but it actually fits perfectly in the lower case "font."

Regards,  
Howard

### Re: 35s - can you display this?

Message #7 Posted by [Bruce Bergman](#) on 21 July 2007, 7:07 p.m.,  
in response to message #1 by Gene Wright

Did anyone notice that Gene didn't use an actual 35s display, but the emulator screen? Hmmm? What's up with that?? ;-) ;-)

thanks, bruce

### Re: 35s - can you display this?

Message #8 Posted by [sjthomas](#) on 24 July 2007, 2:23 a.m.,  
in response to message #7 by Bruce Bergman

Quote:

Did anyone notice that Gene didn't use an actual 35s display, but the emulator screen?  
Hmmm? What's up with that?? ;-) ;-)

thanks, bruce

Just like in that review in Datafile . . . That could be handy, hp <nudge, nudge>

### Re: 35s - can you display this?

Message #9 Posted by [Katie Wasserman](#) on 24 July 2007, 10:05 a.m.,  
in response to message #8 by sjthomas

According to [this page](#) HP makes their emulator software available free to educators. I wonder what

their rationale is for not making it freely available to everyone? In any event, the 35s emulator isn't listed there yet but I'll bet it will be soon.

-Katie

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### **Odd sign problem with HP-97**

Message #1 Posted by **Dan W** on 20 July 2007, 4:44 p.m.

I have an odd problem with the CHS key on my HP-97 I have never seen before.

When I enter a number and hit the CHS key, a minus sign shows twice, at the left where expected, and at the right where it is used for the EE component. However the number is still correct (a negative number). The extra minus sign stays after hitting ENTER.

If I do a calculation that results in a negative number, both sign segments show.

When I enter a number with an exponent and try to change the sign of the exponent, no minus sign shows, although the number is entered correctly. However even though the number has a negative exponent, the minus sign does not show.

Also if I do a calculation that results in a number with a minus exponent, the minus does not show, but the number is correct.

The problem is with the LED display only, the numbers print with the correct signs.

So it seems the problem has to be with the LED display drivers. Any ideas on how to debug this, and determine if it is an IC or a problem with a discrete component of the PCB? Anyone else ever seen such a problem?

Thanks,

-- Dan

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## HP Forum Archive 17

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### **35s manual corrections list**

Message #1 Posted by [Gene Wright](#) on 20 July 2007, 4:03 p.m.

I know there are some formatting issues. Here are the factual errors of which I am aware.

- 1) Page 4-9: In the table of constants, Impedance is misspelled as "impenceence."
- 2) Page 14-24: Note 1 indicates "See A014" but should say "See A016" since that is the line where the "INVALID (I)" message is generated.
- 3) Page 14-24: Point 3 should indicate a maximum of 801 indirect registers (0 through 800) and not "800".

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### Not celebrating 35 years

Message #1 Posted by [Bruce Bergman](#) on 20 July 2007, 3:31 p.m.

BTW, my newly arrived calc, S/N 7210416, does not have the "Celebrating 35 years" imprinted on it. I'm guessing that was a special run for the attendees of the video presentation. Just makes them all that more valuable (in 20 years!). :-)

thanks, bruce

### Re: Not celebrating 35 years

Message #2 Posted by [Raymond Del Tondo](#) on 21 July 2007, 9:50 a.m.,  
in response to message #1 by Bruce Bergman

Hi,

is the zipper shell case included?

Raymond

### Re: Not celebrating 35 years

Message #3 Posted by [Bruce Bergman](#) on 21 July 2007, 12:56 p.m.,  
in response to message #2 by Raymond Del Tondo

Yes, that is included. Nice case too -- better than the pictures depict.

thanks, bruce

### Re: Not celebrating 35 years

Message #4 Posted by [Thomas Radtke](#) on 21 July 2007, 2:06 p.m.,  
in response to message #3 by Bruce Bergman

Bruce, can you tell if your lcd is likewise misaligned as seen on that picture?

A second question, how would you rate the haptics of the keys? Soft, hard?

Thank you,

Thomas

### Re: Not celebrating 35 years

Message #5 Posted by [Bruce Bergman](#) on 21 July 2007, 7:04 p.m.,  
in response to message #4 by Thomas Radtke

The keys are really nice. Like the "old days". Tall, crisp and have a good feel. Not the best keyboard they've made, but certainly one of the best. It just looks good, with a nice, distinct appearance. Though the keys are close together, the height helps with the separation, and the labels are clear.

Really, it's a beautiful calc. I'm quite impressed so far. If I had anything to complain about, it would be the speed. I wasn't expecting it to be the fastest calc out there, but it turns out to be (in reality) one of the slowest calcs out there. :( Don Shepard, who posts here, also did some timing runs compared to the 17bxx family and it's even slow compared with those.

BTW, I'm not sure which picture you meant when you mentioned the askew LCD. I don't see any so far. My unit is right on level and perfectly aligned. I also don't have the problem that another poster mentioned about the display bleeding black for a few seconds when pressed.

thanks, bruce

*Edited: 21 July 2007, 7:05 p.m.*

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## HP Forum Archive 17

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### TI-Nspire dismantled - ARM 9 @ 150 MHz!

Message #1 Posted by [Joerg Woerner](#) on 20 July 2007, 11:52 a.m.

Hi calculator collectors,

I mentioned already that the TI-Nspire is available in Europe. Mine arrived and I disassembled one of them immediately. It is based on LSI LOGIC's ZEVIO architecture and features tons of memory for the Operating system, Files and User data. Booting after power-up takes 30 seconds when you switch between the keyboards...

Get your own impression here:

<http://www.datamath.org/Graphing/NSpire.htm>

(I was in a rush - the images are perfect but the text is not finished...)

Regards, Joerg

### Re: TI-Nspire dismantled - ARM 9 @ 150 MHz!

Message #2 Posted by [Matt](#) on 20 July 2007, 12:33 p.m.,  
in response to message #1 by [Joerg Woerner](#)

Quote:

Hi calculator collectors,

I mentioned already that the TI-Nspire is available in Europe.

I must have missed that. Where can they be purchased?

Quote:

Mine arrived and I disassembled one of them immediately. It is based on LSI LOGIC's ZEVIO architecture and features tons of memory for the Operating system, Files and User data.

But I'm sure the question most potential users want answered is 'is it powerful enough for a decent port of DOOM?'

Quote:

Booting after power-up takes 30 seconds when you switch between the keyboards...

Wow! Faster than XP then ;-)

Quote:



Get your own impression here:

<http://www.datamath.org/Graphing/NSpire.htm>

(I was in a rush - the images are perfect but the text is not finished...)

Regards, Joerg

---

I like the screen size. But it really is a pig-ugly thing. But at least trig and exponential functions are 'primary', unlike the 89 How are they keys? they look a bit rubbery.

### **Re: TI-Nspire dismantled - ARM 9 @ 150 MHz!**

*Message #3 Posted by [Bruce Bergman](#) on 20 July 2007, 12:38 p.m.,  
in response to message #2 by Matt*

Matt, there's a great "first impressions" review further down the page here. Go directly there by [clicking here](#).

thanks, bruce

### **Re: TI-Nspire dismantled - ARM 9 @ 150 MHz!**

*Message #4 Posted by [Namir](#) on 20 July 2007, 6:40 p.m.,  
in response to message #1 by Joerg Woerner*

Joerg,

I feel you are truly blessed since you can read the German manuals of the TI Nspire. I think we need the manual(s) for a machine like the TI Nspire since I don't think it's trivial to operate and more importantly program.

I am very glad that you are attending HHC2007 and will be giving a talk. I think it's very open minded to have someone of your caliber and commitment to calculators be present. Rest assured that you will be among friends.

I am very much interested in buying one or two (not to mention possibly one for my son) TI Nspire. TI has done a good job marketing their graphing calculators. I think the Nspire software will be nice to use too.

Namir

### **Re: TI-Nspire dismantled - ARM 9 @ 150 MHz!**

*Message #5 Posted by [Matt](#) on 20 July 2007, 7:05 p.m.,  
in response to message #4 by Namir*

Perhaps you have seen these...

[http://education.ti.com/educationportal/appsdelivery/download/download\\_select\\_product.jsp?cid=us&displaymode=G&contentpaneid=6001](http://education.ti.com/educationportal/appsdelivery/download/download_select_product.jsp?cid=us&displaymode=G&contentpaneid=6001)

[http://education.ti.com/educationportal/sites/US/nonProductMulti/apps\\_latest.html?bid=2](http://education.ti.com/educationportal/sites/US/nonProductMulti/apps_latest.html?bid=2)

Not full manuals, but better than nothing.

## **TI-Nspire Manuals online!**

*Message #6 Posted by [Namir](#) on 21 July 2007, 8:52 a.m.,  
in response to message #5 by Matt*

Matt,

A million thanks for the links you posted!! I was able to download 6 PDF files (includes 2 reference guides) for the TI Nspire and its computer-associated software. This makes me a very happy camper. Now I can read the manuals and learn about what the machine can and can't do.

Namir

*Edited: 21 July 2007, 9:05 a.m.*

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### Datafile Special Issue

Message #1 Posted by [Howard Owen](#) on 19 July 2007, 11:03 p.m.

Along with my 35S, my mail today contained the special issue of Datafile with coverage of the new calculator, It immediately made me regret my hasty words here a couple of weeks ago. What wonderful, in depth coverage of the new machine! Gene Wright, thank you. I'm looking forward to your new column.

Regards,  
Howard

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## HP Forum Archive 17

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**82240A maintenance?**

Message #1 Posted by [Seth Morabito](#) on 19 July 2007, 10:25 p.m.

I picked up an 82240A printer for \$35 last weekend at a swap meet. It's in good functional shape, and seems to work fine, but since it's mechanical, I'm curious if there's any kind of maintenance I should perform on it? Print head cleaning, lubrication? I couldn't find the maintenance manual on the MoHPC DVD, and the user's manual didn't have anything to say on the subject.

So far I'm pleased, it works fine with my HP 50g, 48gx, and of course my 48sx. I don't (yet!) have a 28s or 42s to try it out on, but soon... soon...

**Re: 82240A maintenance?**

Message #2 Posted by [Allen](#) on 19 July 2007, 10:35 p.m.,

in response to message #1 by [Seth Morabito](#)

You can pick them up on certain websites which encourage capitalism for around that price. I would suggest if it breaks that is not worth your time to fix. The only exception would be the chrome tabs in the battery box.. Keep them clean, as they are prone to corrosion, and very easy to replace if they do become damaged (if you can find clean replacements).

Eventually the feed motor will go out, but for all the fine screws, replacement parts, risk of further damage... buy another 82240A or get a used 82240B for the same price. See other discussions here on the difference.

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### **Any HP35S retailers in Silicon Valley (San Jose/Sunnyvale area)????**

Message #1 Posted by **Bill Wiese** on 19 July 2007, 9:11 p.m.

Any HP35S retailers in Silicon Valley (San Jose/Sunnyvale area)????

I don't think they're on Fry's shelf yet, and WalMart is mailorder only.

Figured I'd just stop by a store on way home from work..

Bill Wiese  
San Jose CA

### **Re: HP35S (where to get)**

Message #2 Posted by **Frank E. Travis** on 20 July 2007, 9:01 a.m.,  
in response to message #1 by Bill Wiese

Bill I do not know if you remember me from a 2003 posting where you responded to my topic about Getting the U.S. to compete with overseas labor. I have an HP 35S on order with Calcpro website [www.calcpro.com](http://www.calcpro.com) Paul Nelson, its manager, has them on back order. I do not know when they will be in. I have had good dealings with Calcpro since it has been in business (about 1999).

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### **HP-35S \$40.40 shipped w/rebate buy.com**

Message #1 Posted by [Mike Ingle](#) on 19 July 2007, 5:42 p.m.

Slick deal on the HP-35S from buy.com \$40.40 after rebate:

Go to buy.com and order a HP-35S. After adding to your cart click this link:

<http://www.greatcoupons-online.com/redeemcoupon.php?coupon=53617&afsrc=1>

(listed here: <http://www.greatcoupons-online.com/online-coupons/1035.html> )

That will get you \$5 off when you add it. When you checkout on buy.com you will be offered a magazine subscription. By declining the magazine you can get a \$10 mail-in rebate from "M2 Processing." PDF link is shown next to the magazine offer.

Choose budget shipping. Total comes out to \$50.40 with tax and free shipping. If the \$10 rebate works, it should cost \$40.40 plus a stamp. Best deal I have seen!

Mike

### **Re: HP-35S \$40.40 shipped w/rebate buy.com**

Message #2 Posted by [Ed Look](#) on 20 July 2007, 8:19 p.m.,  
in response to message #1 by [Mike Ingle](#)

Great ultimate price, Mike, and I almost went for it, but I didn't like their privacy policy, i.e., the way Buy.com collects and shares your personal data with third parties.

I'll try another source from which I won't worry too much about any potential spam.

### **Re: HP-35S \$40.40 shipped w/rebate buy.com**

Message #3 Posted by [Ed Look](#) on 22 July 2007, 11:40 p.m.,  
in response to message #2 by [Ed Look](#)

Well... I took the plunge. I did review their privacy policy again before committing to the purchase. I'll try to remember to let you all know if the rebate will take.

Thanks again for the heads up, Mike.

Incidentally, did anyone notice that at buy.com, the 49G+ cost more than the 50G? (It wasn't by much, just a few dollars, but it's still surprising.)

*Edited: 22 July 2007, 11:43 p.m.*

### **Re: HP-35S \$40.40 shipped w/rebate buy.com**

*Message #4 Posted by [Mike Ingle](#) on 25 July 2007, 5:30 p.m.,  
in response to message #2 by Ed Look*

I got my calculator and sent in the rebate. I did notice the receipt that came with the calculator did not show the dollar amount, while the rebate form says the receipt should show the dollar amount. It remains to be seen whether the \$10 comes.

I used a spammed-out email address.

**Re: HP-35S \$40.40 shipped w/rebate buy.com**

*Message #5 Posted by [Ed Look](#) on 28 July 2007, 12:15 a.m.,  
in response to message #4 by Mike Ingle*

Mike, I got mine today... didn't get to open it up and hold it in my hand until tonight. It came all right and is to my eyes to this point in fine shape. I have no idea what some of the other guys are complaining about.

Oh, by the way, I sent in my rebate even before it got here; I used to order confirmation.

**Re: HP-35S \$40.40 shipped w/rebate buy.com**

*Message #6 Posted by [Katie Wasserman](#) on 21 July 2007, 12:48 a.m.,  
in response to message #1 by Mike Ingle*

I signed up as a new user on buy.com and paid via Paypal with free shipping -- total cost \$46.99 (no rebate needed). I'm not sure how long it will take to get here but they sent me a UPS tracking number within 24 hours.

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## HP Forum Archive 17

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### HP-35s (Samson Cables does NOT have them)

Message #1 Posted by [George Bradford](#) on 19 July 2007, 5:01 p.m.

"The scheduled shipment from HP manufacturing of our order of 35S calculators has been delayed for arrival until tomorrow. Your order will then ship. Regards, Karren Customer Support Samson Cables"

Translation: Samson Cables does NOT have ANY 35S calculators.

When I purchased a 35S from Samson Cables (on 15 July), the website clearly stated that the 35S would ship on July 17th.

Currently (19 July), Samson Cables' website STILL states the 35S will ship on July 17th. On top of that, the web site currently states that the 35S is "now available" and "shipping now".

Their email (quoted above) reveals that NONE of these statements are true.

Internet resellers who do engage in this type of behavior.....

Earlier today I emailed Samson Cables requesting they correct these false statements. So far, they've ignored my inquiries.

In light of the above, IMHO this company has NO credibility when it says it will ship the 35S tomorrow.

:-(

### Re: HP-35s (Samson Cables does NOT have them)

Message #2 Posted by [Matt](#) on 19 July 2007, 5:11 p.m.,  
in response to message #1 by [George Bradford](#)

It's mentioned here, too

<http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/forum.cgi?read=118704#118704>

In the UK we have laws against false advertising. What about you guys on the other side of 'the pond'?

I'm also more than a little angry that they have already taken payment for the non-existent item.

I will not, under any circumstances, be dealing with them again.

### Re: HP-35s (Samson Cables does NOT have them)

Message #3 Posted by [dbatiz](#) on 19 July 2007, 5:54 p.m.,  
in response to message #2 by [Matt](#)

Before I beat up a smaller vendor too badly, I'd like to mention my experience with buy.com.



When I purchased my 50g, the site said it was in stock. A week after the original shipping date had passed, I called customer service and was assured it would ship within the next two days. I was tired of waiting, so I decided to go online and cancel my order and buy elsewhere.

The site responded with a statment to the effect: Your cancelation REQUEST is being processed... we will notify you if your order is canceled.

This didn't sound right, so I contacted my bank and completely closed my charge card. The bank issued me a new one.

About 4 days later, the calculator shipped and the charge still processed through my bank.

I later went back to buy.com and read the fine print. Their policies are clear, and it's my fault for not being an informed buyer. No matter how good a deal they offer, I don't believe I'll ever do business with them again.

I wonder if Samson Cables would be willing to offer refunds for calculator orders that have not been filled? How is their customer service?

Very Respectfully, David

**Re: HP-35s (Samson Cables does NOT have them)**

*Message #4 Posted by [Alex](#) on 20 July 2007, 10:20 a.m.,  
in response to message #3 by dbatiz*

I ordered mine from Buy.com on Tuesday at 11:30 p.m. On Wednesday at 5:30 p.m., I got an e-mail from them stating that my order had been shipped!

Yay!

Even though I'm biting my nails I couldn't turn down free shipping, so it's not due to get here until next week.

- Alex

**Re: HP-35s (Samson Cables does NOT have them)**

*Message #5 Posted by [sjthomas](#) on 19 July 2007, 5:50 p.m.,  
in response to message #1 by George Bradford*

And HP said mine would ship on Tuesday, but didn't ship until today (Thursday).

Regarding Samson cables, they can't help it if they have not received their shipment. Perhaps their website SHOULD have said something like "expected to ship on July 17."

It's not worth getting worked up over <double dangling preposition notwithstanding>.

*Edited: 19 July 2007, 5:51 p.m.*

**Re: HP-35s (Samson Cables does NOT have them)**

*Message #6 Posted by [Matt](#) on 19 July 2007, 6:17 p.m.,  
in response to message #5 by sjthomas*

I completely agree with you.  
But I still think it's a bit cheeky to take payment before they have the goods.

\*When\* the calculator arrives, I will probably be so happy that this minor inconvenience will quickly become a distant memory.

I just wonder how long we'll have to wait until the next new HP calculator release. Then we can go through this again :P

### **Re: HP-35s (Samson Cables does NOT have them)**

Message #7 Posted by [Bruce Bergman](#) on 19 July 2007, 6:11 p.m.,

in response to message #1 by George Bradford

For what its worth, I've usually had good results with Samson. I've bought things from them in the past and they are generally up front and honest. I suspect this caught them off-guard too, but that's no excuse for leaving up incorrect information. I'd suggest giving them another day to pull their act together before coming to any conclusions.

MobilePlanet.uk.com is one of my "secret" sites. They tend to have stuff you can't get elsewhere. For example, that's how I ultimately got a HP-40gs (not sold in the USA). However, they are NOTORIOUS for posting dates and inventory volumes that are completely bunk. After placing my order, and promising next-day shipping, it took almost daily pestering over a course of more than a month to finally get my calc. Granted, they did credit me the shipping costs, and I honestly would have waited longer just to get it :-), but it still left a sour taste in my mouth.

That all being said, keep in mind that even HP's site has wrong information on it right now. They should also clean up their act. In this day and age, there's no excuse for not knowing exactly how many pieces you have in stock, when it moves from place to place, etc.

Oh, and finally, I \*totally\* agree about Buy.com. Good prices, great deals at times, but a really, really horrible company to deal with if ANYTHING goes wrong. They've lost me a couple of times. Unfortunately, I keep coming back like an addict ;-), mainly when they have super deals, but I really dislike that company. I can't recommend them to anyone.

thanks, bruce

*Edited: 19 July 2007, 6:19 p.m.*

### **Re: HP-35s (Samson Cables does NOT have them)**

Message #8 Posted by [mjcohen](#) on 19 July 2007, 7:49 p.m.,

in response to message #7 by Bruce Bergman

My experiences with buy.com have been pretty good. The stuff I have ordered has come when they said and malfunctioning stuff has been easily replaced.

Also, my experience with HP regarding the 35s has been as stated here earlier: I ordered it on the 15th, they did not have it on the 17th, but did get them on the 18th, and mine was shipped (or reportedly shipped) today, the 19th.

Martin Cohen

### **UPDATE Re: HP-35s (Samson Cables does NOT have them)**

Message #9 Posted by [Matt](#) on 20 July 2007, 4:51 a.m.,

in response to message #1 by George Bradford

It seems that you were correct in doubting their credibility to ship on the 19th.

This page

[http://www.samsoncables.com/catalog/prodDetail.cfm?Prod\\_ID=394](http://www.samsoncables.com/catalog/prodDetail.cfm?Prod_ID=394)

states

"New! Just released by HP! Begins shipping 7/23/07 (Sorry for the dissapointment to those that have already ordered. Our first shipment from HP manufacturing was delayed.)"

### **Re: HP-35s (Samson Cables does NOT have them)**

Message #10 Posted by [Thomas Radtke](#) on 20 July 2007, 4:59 a.m.,

in response to message #1 by George Bradford

If they don't have them, what do these invoice entries mean:

Invoice Date: 07/15/2007  
Order Status: 07/15/2007 Order received, 07/16/2007 Credit card charged, Shipped  
Ship Method: US International Air Mail (2-4 weeks)  
Payment Method: CreditCard  
Payment Status: PAID IN FULL  
Shipping Status: SHIPPED

(this is from the current order status!)

Edited: 20 July 2007, 5:00 a.m.

### **Re: HP-35s (Samson Cables does NOT have them)**

Message #11 Posted by [bill platt](#) on 20 July 2007, 7:28 a.m.,

in response to message #10 by Thomas Radtke

Can you say, "computer boilerplate"? It is no different from those Windoze error messages. Merely text that gets parsed--no "intelligence" in it.

### **Re: HP-35s (Samson Cables does NOT have them)**

Message #12 Posted by [bill platt](#) on 20 July 2007, 7:23 a.m.,

in response to message #1 by George Bradford

Give them a break already. It is a 1st issue, and they are probably getting bad info from the manufacturer.

### **Re: HP-35s (Samson Cables does NOT have them)**

Message #13 Posted by [Steve Myers](#) on 20 July 2007, 9:37 a.m.,

in response to message #12 by bill platt

"Shipping on the 23rd" is not the same as "Will Ship On July 17th."

They didn't learn their lesson yet as they should be saying "July 23rd expected shipping date"

Why not just call and cancel/refund the order and re-order from somewhere else like buy dot com... \$10.00 buck less expensive and free shipping.

The bottom line is "Will ship On July 17th" is a commitment and they failed to keep it.

### **HP-35s (Samson Cables do NOT have MINE any more)**

Message #14 Posted by [Nenad \(Croatia\)](#) on 20 July 2007, 3:00 p.m.,

in response to message #1 by George Bradford

...because they have shipped them to my address.

Quote:

"The scheduled shipment from HP manufacturing of our order of 35S calculators has been delayed for arrival until tomorrow. Your order will then ship. Regards, Karren Customer Support Samson Cables"

Translation: Samson Cables does NOT have ANY 35S calculators.

Maybe I am wrong, but a few hours after my (polite) enquiry I have obtained the same e-mail from Karren. Thought this was the end of the communication, but after another few hours they sent me another e-mail with the tracking number. Obviously, something positive is happening. I feel satisfied with their response.

**Re: HP-35s (Samson Cables do NOT have MINE any more)**

*Message #15 Posted by [Doctor Bubu](#) on 20 July 2007, 3:36 p.m.,  
in response to message #14 by Nenad (Croatia)*

I hav insist after the last answer and got the following answer:

Jurgen,

We did not intend to be misleading. Last Thursday, when we heard the 35S was in stock, we submitted a PO to HP manufacturing for the 35S. It takes two days to arrive to us once shipped. We planned on our shipment arriving Tuesday or Wednesday at the latest. For some reason they held our PO until this Wednesday. I can only guess they had much to do for this roll-out. I'm sorry for the delay. Your order will ship on Friday, Monday at the latest.

Regards,

Karren

**Re: HP-35s (Samson Cables do NOT have MINE any more)**

*Message #16 Posted by [Les Wright](#) on 20 July 2007, 4:21 p.m.,  
in response to message #14 by Nenad (Croatia)*

Same thing happened to me. I am told mine will ship tomorrow.

Les

**Re: HP-35s (Samson Cables do NOT have MINE any more)**

*Message #17 Posted by [Les Wright](#) on 22 July 2007, 4:11 p.m.,  
in response to message #16 by Les Wright*

I checked the USPS tracking number Samson sent me and it looks like yes indeed the parcel did ship from Salt Lake City yesterday.

Les

*Edited: 22 July 2007, 10:46 p.m. after one or more responses were posted*

**Re: Why is the HP 42s so expensive?**

*Message #18 Posted by [Matt](#) on 22 July 2007, 4:38 p.m.,*

*in response to message #17 by Les Wright*

Well it's nice to hear that some people are getting their tracking numbers :)

I'm still waiting, even after being told...

"The scheduled shipment from HP manufacturing of our order of 35S calculators has been delayed. Your order will then ship Friday the 20th. Sorry for any inconvenience."

Ho-hum <twiddles thumbs>

**Re: HP-35s (Samson Cables do NOT have MINE any more)**

*Message #19 Posted by [Les Wright](#) on 22 July 2007, 10:47 p.m.,  
in response to message #17 by Les Wright*

And USPS just sent me email confirmation (that I signed up for) that the parcel has shipped.

Les

**Re: HP-35s (Samson Cables do NOT have MINE any more)**

*Message #20 Posted by [Les Wright](#) on 24 July 2007, 7:01 a.m.,  
in response to message #19 by Les Wright*

USPS tracking tells me the parcel left the US yesterday :) If Canada Customs doesn't fart around with it too much I should get it Thursday or Friday!

Les

**Re: HP-35s (Samson Cables does NOT have them)**

*Message #21 Posted by [Olivier TREGER](#) on 22 July 2007, 8:45 p.m.,  
in response to message #1 by George Bradford*

Quote:

\_\_\_\_\_

In light of the above, IMHO this company has NO credibility when it says it will ship the 35S tomorrow.

:-(

\_\_\_\_\_

Neither does HP...

You all are too much in a hurry to get this new marvel (if ever it is). HP ain't what you used to deal with: all engineers are gone (compared to the past) and it's now driven by traders, like all other major US corporations.

[no flame intended]

Don't expect they deliver on schedule. I'm quite sure they will store all back-orders and then launch production.

Remember that, when ordering manufacturing to a Chinese or Taiwanese factory, you won't get even a unique copy of your product if your forecast were wrong. So the best way to get it right is to know the number of orders BEFORE manufacturing the product.

**Re: HP-35s (Samson Cables does NOT have them)**

Message #22 Posted by [Don Shepherd](#) on 22 July 2007, 9:11 p.m.,  
in response to message #21 by Olivier TREGER

Sorry, Oliver, I got my HP35s within a day of the originally promised delivery date by HP. And so did many others, judging from the forum.

**Re: HP-35s (Samson Cables does NOT have them)**

Message #23 Posted by [Kevin Kitts](#) on 22 July 2007, 10:58 p.m.,  
in response to message #22 by Don Shepherd

I didn't place my order (at HP) until Friday the 20th - I had a tracking number within two hours - and it had crossed several state lines within 24 hours. I have an estimated date to receive it of the 24th.

I think that they probably just had some initial problems getting the new item rolled out.

**Re: HP-35s (Samson Cables does NOT have them)**

Message #24 Posted by [Steve Myers](#) on 23 July 2007, 6:11 p.m.,  
in response to message #1 by George Bradford

Quote:

... In light of the above, IMHO this company has NO credibility when it says it will ship the 35S tomorrow.

:-(  
\_\_\_\_\_

To make matters worse, they continue to flat-out lie about delivery.

In my case, I ordered and paid in full days before the "Will Ship On July 17th" date. I found out that they weren't shipping on-time from reading the posts here

I contacted Sampson and was told by Karren that they will ship on the 18th, one day late.(No panic here)

The next day I contacted them again and was told they will most defiantly ship on the 19th with zero chance of delay. (Getting a bit annoyed)

I then contacted them on the 20th and asked for the tracking number. I was told they did ship they would email me the tracking number in a few minutes. (OK, no big deal. They are on their way) This never happened and they closed up shop for the weekend.

Now it's the 22nd and I was told they have not shipped yet, but will ship sometime later today, this time they really mean it.(Back to being quite annoyed)

The only reason I'm no too concerned is I do believe that someday they will actually ship them. This and the fact that after I read a post here about buydotcom selling them for \$10.00 less, I ordered two from there and they already arrived.

Edited: 23 July 2007, 6:12 p.m.

**Re: HP-35s (Samson Cables does NOT have them)**

*Message #25 Posted by **Walter B** on 23 July 2007, 6:57 p.m.,  
in response to message #24 by Steve Myers*

I hate I have to agree fully. I ordered on 7/15 for 52.99 + 20.00 for s/h. Got an order confirmation the same day (fine!). Got an e-mail next day due to a typo in my cc-data (ok, my fault!), which I corrected the same day. My order status didn't change, so I contacted SC on 7/18, asking what's the reason. Got an e-mail from Karren next day: "The scheduled shipment from HP manufacturing of our order of 35S calculators has been delayed for arrival until tomorrow. Your order will ship once we receive them." Nothing happened on 7/20 (feeling a bit annoyed). Today, I was getting another e-mail from Karren: "You need to pay at least \$15.00 more for shipping." Where am I? Is this a bunch of amateurs doing their first business?

**Re: HP-35s (Samson Cables does NOT have them)**

*Message #26 Posted by **Thomas Radtke** on 24 July 2007, 4:28 a.m.,  
in response to message #25 by Walter B*

Hallo Walter,

ordered the same day as you did but got the mail about the missing VAT right next day. So, used their form to transmit it via Visa in good faith. Yesterday, I got another two mails after inquiring. Karren asked if the difference in shipping costs could be charged from my card. Argh! Of course, the item haven't been shipped in opposite to what was stated in the order status. Anyway, yesterday I asked to check if the \$15 have been charged already and if not to charge the card now. No answer. I have no clue when the 35s will actually be shipped :-).

Thomas

**Re: HP-35s (Samson Cables does NOT have them)**

*Message #27 Posted by **Walter B** on 24 July 2007, 4:49 a.m.,  
in response to message #26 by Thomas Radtke*

Hallo Thomas, you've got mail.

**(deleted post)**

*Message #28 Posted by **deleted** on 24 July 2007, 5:20 a.m.,  
in response to message #26 by Thomas Radtke*

This Message was deleted. This empty message preserves the threading when a post with followup(s) is deleted. If all followups have been removed, the original poster may delete this post again to make this placeholder disappear.

**Re: HP-35s (Samson Cables does NOT have them)**

*Message #29 Posted by **Thomas Radtke** on 24 July 2007, 6:28 a.m.,  
in response to message #28 by deleted*

Quote:

Now Samson Cables are ignoring my emails.

I'm quite sure they get lots of mail these days...

It is certainly no scam.

**Re: HP-35s (Samson Cables does NOT have them)**

Message #30 Posted by [Steve Myers](#) on 24 July 2007, 11:01 a.m.,  
in response to message #29 by Thomas Radtke

Quote:

\_\_\_\_\_

I'm quite sure they get lots of mail these days...

It is certainly no scam.

\_\_\_\_\_

It may not be a scam, but their integrity is down the tubes as far as I'm concerned. I can only hope others will search and find this message trail before thinking of purchasing anything from Samson / HPcalculators(.)com

For the record, I ordered on July 13th, and today is **July 24th**...my units from Samson still have not even shipped yet.(Now I'm well beyond annoyed)  
I can understand delays in shipping, but this is now plain old-fashioned incompetence and terrible customer service.

I'm also sure they get a lot of mail, people thinking they are getting ripped-off usually don't like it.

-but-

Do you really think they get so many as to justify ignoring pre-paying customers they promised something then fell through of their own fault?

*Edited: 24 July 2007, 11:09 a.m.*

**Re: HP-35s (Samson Cables does NOT have them)**

Message #31 Posted by [Steve Myers](#) on 24 July 2007, 3:30 p.m.,  
in response to message #28 by deleted

Quote:

\_\_\_\_\_

Well this is just a big scam really.  
Now Samson Cables are ignoring my emails.  
I was told my calc would ship Friday. Another lie.  
I think they're a bunch of crooks.

\_\_\_\_\_

On second thought, it is a scam and heres why.

I contacted Samson three days after the supposed ship date (20th). I asked them to cancel my order because they failed to keep their delivery date and other vendors were shipping from stock. Karren told me "no worries, I am shipping it as we speak and you will have it in two days" (I paid extra for UPS 2nd Day)

This order has **yet to even ship**. This is what I consider the definition of a scam to keep people from cancelling their orders to buy elsewhere.

I'm not impatient, I just don't like someone taking my money lying to me.



**Re: HP-35s (Samson Cables does NOT have them)**

Message #32 Posted by **Kostas Kritsilas** on 24 July 2007, 4:39 p.m.,  
in response to message #31 by Steve Myers

Hi,

I have no interest in this (HP35s are not generally available in Canada yet, and I can wait until they are), but I would suggest to all who have paid Samson Cables by credit card to immediately get in touch with their credit card company and cancel their order. You all have valid reasons for cancellation, from being promised shipment that never happened, to being treated unfairly. Calling the credit card company and having a bunch of cancelled orders will certainly get the message across to Samson a lot more forcefully.

Kostas

**(deleted post)**

Message #33 Posted by **deleted** on 24 July 2007, 8:34 p.m.,  
in response to message #32 by Kostas Kritsilas

This Message was deleted. This empty message preserves the threading when a post with followup(s) is deleted. If all followups have been removed, the original poster may delete this post again to make this placeholder disappear.

**Re: HP-35s (Samson Cables does NOT have them)**

Message #34 Posted by **Steve Myers** on 24 July 2007, 8:39 p.m.,  
in response to message #33 by deleted

I know this isn't a complaint board to vent on fraudulent HP Authorized Dealers, but I do have one last comment on this rip-off that hpcalculator(.)com / Samson is perpetrating. I say this because I wish the information found in this thread was available before I made my purchase (Of course, then there would have been no purchase.)

UPS is saying that this company is using their services in violation of stated agreements. What they are doing is filling out on-line shipping requests to obtain tracking numbers but not asking for pick-ups. This way they can send the "buyers" a tracking number but not ship anything. UPS is aware of this and is investigating.

Now, back to talking about HP,RPN, RPL, Hexadecimal Math and other, better things to think about.....

**Re: HP-35s (Samson Cables does NOT have them)**

Message #35 Posted by **Kostas Kritsilas** on 25 July 2007, 10:55 a.m.,  
in response to message #33 by deleted

Matt:

It may be difficult going through Samson, in fact, it I can almost guarantee that it will probably be impossible.

However, if you have paid by credit card, the credit card company will reverse the charges, and you will get a refund. The credit card company and Samson then work

things out on their own. Most credit card companies take a very dim view of the tactics that Samson is employing, and will go out of their way to help their credit card holders.

Kostas

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## HP Forum Archive 17

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### HP-35, HP-65 .... reverse engineering latest news

Message #1 Posted by **Jacques Laporte** on 19 July 2007, 12:02 p.m.

What's new on my site ? <http://jacques-laporte.org>

- I started the HP-65's ROM exploration. A Java simulator is already running the HP-65 micro-code without problem, allowing to study how the program storage circuit is working ; its program memory symbolic addressing and its hardware label-searching mechanism are very original. <http://www.jacques-laporte.org/sim65.htm>

- The reverse engineering of the power units for the Classic (HP-35; HP-45) and Woodstock series (HP21, HP25) is published. This job has been completed with the precious help of Daniel WEED - ex-rocket scientist from Phoenix, AZ. Dan did a nice job deconstructing the power unit of the HP-45 and repairing one unit with modern discrete composants. <http://www.jacques-laporte.org/HP35%20power%20unit.htm>

- January 2007, I started to publish the HP-35 hardware pages. It is a kind of "black box" reverse engineering: you can't open a chip to see what's going on inside. But I had input and output signal traces on my scope and in mind the 1972 state of the art (sometimes though it is hard to follow, because of HP ingenuity for example the way they mixed PMOS chips and TTL logic, or the efficient inductive drive technique used for the LED display is great art! <http://www.jacques-laporte.org/HP%2035%20Control%20&%20Timing.htm>

- The HP 35 ROM Mapping is finally on line (a very hard work) : "The HP-35 firmware decoded & other mysteries". <http://www.jacques-laporte.org/ROM0%20mapping.htm>

Enjoy and please give feedback.

*Edited: 20 July 2007, 5:10 a.m. after one or more responses were posted*

### Re: HP-35, HP-65 .... reverse engineering latest news

Message #2 Posted by **Ron G.** on 19 July 2007, 1:00 p.m.,  
in response to message #1 by Jacques Laporte

Some of you guys are just TOO smart! :^)

I can't figure out half of what people are saying around here.

Oh, well.

### Re: HP-35, HP-65 .... reverse engineering latest news

Message #3 Posted by **Walter B** on 19 July 2007, 5:14 p.m.,  
in response to message #1 by Jacques Laporte

Bonsoir Jacques,

I must admit I didn't know your site until today, and was discovering a real new world this evening. Your site appears very properly designed, and there is a lot of knowledge stored therein, which will cost me many nights

to read (not knowing if I will at any time reach the level to understand a considerable fraction of the material you published). Merci bien!

**Re: HP-35, HP-65 .... reverse engineering latest news**

*Message #4 Posted by [Dan W](#) on 21 July 2007, 3:29 p.m.,  
in response to message #3 by Walter B*

Hi Jacques!

I'll be glad to help with the HP-65 write-up and photos. I have done repair work on these, the 67 and 97. Great web site there with lots of info. A lot of folks might like the Cordic explanations too!

-- Dan W.

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## HP Forum Archive 17

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### **Thread for those receiving 35s calculators to post what they think**

Message #1 Posted by [Gene Wright](#) on 19 July 2007, 10:51 a.m.

Now that these are making their way into lucky people's hands, what does everyone think?

Post good things and things you may not like. :-)

Gene

### **Re: Thread for those receiving 35s calculators to post what they think**

Message #2 Posted by [Monte Dalrymple](#) on 19 July 2007, 3:22 p.m.,  
in response to message #1 by Gene Wright

Great machine. But having to press the blue arrow, then 1 (base), and the 6 ("h" data type) gets old really fast when I am working with hex numbers. And you get "syntax error" if you forget to tag the number this way. I much preferred the 33s in this regard, where I could just press "enter" after the digit entry was done.

And I had to look in the manual to find which keys to use for the ABCDEF digits... it isn't labelled on the keyboard.

Monte

### **Re: Thread for those receiving 35s calculators to post what they think**

Message #3 Posted by [Eric Smith](#) on 19 July 2007, 9:32 p.m.,  
in response to message #2 by Monte Dalrymple

Just got the pair of 35s' I ordered from HP on Tuesday (paid a bit extra for overnight shipping). The first thing I did was switch into RPN mode, and the second was to try hex. I wasn't able to figure it out without consulting the manual.

The suffix approach (same as the 28/48/49/50) is **extremely** annoying when simply trying to do calculations on the stack, but I suppose it was necessary to support use of non-decimal bases in equations and such.

### **Re: Thread for those receiving 35s calculators to post what they think**

Message #4 Posted by [Monte Dalrymple](#) on 19 July 2007, 11:37 p.m.,  
in response to message #3 by Eric Smith

I agree. It gets very annoying, very fast. While I understand the rationale behind this requirement, I would have much preferred at least a "dedicated" mode that assumed everything in hex mode was hex.

I think that this is an example of making something general enough for all cases (like mixing bases on entry) that it interferes with the "normal" case. Kind of anti-KISS...

Monte

**Re: Thread for those receiving 35s calculators to post what they think**

*Message #5 Posted by [Howard Owen](#) on 20 July 2007, 12:40 a.m.,  
in response to message #4 by Monte Dalrymple*

The Datafile special issue on the 35s contains an article by Wlodek that gives a possible explanation for this and other misfeatures. Due to cost constraints, the ROM and RAM sizes were the same as the 33s. HP crammed a fair amount of new functionality into the same space the 33S code occupied. Wlodek doesn't mention the base weirdness to show how HP had to "cut corners." He points out that you can enter all sorts of nonsense on the command line without a problem. Only when you press ENTER do you get an error message. But the base stuff may also be a result of cutting corners to save bytes. And the Ax + Bi unavailability in RPN mode could also have the same cause. It would explain what otherwise seems to me to be a series of purposeless limitations or awkwardnesses in an otherwise well-conceived machine.

Regards,  
Howard

**Re: Thread for those receiving 35s calculators to post what they think**

*Message #6 Posted by [Namir](#) on 19 July 2007, 4:55 p.m.,  
in response to message #1 by Gene Wright*

Gene,

I got my order from HP. Woohoooo! The machine looks nice and the manual is good too. I think I will dive in reading it this weekend.

Namir

**Re: Thread for those receiving 35s calculators to post what they think**

*Message #7 Posted by [Mark W Paris](#) on 19 July 2007, 5:47 p.m.,  
in response to message #6 by Namir*

Argh - still waiting for HP to ship my order - placed on 12 July! A "problem with the inventory."

My hopes for low serial numbers seem dashed.

**Re: Thread for those receiving 35s calculators to post what they think**

*Message #8 Posted by [Seth Morabito](#) on 19 July 2007, 8:07 p.m.,  
in response to message #7 by Mark W Paris*

Yup -- I think I was one of the first handful of people to find the HP ordering link on Tuesday after the announcement. And mine hasn't shipped yet either.

I'm a bit peeved :)

**Re: Thread for those receiving 35s calculators to post what they think**

*Message #9 Posted by [Alain Mellan](#) on 19 July 2007, 8:34 p.m.,  
in response to message #8 by Seth Morabito*

There's hope! I ordered mine from HP on 7/12, and I found out today that it has shipped. HP gave me a tracking #, and my calc just left Indianapolis. Should be here on July 23. Can't wait!

## Video?

Message #10 Posted by [Howard Owen](#) on 19 July 2007, 7:32 p.m.,  
in response to message #1 by Gene Wright

A very preliminary impression: nobody has mentioned the DVD yet. Titled "The HP Calculator Story, 1972-2007," it sounds like it ought to be interesting.

Regards,  
Howard

*Edited: 19 July 2007, 7:33 p.m.*

## Re: Video?

Message #11 Posted by [Howard Owen](#) on 19 July 2007, 8:06 p.m.,  
in response to message #10 by Howard Owen

Unfortunately, the video doesn't want to play on my laptop.

Other first impressions:

The keys are as advertised, nice and snappy. Their shapes are very reminiscent of older machines.

The manual seems well organized and thorough.

The case is not a traditional type, but a clamshell. One half of the shell has netting very much like a PSP case. The PSP uses mini CDs for which the netting is very useful, but I can't imagine what this is for in calculator terms. There is no quick reference guide supplied with the calculator, which might give the netting a reason for being. Note paper, perhaps? The other side of the clamshell is better thought out. It has two elastic bands strategically placed so you can put the calculator in the case facing either direction. One of the elastic bands will reach across the machine between the display and top row of keys. The other band stays unused beneath the calculator. In this mode the machine is usable while in the case. I give this arrangement fairly high marks.

I'm off to learn more about the features of the calculator, before writing my first program. I'll post more as I go.

Regards.  
Howard

## HP 35s case

Message #12 Posted by [Don Shepherd](#) on 19 July 2007, 8:43 p.m.,  
in response to message #11 by Howard Owen

Quote:

\_\_\_\_\_  
Note paper, perhaps?  
\_\_\_\_\_

For documenting the the labels of programs you write, no doubt!





ALG mode is 'A + B i' which clearly won't work in RPN mode. But surely that can't be why it isn't supported?

A more egregious example of mysterious limitation is the hash made out of base number entry. Blue->base->6 to tag a number as hex is anti-ergonomic. If you are in hex mode, why not assume numbers are in hexadecimal? It's true that this way you can add 44h and 1000100b and get the result in the current base. But I'd far rather have easy entry of data than the ability to mix bases in calculations.

The manual is well organized and thorough, but it's full of errors. This can be expected for a brand new manual, but it detracts from the overall impression the calculator gives the new user.

Note that I'm quite pleased with this machine so far. I'm whining about things that are no big deal, in my view. But I can't help it, I'm a critic at heart.

Regards,  
Howard

### Re: More Nits

Message #17 Posted by [Gene Wright](#) on 20 July 2007, 12:03 a.m.,  
in response to message #16 by Howard Owen

Hi Howard.

As you read through the manual, please consider collecting errors you find and post them here. I have a list about a page and a half long that I will post soon of ones that have been found so far.

### Re: More Nits

Message #18 Posted by [Howard Owen](#) on 20 July 2007, 1:04 a.m.,  
in response to message #17 by Gene Wright

Sure thing, Gene. Here's one, not an error, but a style point. The typography of subscripted variables is poor, in at least one case. That is on on page 9-3, where the numbers in "z1 + z2" are much larger than the "z" characters. The number's base lines are lower than the z characters, yet the tops of both characters are aligned, so the numbers don't appear to be subscripts. The numbers are too large to be elegant looking as subscripts anyhow. Elsewhere, the same font sizes are used for superscripts, and that works fine. But in this case, the result is nearly illegible.

Regards,  
Howard

### Thoughts on Programming the 35S

Message #19 Posted by [Howard Owen](#) on 20 July 2007, 6:10 p.m.,  
in response to message #1 by Gene Wright

I just worked up a couple of subroutines on my new 35S in order to get a feel for how it is to program. Here's the commented code, followed by some additional thoughts.

This routine will prompt for four successive decimal numbers constituting 4 octets of an IP address. It will store them in a contiguous block of 4 registers starting with the register number passed in the X register.

```
I001 LBL I
I002 DEC          Ensure decimal entry
I003 SF 10       Inhibit evaluation of the "equation"
I004 ENTER OCTET RS 4 TIMES Long, hey?
```

```
I005 CF 10          1st octet entered is now in X
I006 (REGY+3)/1E3+REGY  ALG, complete with parentheses. Weird.
I007 STO I         Loop counter and address pointer
I008 x<>y         Get the first octet back
I009 STO(I)       STOrE it in the base register
I010 ISG I        Second register is next
I011 DEG         No-op. Thanks Gene. 8)
I012 SF 10       Loop entry point
I013 NEXT OCTET  Not so long.
I014 CF 10       Octet is nw in X
I015 STO(I)     Store it in the next register
I016 ISG I
I017 GTO I012   My 1st line addressed GTO in 20 years. (Not really 8)
I018 RTN       Done
```

The following routine retrieves an IP address from registers whose base is pointed to by the number in X

```
I019 (REGX+3)/1E3+REGX  ALG here is more programmer-efficient
I020 STO I
I021 RCL(I)           The first octet
I022 ISG I
I023 DEG
I024 1E3             "E3" produces "INVALID DATA"
I025 X              Shift the IP 3 places to the left
I026 RCL(I)         Get the next octet
I027 +              And add it into the IP
I028 ISG I
I029 GTO I024
I030 RTN
```

The comment on line I006 says ALG mode is "weird." I mean that it feels weird to me in the context of an RPN program. The construct is far tidier than the corresponding RPN sequence would have been. I don't know if there are differences in execution time between the two forms. One of Gene's recent articles suggests that ALG may be less efficient. Nonetheless, these subroutines are not time critical, so even a large difference in execution time shouldn't matter. At the same time, fewer line numbers and succinct expression make it easier for this programmer to read the code, despite having to scroll right to see most equations. Six or seven fewer lines is a big advantage on a machine where you can only see two lines at a time, and can't print anything out.

It's also weird to be using indirect addressing for access to the main bank of storage registers. It makes the whole language feel more like assembly. I'm appreciative of the large jump in storage, but it has been implemented inelegantly, no doubt because of cost constraints. The same goes for line oriented GTOs. I actually have coded in line mode BASIC more recently than 20 years ago. (Last year in fact, on the 9816 and HP8X) but doing a GTO to a line number gives me a case of 1980s nostalgia. (I was miserable through the first two thirds of that decade, so nostalgia isn't a good thing. 8) Once again, the designers have found a creative way to address a shortcoming of the 33S, but constrained by cost to inadequate ROM space, they've had to compromise deeply to achieve it.

So, what will it take for HP to turn those very creative and skilled folks loose with a reasonable budget to create an RPN calculator without so many compromises? Is the HP 35S likely to change the economics of the calculator market and allow such a move? I hope so, but I fear not.

Regards,  
Howard

## Re: Thoughts on Programming the 35S

Message #20 Posted by [Namir](#) on 20 July 2007, 7:22 p.m.,  
in response to message #19 by Howard Owen

Howard,

I wrote the following program to test the speed of summing integers using pure RPN and hybrid AL/RPN

commands:

```
LBL A
INPUT N
0
STO I
STO S
LBL B
1
STO+ I
RCL I
STO+ S
RCL N
x>y?
GTO B001
RCL S
STOP
0
STO I
STO S
LBL C
I+1
STO I
I+S
STO S
RCL I
RCL N
x>y?
GTO C001
RCL S
RTN
```

When I enter 1000 at the prompt, the first loop takes about 31 seconds while the second loop takes 84 seconds. The ratio is about 2.8. Using ALG expressions slows down calculations.

Namir

PS: I used the timer of an HP41CX

*Edited: 20 July 2007, 7:23 p.m.*

## **Re: Thoughts on Programming the 35S**

*Message #21 Posted by [Howard Owen](#) on 20 July 2007, 8:01 p.m.,  
in response to message #20 by Namir*

Yes, that's what Gene's article reports too. That is a good reason to stick with pure RPN in time critical code.

I guess the difference must be due to the overhead of parsing the equation. That would imply they don't cache the decoded expressions.

Regards,  
Howard

## Re: Thoughts on Programming the 35S

Message #22 Posted by [Howard Owen](#) on 20 July 2007, 8:25 p.m.,  
in response to message #20 by Namir

Actually, it's not only ALG code that differs between the two approaches. In the RPN case, you are entering an increment value into X, then doing STO+ <var>. In the ALG case, you are recalling the value of the variable into X and incrementing in one step, then storing the result. Reads and writes between the alpha variable registers and the stack may not be equivalent in terms of the time they take.

It's not as easy as I first thought to formulate expressions in RPN and ALG that are equivalent with respect to register moves and so forth. The two models differ pretty sharply in how they use the stack in particular. If you have a RCL+ in RPN, for example, it will do the addition and *replace* the previous X contents with the result, without enabling stack lift. But if you do an ALG expression like 'I+1', the addition is carried out somewhere, and then the result is *pushed* on the stack. That necessitates an extra stack manipulation if you want to leave the number of iterations on the stack, like you can in RPN mode. (That is, you can do RCL+ <var> and then X?Y compare for loop control, since Y stays put.)

Regards,  
Howard

## Re: Thoughts on Programming the 35S

Message #23 Posted by [Gene Wright](#) on 20 July 2007, 10:19 p.m.,  
in response to message #19 by Howard Owen

Good job, Howard! Couple of thoughts:

- 1 ) NOP - DEG is good unless you need to do trig in radians of course. I'd be glad to have other options that are as easy to put in.
- 2 ) ALG mode use in RPN programs is very neat, particularly when it saves the RPN stack! It would have been much harder to write the indirect register store/recall program while saving the stack without the ALG tricks. By the way, anyone keyed that in to try it yet?
- 3 ) I do think this is about as good as it could get as an RPN calculator extension of the 32s line. Putting in these indirect registers and line number GTO and XEQs probably allowed the rom to be slightly changed, which allowed for faster development. Resources these days are scarce!
- 4 ) And you guys know this, but in most cases, there is no need to ever put a line like GTO B001 in a program. Execution can probably in most cases pick up at line 002 of the destination program. It will be a tad faster that way.

## Using GTO could be dangerous....

Message #24 Posted by [Allen](#) on 21 July 2007, 9:18 p.m.,  
in response to message #19 by Howard Owen

Quote:

\_\_\_\_\_

doing a GTO to a line number gives me a case of 1980s nostalgia

\_\_\_\_\_

It could be much **WORSE!**

*Edited: 21 July 2007, 9:23 p.m.*

### **Re: Using GTO could be dangerous....**

*Message #25 Posted by [Trent Moseley](#) on 21 July 2007, 10:15 p.m.,  
in response to message #24 by Allen*

I guess it's a case of what you don't know can hurt you. But if you learned to program on the the 25C there's no recourse.

tm

### **Re: Using GTO could be dangerous....**

*Message #26 Posted by [Howard Owen](#) on 22 July 2007, 3:47 a.m.,  
in response to message #24 by Allen*

That should stand as a warning to us all.

Regards,  
Howard

### **Re: Thoughts on Programming the 35S**

*Message #27 Posted by [Don Shepherd](#) on 22 July 2007, 7:13 a.m.,  
in response to message #19 by Howard Owen*

Howard, the NOP in line I011. Did you do this because you really only want to increment register I (without actually skipping anything), but you don't know the increment amount until execution time?

### **Re: Thoughts on Programming the 35S**

*Message #28 Posted by [Howard Owen](#) on 22 July 2007, 12:08 p.m.,  
in response to message #27 by Don Shepherd*

Yes, I do just want to increment, but no, I know in advance that the increment will be 1. I could use 1, STO+ I, but that would then require a RDN to restore the stack.

Regars,  
Howard

### **Re: Thoughts on Programming the 35S**

*Message #29 Posted by [Don Shepherd](#) on 22 July 2007, 12:55 p.m.,  
in response to message #28 by Howard Owen*

OK, I see your logic. I was thinking about that last night. I know that the HP-65 has a NOP instruction, but it is needed because an X=Y executes the next \*2\* instructions if true (because a Goto occupies 2 instructions in that machine). So if you only wanted to do one thing, a NOP was required.

It's kind of like the old BALR instruction on the IBM 360. That instruction was typically used at the beginning of the program, not to branch, but to initialize the index register.

### **More Fun With HP35 Programming**

*Message #30 Posted by [Howard Owen](#) on 21 July 2007, 1:36 a.m.,*

*in response to message #1 by Gene Wright*

OK, so now I want the input routine to either prompt as before, or else decompose a number in the form:

ABCDEFGHIJKL

Where the letters are the decimal digits of an IP address. For example, 192.160.20.1 would be encoded as 192168020001. This is a form I plan to use for manipulating addresses in various ways. I need a way to "explode" such a number into its octets. (I already have the routine to compose a number like that from its octets, the second one above.)

I'll use flag 0 to decide which mode to use on input. Flag 0 set will mean do the non-prompting routine. Conversely, flag 0 clear will do the original prompting method. I will make heavy use of ALG mode shortcuts in the new code, just to see if I can reach their limits. (Sneak peek: I can.)

To decompose a 10 to 12 digit number into "trigraphs" representing octets, I need to divide the whole number by a divisor that will leave the digits of interest lying just to the right of the decimal place. I will then take the fractional portion (FP), multiply the result by 1000, and take the integer portion. Hey presto! The octet is then left standing on its own. (This technique is surely not original, though I developed it independently. I have no idea who is responsible for the first use, or I'd give them credit here.)

So that means I need to compute the proper divisor to get the octet I'm interested down to the right of the decimal. What I have on hand is the loop counter in I. In the loop, which skips the first octet, since that is a special case, The loop counter's integer portion varies from B+1 to B+3, where B is the base register number passed in. What I need to start is the loop counter integer portion minus the base register value. The following ALG code gets me that:

```
IP(I) - B
```

Assuming the base is stored in B.

That gives me the following mapping of loop counters to three digit groups of interest:

```
000 000 000 000
   1   2   3
```

And what I need is a series of divisors, 1E9, 1E6 and 1E3. this equation gets me that:

```
ALOG( 3 + ( 3 - N ) * 3 )
```

Where ALOG() is what you get when you press 10^X in equation mode, and N is the loop counter normalized into the range 1..3.

Finally, I will implement the algorithm given above to isolate the octet of interest:

```
IP( FP(A/D) * 1E3 )
```

Where A is the IP address and D is divisor computed in the last step.

Now, what about ALG mode limits? Well, the preceding expressions could be combined (if I'm not mistaken, and heaven knows I might be,) into this:

```
IP( FP( A / 10 ^ ( 3 + ( 4 - IP(I) + B ) * 3 ) ) * 1E3 )
```

What a mess! What does it do? Are the parentheses balanced correctly? RPN is *much* simpler. I might have errors in that expression, but since I'm not actually using it, I refuse to debug it! I'll implement the algorithm in its broken up form to save my sanity in working with the code later.

One last word before the code: I discovered (or rediscovered, actually,) the weaknesses in an auto-renumbering system that relies on the numbers as branch targets. Consider this code:

```
A001 FS? 0
A002 GTO A005
A003 SOMETHING OR OTHER (EQUATION)
A004 GTO A007
A005 ISG A
A006 GTO A005
A007 DEG
```

This is a two way branch skeleton waiting for the code to be filled in. I have a loop set up to go on line A005. But now I realize I need some set up before the loop, so I enter it. This is the result:

```
A001 FS? 0
A002 GTO A006
A003 SOMETHING OR OTHER (EQUATION)
A004 GTO A008
A005 STO A
A006 ISG A
A007 GTO A006
A008 DEG
```

Do you see the problem? Two out of three GTO lines renumbered as I expected. However the first one, on line A002, followed the ISG A command to line A006. I'll have to manually correct that one or leave a perhaps subtle bug in the code.

Now, the revised subroutine:

```
Subroutine to store the octets of an input IP Address
Copyright (C) 2007 Howard Owen
```

```
This program is free software: you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation, either version 3 of the License, or
(at your option) any later version.
```

```
This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.
```

```
You should have received a copy of the GNU General Public License
along with this program. If not, see <http://www.gnu.org/licenses/>.
```

```
Input an IP address in one of two forms, and place its separated
octets in four contiguous registers starting at the base register in
X. If flag 0 is clear, prompt for each successive octet before
storing it. If flag 0 is set, decompose the 10-12 digit integer
passed in Y into its constituent octets. Store these in the same way
as the flag 0 clear code does.
```

```
The address in Y is formatted as follows. If the octets are labeled
from left to right as 1, 2, 3 and 4, then the packed decimal IP
address is: 111222333444. For example, '192.168.20.1' would be
encoded as '192168020001'.
```

```
I001 LBL I
I002 DEC Ensure decimal entry
I003 FS? 0 Set = don't prompt. IP address is in Y
I004 GTO I009
I005 SF 10 Inhibit evaluation of the "equation"
I006 ENTER OCTET RS 4 TIMES Long, hey?
I007 CF 10 1st octet entered is now in X, base in Y
I008 GTO I014
I009 STO B Non-prompting needs base (in X) and address (in y) saved.
```

```
Base register
I010 x<>y
I011 STO A          IP address encoded as a 10-12 digit decimal integer
I012 RDN           Base back in X
I013 IP(A/1E9)     Leftmost (first) octet in X, base in Y
I014 (REGY+3)/1E3+REGY  Back together. Compute loop control number
I015 STO I         Loop counter and address pointer
I016 x<>y          Get the first octet back in X
I017 STO(I)        STORe it in the base register
I018 ISG I         Second register is next
I019 DEG           No-op. Thanks Gene. 8)
I020 FS? 0         Loop entry point Non prompt?
I021 GTO I026
I022 SF 10         Do octet-at-a-time prompting
I023 NEXT OCTET   Not so long.
I024 CF 10         Octet is now in X
I025 GTO I029
I026 IP(I)-B       Loop counter normalized to the range 1..3
I027 ALOG(3+(3-REGX)*3)  Divisor to bring the current octet just to the right of the
decimal
I028 IP(FP(A/REGX)*1E3)  The octet, masked out from the IP address
I029 STO(I)        Back to common code. Store the octet in the next register
I030 ISG I
I031 GTO I020     NOT My first line addressed GTO in 20 years.
I032 RTN          Done
```

## Re: More Fun With HP35 Programming

Message #31 Posted by [Ralph](#) on 22 July 2007, 12:06 a.m.,

in response to message #30 by Howard Owen

I have had mine for a little over a day now.

I like: the keyboard; layout (mostly) and color scheme. the display; better decimal readability and the LCD layer does not float so high over the backplate to cast drop shadows that made reading the 33S screen difficult.

Jury's out on: case, I like slipcases personally. The wonky way to define the range of the indirect registers. I had to read the manual several times on that one. Shades of Casio's changing list and matrix dimensioning on each model it seems. still don't like the text tag setup but I have a 32SII, 33S and this one so I must just get over it.

It seems slow. It took over 6 minutes to crank out the benchmark test posted [here](#) longer than on the 32. That might just need some tweaking as it does my pet program as fast as the 33S.

I don't know if I like the current trend of putting the serial number on a sticky tape. Then I've never sent one back for repair so I can't say a permanent ID is all that either.

All in all I give it a thumbs up and hope it points to better things to come. I can't wait till the 70th year model for them to get it right again ;p

## 35s indirect addressing done wrong?

Message #32 Posted by [mjcohen](#) on 23 July 2007, 9:39 a.m.,

in response to message #1 by Gene Wright

(This is a copy of a post to comp.sys.hp48)

In the 33s, indirect addressing is done with an independent register called i, distinct from the regular variables A to Z. A value is stored into i (from 1 to 32), and you store or recall (i) to access what it points to.

In the 35s, the ordinary variables I and J are used for indirect addressing. Values are stored into I or J (-1 to -26 for A to Z, positive values for the newly available memory array) and (I) and (J) are used to store or recall



the location pointed to.

In my opinion, THIS IS A SERIOUS MISTAKE.

Essentially, this prevents any use of A through Z as an array if it includes I and J. As a simple example, consider trying to write code that copies A through Z to (1) through (26). What happens when you hit I and J?

Here are some examples of code I have written for the 33s that is no longer possible on the 35s:

- 1) Input values into A through L. This is for a 3x3 linear equation solver that stores the coefficients in A through L.
- 2) Solve the equations referred to above.
- 3) Sort the first n elements of A through Z. This can now only be done if  $N < 8$  (or 9 if J is used).

This architectural deficiency forces any code that needs an array to either put it in the (1) through (800) area or restrict its use of A to Z variables to A to H and K to Z.

Again, in my opinion, it would have been far better to have separate i and j indirect variables completely distinct from A through Z.

The current system makes the natural use of A through Z as an array difficult, if not impossible.

True, in the 3x3 solver referred to above, the coefficients could be stored in K through V, but, to me, A through L is much more natural. Also, how would you do a 4x4 system?

I would be quite interested to see how those more knowledgeable in programming the 35s would handle these problems.

Thank you,

Martin Cohen

### **Re: 35s indirect addressing done wrong?**

*Message #33 Posted by [Gene Wright](#) on 23 July 2007, 11:12 a.m.,  
in response to message #32 by [mjcohen](#)*

Gene: Hi Martin. Here's the reply I posted to comp.sys.hp48 to your post there which was identical to your post here. :-)

The way you would do these things on the 35s is that you would use indirect registers 0 through 15 or higher. You have to change your way of thinking and your past personal preferences to take advantage of the great new features of the 35s.

Don't use A through Z for things like this any longer. Use the numbered indirect registers. On the 35s, it will be possible to write a matrix program capable of finding the determinant of at least an 18x18 matrix. How would you do that using only A through Z? You wouldn't. You also couldn't do it at all on the 33s.

HP made the design choice to use I and J as they did. They also made the design choice to give us 801 indirect registers. IMO, it is not an architectural deficiency so much as a changed architecture. The fix is to quit using A through Z in this manner. Use the 801 indirect registers. Use A through Z to store final or intermediate results.

I discussed the indirect addressing space in the 35s review found here:

<http://hpcc.org/datafile/V26Special/the35s.pdf>

Early on, I had posted responses to you on comp.sys.hp48 pointing you to the review and other learning modules available in response to your posts on comp.sys.hp48, but never got a reply or email. I hope you saw those posts?

The matrix utilities program I have already converted to the 35s (and which is in the current 35s Datafile special issue) uses the indirect registers and is very easy. Once a port of the HP41 PPC ROM RRM matrix program is done, matrices will be amazingly easy to use on the 35s without using any of the A through Z variables.

It is often this way when new versions of calculators come out. When the HP41 arrived, many HP67 users were very upset that HP no longer used the primary/secondary register arrangement they were used to on the HP67, for example.

Would looping through A ... Z be easier if the I and J index registers were not in the middle of the address space? Sure. But having 801 indirect registers to loop through is better still, IMO. I'll take that change any day.

### **Re: 35s indirect addressing done wrong?**

*Message #34 Posted by [Thomas Radtke](#) on 23 July 2007, 2:58 p.m.,  
in response to message #33 by Gene Wright*

Btw, why did HP stick to specialized index registers anyway? Why not using an IND keyword as found on TI programmables? That, along with the ability to partition the available memory, was really an advanced feature.

### **Re: 35s indirect addressing done wrong?**

*Message #35 Posted by [Howard Owen](#) on 23 July 2007, 4:45 p.m.,  
in response to message #34 by Thomas Radtke*

Hemlock Stones: "No, Watson, you might as well ask who's behind the Giant Rat of Sumatra!"

Watson: "Very well, whose behind *is* the Giant Rat of Sumatra?"

Regards,  
Howard

### **Re: 35s indirect addressing done wrong?**

*Message #36 Posted by [db \(martinez, ca.\)](#) on 23 July 2007, 11:27 p.m.,  
in response to message #35 by Howard Owen*

howard; watson should ask dr. science.

### **Re: 35s indirect addressing done wrong?**

*Message #37 Posted by [Walter B](#) on 23 July 2007, 4:52 p.m.,  
in response to message #34 by Thomas Radtke*

Quote:

\_\_\_\_\_

Why not using an IND keyword as found on TI programmables?

\_\_\_\_\_

Hallo Thomas,

you don't have to walk as far: also the 42s has this IND keyword, and you may use each and every register or variable for indirect addressing.

Grüße, Walter

### **Re: 35s indirect addressing done wrong?**

*Message #38 Posted by [Paul Dale](#) on 23 July 2007, 5:00 p.m.,  
in response to message #32 by [mjcohen](#)*

From the viewpoint of the keyboard and its layout, I'd prefer to have (I) and (J) on the keyboard than i and (i) even if it means one less directly addressable register. Wanting a second indirection capable register while programming has happened to me a lot of times over the years since my original 34c.

Of course an IND or equivalent would be better again...

- Pauli

### **Re: 35s indirect addressing done wrong?**

*Message #39 Posted by [Gene Wright](#) on 23 July 2007, 5:39 p.m.,  
in response to message #38 by [Paul Dale](#)*

It could have been many things.

Keyboard space and layout

ROM space

Preference of the designer even.

The way it was done allows for only 2 additional keyboard locations for (I) and (J) and does not require an additional 2 spaces for the store instructions to store the index value.

Yes, it does break any routines that want to loop through A ... Z, but it does seem a very small price to pay IMO for 801 indirect registers and two index registers.

Remember, on the 33s, the index was in the middle of the 33 registers which caused headaches trying to loop through only 30 something registers.

Now, on the 35s, you can loop through 801. Big improvement all around.

### **Re: 35s indirect addressing done wrong?**

*Message #40 Posted by [mjcohen](#) on 23 July 2007, 9:56 p.m.,  
in response to message #39 by [Gene Wright](#)*

imho, it is a real pain to not be able to use A..Z as an array. It is far easier to enter and recall values from A..Z than the indirect values.

E.g., rcl A is much easier than 1 sto I rcl (I).

### **Re: 35s indirect addressing done wrong?**

*Message #41 Posted by [mjcohen](#) on 24 July 2007, 1:19 a.m.,  
in response to message #40 by mjcohen*

How this could fit on the keys:

On one key have "IND" which brings up a menu of I, J, (I), and (J), where I and J are NOT part of A..Z. You could even have K and (K).

Then, on the other available key, have it COMPLEX which brings up a menu of REAL, IMAG, CONJ, ABS, ARG.

It is so stupid not being able to get the real and imaginary parts of a complex number, especially with the known bugs in COS.

Martin Cohen

### **Re: 35s indirect addressing done wrong?**

*Message #42 Posted by [sjthomas](#) on 24 July 2007, 2:19 a.m.,  
in response to message #39 by Gene Wright*

Granted, two index registers are better than one, and 801 loopable registers are better than 26-ish, but I just don't see the programming issues which would preclude ANY register from being used as an index register. They had to program it for I and J. Why not any register?

*Edited: 24 July 2007, 2:20 a.m.*

### **Re: Thread for those receiving 35s calculators to post what they think**

*Message #43 Posted by [Valentin Albillo](#) on 24 July 2007, 6:02 a.m.,  
in response to message #1 by Gene Wright*

Hi, Gene:

After having used the HP35S for a while, I must say I am *very* pleased with it.

It certainly looks and feels much better than what I expected. It is light but firm, appears quite solid and well built, the colors and form factor are really attractive, the display has good readability with a decent decimal point, and the keys feel good and positive as well, except for the cursor keys which, in my unit, do have a different, rather stiff feel to them, but never mind, the bottom line is I really like it very much, it looks and feels better than expected, and I'm all for promoting it among my HP-aware friends.

I'll certainly write programs for it and articles about it, matter of fact I intend to dedicate my efforts to it in full for the next months, in an attempt to generate interest for the machine and provide some useful software for it.

All in all, I think the community is up to enjoy great HP-calc times again. HP certainly has done its part, in spades, by releasing such a nice machine as the HP35S, and we must now do our best to support their efforts by trying and generating enthusiasm among HP-fans. A new golden era is dawning and we're fortunate for it !

*"May you live in interesting times", as Russell said the Chinese say ... Indeed ! Count me in ! :-)*

Best regards from V.

### **Re: Thread for those receiving 35s calculators to post what they think**

*Message #44 Posted by [bill platt](#) on 25 July 2007, 9:24 a.m.,  
in response to message #1 by Gene Wright*

First Impression:

WOW!

Not only do the buttons work, but they are noticeably better than the 33s. They have less bounce, but really nice pivot and snap action. Of course they feel different from a Singapore 48GX, but I think they are actually better than a voyager.

All of my "wishes" as it were circa "the end of the 32sii" have been fulfilled:

1. Keyboard 2. Display 3. Functions. 4. Reasonalbe size

All of these requirements have been met or exceeded. Only one function (for me) is missing: the "regualr" rectangular-polar conversion--which leaves real numbers in the stack. But this is minor and easily coded as a program.

I am very impressed.

### **Re: Thread for those receiving 35s calculators to post what they think**

*Message #45 Posted by [David McDonald \(Atlanta\)](#) on 25 July 2007, 6:31 p.m.,  
in response to message #44 by bill platt*

I got my HP-35 last night from the local Walmart via their ship to store program. It's not my old HP-34C but I like it. I wrote a program today on it to calculate the EGT ( exhaust gas temperature) margin for a jet engine . Cool, who needs excel.

### **Re: Thread for those receiving 35s calculators to post what they think**

*Message #46 Posted by [David McDonald \(Atlanta\)](#) on 26 July 2007, 9:02 a.m.,  
in response to message #45 by David McDonald (Atlanta)*

I forgot to mention my S/N CNA 72102299

*Edited: 26 July 2007, 9:03 a.m.*

### **Re: Thread for those receiving 35s calculators to post what they think**

*Message #47 Posted by [Greg Whitfield](#) on 26 July 2007, 12:46 a.m.,  
in response to message #1 by Gene Wright*

I received my HP 35s on Tuesday, July 24th from Wal-mart using the Site-to-Store method. The cost was \$49.99 plus local sales tax; shipping was free. The serial number of the calculator is CNA 72101939.

I haven't had much time to work with it yet, but overall I'd say that it appears to be solidly built and much more professional looking than many of HPs other recent calculators.

The first thing I did when turning it on was note the mode: it was RPN. Then I ran the self-test. It was on the first press of any key when I noticed that the annunciators seemed higher on the left than on the right. Apparently the LCD is crooked in my HP 35s, but not so much as to make me call HP on it. Has anyone else noticed this with theirs?

Also, I was initially a little confused by the left-shifted (yellow) and right-shifted (blue) function terminology in the user manual. The blue functions are on the bottom left side of the keys! The yellow functions are on the top center. It appears that the LCD of the HP 35s is identical to that of the HP 33s which had true left-shifted and right-shifted functions (and horrible colors). Apparently, the left and right shift symbols correspond to the annunciators and one must match the yellow and blue colors to the proper shifted keys. Perhaps it would have been better to leave the direction (left or right) out of the manuals and describe the keys in the documentation by color only.

Why did they use I and J for indirect addressing? Why not lowercase i and j? (the complex notation for i could have been a cursive type i like on the LCD)

Well, despite my minor complaints, I still am glad HP released this calculator and I plan to show it and RPN off whenever I can. However, I'm still looking forward to the 25th Anniversary HP 15c calculator and the successor to the HP 42s.

Cheers,

Greg

### **Re: Thread for those receiving 35s calculators to post what they think**

*Message #48 Posted by **Wayne Brown** on 26 July 2007, 7:50 a.m.,  
in response to message #47 by Greg Whitfield*

Quote:

---

Also, I was initially a little confused by the left-shifted (yellow) and right-shifted (blue) function terminology in the user manual. The blue functions are on the bottom left side of the keys! The yellow functions are on the top center. It appears that the LCD of the HP 35s is identical to that of the HP 33s which had true left-shifted and right-shifted functions (and horrible colors). Apparently, the left and right shift symbols correspond to the annunciators and one must match the yellow and blue colors to the proper shifted keys. Perhaps it would have been better to leave the direction (left or right) out of the manuals and describe the keys in the documentation by color only.

---

I've seen several people mention the shift keys being confusing, either because of the arrows pointing left and right, or because they both point upward. That confusion was surprising to me, because I've *always* used the color-coding to match functions with the shift keys on HP calculators. I'd always assumed that these keys were called "shift" keys as a reference to the shift keys on computer (and before that, typewriter) keyboards. Such keys are used to shift "upward" to upper-case letters, so it made sense to me for them *both* to have upward-pointing arrows (as the shift keys on many computer and typewriter keyboards do). Also, since the shift keys on calculators aren't physically located on the left and right sides of the keyboard, I thought the left- and right-pointing arrows were simply meant to be ways of distinguishing the keys from each other: "We know these keys are located one above the other, but this is the key that would have been on the left side if this were a typewriter keyboard, and that other key would have been on the right side." I thought that was the only reason for the "left-shift" and "right-shift" terminology.

It never occurred to me that the "left" and "right" designations had anything to do with how the labels were placed on the keys. But I just checked my HP48GX, and sure enough, the left-shifted labels are on the left, and the right-shifted labels are on the right! Funny that I never noticed that before. I just always matched the colors without paying any attention to the physical orientation of the labels.

**Re: Thread for those receiving 35s calculators to post what they think**

Message #49 Posted by [Don Shepherd](#) on 26 July 2007, 9:07 a.m.,  
in response to message #48 by Wayne Brown

I, also, use the colors as my guide. But some folks are color-challenged, so the arrows are the only thing they can use to distinguish between the two.

**Re: Thread for those receiving 35s calculators to post what they think**

Message #50 Posted by [Walter B](#) on 26 July 2007, 10:54 a.m.,  
in response to message #49 by Don Shepherd

And under these circumstances, arrows pointing in the wrong direction are extremely confusing, as you can imagine. To use your terms, HP was quality-challenged in this detail ;-)

BTW, I love political correctness as it has grown overseas, e.g.: When the horizontally-challenged person in its best age could not keep his attention at an appropriate level (due to above-average long-wave radiation from above) next the urban area of the vertically-challenged people, they made him mobility-challenged by elongated textile products. I.e. when big old Gulliver slept in the sun next the city of the dwarfs, they tied him down with ropes.

In other languages you call such a person "color-blind", and that's what it is.

**Re: Thread for those receiving 35s calculators to post what they think**

Message #51 Posted by [Steve Myers](#) on 26 July 2007, 11:38 a.m.,  
in response to message #50 by Walter B

Quote:

\_\_\_\_\_

...In other languages you call such a person "color-blind", and that's what it is.

\_\_\_\_\_

Most of us are not completely devoid of seeing any color.  
It's more can't tell Red from Green, Blue from Purple (and I have no idea what Teal is..)

This is why we prefer it be Color Deficient, not Color Blind.  
It's not being politically correct, just correct. :)

**Re: Thread for those receiving 35s calculators to post what they think**

Message #52 Posted by [Walter B](#) on 26 July 2007, 4:52 p.m.,  
in response to message #51 by Steve Myers

Sorry Steve, that was the short and simple version. AFAIK the most frequent deficiency concerns red and green, and in fact it's called "rot-grün-blind" (blind for red and green). It was said to have been the reason behind some traffic lights not only showing different colors, but these also in different shapes. Nowadays, however, everybody knows green is at the bottom ;-)

So "blind" is a short word indicating some visual deficiency, not meaning I would see nothing at all.

**Re: Thread for those receiving 35s calculators to post what they think**

*Message #53 Posted by [Steve Myers](#) on 26 July 2007, 9:19 p.m.,  
in response to message #52 by Walter B*

Quote:

---

Sorry Steve, that was the short and simple version. AFAIK the most frequent deficiency concerns red and green, and in fact it's called "rot-grün-blind" (blind for red and green). It was said to have been the reason behind some traffic lights not only showing different colors, but these also in different shapes. Nowadays, however, everybody knows green is at the bottom ;-)

---

No offence taken Walter.

I know it as "Top Stop, Low Go" but that doesn't work on those sideways lights in Texas..

The lack of seeing Red is why I can't tell Blue from Purple. Unless I've been lied to all this time, Purple is Blue+Red and I'm "blind" to the red part.

All my friends know when I do my own laundry. "Shirt looks grey to me", how would I know it's bright pink.

I'm happy its not so bad as I can still see the difference in the shift keys on my 32SII ;)

**Re: Thread for those receiving 35s calculators to post what they think**

*Message #54 Posted by [Ed Look](#) on 26 July 2007, 10:13 p.m.,  
in response to message #51 by Steve Myers*

Quote:

---

... and I have no idea what Teal is...

---

It's a bird.

;)

**Re: Thread for those receiving 35s calculators to post what they think**

*Message #55 Posted by [Paul Dale](#) on 26 July 2007, 10:18 p.m.,  
in response to message #54 by Ed Look*

Quote:

---

It's a bird.

---

A type of duck in fact :-)

- Pauli

**Re: Thread for those receiving 35s calculators to post what they think**

*Message #56 Posted by [Paul Brogger](#) on 26 July 2007, 12:27 p.m.,*



*in response to message #1 by Gene Wright*

Fabulous! I loved the 33s (I had to get past its appearance) and so find the 35s a really welcome upgrade.

I share the woe of several regarding the BASE handling, and would rather the roll down & swap keys were adjacent to ENTER.

Taken as a whole, it's not as near-perfectly-realized as was, say, the 15c, but it's a *really* nice, *readily available*, programmable, shirt-pocket RPN calculator. Thanks to all involved!

*Edited: 26 July 2007, 2:23 p.m.*

## **Re: Thread for those receiving 35s calculators to post what they think**

Message #57 Posted by **Katie Wasserman** on 26 July 2007, 9:44 p.m.,

*in response to message #1 by Gene Wright*

My first impression is that I like it better than the 33S, but nowhere near as much as the earlier machines.

pros:

- The function set is good as is the memory access.
- The case seems like more thought went into it than for the 12C anniversary edition.
- The keyclicks are okay.
- The manual seems complete and well written.

cons:

- There's a lot of LCD segment shadowing on the display.
- The keys themselves are really cheap feeling.
- The calculator is too large -- why should it be any bigger than a 32SII?
- The window reflection is annoying.
- I really hate having to press ENTER after XEQ <letter> and <right arrow> before STO.
- The ALL display mode should not overflow the display area it should cut back on the number of places displayed in order to fit the exponent in. I view this as a bug, I see no advantage in it working the way it does.

Summary:

The prices of the 32SII on ebay are going to keep going up!

-Katie

*Edited: 26 July 2007, 10:17 p.m.*

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## HP Forum Archive 17

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### **HP-41 CV - Halfnut etc.**

Message #1 Posted by [ems22](#) on 19 July 2007, 9:48 a.m.

Hello, could anyone send me a picture or post a "working" link where I can see the difference between halfnut and all the others? I cannot imagine the difference. My HP-41CV has a Serial No.: 2137S11997

Thanks in advance

Edgar Meyer-Schönfelder

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## HP Forum Archive 17

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### HP-41 Full-nut, Half-nut

Message #1 Posted by [ems22](#) on 19 July 2007, 5:12 a.m.

Hello at all, I just but an old HP-41CV at ebay plus a Cardreader, an X-Funtions- and a Time-Modul. This machine was an old dream of my study times in the 80's and I am now very happy with it.

I have often read about half-nut and full-nut etc. but never senn a picture about this. I also have checked this forum, where I openede an account today. Does everyone has pictures about these different display types which he can send me by mail or an web-link?

Thanks a lot

Edgar Meyer-Schönfelder

### Re: HP-41 Full-nut, Half-nut

Message #2 Posted by [Thomas Okken](#) on 19 July 2007, 10:17 a.m.,  
in response to message #1 by [ems22](#)

Hi Edgar,

Take a look [here](#) -- what you're looking for is under the heading "HP-41C Versions", about halfway down the page.

- Thomas

*Edited: 19 July 2007, 10:20 a.m.*

### Re: HP-41 Full-nut, Half-nut

Message #3 Posted by [ems22](#) on 20 July 2007, 3:12 a.m.,  
in response to message #2 by [Thomas Okken](#)

Thank you very much. Now it is clear for me. Now I know, that my HP41 is a full-nut.

Greeting from Hamburg,

Edgar

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## HP Forum Archive 17

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### 35s: comma and fraction mark ??

Message #1 Posted by [ChristianB.](#) on 19 July 2007, 2:25 a.m.

Hi,

could someone with the new 35s show pictures of the display with 222,222.222 typed in.

I really would like to see, if there are improvements in the readability of the fraction mark / comma compared to my 33s (which I will sell soon on ebay).

Cheers

Christian

### Re: 35s: comma and fraction mark ??

Message #2 Posted by [Jeff O.](#) on 20 July 2007, 10:35 a.m.,  
in response to message #1 by [ChristianB.](#)

Does your 33s have the improved display? To my eyes, the display of my new 35s looks identical to the display of my 33s that has the improved display. For a visual comparison of the original 33s display to the improved 33s display, look [here](#).

Quote:

.....compared to my 33s (which I will sell soon on ebay).

I expect that the market will soon be flooded with used 33s's, and they can be had new for less than \$40, so their value on eBay probably won't be much.

### Re: 35s: comma and fraction mark ??

Message #3 Posted by [Walter B](#) on 20 July 2007, 11:10 a.m.,  
in response to message #2 by [Jeff O.](#)

Quote:

For a visual comparison of the original 33s display to the improved 33s display, look here.

The picture augments one should use commas for important separations and dots for others. At least on the 35s and 33s :)

### Re: 35s: comma and fraction mark ??

Message #4 Posted by [ChristianB.](#) on 21 July 2007, 3:06 a.m.,  
in response to message #2 by [Jeff O.](#)

Thanks for the pics.

My 33s has the old display. The improved one looks really better.

ChristianB.

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## HP Forum Archive 17

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### Temptation

Message #1 Posted by [Earl Kubaskie](#) on 19 July 2007, 12:34 a.m.

So far I have few posts here (sort of a lurker) but I've had 8 HPs along the line, starting with an HP-45 back when I was only 17.

I miss several, especially the 67 (stolen) and the 15C (the one that did NOT survive being run over by a car), but lately I've started to get the itch...

I have 4 now, and OF COURSE will get at least one 35S.

Anyway, 2 coworkers have 42S's, my neighbor has a 15C, my ex-boss an 11C, and just today I saw that another has a 28S. Every time I see someone whip out their calculator, I want to reach for my wallet!

I want them all, darn it! Is there a support group, or at least a calculator-junkie credit union?

### Re: Temptation

Message #2 Posted by [Allen](#) on 19 July 2007, 12:55 a.m.,

in response to message #1 by Earl Kubaskie

My wife has also asked (several times recently) if there was a support group for HP calculator addiction. My response was to get out my HP42 and calculate the odds are about 01 in 67 that there are 15 people living within 28 mile radius willing to attend 11 weeks of therapy. Counseling is only 45 percent successful at treating such problems..(um.. I mean passions) anyway.

Besides, I don't really have a calculator problem, do I?? GRIN

Edited: 19 July 2007, 12:57 a.m.

### Re: Temptation

Message #3 Posted by [ECL](#) on 19 July 2007, 2:06 a.m.,

in response to message #2 by Allen

Wow...sounds like you guys need to DROP that habit, or at least SWAP it.

Either way, if you are worried that you are becoming a USER, you could ENTER a support PRG, permitting they have SPC.

Those groups are usually full of odd CHARs, though.

Seriously, this is the support group. I suspect we'd prefer the term 'user group'?

ECL :)

PS It is hard to let go of technology that was state-of-the-art when our elder engineers set forth.

## Re: Temptation

Message #4 Posted by **Olivier TREGER** on 19 July 2007, 9:25 a.m.,  
in response to message #1 by Earl Kubaskie

Quote:

So far I have few posts here (sort of a lurker) but I've had 8 HPs along the line, starting with an HP-45 back when I was only 17.

I miss several, especially the 67 (stolen) and the 15C (the one that did NOT survive being run over by a car), but lately I've started to get the itch...

I have 4 now, and OF COURSE will get at least one 35S.

Anyway, 2 coworkers have 42S's, my neighbor has a 15C, my ex-boss an 11C, and just today I saw that another has a 28S. Every time I see someone whip out their calculator, I want to reach for my wallet!

I want them all, darn it! Is there a support group, or at least a calculator-junkie credit union?

None of the people I worked with have a HP (except recently a 17BII owner who shared my office).

Nonetheless, I'm deeply addicted to these little marvels. I just had kept a 41CX and a 12C.

I started with the excuse that I wanted to get a 21 to replace the one stolen (to me) in high school. Afterwards, it came to a 34C that I used to own a couple of years later. And a 25C. And a 41C which was my very first 41 (before I get the CX) and [all the others](#) (check link).

And that makes a 4000 euros expense...

Fortunately, my wife loves me. Sometimes, I wonder if I deserve her...

*Edited: 19 July 2007, 9:26 a.m.*

## Re: Temptation

Message #5 Posted by **Earl Kubaskie** on 19 July 2007, 9:15 p.m.,  
in response to message #4 by Olivier TREGER

Quote:

And that makes a 4000 euros expense...

Not so bad for me, but the \$850 for the HP-65 back in 74 had some folks shaking their heads. I was still 18 - even before I got my first driver's license.

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## HP Forum Archive 17

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### **Has anyone received their HP-35s from the HP S&MB site?**

Message #1 Posted by [Bruce Bergman](#) on 18 July 2007, 4:36 p.m.

I know there was a handful of us who used that unpublished link on the HP Small & Medium Business site to order the HP-35s. I'm wondering if anyone has received theirs yet?

My order status shows that there is stock available and allocated to me, and that the ship date is 17-Jul, with an expected delivery date of 18-Jul (today). That all being said, there was no tracking information there, and I have heard nothing from either HP, FedEx or my wife. ;-)

So, anyone??

thanks, bruce

### **Re: Has anyone received their HP-35s from the HP S&MB site?**

Message #2 Posted by [Alain Mellan](#) on 18 July 2007, 4:45 p.m.,  
in response to message #1 by Bruce Bergman

Same here. The order status doesn't show any shipping information either.

Edited: 18 July 2007, 4:47 p.m.

### **Re: Has anyone received their HP-35s from the HP S&MB site?**

Message #3 Posted by [George Bradford](#) on 18 July 2007, 4:50 p.m.,  
in response to message #1 by Bruce Bergman

On Sunday (15 July 07) I ordered TWO HP-35s with next day delivery. I ordered one (1) from HP's S&MB site. I ordered one (1) from Samson Cables. As of 4:50pm EST (18 July 07), neither website has confirmed shipment and neither HP-35s has been delivered to me in Atlanta, GA. I suspect the HP-35s really were not ready for shipment on 17 July as advertised..... :-)

### **Re: Has anyone received their HP-35s from the HP S&MB site?**

Message #4 Posted by [Dave Boyd](#) on 18 July 2007, 5:50 p.m.,  
in response to message #3 by George Bradford

I ordered a couple from Samson Cables (via UPS ground, since I am patient/cheap), and, while I don't have a tracking number, the Order Status page cites the calc as "shipped".

Alas, I am in Connecticut, on the other side of the country from Utah, so I don't expect it tomorrow, either.

### **Re: Has anyone received their HP-35s from the HP S&MB site?**

Message #5 Posted by [Matt](#) on 18 July 2007, 6:20 p.m.,  
in response to message #4 by Dave Boyd



I also ordered one from Samson Cables.  
My order status says '07/15/2007 Order received, 07/16/2007 Credit card charged, Shipped'  
I opted for UPS Worldwide Express 1-2 days.  
I'm in the UK, so hopefully sometime tomorrow...:D

**Re: Has anyone received their HP-35s from the HP S&MB site?**

*Message #6 Posted by **Doctor Bubu** on 18 July 2007, 11:53 p.m.,  
in response to message #5 by Matt*

Hallo!

I also have the same informations, shipping 16.7., UPS 1 to 2 days, but I hope today it will be here in Germany.

Greetings

Jürgen

**Re: Has anyone received their HP-35s from the HP S&MB site?**

*Message #7 Posted by **ChristianB.** on 19 July 2007, 4:33 a.m.,  
in response to message #6 by Doctor Bubu*

...did you receive your parcel?

What about the overall costs including taxes, shipping to germany/europe and so on? How long did you wait for it?

Due to the currency rates \$/€im planning to order mine, too.

Best regards

Christian from Hamburg

**Re: Has anyone received their HP-35s from the HP S&MB site?**

*Message #8 Posted by **koendv** on 19 July 2007, 10:23 a.m.,  
in response to message #7 by ChristianB.*

Ordered a HP35s. Received a mail from Samson cables, stating shipping costs to Europe:

Quote:

Europe (EU)--Charges include all customs taxes (VAT)

Your order will be shipped from Europe.

El costo del envío incluye todos impuestos de la aduana (IVA).

Le coût d'expédition inclut tous impôts de douanes (TVA).

Il costo di spedizione include tutta le tasse di dogana (l'imposta sul valore aggiunto).

\$35.00 Standard mail, 2-4 week delivery (+ \$15 each additional item)

\$45.00 Expedited mail, 2-3 day delivery (+ \$10 each additional item)

Please include phone number. This is required by international mail carriers.

Adding these to the basic price of a HP35s (\$59.99), the total cost becomes \$94.99 (standard mail, 69€) or \$104.99 (expedited mail, 76€).

Don't be angry if I have my numbers wrong; I have to make do with a Casio until the 35s arrives :)

regards,

koen

**Re: Has anyone received their HP-35s from the HP S&MB site?**

*Message #9 Posted by [Matt](#) on 19 July 2007, 11:04 a.m.,  
in response to message #8 by koendv*

I paid \$52.99 for the HP35S.  
Shipping was \$43.00 UPS World-Wide Express (1-2 Days)  
So \$95.99 works out at about 47 GBP. Cheaper than the 60 GBP plus postage that UK retailers will charge.  
As of now, 4pm, I'm still waiting. :(

**(UPDATE - Samson Cables) Re: Has anyone received their HP-35s from the HP S&MB site?**

*Message #10 Posted by [Matt](#) on 19 July 2007, 12:32 p.m.,  
in response to message #9 by Matt*

Just had this from their customer support.  
"The scheduled shipment from HP manufacturing of our order of 35S calculators has been delayed for arrival until tomorrow. Your order will then ship."

So much for my order status as showing 'shipped' >:(

Looks like next week at the earliest for some of us...

**Re: (UPDATE - Samson Cables) Re: Has anyone received their HP-35s from the HP S&MB site?**

*Message #11 Posted by [Doctor Bubu](#) on 19 July 2007, 1:44 p.m.,  
in response to message #10 by Matt*

Hi Matt!

I've got the same answer.

Let us see what happend tomorrow. As i told before : I do not like to wait.

Greetings Jürgen

**Re: (UPDATE - Samson Cables) Re: Has anyone received their HP-35s from the HP S&MB site?**

*Message #12 Posted by **Walter B** on 19 July 2007, 4:13 p.m.,  
in response to message #10 by Matt*

Got the same mail today. Orderd my 35s last Sunday and was complaining because shipping status didn't change. So now we can play cards in the meantime :)

**Re: Has anyone received their HP-35s from the HP S&MB site?**

*Message #13 Posted by **Chuck** on 18 July 2007, 5:09 p.m.,  
in response to message #1 by Bruce Bergman*

I got contradicting info from HP SO/B. The invoice said ordered 7/13 with delivery on 7/18. But when I click on Line Item Detail it says Shipment on 7/18 with delivery on 7/23. I suspect it will ship out today, and therefore should have some tracking info shortly.

CHUCK

**Re: Has anyone received their HP-35s from the HP S&MB site?**

*Message #14 Posted by **Seth Morabito** on 18 July 2007, 5:11 p.m.,  
in response to message #1 by Bruce Bergman*

Same here -- order line item says "Qty Order: 1 ; Qty Allocated: 1 ; CTO Shippable: 0". The overall order says "Ship Complete: No".

The day before yesterday, it said "Qty Backordered: 1". Now it's 0. That's some progress! ;)

So I guess we'll all just have to be patient. Somehow!

**(UPDATE) Re: Has anyone received their HP-35s from the HP S&MB site?**

*Message #15 Posted by **Bruce Bergman** on 18 July 2007, 6:39 p.m.,  
in response to message #1 by Bruce Bergman*

Update for those interested:

I still saw no movement on the S&MB site, so I called a flunkie. He couldn't tell me why these haven't shipped yet, but he DID confirm that mine (at least) has not shipped yet. He sent an email to the warehouse to get an exact ship date, but no response yet.

He "felt" that the order would ship out in the next 1-2 days, and that I would receive it shortly after that.

For ordering DIRECTLY from HP, this pretty much sucks. ;-) Next time, I'm going to bypass and get it from Wal-Mart...

thanks, bruce

**Re: Has anyone received their HP-35s from the HP S&MB site?**

*Message #16 Posted by **Howard Owen** on 18 July 2007, 7:47 p.m.,  
in response to message #1 by Bruce Bergman*

I suspect that HP's emphasis is on getting units out to their channel. The fact that the prices on HP's website are always close to or equal to list also implies that they value their dealers and don't want to undercut them.

I ordered one 35S from Wal Mart with next day shipping. The expected arrival date was tomorrow or Friday, depending on processing time. I also ordered one direct from HP shortly after the news that you could do that hit on this forum. I'm pretty sure the Wal Mart order will show up first.

I didn't order direct because I wanted to get the machine quickly. I ordered direct from HP to "vote with my wallet" approving the direction they took with this calculator. I ordered from Wal Mart to get the best deal I could find on Tuesday, and to get the calc as quickly as possible.

Regards,  
Howard

### **Re: Has anyone received their HP-35s from the HP S&MB site?**

*Message #17 Posted by [Charles Bennett](#) on 18 July 2007, 7:51 p.m.,  
in response to message #1 by Bruce Bergman*

I ordered Tuesday. It shipped out of Indianapolis a few minutes after midnight this morning.

The invoice page says it hasn't shipped but I clicked on the Tracking link at the bottom and it gave me a pop-up with a tracking number.

### **Re: 3 Serial numbers for HP 35S deliverd today**

*Message #18 Posted by [Allen](#) on 18 July 2007, 10:05 p.m.,  
in response to message #1 by Bruce Bergman*

Got three in this morning 8:00 am: Serial numbers:

CNA72103876,  
CNA72103897, and  
CNA72103896.

I assume the date convention for production in the 21st week of 2007 still holds?? or has that been dissolved since the Chinese took over production?

Couple of comments: 1. DONT press on the LCD... it is quite sensitive and becomes BLACK easily and takes several (8-10) seconds to recover from bruising in response to normal forces (no pun intended).

2. Not sure why the R/S and Stat key keep moving around so much with the 32s-42s-35s progression...

3. I was trying to read the manual while driving to work.. also not a good idea. It is certainly longer than any recent manuals.. we'll see in the next few days if they managed to get both quality and quantity in to the binding. (sorry, no spirals, just perfect bound).

4. Case is bulky.. I stuffed the 35s immediately into one of the Pioneer leather cases from the 90's.. much better fit without the cheesy PDA feel. With the vintage flap-top leather case it FEELS like an instrument, not some metrosexual clothing accessory that would work as well with my calculator as with an iPod (don't have one anyway and don't need one).

*Edited: 18 July 2007, 10:06 p.m.*

### **Re: 3 Serial numbers for HP 35S deliverd today**

*Message #19 Posted by [sjthomas](#) on 18 July 2007, 10:10 p.m.,  
in response to message #18 by Allen*

Quote:

Got three in this morning 8:00 am:

Allen, did you order direct from hp or elsewhere?

### **Re: 3 Serial numbers for HP 35S deliverd today**

*Message #20 Posted by [Allen](#) on 18 July 2007, 10:43 p.m.,  
in response to message #19 by [sjthomas](#)*

Direct from the factory. The tracking link HP sent was COMPLETELY worthless, and I would not have known at all when to expect delivery except that I tripped over the box on my way out the door.. subsequently dropped my bag, and with the door agape and proceeded to grab the closest kitchen knife and mutilate the tape and packing material, then the first blister pack. The other two will remain in their packs for now- and on display with my other 50 or so NIB HP calculators. GRIN.

My wife already endured my covering the kitchen table with every model made after 1985 to graphically demonstrate the 'direct heritage' from the Voyager series (11c/15c) to the Pioneer series (32s/32sii/42s), and after some delay.. the 35s!

IMHO bears little resemblance to the original 35, and probably would have been named a Thirty-SOMETHING simply because it succeeded the 33s flop. Any other release year and HP could have made the case to name it "32sii+" (precedence with the 17b/17bii/17bii+) or "34s", since I believe it is more closely related to either of those than the original HP35.

I think it would sell better under either 32sii+ or 34s name because those workers who LEARNED on the HP35 are now retiring, while the younger 34c/15c/32sii market is still young and vibrant.

Still I am pleasantly surprised, look forward to the future of HP calcs...

### **Re: 3 Serial numbers for HP 35S deliverd today**

*Message #21 Posted by [Kevin Kitts](#) on 18 July 2007, 10:53 p.m.,  
in response to message #20 by [Allen](#)*

Here is a nice photo of the new and original HP-35

<http://www.engadget.com/tag/Hp35s/>

### **Re: 3 Serial numbers for HP 35S deliverd today**

*Message #22 Posted by [Seth Morabito](#) on 19 July 2007, 1:50 a.m.,  
in response to message #20 by [Allen](#)*

Quote:

Direct from the factory. The tracking link HP sent was COMPLETELY worthless, and I would not have known at all when to expect delivery except that I tripped over the box on my way out the door

Hmm, my factory order (placed 12 July at 1 PM Pacific time) still has no tracking information. Did yours ever have any tracking information, or was it blank? Did your order ever show "Shipping Completed"?

**Re: 3 Serial numbers for HP 35S deliverd today**

*Message #23 Posted by **Allen** on 19 July 2007, 6:59 a.m.,  
in response to message #22 by Seth Morabito*

The tracking link only took me to the HP spam page where I could sign up for useless commercial propaganda. :-)

**Re: 3 Serial numbers for HP 35S deliverd today**

*Message #24 Posted by **Ron G.** on 18 July 2007, 11:49 p.m.,  
in response to message #18 by Allen*

Wow! Consecutive serial numbers. I hope those are the two you left in the packages.

*Edited: 18 July 2007, 11:49 p.m.*

**Re: 3 Serial numbers for HP 35S deliverd today**

*Message #25 Posted by **Tim Wessman** on 19 July 2007, 1:11 a.m.,  
in response to message #24 by Ron G.*

It isn't that rare. Most boxes of 50Gs we get have consecutive numbers. If you'd like me to sell you a couple of those in a row I'd be happy to sell you some. :-)

Anyway, my 35s has serial number: 711000118

I also have a 50G with: 61100015

Can anyone beat those?

TW

**Re: 3 Serial numbers for HP 35S deliverd today**

*Message #26 Posted by **Gene Wright** on 19 July 2007, 8:27 a.m.,  
in response to message #25 by Tim Wessman*

Yes, I can.

:-)

*Edited: 19 July 2007, 8:27 a.m.*

**Re: 3 Serial numbers for HP 35S deliverd today**

*Message #27 Posted by **bill platt** on 19 July 2007, 9:16 a.m.,  
in response to message #26 by Gene Wright*

711000001?

**Re: 3 Serial numbers for HP 35S deliverd today**

*Message #28 Posted by **Tim Wessman** on 19 July 2007, 10:26 a.m.,  
in response to message #26 by Gene Wright*

Thought so. :-)

TW

**Re: 3 Serial numbers for HP 35S deliverd today**

*Message #29 Posted by [Bruce Bergman](#) on 20 July 2007, 7:02 p.m.,  
in response to message #18 by Allen*

Allen, interestingly enough, pressing on my LCD produces almost no distortion. I mean, unless I \*really\* press down, and even then it comes back in less than a second. Do all of your units exhibit this issue? I wonder if it's a bad batch or something...

thanks, bruce

**Re: Has anyone received their HP-35s from the HP S&MB site?**

*Message #30 Posted by [Gelnn Graf](#) on 19 July 2007, 2:05 p.m.,  
in response to message #1 by Bruce Bergman*

I just talked with HP to check on my order and the Rep. said the warehouse is having a problem with the 35s. He seemed very familiar with the issue, perhaps he is getting alot of these calls today?... He said they would try to ship tomorrow and he upgraded my shipping option.

Glenn

**Re: Has anyone received their HP-35s from the HP S&MB site?**

*Message #31 Posted by [Seth Morabito](#) on 19 July 2007, 2:39 p.m.,  
in response to message #30 by Gelnn Graf*

Very frustrating. Mine also has not shipped yet, despite the fact that the order still lists yesterday as the estimated delivery date. I suppose that patience is a virtue that I should exercise more often.

The ironic bit is that I work on Page Mill Road in Palo Alto, right across the street from the HP world headquarters (I can see them out my window). I'm half tempted to walk over there and start banging on doors until they either sell me a 35s or have me arrested ;-)

**Re: Has anyone received their HP-35s from the HP S&MB site?**

*Message #32 Posted by [Walter B](#) on 19 July 2007, 4:22 p.m.,  
in response to message #31 by Seth Morabito*

Hi Seth, so you'll have a \*very\* short trip in September!

**Re: Has anyone received their HP-35s from the HP S&MB site?**

*Message #33 Posted by [Bruce Bergman](#) on 19 July 2007, 4:38 p.m.,  
in response to message #30 by Gelnn Graf*

Knock on wood, but I called them again today. The guy who I talked to yesterday promised to update me when he had info from the warehouse, but I never heard anything. So I called back.

Today, a different rep told me that my calc HAS been shipped, and it even has a tracking number, but that the web site hasn't been updated with that information yet. Sounds a little fishy. He gave me the tracking number and I typed it into the FedEx site with no success. It's possible that it just got picked up, so we'll

see.

The suspense is killing me! ;-)

thanks, bruce

*Edited: 19 July 2007, 4:39 p.m.*

### **Re: Has anyone received their HP-35s from the HP S&MB site?**

*Message #34 Posted by **Bruce Bergman** on 19 July 2007, 6:04 p.m.,  
in response to message #33 by Bruce Bergman*

I \*almost\* feel ridiculous posting every minor change in my order here, but hey, I'm excited. ;-) This is almost as suspenseful as when I waited 17 hours in line last November for a Wii...

Anyhow, I checked my order header just now and found that a new line item was added: shipping. Once added, the tracking number and shipment information also appeared on the order. The "QTY Invoiced" column on both lines now shows "1" (previously showed "0"), so that's a good sign. It appears that as soon as that second line item shows up, the item is actually out of the warehouse.

Now I just need to wait for it to get into FedEx's system.

thanks, bruce

### **Re: Has anyone received their HP-35s from the HP S&MB site?**

*Message #35 Posted by **Matt** on 19 July 2007, 6:09 p.m.,  
in response to message #34 by Bruce Bergman*

Quote:

I \*almost\* feel ridiculous posting every minor change in my order here, but hey, I'm excited. ;-)

I think alot of people here are excited. It's quite fun, really.

Quote:

This is almost as suspenseful as when I waited 17 hours in line last November for a Wii...

I'm laughing so much at that, that I can't bring myself to give a quality response to that. There are just too many possibilities...

### **Re: Has anyone received their HP-35s from the HP S&MB site?**

*Message #36 Posted by **Bruce Bergman** on 19 July 2007, 6:21 p.m.,  
in response to message #35 by Matt*

Yeah, I did kind of leave myself open there, didn't I? ;-)

If you want another good laugh, go check out:



<http://www.WiiHaveAProblem.com>

thanks, bruce

**(GOT IT!) Re: Has anyone received their HP-35s from the HP S&MB site?**

*Message #37 Posted by [Bruce Bergman](#) on 20 July 2007, 3:29 p.m.,  
in response to message #34 by Bruce Bergman*

Mine arrived! It appears that once you see tracking number information in the HP order status screen, you're truly golden.

My shaking fingers are fumbling through the manual right now. ;-)

thanks, bruce

**Re: (GOT IT!) Re: Has anyone received their HP-35s from the HP S&MB site?**

*Message #38 Posted by [Seth Morabito](#) on 20 July 2007, 6:18 p.m.,  
in response to message #37 by Bruce Bergman*

Congrats! What's your serial number?

**Re: (GOT IT!) Re: Has anyone received their HP-35s from the HP S&MB site?**

*Message #39 Posted by [Bruce Bergman](#) on 20 July 2007, 6:59 p.m.,  
in response to message #38 by Seth Morabito*

72104216. Actually higher than the Wal-Mart units. Hmmmmm.

Seems like Wal-Mart pulls more weight with HP than Samson. ;-)

**Re: (GOT IT!) Re: Has anyone received their HP-35s from the HP S&MB site?**

*Message #40 Posted by [sjthomas](#) on 20 July 2007, 8:12 p.m.,  
in response to message #38 by Seth Morabito*

Arrived today (Friday) from hp, sn 72104120

**Re: Has anyone received their HP-35s from the HP S&MB site?**

*Message #41 Posted by [Howard Owen](#) on 19 July 2007, 8:10 p.m.,  
in response to message #1 by Bruce Bergman*

Wal Mart came through first. CNA72102325. With the volumes Wal Mart typically drives, the serial number in the low 2000s makes sense.

Regards,  
Howard

**Re: Has anyone received their HP-35s from the HP S&MB site?**

*Message #42 Posted by **John Keith** on 19 July 2007, 11:04 p.m.,  
in response to message #1 by Bruce Bergman*

Got an e-mail from HP at 4:42 this afternoon saying it had shipped and giving a UPS tracking #. Ordered on the 13th (2nd day, so I won't get it until Monday) ;-(

John

**Re: Has anyone received their HP-35s from the HP S&MB site?**

*Message #43 Posted by **John Keith** on 23 July 2007, 2:39 p.m.,  
in response to message #42 by John Keith*

Update: came today as expected. Serial # 4159.

**Re: Has anyone received their HP-35s from the HP S&MB site?**

*Message #44 Posted by **Fred Lusk** on 20 July 2007, 1:51 a.m.,  
in response to message #1 by Bruce Bergman*

I ordered mine on the 13th and the originally projected arrival date was yesterday. Didn't happen. I checked tonight and UPS says the package shipped today with an expected arrival date of next Wednesday. It's not a big deal to me...I bought this more for the fun of it. My 19-yr-old HP-42s is still my main calculator and will remain so after the 35s arrives.

Fred

**Re: Has anyone received their HP-35s from the HP S&MB site?**

*Message #45 Posted by **Seth Morabito** on 20 July 2007, 4:37 p.m.,  
in response to message #1 by Bruce Bergman*

OK, according to my housemate, my HP 35s just arrived at my house. Woohoo! Can't wait to get home and play with it.

I ordered a second 35s from Buy.com on Wednesday, and they claim that it shipped on Thursday, but it hasn't arrived yet (I got free budget shipping on it, though, so it may take a week or more).

**(Update) Got both today! With Serial Numbers**

*Message #46 Posted by **Seth Morabito** on 20 July 2007, 5:59 p.m.,  
in response to message #45 by Seth Morabito*

Wooooops! Correction. About ten minutes after making my post, my second 35s showed up here at work. Hard to believe, but Buy.com really delivered. I'll edit this post with both serial numbers once I get home and see what the serial number of the HP direct order is.

From Buy.com: SN: CNA72101944

From HP: SN: CNA72104162

It's interesting that the one bought directly from HP has a higher serial number than the one bought from Buy.com.

*Edited: 20 July 2007, 9:11 p.m.*

**Re: (Update) Got both today! With Serial Numbers**

Message #47 Posted by [Alain Mellan](#) on 23 July 2007, 11:40 p.m.,  
in response to message #46 by Seth Morabito

Finally got mine today, directly from HP:

SN: CNA 72103815

It's a great machine. I'm glad I skipped the 33s :-)

-- alain.

**Re: Has anyone received their HP-35s from the HP S&MB site?**

Message #48 Posted by [Trent Moseley](#) on 26 July 2007, 1:58 p.m.,  
in response to message #1 by Bruce Bergman

Got mine yesterday (25th). Serial No. 72104035.

tm

**Re: Has anyone received their HP-35s from the HP S&MB site?**

Message #49 Posted by [Paul Brogger](#) on 26 July 2007, 2:09 p.m.,  
in response to message #48 by Trent Moseley

Got mine on Monday, 7/23: CNA72103848.

(Its display appears to be well-aligned.)

**Re: Has anyone received their HP-35s from the HP S&MB site?**

Message #50 Posted by [bill platt](#) on 26 July 2007, 2:25 p.m.,  
in response to message #1 by Bruce Bergman

got mine on the 24th

**Re: Has anyone received their HP-35s from the HP S&MB site?**

Message #51 Posted by [Paul Dale](#) on 27 July 2007, 12:27 a.m.,  
in response to message #1 by Bruce Bergman

Got mine today. Ordered 15th, shipped 21st, here 27th. Not bad for halfway around the world.

SN CNA 72102348

- Pauli

**Re: Has anyone received their HP-35s from the HP S&MB site?**

Message #52 Posted by [tony \(nz\)](#) on 27 July 2007, 11:12 p.m.,  
in response to message #51 by Paul Dale

Same here in NZ. S/N CNA 72102079. Thanks to Les for the heads up re Samson Cables. Cheers, Tony

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## HP Forum Archive 17

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### HP 12c

Message #1 Posted by [Ryan M. Lauper](#) on 18 July 2007, 1:32 p.m.

My calculator does not calculate accurately. In the display the word "Begin" appears at the bottom. I am not sure if this is part of the problem or not. Two questions: How do I remove the "Begin" from the display? How do I reset my calculator so that it computes accurately?

### Re: HP 12c

Message #2 Posted by [Maximilian Hohmann](#) on 18 July 2007, 4:17 p.m.,  
in response to message #1 by Ryan M. Lauper

Hello!

Quote:

How do I remove the "Begin" from the display?

Press 'g' and 'End' (shifted '8').

Quote:

How do I reset my calculator so that it computes accurately?

If the problem is related to financial calculations, pressing 'f' and 'Clear Fin' (shifted 'x<>' key) at the beginning of a new calculation should help.

The manual contains information about several tests that can be performed to check the correct operation of the calculator.

Greetings, Max

### Re: HP 12c

Message #3 Posted by [Vieira, Luiz C. \(Brazil\)](#) on 18 July 2007, 5:31 p.m.,  
in response to message #1 by Ryan M. Lauper

Hi, Ryan;

Maximilian has already answered both questions of yours, but I am still curious about what calculations did you carry out with the HP12C so it gave you wrong answers. If you still have problems, would you care for posting some details? Problem description and keystroke sequences, if applicable?

Thanks and success.

Luiz (Brazil)

**Re: HP 12c**

Message #4 Posted by [Jim Creybohm](#) on 19 July 2007, 1:28 p.m.,  
in response to message #1 by Ryan M. Lauper

One possible source of your wrong answers could be the fact that BEGIN was in the display. If I recall correctly (don't have the manual), begin refers to the date at the BEGINning of the pay period, or the END of the pay period.

For example, if you are calculating your mortgage payments, you could carry an extra month's interest at say 150 000 dollars at say 6%, because you choose to make the payment at the END of your interval.

EG w/ BEGIN FV=0, PV=150 000, n=25\*12, i=6/12 PMT=-961.64 w/ END PMT=-966.45

Hope this helps a little bit.....

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## HP Forum Archive 17

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### What about a real refitting of old 41s?

Message #1 Posted by [Geir Isene](#) on 18 July 2007, 7:56 a.m.

How about this:

The electronics of an old 41 refitted into a new metal case and with room for AA or AAA batteries instead of the dying breed of N-cells?

Is there anyone around here that could do such a job?

### Re: What about a real refitting of old 41s?

Message #2 Posted by [Bill Wiese](#) on 18 July 2007, 2:02 p.m.,  
in response to message #1 by [Geir Isene](#)

Um, I think you mean "41C" not 41S - unless that means I have to collect yet another model :)

The problem you speak of is what dogs any hobbyist production of a new calculator - the electronics/PCB and firmware are easy and acheivable in a garage.

But doing a nice case/keyboard costs huge \$\$\$\$ for a production run just even to get started. And I am assuming you mean something that looks/works properly, not a bunch of Radio Shack SPST pushbutton switches in/on an aluminum project box :)

That's the whole problem with the OpenRPN project, at least as far as I've seen - everyone's worrying about choice of CPU (irrelevant as even a competent 4-bitter can do a fine job) or tricky electronic designs or minor firmware issues, when the real issue is keytops and case.

Bill Wiese  
San Jose CA USA

### Re: What about a real refitting of old 41s?

Message #3 Posted by [Maximilian Hohmann](#) on 18 July 2007, 4:24 p.m.,  
in response to message #2 by [Bill Wiese](#)

Hallo!

Quote:

Um, I think you mean "41C" not 41S ...

No, I think that 41s is the plural of 41. Mathematically correct, he should have written:  $n * 41$  with  $n=1...infinity$  :-)

But the idea is not bad at all. If one would keep the electronics and keyboard together, a nice housing could be machined from a small block of alumiuim quite easily by a skilled craftsman. Even more easily

on a numerically controlled milling machine.

I would buy one (at a reasonable price, say 50 Euros?), because I have a 41 with corroded battery contacts that could do with a new housing with integrated AAA cells.

Greetings, Max

### **Re: What about a real refitting of old 41s?**

*Message #4 Posted by **Bill Wiese** on 18 July 2007, 5:21 p.m.,  
in response to message #3 by Maximilian Hohmann*

Quote:

But the idea is not bad at all. If one would keep the electronics and keyboard together, a nice housing could be machined from a small block of aluminum quite easily by a skilled craftsman. Even more easily on a numerically controlled milling machine.

I would buy one (at a reasonable price, say 50 Euros?), because I have a 41 with corroded battery contacts that could do with a new housing with integrated AAA cells.

Max,

50Euros (~ \$80 US) for small-volume CNC mill work would be difficult to find I think. It takes some skill for setup etc. and would involve lost 'opportunity costs' for more profitable higher-volume projects.

It seems all our CNC shops that handle smaller volumes here are always busy - except for the right price, which'd be prohibitive for hobby projects.

The closest I can find for limited panel-type applications is <http://www.frontpanelexpress.com> ...

A friend is trying to start a firearm company for a new innovative rifle receiver (that is, not the whole rifle, just one fairly simple block that has only a few really critical holes/openings) and cannot get \*any\* time on CNC machines at firearms-authorized firms. Even if he were to go to a non-licensed machining firm and directly oversee production run day/night under his license, they're still booked up/cost too much.

Bill Wiese  
San Jose CA

### **Re: What about a real refitting of old 41s?**

*Message #5 Posted by **Dave Shaffer (Arizona)** on 18 July 2007, 11:41 p.m.,  
in response to message #4 by Bill Wiese*

Has anybody tried this gizmo for making calculator cases: the Sears Compucarve (<http://www.sears.com/sr/javasr/product.do?pid=00921754000>)

It is basically a cheap CNC machine. They claim it will work on wood and plastic. Maybe it would do OK on aluminum, too. I'm not sure how fine the detailing can be. It can be had cheaper (\$1700) if you are a member of the Craftsman Club! In any case, it's a lot cheaper than the Versalaser carbon dioxide "printer" which has similar capabilities.



## Re: What about a real refitting of old 41s?

Message #6 Posted by [koendv](#) on 18 July 2007, 4:35 p.m.,  
in response to message #2 by Bill Wiese

Quote:

That's the whole problem with the OpenRPN project, at least as far as I've seen - everyone's worrying about choice of CPU (irrelevant as even a competent 4-bitter can do a fine job) or tricky electronic designs or minor firmware issues, when the real issue is keytops and case.

Maybe designing case and keytops could be done using rapid prototyping. There's free software from [www.alibre.com](#) and [www.emachineshop.com](#) which would fit the bill. As far as hardware is concerned, calipers to measure the HP case are needed; \$20 or so. [www.emachineshop.com](#) and [www.redeyerpm.com](#) offer prototyping services. Biggest cost is probably the time spent designing the cad model.

regards,

koen

## Re: What about a real refitting of old 41s?

Message #7 Posted by [ECL](#) on 18 July 2007, 10:38 p.m.,  
in response to message #6 by koendv

I'd disagree with Koen, the time necessary to create a CAD model uses the one resource that a hobbyist is plentiful in: personal voluntary time!

Hobbyists differ from businessmen in one key characteristic: The former will happily engage in a zero-ROV (financial) project simply because he/she enjoys it, or is nostalgic about a subject. We work for "free" through the night on hobby projects, and then wake up and work the daylight hours for profit.

The monetary cost is greatest when short-run, highly custom equipment is created using current/modern industrial fab shop tools that are not subsidized (for our benefit).

Even more curious is the desire to MAKE a calculator. Granted, this is a DIY culture (of which I am more interested in the numerical DIY aspect, ie. programming). I can appreciate it, but wonder that you all are not more interested in your day-jobs?

I can hardly wait to get to work in the mornings, and often put in 11-12 hours because I get caught up in my work. Lately, when I get home, I'm spent, and look forward to reading, or mentally revisiting current project issues in the evenings.

I am a structures analyst/design guy on a new suborbital space vehicle, so job-related excitement is par for the course, but I'm still somewhat startled that people are still pursuing these fab projects. Don't take this the wrong way, I don't mean any harm. I'd really like to know more of your perspectives on how being a tech-minded person (for those of you who are) has worked out wrt careers, etc.

ECL

## Re: What about a real refitting of old 41s?

Message #8 Posted by [DaveJ](#) on 18 July 2007, 11:43 p.m.,  
in response to message #7 by ECL

Quote:

---

I'd disagree with Koen, the time necessary to create a CAD model uses the one resource that a hobbyist is plentiful in: personal voluntary time!

Hobbyists differ from businessmen in one key characteristic: The former will happily engage in a zero-ROV (financial) project simply because he/she enjoys it, or is nostalgic about a subject. We work for "free" through the night on hobby projects, and then wake up and work the daylight hours for profit.

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Even more curious is the desire to MAKE a calculator. Granted, this is a DIY culture (of which I am more interested in the numerical DIY aspect, ie. programming). I can appreciate it, but wonder that you all are not more interested in your day-jobs?

I can hardly wait to get to work in the mornings, and often put in 11-12 hours because I get caught up in my work. Lately, when I get home, I'm spent, and look forward to reading, or mentally revisiting current project issues in the evenings.

I am a structures analyst/design guy on a new suborbital space vehicle, so job-related excitement is par for the course, but I'm still somewhat startled that people are still pursuing these fab projects. Don't take this the wrong way, I don't mean any harm. I'd really like to know more of your perspectives on how being a tech-minded person (for those of you who are) has worked out wrt careers, etc.

---

Having just designed and built my own RPN calc from scratch, I can give you the reasons why I did it at least: 1) It's fun 2) What I wanted was not available commercially (old or new) so I simply did it myself. This is probably my main reason. 3) I'll hopefully get some kudos for it. 4) Did I mention it's fun?

Also, it's not much work either. My first prototype took around 30 hours of actual work from blank schematic and no C code, before I had it in my hands and could push the buttons and see calcs on the LCD. That of course doesn't include general procrastination, napkin sketches, and just thinking about stuff!

Dave.

---

### **Re: What about a real refitting of old 41s?**

*Message #9 Posted by [ECL](#) on 19 July 2007, 1:56 a.m.,  
in response to message #8 by DaveJ*

Dave,

That's pretty impressive (and cool!)

I'm "for" doing what you did. 30hrs is quite rapid!

I should probably have been more clear in my earlier criticism. What appears somewhat futile (I know many disagree) is the pursuit of custom injection-molded 2X keys, etc.

But perhaps I'm just wrong here. There's certainly nothing wrong with dreaming (Howard), I do that too. I suppose it is the devotion to lust-ware (ie. multiple keyboard schemes, processor

trade-offs) that surprised me.

Then, I sit around and make paper/glue scale models of various aircraft wing layouts :)

Thanks for the thoughts,

ECL

### **Re: What about a real refitting of old 41s?**

*Message #10 Posted by **DaveJ** on 19 July 2007, 2:36 a.m.,  
in response to message #9 by ECL*

Quote:

---

Dave,

That's pretty impressive (and cool!)

I'm "for" doing what you did. 30hrs is quite rapid!

I should probably have been more clear in my earlier criticism. What appears somewhat futile (I know many disagree) is the pursuit of custom injection-molded 2X keys, etc.

But perhaps I'm just wrong here. There's certainly nothing wrong with dreaming (Howard), I do that too. I suppose it is the devotion to lust-ware (ie. multiple keyboard schemes, processor trade-offs) that surprised me.

Then, I sit around and make paper/glue scale models of various aircraft wing layouts :)

Thanks for the thoughts,

ECL

---

Yes, you can get easily caught up in "the dream" and never achieve anything, that's why I forced myself to make some hard decisions up front and get that first prototype done and dusted.

I'm spending a bit more time now on the 2nd prototype which will hopefully be the final released product. Having that first prototype to play with quickly really showed me what's important and what's not, what works and what doesn't, and gives you confidence that you are on the right track.

Dave.

### **Re: What about a real refitting of old 41s?**

*Message #11 Posted by **Howard Owen** on 18 July 2007, 11:47 p.m.,  
in response to message #7 by ECL*

I think that DIY calculators are appealing to geeks like me because of two things. First, I have lots of ideas about how my ideal calculator should operate. Second, software simulations of classic calculators (some of which are closer to my ideal than anything on the market today) are less than

satisfactory because of the lack of a decent keyboard and portability. So I naturally dream of building the ideal calculator frame and filling it with the ideal calculator software.

Now, I'm a software guy. I started playing around with a soldering iron a couple of years ago just for fun. But I'd never be able to fabricate in the real world anything like what I have in mind. But that is all beside the point. Just because it isn't possible for me to build my ideal calc doesn't stop me from wishing I could, and dreaming about the result.

Regarding work/hobby balance, sometimes I don't get enough sleep. 8) Also, my software hobbies complement my day job as a systems engineer. That's not very balanced, but I've never been very good at balance anyway. 8)

Regards,  
Howard

### **Re: What about a real refitting of old 41s?**

*Message #12 Posted by [DaveJ](#) on 18 July 2007, 11:27 p.m.,  
in response to message #6 by koendv*

Quote:

Maybe designing case and keytops could be done using rapid prototyping. There's free software from [www.alibre.com](http://www.alibre.com) and [www.emachineshop.com](http://www.emachineshop.com) which would fit the bill. As far as hardware is concerned, calipers to measure the HP case are needed; \$20 or so. [www.emachineshop.com](http://www.emachineshop.com) and [www.redeyerpm.com](http://www.redeyerpm.com) offer prototyping services. Biggest cost is probably the time spent designing the cad model.

eMachineShop is nice (and easy) but not that cheap. For the cost of a rapid-prototype case you could probably buy yourself another real 41 with a pristine case.

Dave.

### **Re: What about a real refitting of old 41s?**

*Message #13 Posted by [Geir Isene](#) on 19 July 2007, 2:56 a.m.,  
in response to message #12 by DaveJ*

Quote:

For the cost of a rapid-prototype case you could probably buy yourself another real 41 with a pristine case.

Nah, it's plastic.

What I need is an aluminium case with the interior, the LCD, the keyboard and the ports from my 41CX. And it should take three AAA batteries. That's all I need. And I would be happy to pay USD 200 for it.

### **Re: What about a real refitting of old 41s?**

*Message #14 Posted by [DaveJ](#) on 19 July 2007, 5:30 a.m.,  
in response to message #13 by Geir Isene*

Quote:

---

Nah, it's plastic.

What I need is an aluminium case with the interior, the LCD, the keyboard and the ports from my 41CX. And it should take three AAA batteries. That's all I need. And I would be happy to pay USD 200 for it.

---

eMachineShop can do it in aluminium, or any other material you like. But for \$200ea you'd have to split the cost with quite few others.

Dave.

## **Re: What about a real refitting of old 41s?**

*Message #15 Posted by **Eric Smith** on 20 July 2007, 5:50 p.m.,  
in response to message #1 by Geir Isene*

Quote:

---

The electronics of an old 41 refitted into a new metal case and with room for AA or AAA batteries instead of the dying breed of N-cells?

Is there anyone around here that could do such a job?

---

An interesting idea, but it's almost the opposite of what's really needed. Designing replacement electronics for the 41C is a relatively easy task. It's the case design and manufacturing that is difficult and expensive.

I've recently been learning the rudiments of industrial design with SolidWorks and a 3D printer. It's great for prototyping, but the cost is far too high for production use. A set of plastics for something similar to the 41C has a materials cost of about \$50 with a 3D printer (fused deposition modeling).

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## HP Forum Archive 17

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**Weird HP 97**

Message #1 Posted by [Kostas Kritsilas](#) on 17 July 2007, 10:14 p.m.

Hi,

I ended up with 2 HP 97s. Both work, and both print out nicely. However, one of them has a multi-color ribbon cable coming out of the back (through the same slot at the metal tab with the hole for a padlock/security device), that terminates in a DB-15 cable. Has anybody seen that before, or does anybody know if this is something the factory (or some part of HP) did?

Kostas

P.S. Both units were from eBay.

**Re: Weird HP 97**

Message #2 Posted by [Howard Owen](#) on 17 July 2007, 10:28 p.m.,  
in response to message #1 by [Kostas Kritsilas](#)

That is an HP-97S "I/O Calculator." It's fairly scarce. Congratulations!

[Museum page on the 97S.](#)

Regards,  
Howard

Edit: scratch that. I should read the pages I link to before replying. Your machine doesn't seem to match what is described in the referenced article. I don't know what it is.

Regards,  
Howard

*Edited: 17 July 2007, 10:35 p.m.*

**Re: Weird HP 97**

Message #3 Posted by [Allen](#) on 17 July 2007, 11:42 p.m.,  
in response to message #1 by [Kostas Kritsilas](#)

Do you have pictures?

**Re: Weird HP 97**

Message #4 Posted by [Mike Ingle](#) on 18 July 2007, 1:11 a.m.,  
in response to message #1 by [Kostas Kritsilas](#)

Are they for sale? I want a 97. I have a HP45 in excellent condition.

### **Re: Weird HP 97**

*Message #5 Posted by [brianh](#) on 18 July 2007, 6:18 a.m.,  
in response to message #1 by Kostas Kritsilas*

I know that a number of HP 97s were modified by third party manufacturers as I/O units. I have two with pin connectors in place of the locking bar that were used to drive digital planimeters. For years I thought that was how all 97's were made until I started hanging around this forum :-)

### **Re: Weird HP 97**

*Message #6 Posted by [Chan Tran](#) on 18 July 2007, 7:41 a.m.,  
in response to message #5 by brianh*

I also know that at one time Mitutoyo use HP97s for some of their measuring instruments. They also used the HP85 as well.

### **Re: Weird HP 97**

*Message #7 Posted by [Kostas Kritsilas](#) on 18 July 2007, 11:06 a.m.,  
in response to message #6 by Chan Tran*

I did look at the Museum's HP 97S link, and while entirely possible that this is a HP 97S, the cable in the Museum's pictures is a round cable with a grommet, the cable on the unit that I have is a flat multi-colored ribbon cable. The cable end (that is inside the calculator) shown in the Museum's interior view of the HP 97S looks like it could have the correct 15 wires, but the rest of the cable is different. Might be that this unit was originally shipped as a plain HP 97, but then the cable modification was added later on, making it simpler to run the ribbon cable out through the security tab slot, than to try to cut up the back of the case for the round white wire (although this is all just speculation). Might also be true that this was a third party modification, as well.

Either way, I will try to get some pictures tonight, but I don't really know how to post them, so I would appreciate any help in that regard.

Kostas

### **Re: Weird HP 97**

*Message #8 Posted by [Kostas Kritsilas](#) on 19 July 2007, 10:21 a.m.,  
in response to message #7 by Kostas Kritsilas*

Hi:

Here are photos as promised. Sorry about the blurriness, but they should get the basic ideas across.

I'd still appreciate any ideas regarding this particular HP 97, or any other opinions. The unit is actually pretty awkward with this cable coming out of the back, so unless there is a reason to keep it this way, I will be having it removed when I send it in to Randy at Fixthatcalc.com.

Hopefully, I did this right and the pictures are visible.

Kostas

[HP97 Overall view](#)

Ribbon cable exiting the back of the HP97

Ribbon cable exiting back of HP 97, from top side

DB End of Ribbon cable

*Edited: 19 July 2007, 10:27 a.m.*

**Re: Weird HP 97**

*Message #9 Posted by [marais](#) on 20 July 2007, 3:21 p.m.,  
in response to message #8 by Kostas Kritsilas*

I think what you have there is a 97 modified to behave like a 97S. I have a similar beast myself, with a DIL14 connector and a ribbon cable leading to a second metal box under the calculator (looking quite professional) which carries the interface. I concluded that the 97 and 97S are basically identical, and that a 97 can be retrofitted to become a 97S, provided that the external interface electronics be connected. The nameplate of your machine, saying 97 instead of 97S, supports this claim. It would be interesting to know if somebody with schematics at hand could confirm.

Andreas

**Re: Weird HP 97**

*Message #10 Posted by [Kostas Kritsilas](#) on 20 July 2007, 11:49 a.m.,  
in response to message #6 by Chan Tran*

Hi,

I sent the same pictures to Randy of Fixthatcalc.com, and he says that he has seen other HP-97s with the same modification. According to Randy, the cable is basically parallelling the keyboard, simulating a key press, and was used in data collection applications.

I will be having the cable removed when I send the calculator in to Randy for the gummy wheel fix to the card reader, and some general TLC.

Kostas

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## HP Forum Archive 17

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### HP-35s I/O and Memory

Message #1 Posted by [Gerry Schultz](#) on 17 July 2007, 7:03 p.m.

To All:

I've been following the HP-35s discussions here with great interest. The 35s seems like a great machine for its price but I'm concerned about its lack of I/O and smaller memory footprint. I realize that HP is trying to keep the 35s from competing with the high-end calculators, like the 50g. But, with no I/O and smaller memory that's a bottleneck that could come back to haunt a user. Why didn't HP put 128K of memory in it? Memory is dirt cheap these days.

Specifically, if the 35s crashes and in doing a restart clears user memory, then you are screwed as the only way to put the programs back in is through the keyboard if you wrote down the latest updates to your programs. In my imagination, since I can't save a program and remove it from the 35s, its memory would build up over time with old programs. Given how much memory each step takes up, that would be a lot of programs; until you write one that needs a lot of data storage.

As I understand it, program and data memory is dynamically allocated. If you write a program that requires lots of data storage, you have lost that memory to programming. Depending upon how many programs you port from other calculators as well as new ones, this bit-bucket has a lot of space for lots of programs and data. In essence, mass storage for the 35s is your hand-written documentation. Isn't that a step backwards? Also, can you drive a printer like an 82240 via infrared from a 35s? If you can do that then you can print out your programs in for later re-inputing.

Also, as the 35s becomes loaded down with programs and data, does it slow down because of background housekeeping and memory packing? I would like to hear about how it handles these situations. Finally, what happens if you leave it sitting around for a few months and the batteries run down? If it does a "memory lost" I don't think an owner would be very happy. How long will the 35s hold its memory with the batteries removed? Is the battery compartment sealed to battery leakage to protect the rest of the calculator from damage? I hate it when batteries leak. I've got two HP-41Cs out for repair due to battery leakage. If I pull the batteries out of a 35s for long-term storage to protect it from battery leakage, how do I keep the calculator from losing its user programs?

It looks like a promising new calculator. With answers to these questions, I might very well buy one.

Thanks,

Gerry

### Re: HP-35s I/O and Memory

Message #2 Posted by [Steve Borowsky](#) on 17 July 2007, 7:56 p.m.,  
in response to message #1 by [Gerry Schultz](#)

I may be wrong, but as far as I know Lithium batteries don't leak.

### Re: HP-35s I/O and Memory

*Message #3 Posted by [bill platt](#) on 18 July 2007, 7:22 a.m.,  
in response to message #1 by Gerry Schultz*

The 35s is a calculator, not a computer. The 50G (and the 48 series and the 41 before it) were/are miniature computers. Programming power on a calculator becomes a problem when the memory gets to be too big, as it then becomes a major chore to store/retrieve it. In this current world, anything that long will be written on a computer, if the user is rational about it.

There is no reason to put the "computer-like" features into a device that is designed for the niche of being a really good functional calculator. If you want miniature computer power, there are two other paradigms already available: the handheld, and the graphing calculator.

### **Re: HP-35s I/O and Memory**

*Message #4 Posted by [Kostas Kritsilas](#) on 18 July 2007, 11:33 a.m.,  
in response to message #3 by bill platt*

I would have liked to see an SD, or SD mini/micro slot on the HP35S. This would have fixed the memory size, need for backup, and communications with a PC, points in one shot. The SD, or SD Mini/micro cards are very cheap now, and any files required could be put onto the card with a card reader on a PC. And, of course, the card would be removable if the calculator needed to be hard reset. In addition, multiple cards could be used to hold different applications, as well as making it possible to sell software on ROM type SD cards (similar to the way the "Dark Side" used to sell software for their late 70s-Early 80s machines), a potential revenue stream for HP.

I don't buy the argument that this would compete with the 49G+/50G machines, as the 35s doesn't have graphing capability, nor would it have any I/O other than the card slot.

Kostas

### **Re: HP-35s I/O and Memory**

*Message #5 Posted by [Antonio Maschio \(Italy\)](#) on 18 July 2007, 11:37 a.m.,  
in response to message #4 by Kostas Kritsilas*

Mmmh, I think I agree... I never thought about it, but I agree...

- Antonio

### **Re: HP-35s I/O and Memory**

*Message #6 Posted by [bill platt](#) on 18 July 2007, 12:17 p.m.,  
in response to message #4 by Kostas Kritsilas*

But having this capability removes the major market: education. Having no I/O is desirable for a calculator that is to be used in a closed testing environment. And for engineering, it is silly to use a calculator for anything that really requires saving!

### **Re: HP-35s I/O and Memory**

*Message #7 Posted by [Donald Williams](#) on 18 July 2007, 12:27 p.m.,  
in response to message #4 by Kostas Kritsilas*

I have been thinking along those exact same lines. I think the lack of I/O decision may have been prompted by a concern about using the calculator in a testing environment. I don't think the addition of a

micro SD would cause any grief there. I confess that I am not fully acquainted with the arguments about this conflict.

I will take the idea one step further. Can you imagine developing your programs on the PC or the Calc, then storing them in the micro SD? Then you move the micro SD over to the HP or third party devolper's micro DAQ/Data Logger (battery powered of course) peripheral. The peripheral then runs programs (in calculator native code),collects the data,and stores the data on the micro SD. You do a quick check of the data integrity and statistics on the calculator in the field. When you return to the lab, pop the micro SD in the PC card reader, graph, document, backup the data, and email the results to all parties concerced.

Calculators are still more preferable than laptops for collecting data in the field. Would you rather lug your laptop in your backpack through the forests of the Sierra Nevada mountains, or your "HP 41S" in your shirt pocket. Sometimes serious "data collection" has to be accomplished before serious "engineering" can even begin.

I think this type of calculator would be the the answer to the abandoned 41CX community. This would be a cousin of the 50G, but running the simpler RPN system rather than than the RPL. RPL is wonderful, but the learning curve is much too steep compared to the RPN system in the 41 series and the power of RPL is wasted in a large majority of the "I need portablity" applications.

KISS!

Like the 41C system which was implemented in an amazing number of applications (that may have flown under the HP maketing radar),a system design similar to what is being discussed ( micro SD providing a non-traditional form of I/O) would only be limited by your imagination rather than by a crippled design.

*Edited: 18 July 2007, 1:03 p.m.*

### **Re: HP-35s I/O and Memory**

*Message #8 Posted by [bill platt](#) on 18 July 2007, 1:06 p.m.,  
in response to message #7 by Donald Williams*

Quote:

Calculators are still more preferable than laptops for collecting data in the field. Would you rather lug your laptop in your backpack through the forests of the Sierra Nevada mountains, or your "HP 41S" in your shirt pocket. Sometimes serious "data collection" has to be accomplished before serious "engineering" can even begin.

The 50 G is the appropriate tool in the current environment.

If you really want to use 41C style code and RPN you can run an emulator on the 50G.

Otherwise, you can use the RPL :-)

### **Re: HP-35s I/O and Memory**

*Message #9 Posted by [Thomas Okken](#) on 18 July 2007, 2:31 p.m.,  
in response to message #4 by Kostas Kritsilas*

Quote:

I would have liked to see an SD, or SD mini/micro slot on the HP35S. [...]

I don't buy the argument that this would compete with the 49G+/50G machines, as the 35s doesn't have graphing capability, nor would it have any I/O other than the card slot.

Have HP ever made any kind of public statement as to why they discontinued the HP-42S? Given that they keep selling the HP-12C after 25 years, I'm inclined to suspect that the 42S was axed because it didn't sell well enough; that the vast majority of power users want the most powerful model they can get, whether that means they have to learn RPL or not. While there is a market for lower-end programmable calculators, which they've continued to serve with the 32Sii, 33S, and now the 35S, it isn't clear that there is much of a market for fancier RPN models, as much as it pains the HP-42S fan in me to admit this.

Adding hardware features like I/O or an SD slot to the 35S would probably only eat into HP's margins on the machine, while enticing only a handful of additional buyers. Just my \$0.02...

- Thomas

*Edited: 18 July 2007, 2:38 p.m.*

## **Re: HP-35s I/O and Memory**

*Message #10 Posted by **Kostas Kritsilas** on 18 July 2007, 2:59 p.m.,  
in response to message #9 by Thomas Okken*

Quote:

.... Adding hardware features like I/O or an SD slot to the 35S would probably only eat into HP's margins on the machine, while enticing only a handful of additional buyers. Just my \$0.02...

- Thomas

Thomas:

I agree that it will increase HP's costs, but I think that adding the SD slot would also result in a price increase for the machine, and from indications here (which, I will grant, are not indicative of the general population) would be acceptable for the added feature/ functionality. Personally, an added \$10-\$20 added on to the selling price of a 35S (resulting in a HP35SX/HP35SD/HP35MC/HP36, or whatever they want to call the model with the SD/SD micro slot) would be very acceptable. If this can be done on something as price sensitive as a cell phone, I don't see why it couldn't be done on a calculator. I do believe that a \$10-20 cost increase would improve HP's margins, not reduce them. I am also not hung up on SD/SD micro cards, the card used could be a Transflash/SD mini, SD-HC (probably overkill) or M2 Micro (Memory Stick Micro, Sony proprietary). The advantage of any of the micro flash card form factors is that they will take up the least amount of physical room, resulting in a smaller overall size. All of the mini/micro sized cards have capacities of at least 1GB, easily allowing for more storage than most would require, and for those who need more, buy a second (or third, or fourth, etc.) card. To keep the calculator acceptable in test environments, limit the card slot to memory usage only, do not allow SDIO type cards to be used.

This opens up a huge world of possibilities, even allowing program development on a PC/MAC with download to the flash card, or turn key software on ROM cards. This would still NOT cannibalize sales from the 50G, and allow the machine to stay smaller, and much simpler.

Just some thinking out loud (or in email, as the case appears to be).

Kostas

### **Re: HP-35s I/O and Memory**

*Message #11 Posted by [bill platt](#) on 18 July 2007, 3:12 p.m.,  
in response to message #10 by Kostas Kritsilas*

increasing the cost would decrease sales.

While they might gain a new cat, it would only eat into the 50G which most would be happy enough to use for large mem apps.

### **Re: HP-35s I/O and Memory**

*Message #12 Posted by [Thomas Okken](#) on 18 July 2007, 3:20 p.m.,  
in response to message #10 by Kostas Kritsilas*

Quote:

Personally, an added \$10-\$20 added on to the selling price of a 35S [...] would be very acceptable. If this can be done on something as price sensitive as a cell phone, I don't see why it couldn't be done on a calculator.

Can't agree with you there. Fancy cell phones like the Motorola RAZR, BlackBerry Pearl, Nokia E70, and Samsung Blackjack, retail for \$300 or more (you may get them for free when you sign up for a wireless account at the same time, but that's only because the phone company folds the cost of the handset into the subscription fee). On a device like that, another \$10-20 isn't a big deal -- not that it matters; those devices *\*need\** external I/O in order to allow them to be backed up and updated using a PC.

On the other hand, adding \$10-20 to a \$50 calculator, for a feature that most of that calculator's potential customers will not be very interested in, is a very different proposition.

(Being able to back up your cell phone's address book and appointment calendar is a lot more critical than being able to back up a couple of 200-line programs from your calculator -- and most 35S users will never go beyond that.)

- Thomas

### **Re: HP-35s I/O and Memory**

*Message #13 Posted by [Donald Williams](#) on 18 July 2007, 4:56 p.m.,  
in response to message #12 by Thomas Okken*

Gimme a break!

You people are just as jaded as I am.

I guess I can't predict what would happen in the world marketplace, but just for fun lets pretend.

Say Gene W. posted a hypothetical message about his forth coming review of the new HP 35sx (the one with the micro SD slot). With a link to the HP web site where they could be

ordered for \$100.00 USD. I would bet that 99% of the forum participants would have smoking keyboards from their frantic efforts to be the first to purchase one.

**Re: HP-35s I/O and Memory**

*Message #14 Posted by [Walter B](#) on 18 July 2007, 5:10 p.m.,  
in response to message #13 by Donald Williams*

LOL

**Re: HP-35s I/O and Memory**

*Message #15 Posted by [Seth Morabito](#) on 18 July 2007, 5:17 p.m.,  
in response to message #13 by Donald Williams*

True, but a handful of frothing fanboys (myself included!) hardly make a compellingly large enough user base to justify R&D for a new product like that.

(All the same, I would have said the same thing about the 35s about a year ago. So one never knows.)

Also, somewhat OT: Personally, you know what would make me happy? Just moving the "Enter" key on the HP 50g back to traditional spot, like the 48S and 48G series. That's really all. Give me that and my RPL happiness meter would go right back to "FULL". I've had my 50g for almost a year now, and I **still** fumble sometimes when hitting Enter!

**Re: HP-35s I/O and Memory**

*Message #16 Posted by [bill platt](#) on 18 July 2007, 5:26 p.m.,  
in response to message #15 by Seth Morabito*

More LOL

...and we are also the same bunch that trip over ourselves tryign to buy the early versions of machines--so that we can experience the bugs!

I even have an early 33s :-0

**Re: HP-35s I/O and Memory**

*Message #17 Posted by [Bruce Bergman](#) on 18 July 2007, 5:31 p.m.,  
in response to message #15 by Seth Morabito*

I agree with Seth -- it's hard to break the habit of looking for that big enter key, even after 30 years. What's perhaps worse is the tease that the 17bii+ (and ilk) have with the big INPUT key, right where there should be a big ENTER key -- that's almost painful to me. :-)

I remember how hard it was when they moved the +-x/ keys to the other side and flipped them upside down. In fact, looking at my poster, I see that they are all across the board with order of the math operators; oh well, time changes everything it seems.

thanks, bruce

**Re: HP-35s I/O and Memory**

Message #18 Posted by **Bruce Bergman** on 18 July 2007, 3:57 p.m.,  
in response to message #10 by Kostas Kritsilas

Some sort of memory card option might seem like overkill for a calculator at first thought, but keep in mind that this thing IS programmable, and HP went to fairly great lengths to expand the address space of the HP-35s so that people could enter longer programs and create more programs. If HP weren't shooting for that kind of enhanced programmability, they could have very easily just left it the same as with the HP-33s. They didn't, however.

The 15c, 11c, 12c, etc., were/are memory limited. You have far fewer program steps available than you do even with the 33s. The 41c, 48s and 49/50 families all had some sort of IO option. Of "recent" programmable calcs, only the 32 and 42 families didn't. Then there was the 33s, but its memory was small enough (or should I say, restricted enough) that if you lost a program, it wasn't a nightmare to re-enter it.

But with the 35s, you're looking at potentially big, long and multiple programs. LOTS of variable space. In fact, whereas the 33s had very few user-contributed programs, I fully expect that the 35s will have quite a few user-contributed programs in a short time. It begs to have some way to backup, restore or simply \*enter\* a program easily. Got a great program to do XYZ? Or play game ABC? Love it! But to enter it by hand -- in this day and age -- is almost enough to make me skip it completely.

I totally understand the lack of IR comms, as that would never fly with the testing agencies. The ability to IR print would have been nice, but that only addresses the "backup" side of things. A simple SD card slot, with a minimal Filer application, would be sufficient to fill all needs; it would allow backup, restore and ease of entry, and it would certainly increase the number of programs that users create and share. If not an SD card slot, then just a USB connection would be enough. Even the TI-89 has this ability.

HP wouldn't take a hit on adding that at all. Heck, virtually every HP product out there (laptop, PC, printer, etc) has some sort of SD card slot. Their cost for those must be mere pennies. I suspect there was another reason, which we may never know.

Or, maybe the future will tell...

I hope HP will follow up the 35s with a version that has some sort of communication option. I personally think it would go over very well with both casual user and collectors.

thanks, bruce

**Re: HP-35s I/O and Memory**

Message #19 Posted by **Bill Wiese** on 18 July 2007, 2:15 p.m.,  
in response to message #1 by Gerry Schultz

Quote:

I've been following the HP-35s discussions here with great interest. The 35s seems like a great machine for its price but I'm concerned about its lack of I/O and smaller memory footprint. I realize that HP is trying to keep the 35s from competing with the high-end calculators, like the 50g. But, with no I/O and smaller memory that's a bottleneck that could come back to haunt a user. Why didn't HP put 128K of memory in it? Memory is dirt cheap these days.

Well, it still costs money.

I believe that the 35S uses a single-chip microcontroller with the RAM on board. Extra part = more complexity, inventory costs, more failure points (and failures), more complex PCB perhaps, possibly additional EMI/RFI susceptibility, etc.

It's also getting harder to find 'small' RAM chips that are not high-grade/high-speed as these small amounts of RAM show up on microcontrollers now.

Adding that \$0.75 - \$1.25 RAM chip raises the showroom cost of the calculator at least 3X that. The calculator might not fit in the right 'price slot' after that. Remember, lotta money is already burned up for case/keyboard (and apparently elevated quality), packaging (it's not a \$3 four-banger), and support.

Bill Wiese  
San Jose CA USA

### **Re: HP-35s I/O and Memory**

*Message #20 Posted by [Kostas Kritsilas](#) on 19 July 2007, 5:13 p.m.,  
in response to message #19 by Bill Wiese*

I think that all it will take is for a few people to lose some large, or important, programs before the need for some form of backup/non power dependent storage method becomes obvious. Whether it is due to the need to do a hard reset, or loss of battery power, losing a program of 200 or more steps/lines gets old really fast (I used to own a TI-58 (non C version)) from my own personal experience. This would also be a really great way to do firmware updates should bugs arise (I have done this on my HP 49G+, works great).

HP 65s only had 100 program steps and had the magnetic cards for storage/backup, and the HP 67s had only 224 program steps. The HP 35S has up to 1500.

Kostas

### **Re: HP-35s I/O and Memory**

*Message #21 Posted by [karl Schneider](#) on 19 July 2007, 9:02 p.m.,  
in response to message #20 by Kostas Kritsilas*

Quote:

...losing a program of 200 or more steps/lines gets old really fast ...

HP 65s only had 100 program steps and had the magnetic cards for storage/backup, and the HP 67s had only 224 program steps. The HP 35S has up to 1500.

Technically, the old models were the HP-65 and HP-67, which didn't even have continuous memory (to which you alluded in your mention of the TI-58). All programs and data were lost each time the power was switched off, rendering the magnetic cards a virtual necessity for practicality. HP-41, Voyager and Pioneer-series LCD models with continuous memory and CMOS circuitry could store information reliably, even through battery changes (excepting certain HP-42S models).

Let's hope that the HP-35S can do as well, because backup storage capability probably "ain't gonna happen", for reasons discussed earlier, despite the 31 kB of RAM.

-- KS



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## HP Forum Archive 17

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### Wal-Mart selling HP-35s

Message #1 Posted by [Bruce Bergman](#) on 17 July 2007, 7:29 p.m.

[Go here](#)

### Re: Wal-Mart selling HP-35s

Message #2 Posted by [Howard Owen](#) on 17 July 2007, 9:00 p.m.,  
in response to message #1 by Bruce Bergman

Cool. Great price too. They just got the order for my second 35S.

Regards,  
Howard

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## HP Forum Archive 17

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### Buy.com has the 35S

Message #1 Posted by [Howard Owen](#) on 17 July 2007, 4:10 p.m.

[buy.com link](#)

### Re: Buy.com has the 35S

Message #2 Posted by [Gerson W. Barbosa](#) on 17 July 2007, 5:35 p.m.,  
in response to message #1 by Howard Owen

According to the [inflation calculator](#) \$395 in 1972 had the same buying power as \$1,965.07 today. Has anyone noticed \$54.99 is about 1/35th of the original HP-35 price?

### Re: Buy.com has the 35S

Message #3 Posted by [Jeff Kearns](#) on 17 July 2007, 6:21 p.m.,  
in response to message #2 by Gerson W. Barbosa

Gerson,

That online calculator assumes an inflation rate of 4.7%, which seems rather high. Maybe I am wrong but in many Time Value of Money calculations, the assumed inflation rate is closer to 2.5% - 3%. This puts the buying power between \$937 and \$1,111. Either way, it's a good deal, comparatively speaking.

Regards,

Jeff

### Re: Buy.com has the 35S

Message #4 Posted by [Gerson W. Barbosa](#) on 17 July 2007, 7:04 p.m.,  
in response to message #3 by Jeff Kearns

Hello Jeff,

On the HP-19BII I wrote the equation  $FV = PV \times (1 + I/100)^{(N-1)}$  and solved for I (PV=395, N=36 and FV=1,965.07). Indeed the average inflation rate is about 4.7% (4.690681415). It really looks high considering the average yearly American inflation, but other inflation calculators I checked gave similar results. Was inflation a little higher some years ago? In 1989 here (Brazil) we had about 80% in a month!, but you cannot imagine what was that like :-)

(I am sure there's no need to write any equation to solve this on a financial calculator, but I have yet to read - and understand - the manual.)

Regards,

Gerson.

**Re: Buy.com has the 35S**

*Message #5 Posted by **Paul Dale** on 17 July 2007, 7:09 p.m.,  
in response to message #4 by Gerson W. Barbosa*

During the mid to late 1980's the inflation over here was massive. I think double digits but I'm not certain. Mortgages went close to 20%.

- Pauli

**Re: Buy.com has the 35S**

*Message #6 Posted by **Trent Moseley** on 17 July 2007, 8:14 p.m.,  
in response to message #5 by Paul Dale*

Even before that(1976), here in the USA during the Carter administration, U.S.Treasury bills were earning 14%!

tm

**Re: Buy.com has the 35S**

*Message #7 Posted by **Mike Morrow** on 17 July 2007, 8:26 p.m.,  
in response to message #5 by Paul Dale*

Quote:

During the mid to late 1980's the inflation over here was massive. I think double digits but I'm not certain. Mortgages went close to 20%.

You are off by a decade, if you are in the USA.

Inflation in the USA in the late 1970s averaged over 10 percent each year from 1977 to 1980. It was nearly 14 percent in 1979 alone. Inflation during the 1980s averaged well under 5 percent annually.

When a none-too-wealthy friend of mine at Ga. Tech bought an HP-45 new in 1973, I told him that he could have bought a decent used car (which he didn't have) for that. The HP-65 cost the equivalent of almost \$4000 in today's dollars.

As an old geezer who was a university sophomore in EE when the original HP-35 first arrived at the Ga. Tech bookstore, let me assure all here that a five-fold inflation rate very accurately characterizes the total inflation that has occurred in the USA since 1972.

Mike

**Re: Buy.com has the 35S - \$45inc postage**

*Message #8 Posted by **DaveJ** on 17 July 2007, 6:04 p.m.,  
in response to message #1 by Howard Owen*

Free postage with that, and an extra \$10 off if you use Google Checkout for the first time. That makes it \$45 delivered for you US folk.

Too bad they don't ship to Australia.

Dave.

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## HP Forum Archive 17

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### ISG/DSE behavior

Message #1 Posted by [Don Shepherd](#) on 17 July 2007, 3:39 p.m.

This is something that has bugged me for a long time, I believe since I bought my 16C back in the 1980's. It has to do with the behavior of ISG and DSE. Consider the BASIC loop:

```
For I = 1 to 4
```

```
Next I
```

This corresponds to setting I to 1.004 (on a 33s and, presumably, 35s) and doing the ISG at the end of the loop. The loop executes exactly 4 times, as you would expect.

Now, consider this BASIC loop:

```
For I = 4 to 1 step -1
```

```
Next I
```

This corresponds to setting I to 4.000 and doing DSE at the end of the loop. You can't make it 4.001 (which would be consistent with ISG) else it won't do the last loop iteration you want.

I think that if DSE had been implemented as "DSL", then ISG and DSL would be consistent and would work as in BASIC. But since DSL has another meaning these days, oh well.

Am I the only person in the world bothered by this? There are times when I wanted to loop down and have the final loop iteration be index 0, but that is not possible without manipulating the index within the loop, and the whole point of ISG/DSE is to not have to do that, right?

### Re: ISG/DSE behavior

Message #2 Posted by [Howard Owen](#) on 17 July 2007, 4:05 p.m.,  
in response to message #1 by [Don Shepherd](#)

DSE evolved from the earlier DSZ, decrement and skip if zero. If the loop counter has no fractional part, then DSE's behavior is consistent with DSZ. ISG was always ISG, I believe. So the inconsistency was built in from the beginning. It doesn't bother me any more than any other primitive programming construct in an RPN calc. I actually enjoy those sort of things. 8)

Regards,  
Howard

### Re: ISG/DSE behavior

Message #3 Posted by [John Limpert](#) on 17 July 2007, 5:01 p.m.,

*in response to message #1 by Don Shepherd*

I think the constructs are derived from assembly language on old minicomputers, not high-level languages like BASIC. Skip on condition code is a common instruction on many older systems. See the PDP-8 for an example.

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## HP Forum Archive 17

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### Plug and Play

Message #1 Posted by [RamLab](#) on 17 July 2007, 3:24 p.m.

Hi,

Today I finally got an HP-71B with an HP-IL interface (4K & MATH). When it was introduced it would have cost me nearly a month's salary, without the 4K & MATH. I got just for fun, because the HP3421A DAQ I have (with HP-IB option) was designed for HP-IL. It was fun to find out how simple the HP-IL link actually works, and that this nearly 25 year old HP equipment was already Plug and Play long before MS ....

RamLab

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## HP Forum Archive 17

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### It's raining calculators?

Message #1 Posted by [Seth Morabito](#) on 17 July 2007, 2:42 p.m.

Out of the blue, I've stumbled upon a trading company in Indonesia who claims to have a fairly large supply of lightly used and New-Old-Stock HP 41CX and HP 42S calculators available.

The price for the 42S is \$150 per unit, minimum order quantity 30. I haven't asked about the 41CX, but the minimum order quantity is also 30.

Seems like a great opportunity for a reseller (which I am not -- I have neither the experience nor the time nor the money for such a large purchase). But if I could buy just one or two of each, I'd be a very happy man indeed.

### Re: It's raining calculators?

Message #2 Posted by [bill platt](#) on 17 July 2007, 2:57 p.m.,  
in response to message #1 by Seth Morabito

If we could somehow confirm the veracity, and legitimization, we could gangg together!

### Re: It's raining calculators? (calc #2)

Message #3 Posted by [ECL](#) on 17 July 2007, 2:59 p.m.,  
in response to message #1 by Seth Morabito

Here's what we do: We rastle up 28 more committments on this forum, and we pool our money to buy the lot.

I suggest, for those interested that we ammend the subject of each reply with the sequential increment of how many each commit to.

ie, I added "calc #2" to this subject title, since Seth wanted one, and I want one. If the next poster wants one unit, he/she'd add a three to the post, and so on...

ECL

### Re: It's raining calculators? (calc #3-4)

Message #4 Posted by [Dave Boyd](#) on 17 July 2007, 3:28 p.m.,  
in response to message #3 by ECL

I'm in for two...

### Re: It's raining calculators?

Message #5 Posted by [Bruce Bergman](#) on 17 July 2007, 3:26 p.m.,  
in response to message #1 by Seth Morabito

Sounds like alibaba.com. It's a very common technique to group together a bunch of technology items and

essentially solicit "bids" on the purchase. I've heard both good and bad things about sales like this. I'd be careful!

On the other hand, I might be interested. It's the old risk vs. reward debate.

thanks, bruce

### **Re: It's raining calculators?**

*Message #6 Posted by **Seth Morabito** on 17 July 2007, 3:40 p.m.,  
in response to message #5 by Bruce Bergman*

Quote:

It's the old risk vs. reward debate.

Exactly. I know very little about dealing with world trade. Tax laws, import laws, resale laws, licenses, fees... I'm ignorant of all of these, except to know that they're dangerous!

### **Re: It's raining calculators?**

*Message #7 Posted by **Randy** on 17 July 2007, 4:07 p.m.,  
in response to message #1 by Seth Morabito*

Save your money... [Alibaba strikes again](#)

While you're buying, why not pick up a few extra of these [They have Curtas too!](#)

I think that if you ask nicely, some of these "suppliers" could probably get you a bridge or two built by John Augustus Roebling...

*Edited: 17 July 2007, 4:17 p.m.*

### **Re: It's raining calculators?**

*Message #8 Posted by **Seth Morabito** on 17 July 2007, 4:42 p.m.,  
in response to message #7 by Randy*

Alas, I suspect you might be right. I did find this supplier through Alibaba.com, but at least I had the sense to specifically ask for photos of their stock supply (rather than the one photo posted on their profile). I haven't heard back yet regarding the photos, and if they're a scam I doubt I will.

Here's their profile for anyone willing to pursue further, with great caution:

<http://www.alibaba.com/member/gondargondar/selllead.html>

### **Re: It's raining calculators?**

*Message #9 Posted by **Bruce Bergman** on 17 July 2007, 5:52 p.m.,  
in response to message #7 by Randy*

Alibaba is a strange world, no doubt. They do serve a legitimate purpose, but it is often hidden amongst scammers. I heard that at one time, they had a lot of "Transwarp Drives" and "Food Replicators" for sale if anyone was buying. I \*hope\* no one did. ;-)

thanks, bruce

**Re: It's raining calculators?**

*Message #10 Posted by [Namir](#) on 17 July 2007, 6:16 p.m.,  
in response to message #9 by Bruce Bergman*

Alibabba.com might as well be renamed robinHood.com!!!

Namir

**Re: It's raining calculators?**

*Message #11 Posted by [Randy](#) on 17 July 2007, 7:37 p.m.,  
in response to message #10 by Namir*

Anybody foolish enough to issue an irrevocable letter of credit or bank wire transfer to an Alibaba vendor selling HP whatever's deserves the most predicible result.

Robin Hood and his band of merry thieves in Sherwood Forest at least had no pretenses... they just wanted your money for nothing promised in return.

**Re: It's raining calculators?**

*Message #12 Posted by [james summers](#) on 18 July 2007, 4:18 p.m.,  
in response to message #11 by Randy*

Yes, unfortunately I think it's a case of if it sounds too good to be true it probably is!

Great pity though.

**Re: It's raining calculators?**

*Message #13 Posted by [Olivier \(Wa\)](#) on 23 July 2007, 12:18 a.m.,  
in response to message #7 by Randy*

Actually, I went ahead to get this business verified. Here is what my source reported about this Indonesian company:

<snip>

The company Thambah Kali Kurang Pt is not listed in Indonesia Area code does not exist in Indonesia Phone number is not listed Medan starts with 61 Our advice is stop all contact and don't do any business with this contact.

<snip>

If you're planning to do any business in Indonesia (!), check who you're dealing with first [here](#) .

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## HP Forum Archive 17

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### Comparison of HP-49G+ and HP-50

Message #1 Posted by [Corkey Smith](#) on 17 July 2007, 12:59 p.m.

I have been trying to get some detailed comparison of the HP-49G+ and the HP-50. I presently own the HP-49G+. What significant differences are there that would warrant purchasing an HP-50?

### Re: Comparison of HP-49G+ and HP-50

Message #2 Posted by [Dave Boyd](#) on 17 July 2007, 3:40 p.m.,  
in response to message #1 by [Corkey Smith](#)

Well, I don't know about "detailed", but:

The software improvements can be had in the 49G+ by upgrading the ROM to the latest version.

Improvements in the 50G hardware:

You may prefer the color scheme. Or not.

The 50G uses one more "AAA" cell, but that may not affect battery life much, depending on your usage. It's slightly heavier.

It can be powered from the USB port, so if you connect it to, say, your computer, you can use it all day with no battery drain.

The keyboard is as good, and possibly is better, than the last generation of 49G+. It's definitely better than any early 49G+.

It has a serial port for communication with specialized devices like GPS units for surveying, or any other use you may have, as long as you have the required, not-supplied, special non-standard cable. It's still better to use USB for communication with most computers.

In other respects, there's not much noticeable difference; no speed improvements, no more RAM or Flash, same size and quality screen, etc.

In short, if your 49G+ breaks, you can feel a bit better about replacing it with a 50G. If you don't need the serial port, then there's probably no pressing need to upgrade. This is, of course, a matter of taste, so you may decide differently.

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## HP Forum Archive 17

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**hp 11c trouble shooting**

Message #1 Posted by [Gerald Klitz](#) on 17 July 2007, 7:43 a.m.

Hello and good morning, after several years of flawless use my 11c is acting up. Somehow I managed to accedently hit the user key and the display continously flashes 0.0000 user, I have removed the batteries several times tried new batteries and a static discharge across the battery terminals via a paperclip and my 11c continues with 0.0000 user flashing in a rapid pattern and I can not turn the machine on or off. I use this 11c on an almost daily basic and would be lost without it, does anyone on this forum know how to correct this problem.

Gerald Klitz

**Re: hp 11c trouble shooting**

Message #2 Posted by [Mike Ingle](#) on 18 July 2007, 1:03 a.m.,  
in response to message #1 by Gerald Klitz

With power off, hold down ON. Press and hold - (subtract.) Release ON. Release -. It should say "Pr Error."

Now turn it off and do same sequence with X (multiply) instead of subtract. It should say running then light all segments, meaning the calculator is good.

Test the keyboard: turn off, ON and divide, then press all keys left to right then top to bottom, pressing Enter once in each row. It should display 11 at the end.

Mike

**Re: hp 11c trouble shooting**

Message #3 Posted by [Mike Ingle](#) on 18 July 2007, 1:04 a.m.,  
in response to message #1 by Gerald Klitz

If you cannot turn it off, leave the batteries out overnight and make sure no keys are stuck down.

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## HP Forum Archive 17

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### HP-35s: Do you see what I see?

Message #1 Posted by [Miguel Toro](#) on 17 July 2007, 9:01 a.m.

I was looking to the post about the case and finally, when I could take off my sight of those beautiful eyes (ahem...) I noticed that there is something written just at the botton of LCD screen (see the second picture). Does anybody know what it is?

#### Case link

Compare with this [other picture](#) where there is nothing.

Gene?

*Edited: 17 July 2007, 9:17 a.m.*

### Re: HP-35s: Do you see what I see?

Message #2 Posted by [Gene Wright](#) on 17 July 2007, 10:01 a.m.,  
in response to message #1 by Miguel Toro

I don't know what that is. It may be some special engraving, since I think that unit was given as a prize at the Calculator Video awards last week by HP.

It isn't on mine.

### Re: HP-35s: Do you see what I see?

Message #3 Posted by [Ren](#) on 17 July 2007, 11:35 a.m.,  
in response to message #1 by Miguel Toro

20070717

It might be reflections, the second picture appears to have a lot more light dumped on it.

Ren dona nobis pacem

### Re: HP-35s: Do you see what I see?

Message #4 Posted by [Bruce Bergman](#) on 17 July 2007, 11:46 a.m.,  
in response to message #1 by Miguel Toro

Wow, good eyes!! :-) I would never have noticed that...

It does seem like there is something there. Something related to the HP conference would make sense (I wondered how Tim got that calc early!), but could it possibly say <...gasping, holding breath...>

"Continuous Memory"

?? :-)

thanks, bruce

**Re: HP-35s: Do you see what I see?**

*Message #5 Posted by [Paul Brogger](#) on 17 July 2007, 11:52 a.m.,  
in response to message #1 by Miguel Toro*

I think it reads one of the following: "My other calculator is a 42s!"

(Smiley considered unnecessary.)

**Re: HP-35s: Do you see what I see?**

*Message #6 Posted by [Maximilian Hohmann](#) on 17 July 2007, 11:58 a.m.,  
in response to message #5 by Paul Brogger*

Hi!

Quote:

\_\_\_\_\_  
"My other calculator is a 42s!"  
\_\_\_\_\_

To me, it rather looks like "Real cacluators don't use liquids of any kind"

Greetings, Max

**Re: HP-35s: Do you see what I see?**

*Message #7 Posted by [Chuck](#) on 17 July 2007, 12:03 p.m.,  
in response to message #6 by Maximilian Hohmann*

I think Tim posted more photos. Here's what it says:

"Celebrating 35 Years"

Go back to the original link in the first post for more photos.

*Edited: 17 July 2007, 12:19 p.m. after one or more responses were posted*

**Re: HP-35s: Do you see what I see?**

*Message #8 Posted by [Antonio Maschio \(Italy\)](#) on 17 July 2007, 12:18 p.m.,  
in response to message #7 by Chuck*

404 error for your link!

**Re: HP-35s: Do you see what I see?**

*Message #9 Posted by [Chuck](#) on 17 July 2007, 12:21 p.m.,  
in response to message #8 by Antonio Maschio (Italy)*

I noticed that too after I posted. Not sure why there's a 404. The link in the original post has the additional photos.

**Re: HP-35s: Do you see what I see?**

*Message #10 Posted by [Maximilian Hohmann](#) on 17 July 2007, 12:37 p.m.,  
in response to message #8 by Antonio Maschio (Italy)*

Hi!

Quote:

404 error for your link!

Just reload the page several times and eventually the image will appear, it shows a 35S with a gorgeous two-line dot-matrix LED display :-). I already ordered mine, it costs only 10 Dollars more!

Greetings, Max

**Re: HP-35s: Do you see what I see?**

*Message #11 Posted by [Bruce Bergman](#) on 17 July 2007, 1:06 p.m.,  
in response to message #10 by Maximilian Hohmann*

Thanks for the extra pictures, Tim!

How funny to see Sam up there showing the 35s to the crowd. Reminds me of the big new product announcements at E3, with the executives bringing the place to a hush, and then boldly holding forth the newest new toy. ;-)

Maybe we should razz Sam about it the next time we see him. ;-)

thanks, bruce

*Edited: 17 July 2007, 1:07 p.m.*

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## HP Forum Archive 17

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### Why is the HP 42s so expensive?

Message #1 Posted by [Seth Morabito](#) on 16 July 2007, 11:19 p.m.

OK, I give in! Why is the HP 42s so expensive on the used market? Prices between \$300 and \$400 seem to be very common on The Auction Site That Must Not Be Named. I've just been offered one for \$275, and honestly I'm sorry to say that I'm tempted, because anything that expensive must really be the bee's knees, right?

I've never used one -- I went straight to the 48SX -- so I'm at a loss. What makes the 42S worth so much? Are they really that good, or are they just inflated because people buy and sell them for the monetary value alone? (I prefer to use my calculators, rather than let them sit. They're only worth money to me if I find them a pleasure to use or play with)

### Re: Why is the HP 42s so expensive?

Message #2 Posted by [DaveJ](#) on 16 July 2007, 11:32 p.m.,  
in response to message #1 by Seth Morabito

Quote:

OK, I give in! Why is the HP 42s so expensive on the used market? Prices between \$300 and \$400 seem to be very common on The Auction Site That Must Not Be Named. I've just been offered one for \$275, and honestly I'm sorry to say that I'm tempted

Buy it, resell on The Auction Site That Must Not Be Named, then use the profit to buy a shiny new HP 35S or two.

Dave.

### Re: Why is the HP 42s so expensive?

Message #3 Posted by [Bruce Bergman](#) on 16 July 2007, 11:55 p.m.,  
in response to message #1 by Seth Morabito

Good question! First, the 42s was the successor to the VERY popular (and some would say, industry-changing) 41 family. It sort of brought the best of all worlds to a much smaller form factor, and I think the intention was (at the time) to be the "ultimate" calculator in every way. Those who wanted all of the power of the 41 family -- without needing the expansion capabilities -- were in heaven. It was also a serious scientific calc, highly programmable, fast and it looked great. So it appealed to almost everyone.

Some will probably say that the 42s was the peak of perfection for the classic HP calcs. The 48sx went a completely different way, so it was hard to compare the two families. A different programming model, a completely different display, different approach, etc.

Also, the 42s is much harder to find than the 48 family, of which there are still zillions on the market. Scarcity makes for higher prices.

My all-time, pick-only-one favorite calc is probably the 19c; it's just way cool in a nostalgic way for me. Yet even with that said, and even owning 20+ other HP calcs all the way up to current models, I still think the 42s is one of my most favorite calculators. I would venture to say that a lot of people feel the same way. That's one reason why they are so expensive and highly desired.

My \$0.02 anyhow. :-)

thanks, bruce

### **Re: Why is the HP 42s so expensive?**

*Message #4 Posted by **Howard Owen** on 17 July 2007, 1:31 a.m.,  
in response to message #1 by Seth Morabito*

The 41C is still very popular, judging by the numbers that get posted to the nite that must not be samed. The 42S is compatible with the 41C at the user code level. There are many, many more 41Cs out there than 42Ses. Perhaps those two facts account for the premium price the latter commands.

If you just want to see what all the hubub is about, without laying out a lot of cash, go get Free42. It's a very nice and faithful software implementation of a 42S that runs on an incredibly wide set of platforms. Admittedly, clicking buttons on your screen is quite different from pressing keys on a real calculator. But aside from that, Free42 can give you an accurate picture of what the 42 is like to program and use.

I'm in the camp that says the 42S was the zenith of RPN keystroke programmable calculators. I need to revisit this opinion in detail with the recent release of the 35S, but my gut feeling is that the 42S still retains the crown. Even so, the 42S wasn't *perfect*. The lack of external I/O other than printing was the biggest flaw. But the 42S is also 20 years out of date now, and it's age shows in the slow CPU, small screen and limited memory. I'm still waiting for the machine that the lineal descendant of the 42S would have been, if the line hadn't abruptly veered off into RPL. The very nice HP35S gives me some hope I may see that one day.

Regards,  
Howard

### **Re: Why is the HP 42s so expensive?**

*Message #5 Posted by **Walter B** on 17 July 2007, 1:39 a.m.,  
in response to message #1 by Seth Morabito*

Let me say the 42s

- contains the most RPN calculating power per volume (cm<sup>3</sup> or milli-pint or whatever unit you prefer),
- is comfortably programmable (alphanumeric display of steps, sufficient memory, alpha labeling),
- has a very clean and elegant keyboard (almost hiding its power, comparable to Apple's iPod),
- lives many months with one set of tiny batteries,
- and is still shirt pocket size.

It's the *\*only\** calc offering all this! Reasons enough for prices going high. Only the 27s and 32s (not sii!) present the same clean surface, but the 27s this is neither RPN nor programmable, and the 32s has less power in many ways. RPL calcs offer more power and a lot more features, but are too large (not for normal shirt pockets anymore), and way too complex even for many willing people of the community (as has been discussed here many times). Pulling out an HP42s in a meeting is understatement, doing the same with an HP48 would be the opposite.

IMHO the 42s would be a *\*perfect\** pocket calc even nowadays if it had I/O and a better LCD. Any further upgrades would be just the cream on top, as people say here.

HTH, Walter

### **Re: Why is the HP 42s so expensive?**

*Message #6 Posted by [Jeff O.](#) on 17 July 2007, 7:42 a.m.,  
in response to message #1 by Seth Morabito*

Have you read Valentin's [Long Live the HP42S!](#) article?

### **Re: Why is the HP 42s so expensive?**

*Message #7 Posted by [Les Wright](#) on 17 July 2007, 2:31 p.m.,  
in response to message #1 by Seth Morabito*

My first collector purchase last year was a 42S and I got really soaked on it--over \$300 for basically a field grade unit (name branding and a face plate that eventually needed flattening and regluing), but that included manual and box, which i am told drove up the price. It also works fine but I am forever disappointed with the wimpy display. I love Thomas Okken's Free42 and just had to have the real thing. I must confess I am glad I have the 42S as a collectible, but my main 42S work is actually done in Free42 on the computer or Palm--much faster, and there is I/O! I love the IDEA of the 42S, but I am just not in love with the real thing.

If that doesn't scandalize some here, I have a near mint 15C that I barely use. Just can't seem to get that fussed about it--and I paid a goodly sum for that too! I just can't get past the idea that, in benchmarking, it is so damn slow.

Let the indignant replies begin!

Les

### **Re: Why is the HP 42s so expensive?**

*Message #8 Posted by [Mike Morrow](#) on 17 July 2007, 2:32 p.m.,  
in response to message #1 by Seth Morabito*

I'm in the camp that considers the HP42S to be the best RPN calculator yet made. I bought my first HP (HP-67) in 1976, and I've collected some 30-odd other HP calculators in the interim, so I've used many HPs in the past 30 years. My 24-year old HP-41CX and 21-year old HP-15C don't come close to matching the functions contained in the HP42S, nor its speed (five times that of the HP41C or HP-15C) and precision.

Unfortunately I didn't decide I wanted one until 1997, two years after the HP42S was discontinued. Even then the HP42S was almost as unobtainable as it is today. I was really lucky to find two new units in stock at the nearby University of Alabama at Huntsville bookstore for \$114 each. They had been there unsold for four years, and had long dead batteries. You better believe I bought them immediately.

One of the best things about the HP42S is its full-spectrum support of complex number calculations. If a complex result is appropriate, it appears naturally. Try calculating the square root of -3, the arcsin of 1.5, the natural log of -5, etc. on most machines. The HP42S will return the appropriate complex domain answer.

The other thing I like is the ease of performing matrix operations.

These two categories of operations are far far easier on the HP42S, compared to the HP-41C or HP-15C. Complex number support of the HP32S, HP32SII, HP33S, and apparently the new HP35S is far inferior.

I have never found the 8K-byte RAM of the HP42S to be limiting in any practical sense. My largest program is a full-blown fourth-order Runge-Kutta differential equation solver, about 330 steps. I still have plenty of

RAM left with it and several other programs in residence.

Currently, the calculator I use most often is a HP49G+, whose capabilities far exceed the HP48GX and HP42S. But I much prefer programming in RPN on the HP42S, rather than the RPL of the HP49G+. I'd really like to have a HP50G type of machine that had a choice of programming models...either RPL or RPN.

Mike

### **Re: Why is the HP 42s so expensive?**

*Message #9 Posted by **Karl Schneider** on 23 July 2007, 4:35 a.m.,  
in response to message #8 by Mike Morrow*

Hi, Mike --

Good post (as well as those of Thomas Okken and others on this topic)...

Quote:

---

One of the best things about the HP42S is its full-spectrum support of complex number calculations. If a complex result is appropriate, it appears naturally. Try calculating the square root of -3, the arcsin of 1.5, the natural log of -5, etc. on most machines. The HP42S will return the appropriate complex domain answer.

---

A very good point. It should be noted that the user has a *choice* in the handling such calculations: Complex Result (CRES) mode will yield the primary complex-valued answer, whereas Real Result (RRES) mode will return errors. The HP-15C is similar, in which Flag 8 set corresponds to CRES mode, and Flag 8 clear corresponds to RRES mode. Gene Wright's article in Datafile indicates that the HP-35s does not have this sophistication.

Quote:

---

The other thing I like is the ease of performing matrix operations.

These two categories of operations are far far easier on the HP42S, compared to the HP-41C or HP-15C.

---

I also like the matrix-related functionality of the HP-42S better than any other model (especially the RPL-based models, with all those delimiters and the cluttered Matrix Editor), but certain things about the HP-42S were done better on the HP-15C:

1. The HP-42S allows a user to enter matrices into free RAM identified only by a stack-level dimension-only descriptor. From there, a user can then perform calculations and operations that destroy the painstakingly-entered matrices without an UNDO to recover them, if he did not save the matrices to a named variable beforehand. The HP-15C forces the user to specify a single-letter identifier for each matrix.
2. The lack of a name or letter identifier in the HP-42S matrix descriptor can cause confusion and erroneous results if the user is not careful. Only matrix addition is commutative, so the user's not remembering which input matrix is which, will be a problem.

On complex numbers, the HP-15C is almost as easy as the HP-42S, but a few functions and capabilities are not present. These include disassembly (RPL "C->R"), polar-mode calculations, and determinant of complex-valued matrices, among others. The HP-15C's display can show only one part of one complex-

valued number at a time, compared with *both* parts of *two* numbers at greater precision with the HP-42S.

-- KS

*Edited: 23 July 2007, 3:37 p.m.*

### **Re: Why is the HP 42s so expensive?**

*Message #10 Posted by **Thomas Okken** on 17 July 2007, 4:32 p.m.,  
in response to message #1 by Seth Morabito*

Previous respondents have already mentioned some of the reasons why people like the HP-42S, but there are still a few things missing in their replies. Here's my attempt at a eulogy:

1. The simplicity of RPN and keystroke programming. While not as flexible and powerful as the RPL language of the HP-28 and 48/49/50 series, RPN and keystroke programming are easy to learn, and you'll be able to write interesting short- to medium-size programs within days.
2. Fully supports the (unextended) HP-41C instruction set, including unlimited separate programs, multi-character alphanumeric labels, the ability to use any register as an index register (including the stack registers), lots of flags, and powerful loop control instructions.
3. On top of the HP-41C programmability, the HP-42S has named variables, which can be used to store real and complex scalars and matrices, and 6-character alpha strings; all stack registers can hold all of these data types as well. The use of named variables can make programs easier to read, and it also works with the INTEG and SOLVE commands, which use menus much like their counterparts in the RPL series.
4. While you can limit yourself to the HP-41C instruction set (HP-41C programs run without modification), by using the programmable menu and variable menu, you can spiff up your programs with self-documenting user interfaces -- and all of this is remarkably easy to learn and use.

This combination of features beats all other keystroke-programmable RPN calculators hands down, at least in terms of programming power. Nitpickers may point out the HP-42S' lack of I/O, and one or two areas in which the HP-15C's complex and matrix functionality are superior, but then you gradually move into the area of religious debate. ;-) )

- Thomas

### **Re: Why is the HP 42s so expensive?**

*Message #11 Posted by **Randy** on 17 July 2007, 7:47 p.m.,  
in response to message #10 by Thomas Okken*

Quote:

but then you gradually move into the area of religious debate

Gradually? Funny, I never though of micro and milli-second posting response times being a gradual thing :)

### **Re: Why is the HP 42s so expensive?**

*Message #12 Posted by **Jeff Kearns** on 17 July 2007, 7:44 p.m.,  
in response to message #10 by Thomas Okken*

You guys seem to have said it all.

Valentin's article on the Advantage ROM for the HP-41C series states that "you'll never, ever, look at 15C/42S users with "envious eyes" (or to any other model for that matter)". I tend to agree with this statement, however the 42S is a fantastic machine and worth acquiring at a reasonable price.

I 'almost' had a pristine 42S a couple of years ago; a secretary at work posted a lost and found message about a calculator. When I inquired, it was in fact a like-new 42S without a case that someone had left in a washroom of all places. She wouldn't give it up until a reasonable amount of time had passed to give the rightful owner a chance to reclaim it. I loved the interface and form factor of my 32Sii and really wanted that calculator! I offered to pay for it too.

I kept checking in with her periodically until a few months later when she proclaimed that a full year would have to go by until she could let me have it, just in case... Long story short: after a year had gone by, she told me that she had given it to her 13 year old son who didn't really understand it but wouldn't give it up, even for a top-of-the-line TI graphing calculator. Go figure.

I use the Free42 on occasion, but I am partial to the 41C (fully-loaded) and the 15C, despite their relatively slow speed compared to the 42S. The 15C is the one that got me through Mech Eng. Heck, for fast calculations, there is always the 49G+.

My recommendation is to buy that calculator. You will not regret it if you like HP calculators.

Regards,

Jeff

### **Re: Why is the HP 42s so expensive?**

*Message #13 Posted by [Howard Owen](#) on 17 July 2007, 9:33 p.m.,  
in response to message #10 by Thomas Okken*

Hear hear, Thomas.

The 42S is the absolute best of the programmable RPN models in terms of its breadth of functions and ease of programming. I just wish I could have one with unlimited memory that ran as fast as a modern PC. Oh.. wait.. 8)

Seriously, I kvetch about the lack of I/O and the slowness of the 42S, but I'm delighted to have mine. (It's one that can switch to "turbo" mode with a little hackery, so I get some of my speed need met.)

But I'm hard to please, so I keep wishing for a modern version. And as long as I'm at it, I wish for one whose design is driven by technical and aesthetic concerns, and not by the need to be a viable product in today's marketplace. At the same time, I wish this calculator were wildly popular, so that a large community of users would arise and bring back the glory days of the PPC, but with a GPL and web flavored modern twist.

It is all quite illogical. My id gets the better of me sometimes.

Regards,  
Howard

### **Re: Why is the HP 42s so expensive?**

*Message #14 Posted by [Les Wright](#) on 18 July 2007, 4:31 p.m.,  
in response to message #10 by Thomas Okken*

Thomas,

You modestly forgot to mention that Free42 does all of this, and faster, and more accurately thanks to the 25-digit internal precision in the Decimal version. Also, whenever, behaviour of Free42 departs from the real calculator, you fix it quickly when you learn of it.

I have been able to import piles of HP41 programs effortlessly from the Software Library. If they aren't in RAW format already, hp41uc will convert the text listing with no hassle. I can't remember the last time I keyed in a program of any substance into my real 42S.

Les

*Edited: 19 July 2007, 1:02 a.m. after one or more responses were posted*

### **Re: Why is the HP 42s so expensive?**

*Message #15 Posted by **Thomas Okken** on 18 July 2007, 6:25 p.m.,  
in response to message #14 by Les Wright*

Hi Les,

Quote:

\_\_\_\_\_  
You modestly forgot to mention that Free42 does all of this, and faster  
\_\_\_\_\_

Thanks for banging my drum for me. ;-) Of course I wrote Free42 because I like the HP-42S so much, but then again Free42 is not a calculator per se, just a piece of software that makes certain types of hardware \*act\* like a calculator, which is why I usually don't mention it when people start debating the merits of various HP models.

I'm actually very happy running Free42 on my Palm Z22, which gives me an HP-42S that is fast, has a ton of memory, and bidirectional I/O. Of course a touchscreen is not the greatest keyboard, but heck, for \$99 I have a nice calculator that also happens to be a fine PDA... And my real HP-42S rests safely in a drawer next to my equally unused HP-15C. :-D

- Thomas

### **Re: Why is the HP 42s so expensive?**

*Message #16 Posted by **Thor Larsen** on 18 July 2007, 1:42 a.m.,  
in response to message #1 by Seth Morabito*

Maybe the question should be, why is the HP15C so expensive? That really baffles my mind.

### **Re: Why is the HP 42s so expensive?**

*Message #17 Posted by **Walter B** on 18 July 2007, 1:58 a.m.,  
in response to message #16 by Thor Larsen*

Oh come on, please start a new topic :-)

### **Re: Why is the HP 42s so expensive?**

*Message #18 Posted by **Thor Larsen** on 18 July 2007, 2:36 p.m.,  
in response to message #17 by Walter B*

Are you the topic police? I feel my comment is within the topic of "expensive" machines therefore it does not require to start a new topic. And unless the moderator tells me otherwise I am going to leave it the way it is. But if you disagree you have a choice, just do not read it.

*Edited: 18 July 2007, 3:00 p.m.*

### **Re: Why is the HP 42s so expensive?**

*Message #19 Posted by [bill platt](#) on 18 July 2007, 3:13 p.m.,  
in response to message #18 by Thor Larsen*

Walter smiled .

### **Re: Why is the HP 42s so expensive?**

*Message #20 Posted by [Thor Larsen](#) on 18 July 2007, 3:44 p.m.,  
in response to message #19 by bill platt*

Sure... but it looked like a cynical smile to me.

### **Re: Why is the HP 42s so expensive?**

*Message #21 Posted by [Walter B](#) on 18 July 2007, 4:51 p.m.,  
in response to message #20 by Thor Larsen*

Thor,

reading it again, I must admit my short post may be misunderstood. What I wanted you to ponder is to start a new thread for your question about the 15C. Unfortunately, this is called a "new topic" right here on top of this forum as you can see.

Why a new thread or topic? Because Seth started this thread asking for the merits of the 42s, as indicated by the subject line. You were the first one leaving that track immediately. So my modest proposal was you start something new like "Why is the 15C so expensive?" or whatever else may describe your intentions best, using the structures this forum offers (and attracting the 15C camp to your question).

I did not plan to attack you -- in fact I was surprised by your reaction: Thor's hammer hit me ;-) BTW, I searched the web, but was unable to find an emoticon for "cynical smile". Please help. Hope I will remember I must be \*very\* careful with you next time ;-)

*Edited: 18 July 2007, 5:02 p.m.*

### **Re: Why is the HP 42s so expensive?**

*Message #22 Posted by [Howard Owen](#) on 18 July 2007, 8:02 p.m.,  
in response to message #21 by Walter B*

Quote:

BTW, I searched the web, but was unable to find an emoticon for "cynical smile".

I would say that a "cynical smile" would look something like a "crooked grin." So here are some suggestions:



8^\$

; - ?

0-0

~

\* \*

v

, - '

And so forth .. 8)

Regards,  
Howard

### **Re: Why is the HP 42s so expensive?**

*Message #23 Posted by [Thor Lansen](#) on 19 July 2007, 12:24 a.m.,  
in response to message #21 by Walter B*

Well, you are correct, according with The Unofficial Smilie Dictionary <http://www.charm.net/~kmarsh/smiley.html> your smile was not a cynical one but a sarcastic one ;-)

Seriously, I appreciate your clarification and I apologize for coming down a bit hard on you. I see your point on starting a new topic, I still feel my comment is in the right place for what I wanted to convey, i.e. if Seth was surprised about the 42s being expensive I was more surprised about the prices paid for the 15C.

Regards, Thor

*Edited: 19 July 2007, 12:29 a.m.*

### **Re: Why is the HP 42s so expensive?**

*Message #24 Posted by [Mike Ingle](#) on 18 July 2007, 3:53 p.m.,  
in response to message #16 by Thor Lansen*

The 42s, 15c, 41cx, and 67/97 were all top-of-the line at the time. Each one is the best of its class, and so is still desirable. The 15c does an impressive amount in a one-line, key-per-function design, and is an amazing example of doing a lot with scarce resources.

The 11C is a basic scientific calculator with a decent programming capability. The 15C is unique in what it can do.

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## HP Forum Archive 17

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### **The Manual of the HP-35S**

*Message #1 Posted by [Antonio Maschio \(Italy\)](#) on 16 July 2007, 12:24 p.m.*

To those who know:

where can I download the pdf manual of the HP-35S?

Thanks in advance.

-- Antonio

### **Re: The Manual of the HP-35S**

*Message #2 Posted by [Gene Wright](#) on 16 July 2007, 12:38 p.m.,  
in response to message #1 by Antonio Maschio (Italy)*

It is not available online yet (as of 7/16/07). I'm not sure why.

### **Re: The Manual of the HP-35S**

*Message #3 Posted by [Bob Wang](#) on 16 July 2007, 1:15 p.m.,  
in response to message #1 by Antonio Maschio (Italy)*

I thought the Manolo had started posting here ;-)

[Manolo's Shoe Blog](#)

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## HP Forum Archive 17

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### The Menus Of HP35S

Message #1 Posted by [Walter B](#) on 16 July 2007, 12:12 p.m.

To those of us who have the privilege of owning and playing around with an HP35S already:

- What are the menus of this new calc?
- What is the menu structure?
- Which commands are in which menu?

Thanks for any info in advance (just can't wait).

### Re: The Menus Of HP35S

Message #2 Posted by [Gene Wright](#) on 16 July 2007, 12:37 p.m.,  
in response to message #1 by [Walter B](#)

Here's what I can give you for now.

L.R. - Linear regression and estimation.  
x-bar, y-bar - Arithmetic mean of statistical x- and y-values;  
weighted mean of statistical x-values.  
s,sigma - Sample and population standard deviation.  
CONST - Menu of 41 physics constants.  
SUMS - Statistical data summations.  
BASE - Base conversions (Base 2, 8, 10 and 16).  
INTG - Sign value, integer division, remainder, greatest  
integer, fractional part, integer part.  
LOGIC - Logical operators for base-n numbers.  
FLAGS - Functions to set, clear, and test flags.  
x?y - Comparison tests of the X-and Y-registers.  
x?0 - Comparison tests of the X-register and 0.  
MEM - Memory status (bytes of memory available); catalog  
of variables; catalog of program labels.  
MODE - Angular modes and operation mode  
DISPLAY - Fixed, scientific, engineering, full floating point  
display; radix symbol options; complex number display.  
Roll Down - Allows review of the 4-level stack in ALG mode or in an EQN  
CLEAR- Functions to clear different portions of memory

### Re: The Menus Of HP35S

Message #3 Posted by [sjthomas](#) on 16 July 2007, 6:03 p.m.,  
in response to message #2 by [Gene Wright](#)

Gene, is there a Clear Stack (CLSTK) command?

### Clear commands (including a new one)

Message #4 Posted by [Gene Wright](#) on 16 July 2007, 6:27 p.m.,  
in response to message #3 by [sjthomas](#)

Yes, there is a clear stack, blue shift CLEAR 5.

The other clear commands are:

- 1 - CLx
- 2 - VARS (clears all lettered variables)
- 3 - ALL (prompts for a Y / N response)
- 4 - Sigma (stat variables)
- 5 - Stack
- 6 - CLVARx (prompts for a 3 digit number. Clears all indirect variable locations \*greater\* than the supplied prompt).

**Re: Clear commands (including a new one)**

*Message #5 Posted by [Bruce Bergman](#) on 16 July 2007, 6:55 p.m.,  
in response to message #4 by Gene Wright*

CLVARx. Interesting. I presume that's programmable too, eh? This would indicate to me that we would want to start putting near-temporary variables at the high end of the spectrum, and more permanent variables near the lower end of the bank. That way one could clear out the near-temporary variables in one sweep.

Can one store directly into some of the statistics variables?

thanks, bruce

**Re: Clear commands (including a new one)**

*Message #6 Posted by [Gene Wright](#) on 16 July 2007, 7:07 p.m.,  
in response to message #5 by Bruce Bergman*

Stat variables are indirect only, using -27 through -32 as the index.

Yes, CLVARx is programmable.

**Re: Clear commands (including a new one)**

*Message #7 Posted by [sjthomas](#) on 16 July 2007, 8:02 p.m.,  
in response to message #4 by Gene Wright*

Thanks!

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## HP Forum Archive 17

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### HP-35S vectors

Message #1 Posted by [Antonio Maschio \(Italy\)](#) on 16 July 2007, 6:14 a.m.

Hi, sorry if this has already been treated, but I've been away for a week and something happened in the meantime, and I didn't find an answer in the Forum.

About vectors, a 2D vector like

$[[a_{11}, a_{12}], [a_{21}, a_{22}]]$

is accepted? It's matrix, of course.

And is it admitted a division like

$[c_1, c_2] / [[a_{11}, a_{12}], [a_{21}, a_{22}]]?$

This would solve linear systems.

Sorry, I don't have a HP-35S to play with, and living in Italy only God (and some guys at HP) know when it will be available. And sorry again if this is quite a stupid question (not so for the HP-15C)

Greeting and good holidays!

-- Antonio

### Re: HP-35S vectors

Message #2 Posted by [Gene Wright](#) on 16 July 2007, 7:55 a.m.,  
in response to message #1 by Antonio Maschio (Italy)

Nope vectors cannot be nested and can only contain real numbers.

You can have:

$[ 3 , 4 ]$

and

$[ 5 , 6 , 7 ]$

No nested vectors and no complex numbers in vectors.

### Re: HP-35S vectors

Message #3 Posted by [Antonio Maschio \(Italy\)](#) on 16 July 2007, 8:39 a.m.,  
in response to message #2 by Gene Wright

So 2D and 3D mean  $[a_{11}, a_{12}]$  and  $[a_{11}, a_{12}, a_{13}]?$

And if I had a vector containing 10 elements?

-- Antonio

**Re: HP-35S vectors**

*Message #4 Posted by [Gene Wright](#) on 16 July 2007, 8:46 a.m.,  
in response to message #3 by Antonio Maschio (Italy)*

Vectors can only contain either 2 elements or 3 elements. If you have more than that, you cannot use the 2 dimensional or 3 dimensional vector abilities of the HP 35s.

**Re: HP-35S vectors**

*Message #5 Posted by [Walter B](#) on 16 July 2007, 8:50 a.m.,  
in response to message #3 by Antonio Maschio (Italy)*

Buon giorno Antonio,

AFAIK the 35s does only support real vectors with 2 and 3 components. In parallel, you may only solve simultaneous linear equations with 2 or 3 unknowns using its standard features. This is \*no\* full vector and matrix support like in HP42s. Remember the 35s shall be the successor of the 33s, 32sii and 32s (in reverse order), not of the 42s. So no way for your vector in 10-dimensional space-time. But you may try to program.

**Re: HP-35S vectors**

*Message #6 Posted by [Antonio Maschio \(Italy\)](#) on 16 July 2007, 10:51 a.m.,  
in response to message #5 by Walter B*

Of course...

Thanks, everyone.

-- Antonio

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## HP Forum Archive 17

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### HP-35S disassembly photos?

Message #1 Posted by [Scott Newell](#) on 15 July 2007, 7:42 p.m.

Has anyone opened up a 35S yet?

### Re: HP-35S disassembly photos?

Message #2 Posted by [Eric Smith](#) on 23 July 2007, 9:14 p.m.,  
in response to message #1 by Scott Newell

Yes. There are six screws: four in the battery compartment covered by round rubber plugs, and two under the wide rubber foot. After the screws have been removed, there are still four plastic catches holding the case together.

My good camera is dead, so I was only able to take photos using the terrible camera in my Treo 650 phone. I suppose that's slightly better than nothing. There are three photos [here](#).

The GeneralPlus microcontroller and the static RAM are both mounted chip-on-board under blobs of epoxy. I'd hoped that the SRAM might be a normal surface mount part, so that it might be possible to replace it with a daughterboard with the SRAM and a CPLD, to add some I/O capabilities. Oh well.

### Re: HP-35S disassembly photos?

Message #3 Posted by [Gelnn Graf](#) on 24 July 2007, 2:11 p.m.,  
in response to message #2 by Eric Smith

HP35s is beautiful outside and inside...

Here is an CT topogram image of the HP35s I took this morning



Glenn

### Re: HP-35S disassembly photos?

Message #4 Posted by [Walter B](#) on 24 July 2007, 5:27 p.m.,  
in response to message #3 by Gelnn Graf

FYI only, your tomogram doesn't show up here.

### Re: HP-35S disassembly photos?

Message #5 Posted by [Gelnn Graf](#) on 25 July 2007, 7:53 a.m.,  
in response to message #4 by Walter B

Yes, I did FTP the .jpg to hpmuseum and emailed the curator as documented. I guess it will show

up soon. I can email it to anyone directly if they are interested.

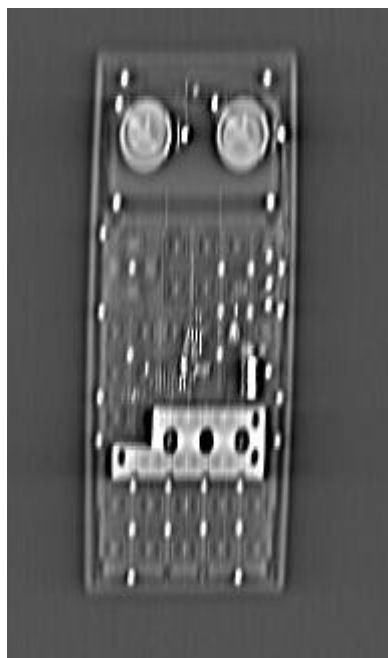
Glenn

**Re: HP-35S disassembly photos?**

*Message #6 Posted by [Gelnn Graf](#) on 26 July 2007, 7:17 a.m.,  
in response to message #5 by Gelnn Graf*

Ok here is an image of the HP-35S I took with a CT scanner.

I do see alot of screws or other mechanical fastners etc.



Glenn

**Re: HP-35S disassembly photos?**

*Message #7 Posted by [ECL](#) on 24 July 2007, 11:35 p.m.,  
in response to message #2 by Eric Smith*

It seems fitting that the 35s is so full of mechanical fasteners (screws). After all, it commemorates the 35 which if I'm not mistaken was designed to be repairable.

ECL

**Re: HP-35S disassembly photos?**

*Message #8 Posted by [Ren](#) on 25 July 2007, 10:25 a.m.,  
in response to message #2 by Eric Smith*

25 screws to hold the main PCB to the case...

(Sigh!)

Back when I was repairing Televisions, I composed a "rule of thumb"



"The cheaper a television, the more screws hold the back panel in place."

RCA's and Sony's used 4 screws, off-brands had as many as 14.

Ren

dona nobis pacem

### **Re: HP-35S disassembly photos?**

*Message #9 Posted by **Tony Duell** on 25 July 2007, 1:18 p.m.,  
in response to message #8 by Ren*

That reminds me of 'ARDs Law of DECSA Construction' (The DECSA -- Digital Equipment Communication Server Aparatus, or something like that -- was an early ethernet-X25/etc bridge, with a PDP11/24 CPU in the middle of it).

Anyway, the law states 'The lower the importance of a part of a DECSA, the more screws hold it in place'. It is illustrated by the fact that :

All the main PCBs plug in to the backplane without any fixing screws

The PSU(s) are held in by 2 screws each

The fan tray is held in by 4 screws

But the grille over the fan tray is held in by an amazing 28 screws (yes, I counted them all out and back again when I had to dismantle a DECSA for repair)

### **Re: HP-35S disassembly photos?**

*Message #10 Posted by **Eric Smith** on 25 July 2007, 5:26 p.m.,  
in response to message #8 by Ren*

The use of 25 screws is almost certainly because it significantly stiffens the case. If you remove most of the screws the case can flex much more. From the Woodstock series through the Pioneer series, the same thing was accomplished through the use of heat stakes. Apparently Kinpo must find it more cost-effective to use screws, though that seems counterintuitive, or they might want to be able to send an assembled calculator that fails final test back for rework, though that seems even less likely.

Given how many people in this forum have complained about heat stakes in the past, I'm surprised to find people now complaining about screws.

### **Re: HP-35S disassembly photos?**

*Message #11 Posted by **Walter B** on 25 July 2007, 6:21 p.m.,  
in response to message #10 by Eric Smith*

Eric, you're right: from our point of view as (more or less) educated users, screws are optimum. Nondestructive service becoming possible again after many years :)

### **Re: Screws vs. heat stakes?**

*Message #12 Posted by **Paul Brogger** on 26 July 2007, 11:23 a.m.,  
in response to message #10 by Eric Smith*

I wonder, would the choice of screws vs. heat stakes say something about the projected size of the 35s' production run? (Would the setup have been more expensive for heat stakes than it was for screws?)

Or how about the early units being put together with screws, with the option of converting to heat stakes at some point in the future?

With the chips encased in blobs of epoxy (or whatever), I doubt that much in the way of service is anticipated.

### **Re: HP-35S disassembly photos?**

*Message #13 Posted by **Ren** on 26 July 2007, 11:46 a.m.,  
in response to message #10 by Eric Smith*

Quote:

Given how many people in this forum have complained about heat stakes in the past, I'm surprised to find people now complaining about screws.

I'm not REALLY complaining, it was more of a smart-aleck observation.

Ren

dona nobis pacem

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## HP Forum Archive 17

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### Making new ROM-files for the 41

Message #1 Posted by [Geir Isene](#) on 15 July 2007, 5:11 p.m.

Is there a simple How-to on making new ROM files for the HP-41?

Specifically I would like to create a ROM file with my own FOCAL programs (for inclusion in a Clonic or NoVram).

### Re: Making new ROM-files for the 41

Message #2 Posted by [DavidMY](#) on 16 July 2007, 12:48 a.m.,  
in response to message #1 by [Geir Isene](#)

Hi: For creating a FOCAL ROM you need the SKD41 package. You should be able to get this on "the other site." This is the HP package for creating ROM code. Unfortunately, there is no "simple" guide because HP never really intended the package for the casual user.

The process is [1] create a text file of FOCAL code using your favorite text editor -> [2] compile the code to ROM -> [3] link the code and create the directory. But...the SKD code is DOS based so you'll need...a Microsoft OS.

Actually, I've been able to run the SKD applications from the WinXP command line [and even Vista Business] and under Linux using WINE/DOS emulation.

The package should also have the HP manual for the programs which you really need to read through because the whole process can be confusing. But this package was what HP supplied to those who wished to create commercial ROMs and it does work.

### Re: Making new ROM-files for the 41

Message #3 Posted by [Christoph Klug](#) on 18 July 2007, 1:58 a.m.,  
in response to message #2 by [DavidMY](#)

For creating an own individual HP41 Focal Rom containing your user code software applications use EMU41 in combination with the HP-IL / PC Interface Card.

Than you are able to transfer the software from your real HP41 to EMU41. On EMU41 side you are working with a virtual RAM-Box emulation and if needed with other virtual plug in modules like CCD.

By executing the RAM-Box commands (W&W or Eramco or MBK Profiset operating system) or Hepax commands you create your own ROM solution = transferring the program code from main memory into the RAM page (= MLDLRAM.DAT file of EMU41).

In the next step you are able to test your finished Focal ROM inside EMU41 – including HP-IL support if needed. In the last step you convert the finished 4KByte ROM to your target hardware like ZEPROM, Clonix, NoVRAM or RAM-Box.

More detailed information and helpful tips about creating user code software ROM image files you find in my paper "HP41 & EMU41 Uploading plug in module ROM image files" :

Appendix IV = creating a user code software ROM for EMU41 Appendix V = creating a user code software ROM for Clonix Appendix VI = creating a user code software ROM for Zeprom

Furthermore this document describes software tools for converting the MLDLRAM.DAT ROM image file into the different existing file formats like .lst / .rom / .bin and RAM-Box = Zeprom / Hepax / MBK Profiset :

Part III = generating a .bin file Appendix V = generating a .rom file for Clonix / NoVram Appendix I = ROM file conversion Hepax / RAM box Appendix II = ROM file conversion MBK Profiset / RAM box Appendix III = ROM file conversion .bin / .rom

The "HP41 & EMU41 Uploading plug in module ROM image files" document is available at HP-Museum and HPC webpage. By creating and using an individual programmed user code software ROM (= Focal ROM) you extend your HP41 system. Now you are able to execute really voluminously program applications compared to the limited main memory size.

When selecting the XROM number (increment part, running from 01 up to 31) make this compatible to the other plug in module XROM numbers, check your HP41 port configuration (do not double XROM numbers).

The FAT for an Focal ROM is limited to 63 entrees (= XROM number fractional part). Therefore avoid not needed Alpha LBL's in your program code and replace them by numerical LBL's. Because from any Alpha LBL of your program code result an FAT entry.

With help of the CCD Module you are able to activate different user keyboard assignments for operating your own program solutions....

Best wishes from Germany- Christoph Klug

## Re: Making new ROM-files for the 41

Message #4 Posted by [Miki Mihajlovic](#) on 21 July 2007, 1:41 a.m.,  
in response to message #1 by Geir Isene

I have a fairly simple and clean way of creating the ROM file from your own FOCAL programs. You need two pieces of software: Leo Duran's **hp41uc** and HP's **SDS-II**. You can get them both on TOS. If you have trouble finding them let me know and I can send it to you. Further, you need to make a .BAT file that looks something like this (example for geometry ROM):

```
rem convert .txt files into .bin files (ucc files)
hp41uc /t=cirtgnt.txt /b=cirtgnt.bin
hp41uc /t=distlns.txt /b=distlns.bin
hp41uc /t=gridall.txt /b=gridall.bin
hp41uc /t=gridisc.txt /b=gridisc.bin
hp41uc /t=lninsec.txt /b=lninsec.bin
hp41uc /t=pnttngt.txt /b=pnttngt.bin
hp41uc /t=ptsline.txt /b=ptsline.bin
hp41uc /t=sinplt.txt /b=sinplt.bin
hp41uc /t=tapers.txt /b=tapers.bin
hp41uc /t=vnotch.txt /b=vnotch.bin
rem convert .bin files into .41t files (these can be put into ROM image)
read41p -u cirtgnt
read41p -u distlns
read41p -u gridall
read41p -u gridisc
read41p -u lninsec
read41p -u pnttngt
read41p -u ptsline
read41p -u sinplt
```

```
read41p -u tapers
read41p -u vnotch
rem buid ROM image
build geometry.def geomtry
rem rename geomtry0.41r to geomtry0.ROM
```

and your definition file .def should look like this:

```
&ROM#=17,HEADER=GEOMETRY.1B,PRIVATE
CIRTGNT
DISTLNS
GRIDALL
GRIDISC
LNINSEC
PNTTNGT
PTSLINE
SINPLT
TAPERS
VNOTCH
```

where 17 is an XROM number that you choose.

*Edited: 21 July 2007, 1:43 a.m.*

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## HP Forum Archive 17

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### Samson Cables now Taking Orders for 35S

Message #1 Posted by [Les Wright](#) on 15 July 2007, 12:02 a.m.

[Click here](#)

Their price is 5 bucks off MSRP. And, for my fellow Canadians, they do ship to Canada, though the postage is pricey. Ship to Europe too!

Carl just wrote me to answer a shipping question and let me know they will start shipping on Tuesday.

Les

*Edited: 15 July 2007, 12:02 a.m.*

### Re: Samson Cables now Taking Orders for 35S

Message #2 Posted by [James M. Prange \(Michigan\)](#) on 15 July 2007, 12:17 a.m.,  
in response to message #1 by Les Wright

It's perhaps interesting that it shows "Retail Price: \$44.99", and "Our Price: \$54.99".

Regards,  
James

### Re: Samson Cables now Taking Orders for 35S

Message #3 Posted by [Les Wright](#) on 15 July 2007, 12:20 a.m.,  
in response to message #2 by James M. Prange (Michigan)

What's even more interesting is that when you place an order, as I just did, the price that comes up at checkout is \$52.99!!!!

I am assuming the webmaster made a typo some place. But I will gladly take it for the 53.

Les

### Re: Samson Cables now Taking Orders for 35S

Message #4 Posted by [Les Wright](#) on 15 July 2007, 1:58 a.m.,  
in response to message #3 by Les Wright

The pricing is now corrected. \$59.99 as the MSRP, \$52.99 as the Samson price.

Les

**Finaly ,there was a light at the end of the darknes!**

*Message #5 Posted by **Doctor Bubu** on 15 July 2007, 12:49 a.m.,  
in response to message #1 by Les Wright*

Hy Les!

Thank you for your information!

They will ship to germany. Halleluja. I ordered imideatly.

Greetings

Jürgen

### **Re: Samson Cables now Taking Orders for 35S (shipping everywhere!)**

*Message #6 Posted by **Walter B** on 15 July 2007, 1:06 a.m.,  
in response to message #1 by Les Wright*

Thanks, Les! I just ordered mine. At the present exchange rate of Euros to US\$, this will be a very reasonable price even including pricey shipping & handling. May it be with or without the webmaster's error of 2 US\$, it will be FAR MORE REASONABLE than any retail prices I expect in Germany.

Thanks again for the information, Les.

Best regards,

Walter

Edited P.S.: Just received the order confirmation based on 52.99 US\$ :-) So, I'm expecting to pay  $72.99^{2/100} = 53$  Euros :-) :-)

*Edited: 15 July 2007, 1:25 a.m.*

### **Re: Samson Cables now Taking Orders for 35S (shipping everywhere!)**

*Message #7 Posted by **Doctor Bubu** on 15 July 2007, 1:35 a.m.,  
in response to message #6 by Walter B*

Hallo Walter!

I am very impressed by your Patience!

How you can wait for weeks? ;-)

You have to be an real "Schwabe" ;-)

Greetings Jürgen

### **Re: Samson Cables now Taking Orders for 35S (shipping everywhere!)**

*Message #8 Posted by **Walter B** on 15 July 2007, 1:44 a.m.,  
in response to message #7 by Doctor Bubu*

Hallo Jürgen,

I did wait as long as you did! So, do you live in the same part of Germany? Though I'm looking

carefully at prices, I was not born in "Schwabistan".

Viele Grüße, Walter

**Re: Samson Cables now Taking Orders for 35S (shipping everywhere!)**

*Message #9 Posted by [Doctor Bubu](#) on 15 July 2007, 1:56 a.m.,  
in response to message #8 by Walter B*

Hi Walter!

I was born in the middle of Germany (Kohlenpott), but now i am married to a wife here, near Stuttgart and i dont want my wife to see my next MC invoice ;-)

Grüße Jürgen

**Re: Samson Cables now Taking Orders for 35S (shipping everywhere!)**

*Message #10 Posted by [Maximilian Hohmann](#) on 15 July 2007, 7:31 a.m.,  
in response to message #9 by Doctor Bubu*

Hello!

Quote:

... but now i am married to a wife here, near Stuttgart ...

Sounds familiar to me :-) We all should have ordered our hp-35s by collective order and saved a lot of money... Now I'll have to wait till they start appearing on eBay as I did with the 33s.

Greetings, Max

**Re: Samson Cables now Taking Orders for 35S (shipping everywhere!)**

*Message #11 Posted by [sjthomas](#) on 15 July 2007, 11:17 p.m.,  
in response to message #10 by Maximilian Hohmann*

Quote:

Now I'll have to wait till they start appearing on eBay as I did with the 33s.

Already there.

**Re: Samson Cables now Taking Orders for 35S (shipping everywhere!)**

*Message #12 Posted by [Les Wright](#) on 16 July 2007, 12:48 a.m.,  
in response to message #11 by sjthomas*

keep in mind that hpcalculators.com is the eBay side of Samson Cables. I think it is cheaper to buy direct.

**Re: Samson Cables now Taking Orders for 35S (shipping everywhere!)**



*Message #13 Posted by **Seth Morabito** on 15 July 2007, 5:59 p.m.,  
in response to message #6 by Walter B*

Guten Tag, Walter!

Congratulations on your purchase! Please let us know when it arrives in Germany -- I'm glad that our European friends will be able to get the 35s for a reasonable price instead of paying an outrageous markup. Especially now, with the Dollar so weak against the Euro, the European MSRP on HP calculators seems to be ridiculously high!

Tschüß! Seth

**Re: Samson Cables now Taking Orders for 35S (shipping everywhere!)**

*Message #14 Posted by **Thomas Radtke** on 16 July 2007, 3:15 a.m.,  
in response to message #13 by Seth Morabito*

Including shipping & taxes, the 35s will be about 70EUR. Thats what the 33s is about when bought over here.

**Re: Samson Cables now Taking Orders for 35S (shipping everywhere!)**

*Message #15 Posted by **Walter B** on 16 July 2007, 6:37 a.m.,  
in response to message #14 by Thomas Radtke*

Hallo Thomas, I pay considerably less. Please see [my post above](#).

Viele Grüße,

Walter

**Re: Samson Cables now Taking Orders for 35S (shipping everywhere!)**

*Message #16 Posted by **Thomas Radtke** on 16 July 2007, 8:07 a.m.,  
in response to message #15 by Walter B*

I got the same confirmation, Walter. Unfortunately, things have to go through cutoms. At least, that happend last time I ordered from a 3rd (not EU) Country. Dunno how much toll, but the 19% VAT have to be paid and there is no tax included on Samson Cables invoice. Am I wrong somewhere?

Viele Grüße,

Thomas

*Edited: 16 July 2007, 8:26 a.m.*

**Re: Samson Cables now Taking Orders for 35S (shipping everywhere!)**

*Message #17 Posted by **Walter B** on 16 July 2007, 8:54 a.m.,  
in response to message #16 by Thomas Radtke*

Let's wait and see.

**Re: Samson Cables now Taking Orders for 35S (shipping everywhere!)**

*Message #18 Posted by **Werner** on 17 July 2007, 11:53 a.m.,  
in response to message #16 by Thomas Radtke*

I don't know how things are in Germany, but in Belgium the situation is as follows:

- purchases over 22 EUR's worth are subject to VAT and import tax. Moreover, the postal service will charge you an extra 10 EURs because they have to present it to customs (... I'm pretty sure no other national postal 'service' charges a similar fee)
- \*gifts\* sent to you by \*friends\* are subject to the same regulation .. for items over 45 EUR.

Hello, friends!!

CHeers, Werner

### **Re: Samson Cables now Taking Orders for 35S (shipping everywhere!)**

*Message #19 Posted by **Les Wright** on 16 July 2007, 7:25 p.m.,  
in response to message #6 by Walter B*

We got the early bird special!

Price now showing as \$59.99 :)

Les

### **Early Bird Special**

*Message #20 Posted by **Walter B** on 16 July 2007, 8:05 p.m.,  
in response to message #19 by Les Wright*

:^)

### **Re: Early Bird Special**

*Message #21 Posted by **Gerson W. Barbosa** on 16 July 2007, 8:37 p.m.,  
in response to message #20 by Walter B*

A manifestation of the Offer and Demand Law or was the previous price tag just another typo?

### **Re: Samson Cables now Taking Orders for 35S**

*Message #22 Posted by **Thomas Radtke** on 15 July 2007, 6:08 a.m.,  
in response to message #1 by Les Wright*

Thanks a lot, just ordered mine :-).

### **Re: Samson Cables now Taking Orders for 35S**

*Message #23 Posted by **Gerson W. Barbosa** on 15 July 2007, 12:20 p.m.,  
in response to message #1 by Les Wright*

Thanks for the info, Les.

I had checked yesterday but it wasn't there. I've just ordered mine. Now let's see who's going to get it first :-)  
(I chose USPS Express Mail, not a smart option as I'll be away on vacations for one week...)

Regards,

Gerson.

---

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## HP Forum Archive 17

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### 48GX, TDS RAM Card, Low Batt Indicator

Message #1 Posted by [Ron G.](#) on 14 July 2007, 11:35 p.m.

When the TDS RAM card is put in the 48GX, the calculator indicates a low batter on the card (low batt P2). This is a card without a battery. The extra memory shows up on the calc, as expected.

Tried another to-battery TDS card, and there was no low batt indication. Can someone explain this to me? Many thanks.

### Re: 48GX, TDS RAM Card, Low Batt Indicator

Message #2 Posted by [James M. Prange \(Michigan\)](#) on 14 July 2007, 11:52 p.m.,  
in response to message #1 by Ron G.

Does it still show the low battery indicator with the card removed?

Do you mean a ROM card by any chance? If so, then maybe try a warmstart by holding down the ON key, pressing and releasing the C key, and finally releasing the ON key. If that doesn't help, you could try archiving user memory, then doing a user memory clear by holding down the ON key, pressing the A and F keys, then releasing first the F key, then the A key, and finally the ON key, and then pressing the NO menu key in response to the "Try To Recovery Memory?" message.

All RAM cards do have a battery, but I seem to recall that some cards use a non-replaceable battery, intended to last for the "life of the product". In other words, if you can't replace the battery in your RAM card, then it's lifetime is over.

Regards,  
James

### Re: 48GX, TDS RAM Card, Low Batt Indicator

Message #3 Posted by [Randy](#) on 15 July 2007, 10:51 a.m.,  
in response to message #1 by Ron G.

Quote:

\_\_\_\_\_

In other words, if you can't replace the battery in your RAM card, then it's lifetime is over.

\_\_\_\_\_

Not an accurate statement...

The later TDS and SMI cards that have internal batteries are charged by the GX when it is powered on.

Let your GX sit for a month or two without turning it on and you'll have the exact situation you just described.

The details from the TDS website: [HP48GX Memory card info](#)

*Edited: 15 July 2007, 10:52 a.m.*

---

**Re: 48GX, TDS RAM Card, Low Batt Indicator**

Message #4 Posted by **Ron G.** on 15 July 2007, 11:50 p.m.,  
in response to message #3 by Randy

Thank you. That's the information I needed.

---

**Re: 48GX, TDS RAM Card, Low Batt Indicator**

Message #5 Posted by **James M. Prange (Michigan)** on 16 July 2007, 12:51 a.m.,  
in response to message #3 by Randy

Thanks for the correction, and the link to the relevant TDS page.

It seems that the card's lifetime isn't really over until its rechargeable battery fails to take a charge.

Quote:

---

The later TDS and SMI cards that have internal batteries are charged by the GX when it is powered on.

Let your GX sit for a month or two without turning it on and you'll have the exact situation you just described.

---

And I expect that the same would happen if the card were removed for a month or two.

Does anyone know which type of rechargeable battery is used in these cards?

TDS's method of setting a repeating alarm to keep the calculator turned on is good, but I'd add that it would be better to use a "control alarm" (such as the program \<< DROP \>> for the "message" instead of a character string) instead of an "appointment alarm", so that it doesn't sound the beeper. Also, since the automatic turn-off on the 48 series seems to be 10 minutes, I'd set up the alarm to repeat every 599 seconds instead of every 299 seconds. One could also add a control alarm to delete the repeating alarm after 24 hours. I'd prefer to try running this recharging procedure starting with fully-charged NiMH AAA cells.

Regards,  
James

*Edited: 16 July 2007, 3:05 a.m.*

---

**Re: 48GX, TDS RAM Card, Low Batt Indicator**

Message #6 Posted by **James M. Prange (Michigan)** on 16 July 2007, 3:15 a.m.,  
in response to message #5 by James M. Prange (Michigan)

PS:

I wrote:

Quote:

---

... it would be better to use a "control alarm" (such as the program \<< DROP \>> for the "message" instead of a character string) instead of an "appointment alarm", so that it doesn't sound the beeper.

---

Better yet, go ahead and use an appointment alarm (any character string for the message), but set flag -57 (Alarm beep off). Flag -43 should be clear (Reschedule alarm), the default state, so that the unacknowledged repeat appointment alarms will actually be repeated.

Regards,  
James

---

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## HP Forum Archive 17

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**HP 35S's case**

Message #1 Posted by [Iqbal](#) on 14 July 2007, 10:44 p.m.

For those who haven't seen it, the case as as nice as the calculator.

<http://pssllc.com/mb/viewtopic.php?f=2&t=346>

**Re: HP 35S's case**

Message #2 Posted by [Walter B](#) on 15 July 2007, 1:13 a.m.,  
in response to message #1 by [Iqbal](#)

Very beautiful indeed! Both, of course ...

**Re: HP 35S's case**

Message #3 Posted by [Doctor Bubu](#) on 15 July 2007, 1:38 a.m.,  
in response to message #2 by [Walter B](#)

Hi Walter!

All three items i see are very beautifully. ;-)

Greetings Jürgen

**Re: HP 35S's case**

Message #4 Posted by [Walter B](#) on 15 July 2007, 1:48 a.m.,  
in response to message #3 by [Doctor Bubu](#)

Jürgen,

I did count calc & case as one. The 2nd beauty I was talking about isn't an "item" at all. Watch it!

**Re: HP 35S's case**

Message #5 Posted by [Doctor Bubu](#) on 15 July 2007, 2:06 a.m.,  
in response to message #4 by [Walter B](#)

Sorry for my bad english, you are absolutly right!

Jürgen

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## HP Forum Archive 17

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### 35s - how fast?

Message #1 Posted by [Thomas Radtke](#) on 14 July 2007, 5:00 a.m.

Sorry for abusing this noble forum once again for a 35s question: Has this machine been benchmarked already in terms of speed?

Thank you :-)

### Re: 35s - how fast?

Message #2 Posted by [Massimo Gnerucci \(Italy\)](#) on 14 July 2007, 5:29 a.m.,  
in response to message #1 by Thomas Radtke

Read through [Gene's review](#), in the last pages you'll find the answer... ;-)

Greetings,  
Massimo

*Edited: 14 July 2007, 5:30 a.m.*

### Re: 35s - how fast?

Message #3 Posted by [Thomas Radtke](#) on 14 July 2007, 5:36 a.m.,  
in response to message #2 by Massimo Gnerucci (Italy)

Stupid me, thanks a lot, Massimo!

Edit: My 32SII does the looping test in 15 seconds. Twice as fast as the 35s? I must have overlooked something.

*Edited: 14 July 2007, 5:43 a.m.*

### Re: 35s - how fast?

Message #4 Posted by [Eric Smith](#) on 14 July 2007, 2:25 p.m.,  
in response to message #3 by Thomas Radtke

The 33s and 35s use a GeneralPlus (formerly SunPlus) microcontroller with a 6502 core, which can run at up to 4 MHz, but is probably running slower in the calculator.

The 32SII used an HP Saturn core at about 650 KHz, if memory serves. The Saturn core was designed to do BCD arithmetic very efficiently; fixed point BCD addition or subtraction takes only a little more than one clock per digit, as does shifting. And of course floating point is performed in software by use of a lot of fixed point adds and shifts.

The 6502 takes many more cycles to do the same thing. It takes at least 3 cycles to do a binary add of a byte in memory to the accumulator, so to add two 15-digit floating point mantissas together (after



they've been aligned) will require a code sequence something like the following (which is completely untested), assuming that the operands and result are stored in zero page in packed form:

```

ADDM:   LDX #7
        CLC
L1:     LDA OP1,X
        ADC OP2,X
        STA OP1,X
        DEX
        BPL L1

```

That takes about 139 cycles on the 6502, while on the Saturn the equivalent takes about 19 cycles (with operands in the 64-bit processor registers).

Also, the 33s and 35s firmware is written mostly (or perhaps entirely) in C. The 6502 isn't a very good target architecture for C, so that doesn't result in efficient code. If the arithmetic routines are written in C, they may be much worse than hand-coded routines. In particular, the compiler is unlikely to infer the use of the 6502's decimal mode.

### Re: 35s - how fast?

Message #5 Posted by [Thomas Radtke](#) on 14 July 2007, 2:55 p.m.,  
in response to message #4 by Eric Smith

Thanks for giving some insights!

The museum [benchmarks](#) give more reasonable figures, so hopefully most meaningful applications won't run slower on the 35s than on the pioneer.

BTW, I have in mind implementing the error function which I often use and already implemented on the TI-59, PSION LZ and Sharp 1500 (the fastest!). At least, the 35s shouldn't evaluate it slower than the TI ;-)

### Re: 35s - how fast?

Message #6 Posted by [Andrés C. Rodríguez \(Argentina\)](#) on 15 July 2007, 2:50 p.m.,  
in response to message #4 by Eric Smith

There was an old saying which was more or less...

"Software becomes slower more rapidly than hardware becomes faster"

In this case, it is not only software, but also architecture (specialized vs. general purpose).

However, I like (mostly) the 35s, slow as it may be.

### Re: 35s - how fast?

Message #7 Posted by [hugh steers](#) on 17 July 2007, 6:44 p.m.,  
in response to message #4 by Eric Smith

hi eric,

the choice of the 6502 architecture i find perplexing. i understand that hp might not have had the luxury to change from the 33s, but that doesn't explain the 33s. the compiler point is important and i think that there are better choices than the 6502.

presumably there is not an ARM slow, cheap or low power enough to fit the bill. good compilers

were built for the old 8086 architecture which might make an alternative. dust down your old copies of turbo C, and return (const char FAR\*)FuManchu; well perhaps not.

but seriously, unless they're doing something really funky, i would expect the biggest limitation is a 64k address space. with 32k RAM, then you've only got 32K rom. this rules out adding a lot of extra function. which is why stuff might be missing already.

so better than segments might be our old friend the 68000, eg 16MHz dragonball like the palm had. flat architecture with mature compilers.

one thought; is there an architure licensing cost. for example is the 6502 now effectively free? when all others would require, at least some, license.

also, i had an idea about your ADD code.

Gene's article mentions 15 decimal internal precision and an 8 byte mantissa (without signs). if i had to write the code in C for the 6502 or something like that, i'd implement a base 100 decimal system with 2 digits per byte stored in binary. since without leveraging the decimal instructions of the 6502, arithmetic will be a shift and mask extravaganza or else write the math code by hand.

so with a base 100, you need a spare "padding" nybble that means 8 bytes gives you only 15 digits. which is what you've got, so maybe this is what they actually do.

im using the same idea in hplua but with base 10,000 each "digit" of 0 to 9999 stored in 16 bits. the idea is that i get to use 16x16->32 multiply and replace divide constants with inverted mul constants BUT the hit is that i waste 3 nybbles in this base. this isn't so bad because my floats are 16 bytes (compared to 35s 12 bytes). i also take a hit converting each 16 bit binary to and from decimal for IO, but this is not significant overall.

## Re: 35s - how fast?

Message #8 Posted by **Paul Dale** on 17 July 2007, 7:07 p.m.,  
in response to message #7 by hugh steers

Quote:

but seriously, unless they're doing something really funky, i would expect the biggest limitation is a 64k address space. with 32k RAM, then you've only got 32K rom. this rules out adding a lot of extra function. which is why stuff might be missing already.

If I'm remembering correctly, the address space is way over 64k. There was quite a bit of mask rom in the CPU.

Quote:

Gene's article mentions 15 decimal internal precision and an 8 byte mantissa (without signs). if i had to write the code in C for the 6502 or something like that, i'd implement a base 100 decimal system with 2 digits per byte stored in binary. since without leveraging the decimal instructions of the 6502, arithmetic will be a shift and mask extravaganza or else write the math code by hand.

There are more space efficient packing mechanisms for decimals:

<http://www2.hursley.ibm.com/decimal/dbover.html>. All part of the IEEE-854 compliant

decNumber library <http://www2.hursley.ibm.com/decimal>. The actual computations are carried out in base  $10^n$  (n defaulting to 3, again from memory), so things are still relatively fast.

Using 12 bytes for reals that would easily fit into 8 is bording on criminal. Using 37 bytes for each register is just wanton wastefulness :-)

- Pauli

### Re: 35s - how fast?

Message #9 Posted by [hugh steers](#) on 18 July 2007, 9:59 a.m.,  
in response to message #8 by Paul Dale

the idea of using 10 bits for 3 digits is denser than Packed BCD, as you've pointed out. but i don't think things would still be relatively fast. i would expect this to be slower than a PBCD implementation because its more complicated. for example, one of the mantissa digits is stored in the exponent.

nevertheless, it does get close to binary efficiency, ie 16 decimal digits for 8 bytes.

### Re: 35s - how fast?

Message #10 Posted by [Paul Dale](#) on 18 July 2007, 6:19 p.m.,  
in response to message #9 by hugh steers

Quote:

the idea of using 10 bits for 3 digits is denser than Packed BCD, as you've pointed out. but i don't think things would still be relatively fast. i would expect this to be slower than a PBCD implementation because its more complicated. for example, one of the mantissa digits is stored in the exponent.

Yes, of course, it must be slower than a pure PBCD implementation. In use, however, the performance loss doesn't seem to be such an issue. You unpack the numbers once, perform all your operations in what amounts to a PBCD format and repack at the end.

Quote:

nevertheless, it does get close to binary efficiency, ie 16 decimal digits for 8 bytes.

Yes, this was the bit that most surprised me. The packing is *\*very\** efficient and not too far from a pure binary equivalent. Plus it includes all the IEEE nicities like denormalised, NaNs, infinities and proper rounding.

Pauli

### Re: 35s - how fast?

Message #11 Posted by [Ed Look](#) on 17 July 2007, 1:53 p.m.,  
in response to message #1 by Thomas Radtke

Allow me to further the abuse-

I see there is no expandable memory capability on the 35S. So, can it be assumed still, as was the case on the 33S, that if one has too many programs, they might not all fit?

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## HP Forum Archive 17

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**TI-nSpire, first impressions**

Message #1 Posted by [Don Shepherd](#) on 14 July 2007, 12:52 a.m.

I attended a workshop this week for teachers on the new TI-nSpire calculator. Very impressive.

Here is a [picture](#).

Here is a [review](#) with screenshots.

**Re: TI-nSpire, first impressions**

Message #2 Posted by [Bruce Bergman](#) on 14 July 2007, 1:08 a.m.,  
in response to message #1 by Don Shepherd

Cool, Don -- thanks for the review!

Looks like an interesting calculator, but man, that keyboard is horrific! What a mess!

thanks, bruce

**Re: TI-nSpire, first impressions**

Message #3 Posted by [Maximilian Hohmann](#) on 14 July 2007, 7:09 a.m.,  
in response to message #1 by Don Shepherd

Hello!

Thanks for your report. After reading the report and looking at Ti's website, I fail to see any significant difference between the nSpire and the Ti89/Voyage 200, apart from the slightly larger greyscale display of the nSpire and the improved TiConnect software (hopefully also available for the Macintosh like the old one!).

Am I missing something?

Greetings, Max

NB: Anyway, I have no idea how a near-perfect calculator like the voyage 200 could ever be improved :-)  
(Well, two small items come to mind, a colorful OLED display and an Hp-logo...)

**Re: TI-nSpire, first impressions**

Message #4 Posted by [MacDonald Phillips](#) on 17 July 2007, 2:24 p.m.,  
in response to message #3 by Maximilian Hohmann

Quote:

\_\_\_\_\_  
Hello!

Thanks for your report. After reading the report and looking at Ti's website, I fail to see any significant difference between the nSpire and the Ti89/Voyage 200, apart from the slightly larger greyscale display of the nSpire and the improved TiConnect software (hopefully also available for the Macintosh like the old one!).

Am I missing something?

Greetings, Max

NB: Anyway, I have no idea how a near-perfect calculator like the voyage 200 could ever be improved :- ) (Well, two small items come to mind, a colorful OLED display and an Hp-logo...)

---

Yes, you are missing something. The TI-NSpire CAS does not have the ability to create TI-Basic programs. You can only create functions with the calculator.

Don

### **Re: TI-nSpire, first impressions**

*Message #5 Posted by [Namir](#) on 14 July 2007, 9:01 a.m.,  
in response to message #1 by Don Shepherd*

Don,

Cool report. Thanks for all the effort to post pictures and your notes. It looks like this machine has way too many buttons. I remember chatting with HP's Cyril about this issue in HHC2006 and he said he was curious about the rate of mechanical failure of the buttons in such a button-rich calculator. I share Cyril's curiosity.

I do plan to buy one though.

Namir

### **Re: TI-nSpire, first impressions**

*Message #6 Posted by [sjthomas](#) on 14 July 2007, 4:45 p.m.,  
in response to message #1 by Don Shepherd*

Thanks for the posting, but that thing is so butt-ugly, who cares what its functionality is!

### **Re: TI-nSpire, first impressions**

*Message #7 Posted by [StationEngr](#) on 14 July 2007, 10:18 p.m.,  
in response to message #1 by Don Shepherd*

It would be nice to see HP promote their products to the schools like TI does.

### **Re: TI-nSpire, first impressions**

*Message #8 Posted by [Jake Schwartz](#) on 15 July 2007, 8:23 p.m.,  
in response to message #7 by StationEngr*

I wonder if Saltire Software and Brian Maguire had anything to do with this machine, like they did with the Casio Classpad and the HP Xpander?

Jake Schwartz

**Re: TI-nSpire, first impressions**

*Message #9 Posted by [Don Shepherd](#) on 15 July 2007, 9:00 p.m.,  
in response to message #8 by Jake Schwartz*

Jake, I don't know, but here are a couple of [screenshots](#) from the "about" screen of the nSpire.

**Re: TI-nSpire, first impressions**

*Message #10 Posted by [Bruce Bergman](#) on 15 July 2007, 10:15 p.m.,  
in response to message #9 by Don Shepherd*

Hey Don, just a thought. It might be interesting to the crowd at HHC2007 if you were to present something comparing the Nspire and one (or more) of the HP calcs in terms of features, concepts, special functions, etc. I know there are quite a few folks in the group who are interested in the Nspire, and you probably have more knowledge of it than most of us, especially after three days in training.

Something to think about if you're coming out to San Diego this September!

thanks, bruce

**Re: TI-nSpire, first impressions**

*Message #11 Posted by [Ren](#) on 18 July 2007, 2:38 p.m.,  
in response to message #1 by Don Shepherd*

Judging from all those buttons, I wonder if it (originally planned, does, or will) text messages.

Let's see, if it has bluetooth or blackberry, it could be used for passing notes in class...

Ren dona nobis pacem

**Re: TI-nSpire, first impressions**

*Message #12 Posted by [Don Shepherd](#) on 18 July 2007, 2:59 p.m.,  
in response to message #11 by Ren*

Ren, I don't think it has any wireless capability. However, it does have a slot on the front bottom of the case that will accomodate that TI thingy that lets a teacher connect to all the students' calculators in the class, like the current TI-84's.

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## HP Forum Archive 17

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### 35s - fun algebraic tricks #2

Message #1 Posted by [Gene Wright](#) on 13 July 2007, 6:35 p.m.

Here's another type of fun algebraic trick that can be used in **\*\*RPN\*\*** programs.

Suppose you have a 3-digit positive number in X and you want to determine the "sum of the digits" of the number. The program below will do this and not destroy the stack!

LBL A

press EQN

```
RDMR(REGX,10)+RMDR(IDIV(REGX,10),10)+RMDR(IDIV(REGX,100),10)
```

RTN

The original stack is pushed to Y, Z and T. If you want to save Y, Z and T instead, then do a RDN after LBL A and change the RMDR line to point at REGT rather than REGX).

69 bytes used, but very handy to preserve the stack. I personally think these types of features will be very powerful in future programs.

RMDR is the remainder function, IDIV is integer division, and REGX is the way the 35s refers to the value in register X. REGT would point at the value in the T register.

When a function (like RMDR and IDIV) are presented in an algebraic context, it prompts the function name along with the open/close parentheses and a comma supplied (if needed to separate two arguments). To move across the comma to enter the second argument, you press the right arrow key. It's not hard to get used to at all. I'd better stop or this will be yet another learning module.

Gene

### Re: 35s - fun algebraic tricks #2

Message #2 Posted by [Les Wright](#) on 13 July 2007, 6:52 p.m.,  
in response to message #1 by Gene Wright

Gee, this is becoming a regular Nerds Anonymous meeting, isn't it? ;)

### Even better ...

Message #3 Posted by [Don Shepherd](#) on 13 July 2007, 7:08 p.m.,  
in response to message #1 by Gene Wright

```
sigma(i:0:log(n):1:mod(idiv(n:10^i):10))
```

Works for any length number.



---

**Re: Even better ...**

*Message #4 Posted by [Bruce Bergman](#) on 13 July 2007, 7:10 p.m.,  
in response to message #3 by Don Shepherd*

Don, I just KNEW I'd see you here in this thread. :-) :-)

thanks, bruce

---

**Re: Even better ...**

*Message #5 Posted by [Gene Wright](#) on 13 July 2007, 7:21 p.m.,  
in response to message #3 by Don Shepherd*

Hmm. Sigma doesn't seem to work on the 35s in equation mode. :-) Wish it DID, but...

---

**Re: Even better ...**

*Message #6 Posted by [Bruce Bergman](#) on 13 July 2007, 7:36 p.m.,  
in response to message #5 by Gene Wright*

What? I thought the 35s had the full solver functionality? Is that not true? Or has it been brain-downed?

thanks, bruce

---

**Re: Even better ...**

*Message #7 Posted by [Don Shepherd](#) on 15 July 2007, 7:25 a.m.,  
in response to message #6 by Bruce Bergman*

Bruce, I notice that Sigma is not available in the 33s, which is probably why it is not in the 35s.

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## HP Forum Archive 17

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### **My HP 35s arrives!**

Message #1 Posted by [Nenad \(Croatia\)](#) on 13 July 2007, 5:10 p.m.

Not really, but who will be the first one to announce this for real?

The competition is open. Let us wait and see.

### **Not since the iPhone, has a product been so eagerly anticipated.**

Message #2 Posted by [Paul Brogger](#) on 13 July 2007, 5:24 p.m.,  
in response to message #1 by [Nenad \(Croatia\)](#)

(Oh, I guess that wasn't all that long ago, now was it?)

The number of folks involved isn't *quite* the same, but the intensity of their (o.k., *our*) interest may surpass that engendered by the iPhone's release.

*Edited: 13 July 2007, 5:25 p.m.*

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## HP Forum Archive 17

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**The simplified 35s**

Message #1 Posted by [Gene Wright](#) on 13 July 2007, 3:39 p.m.

The strategy here was to minimize costs by reducing keys.

Way it would have worked is to push the button 1 time for a 1, 2 times for a 2...9 times for a 9, 10 times to add, 11 times to subtract...34 times for cosine, etc.

Development was halted when it was realized there was no way to input a zero using this approach.

[http://home.comcast.net/~genela/HP35S\\_one\\_button.jpg](http://home.comcast.net/~genela/HP35S_one_button.jpg)

Just kidding of course.

**Re: The simplified 35s**

Message #2 Posted by [Bruce Bergman](#) on 13 July 2007, 4:26 p.m.,  
in response to message #1 by Gene Wright

Zero? Maybe if you just didn't press anything for a while?? ;-)

**Re: The simplified 35s**

Message #3 Posted by [Paul Brogger](#) on 13 July 2007, 4:55 p.m.,  
in response to message #1 by Gene Wright

With a simple firmware change, it would be great for those users acquainted with Morse code. (That would presumably solve the "entering zero" issue, as well.)

You might consider a vocal interface. <<Wow! Idea: *Dial-a-calc*. Instead of the calculator "on" your cell phone, you simply dial 1-800-CAL-CULATE, speak in your values and operations, and have the results read back at you by a robotic voice.>>

Or maybe go the Wii route, and have people waving their calculator around as if they're swatting at hordes of invisible, flying insects. (That would do a lot for the public perception of the folks frequenting this site!)

*Edited: 13 July 2007, 5:13 p.m.*

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## HP Forum Archive 17

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### More 35s pictures

Message #1 Posted by [Gene Wright](#) on 13 July 2007, 3:37 p.m.

Thought you'd like to see the battery compartment:

[http://home.comcast.net/~genela/35s\\_battery\\_off.jpg](http://home.comcast.net/~genela/35s_battery_off.jpg)

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## HP Forum Archive 17

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### 35s, Global Labels, and GTO a program line from RUN mode

Message #1 Posted by [Les Wright](#) on 13 July 2007, 2:22 p.m.

I must admit I felt a twinge of disappointment to learn the 35s accommodated only 26 single character global alpha labels. I thought that this meant that only 26 user programs could be in the calculator at any one time.

On reflection I would like to suggest that the limitation is actually on the number of globally labelled program GROUPINGS, and that more routines than the limit of 26 are attainable are with a little ingenuity and admittedly a little hassle at the keypad.

For example, say that within the program grouping A there exist several smaller subroutines that function as programs in their own right, each ending with a RTN. Let's say one of them starts at step A025. Now lets assume the calc is in "run" mode. Is it not feasible to execute this subroutine directly as one can similarly on the 12c, with the keystroke sequence GTO .A025 R/S? Better yet, is it feasible save a few strokes and type XEQ .A025 directly in run mode? I hope that either of these strategies would execute the desired subroutine and stop at the appropriate internal RTN.

Gene, do you have any idea whether this is possible? It sort of is on the 33S, but since you need lettered labels even for internal branches and loops the strategy is pretty useless there. On the 35S it could be a great way to pack in lots of little programs. Of course, one would have to document their locations, etc.

Many thanks,

Les

*Edited: 13 July 2007, 3:59 p.m. after one or more responses were posted*

### Re: 35s, Global Labels, and GTO a program line from RUN mode

Message #2 Posted by [David Ramsey](#) on 13 July 2007, 3:21 p.m.,  
in response to message #1 by [Les Wright](#)

Quote:

For example, say that within the program grouping A there exist several smaller subroutines that function as programs in their own right, each ending with a RTN. Let's say one of them starts at step A025. Now lets assume the calc is in "run" mode. Is it not feasible to execute this subroutine directly as one can similarly on the 12c, with the keystroke sequence GTO .A025 R/S? Better yet, is feasible save a few strokes and type XEQ .A025 directly in run mode? I hope that either of these strategies would execute the desired subroutine and stop at the appropriate internal RTN.

Both strategies appear to work (GTO A025 R/S and XEQ A025); I just tried it.

### Re: 35s, Global Labels, and GTO a program line from RUN mode

Message #3 Posted by [Gene Wright](#) on 13 July 2007, 3:36 p.m.,

*in response to message #1 by Les Wright*

Hi. If you pull down the learning module showing the indirect register packing program, you'll see how this is used. The main store/recall routine starts at step 001, but the initialization routine starts at step 070.

There's also a program example of an indirect register sort routine in the main indirect register learning module. Granted, it is pretty bad as a sort goes, but hey...time was short!

Basically, the answer is yes, but I think it is a bit easier than you show.

The Matrix Utilities program to soon be published in Datafile has instructions like this:

"2 ) To execute routine "M1" – to interchange two rows, key the two row numbers (order is unimportant) into X and Y and press XEQ M001 or XEQ M ENTER. No stack registers preserved."

and

"3 ) To execute routine "M2" – to multiply row "i" by the constant "k," key "k" ENTER "i" and press XEQ M037. No stack registers preserved."

You do not need to type a decimal point if you wish to begin execution at a line number. No need for GTO . A025 R/S. Just type XEQ A then fill in the step prompt with 025 and execution will begin at program A, step 025.

The XEQ A ENTER shortcut was a good compromise rather than having to type XEQ A001 every time you want to start at step 001. At least, I hope people think that!

What I envision as one possibility is that a user might dedicate a label to be nothing but subroutines! Simply keep a list of where they start handy. Need another subroutine? Add it to the end of LBL S (for subroutines). Seems to work ok for me.

### **Re: 35s, Global Labels, and GTO a program line from RUN mode**

*Message #4 Posted by [Les Wright](#) on 13 July 2007, 3:58 p.m.,  
in response to message #3 by Gene Wright*

Happy me!

The 35s isn't available yet here in Canada, but my favourite distributor will have it and will get one too me soon. It may be a bit overpriced compared to the US MRSP, but not nearly as much as it will be in the UK and EU.

Les

*Edited: 13 July 2007, 4:01 p.m.*

### **Re: 35s, Global Labels, and GTO a program line from RUN mode**

*Message #5 Posted by [Miguel Toro](#) on 13 July 2007, 4:07 p.m.,  
in response to message #4 by Les Wright*

Please Les.

Could you tell me where to buy a 35s here in Canada or who is this distributor? Thanks in advance.

Miguel Toro

**Re: 35s, Global Labels, and GTO a program line from RUN mode**

Message #6 Posted by [Les Wright](#) on 13 July 2007, 4:21 p.m.,  
in response to message #5 by Miguel Toro

Larry at auctions@techcomm.ca. He is in Oakville, Ontario. Tell him I sent you!

**Re: 35s, Global Labels, and GTO a program line from RUN mode**

Message #7 Posted by [Miguel Toro](#) on 13 July 2007, 5:39 p.m.,  
in response to message #6 by Les Wright

Thank you! I'll do.

Salut! :-)

**Re: 35s, Global Labels, and GTO a program line from RUN mode**

Message #8 Posted by [Les Wright](#) on 13 July 2007, 6:49 p.m.,  
in response to message #3 by Gene Wright

You know this may be a reasonable combination of features--one can have in the same calculator something akin to the GSB line number of the 33E/C, and the GSB label we are well used to in the 11C/15C/33S/32sii/34C/etc.

Les

**Re: 35s, Global Labels, and GTO a program line from RUN mode**

Message #9 Posted by [Gene Wright](#) on 13 July 2007, 7:22 p.m.,  
in response to message #8 by Les Wright

It's actually very similar to the never released 95c.

[95c](#)

**Re: 35s, Global Labels, and GTO a program line from RUN mode**

Message #10 Posted by [Werner](#) on 17 July 2007, 4:07 a.m.,  
in response to message #3 by Gene Wright

Gene - I guess the 'renumbering' doesn't work across global lables? If program A contains a step GTO B123, and I add a line in program B \*before\* line 123 - is the reference in program A still updated?

Even if it is, it would make sense to have (say) label S set aside for Subroutines, in a table fashion:

S001 GTO S020 /\* first subroutine \*/ S002 GTO S110 /\* second subroutine \*/ S003 GTO S153 /\* and so on \*/ .. S020 <first subroutine> .. S110 <second subroutine> .. S153 <third>

Then you can call them using XEQ S001, XEQ S002 etc from other global labels. That way, you'll never have to remember the exact (often changing?) line number your subprogram currently starts from.

Cheers, Werner

## Renumbering works \*globally\*

Message #11 Posted by [Gene Wright](#) on 17 July 2007, 10:09 a.m.,  
in response to message #10 by Werner

Actually, the renumbering works across all labels. It really is VERY useful.

Example:

LBL A

GTO B005

RTN

LBL B

ENTER

ENTER

ENTER

1/x

RTN

and then you insert a SIN instruction before the previous B005 line 1/x.

The original LBL A instruction of GTO B005 is dynamically changed to GTO B006.

The HP 35s really does have a lot going for it.

And, I like your suggestion for structuring a subroutine global label better than I had done. It is certainly better to remember XEQ S002 than XEQ S058 or such.

I really think that a global label devoted to nothing but subroutines is in the future of serious programmers' HP 35s.

Great idea! and Great Job HP! (IMO, of course).

## Re: 35s, Global Labels, and GTO a program line from RUN mode

Message #12 Posted by [Paul Dale](#) on 17 July 2007, 4:43 p.m.,  
in response to message #10 by Werner

Quote:

Even if it is, it would make sense to have (say) label S set aside for Subroutines, in a table fashion:

```
S001 GTO S020 /* first subroutine */
S002 GTO S110 /* second subroutine */
S003 GTO S153 /* and so on */
.
.
S020 <first subroutine>
.
.
S110 <second subroutine>
.
.
S153 <third>
```



Then you can call them using XEQ S001, XEQ S002 etc from other global labels.

---

I too thought of this scheme and also an extension whereby the gotos are labelled with an equation on the previous line. I.e. you goto the initial even numbered steps of S and the previous odd steps include short descriptions of what each does. Helps jog an aging memory :-)

- Pauli

### **Re: 35s, Global Labels, and GTO a program line from RUN mode**

*Message #13 Posted by **Werner** on 18 July 2007, 4:06 a.m.,  
in response to message #3 by Gene Wright*

If you're going to store matrices in a general way in the indirect registers, it may be best to store a 'descriptor' of some kind (eg a 3D vector holding the number of rows, columns, and a status indicator (LU decomposed or not, matrix 'packed' or not, real/complex.. )) \*after\* the matrix data, to prevent the automatic reclaiming of trailing zeroes.

Werner

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## HP Forum Archive 17

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**HP-8s calcs available on eBay**

Message #1 Posted by [Bruce Bergman](#) on 13 July 2007, 1:20 p.m.

Tipster:

For those collectors out there, keep an eye on eBay if you want to snag an HP-8s calculator. I've had an eBay search running for almost a year on ANY kind of HP-8s calculator, but haven't had a single hit until this past week. The first hit I got, I went out and did a buy-it-now before I was half awake. ;-)

I've since seen two others pop up. Don't know if that'll continue, but if you want one of these strange calcs, I'd recommend starting a search and keeping your eyes open.

thanks, bruce

**Re: HP-8s calcs available on eBay**

Message #2 Posted by [Allen](#) on 13 July 2007, 1:35 p.m.,  
in response to message #1 by Bruce Bergman

I bought one a few weeks ago.. similarly surprised to see them for sale in Australia. Since they are not expensive, I would have bought one anyway just to complete the collection, but I'd recommend reserved expectations until you actually hold one and press the buttons.

IMHO both the manual and the actual hardware are fair at best. At least the 6S series was small...this one is capable with many scientific features, but is clearly aimed at the low price/low quality market in asia. That is to say this is the closest I have seen to TI. GRIN!

p.s. for the collectors: there is no easy way to remove the battery for long term storage. [CLICK HERE FOR CLOSEUP PICTURE](#)

<http://www.enterhp.com/images/8s-512.jpg>

**Re: HP-8s calcs available on eBay**

Message #3 Posted by [Gene Wright](#) on 13 July 2007, 2:00 p.m.,  
in response to message #2 by Allen

FYI. Learning modules are available for this on HP's Australia website for the HP8s.

[HP Australia web site](#)

**Re: HP-8s calcs available on eBay**

Message #4 Posted by [Bruce Bergman](#) on 13 July 2007, 4:19 p.m.,  
in response to message #2 by Allen

Written, no doubt, by a certain person who happens to be adept at that kind of thing. ;-)

thanks, bruce

*Edited: 13 July 2007, 4:20 p.m.*

### **Re: HP-8s calcs available on eBay**

Message #5 Posted by [Massimo Gnerucci \(Italy\)](#) on 14 July 2007, 12:13 a.m.,  
in response to message #2 by Allen

Quote:

p.s. for the collectors: there is no easy way to remove the battery for long term storage

Just loose the six screws on the back. At least that's what I remember I did since the two CR2032 are outside the calc right now...

BTW: I bought a second one a week ago but the seller is currently out of stock right now, I'll have to wait a couple of weeks.

Greetings,  
Massimo

### **Re: HP-8s calcs available on eBay**

Message #6 Posted by [Bruce Bergman](#) on 13 July 2007, 4:22 p.m.,  
in response to message #1 by Bruce Bergman

Allen wrote:

Quote:

> IMHO both the manual and the actual hardware are fair at best. At  
> least the 6S series was small...this one is capable with many  
> scientific features, but is clearly aimed at the low price/low  
> quality market in asia. That is to say this is the closest I have  
> seen to TI. GRIN!

Yeah, note that I didn't say the calc was all that GOOD -- I merely said it was available. ;-) I think it's definitely on par with the quality and uselessness of the 6s, but it definitely looks better and the keys actually depress, instead of float lightly beneath your finger.

I really wanted one just to say I had it, but it's fun to show around at work. :-D Besides, at \$15USD, it's a no-brainer.

thanks, bruce

*Edited: 13 July 2007, 4:24 p.m.*

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## HP Forum Archive 17

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**EMU71 (and EMU41) to go.**

Message #1 Posted by [Egan Ford](#) on 13 July 2007, 1:09 p.m.

The recent iPhone hype and Gene's quest for an RPN calculator got me thinking that I still do not have a usable calculator for my phone. Sure some exist, but so far they are pretty lame. I have looked in to porting Free42 and EMU48 to my Windows Mobile 5 Smartphone. But, it lacks a stylus, so some UI work has to be done and I just have not had the time.

I stumbled on PocketDOS and thought I'd give it a try. It works surprising well.

Screen shots:

<http://sense.net/~egan/pics/emu71.jpg>

My phone screen is just under 2" wide. 4.6cm to be exact. It can be hard to read even when the phone is not moving. Obviously this would be for emergency use.

There is a handy zoom function tied into the talk and volume control buttons, e.g.:

<http://sense.net/~egan/pics/emu71z2.jpg>

The zoom feature is nice for EMU41 since you really only need the left side of the screen, but you can shift to the right side if you need the reference page:

<http://sense.net/~egan/pics/emu41left.jpg>

**Amazing !! What about the speed ? [NT]**

Message #2 Posted by [Valentin Albillo](#) on 13 July 2007, 2:03 p.m.,  
in response to message #1 by [Egan Ford](#)

Best regards from V.

**Re: Amazing !! What about the speed ? [NT]**

Message #3 Posted by [Egan Ford](#) on 13 July 2007, 2:51 p.m.,  
in response to message #2 by [Valentin Albillo](#)

~1/2 of real 71B. I have not seen if there are any tuning options. It is battery friendly, that's a plus.

**Re: EMU71 (and EMU41) to go.**

Message #4 Posted by [Howard Owen](#) on 13 July 2007, 3:00 p.m.,  
in response to message #1 by [Egan Ford](#)

Woohoo! It looks great on my XV6700 in landscape mode:

<http://egbok.com/images/PocketDOS-EMU41.jpg>  
<http://egbok.com/images/PocketDOS-EMU71.jpg>

Great find, Egan!

Regards,  
Howard

## Re: EMU71 (and EMU41) to go.

Message #5 Posted by [Howard Owen](#) on 15 July 2007, 10:18 p.m.,  
in response to message #1 by Egan Ford

To get an idea of the relative performance of PocketDOS, I ran the following program on my real 41CX, EMU41 under Windows Vista on a 2GHz processor, and in PocketDOS running under Windows Mobile 5 on a 417MHz PXA270 in my VZ6700 phone.

```
001 LBL 'BENCH
002 1.999
003 STO 00
004 TIME
005 LBL 00
006 1.5
007 SIN
008 RDN
009 ISG 00
010 GTO 00
011 TIME
012 X<>Y
013 HMS-
```

The times I got:

| Calculator | Platform  | Turbo? | Time                   |
|------------|-----------|--------|------------------------|
| EMU41      | 2Ghz PC   | Y      | 1 second               |
| EMU41      | 2Ghz PC   | N      | 8 minutes, 17 seconds  |
| EMU41      | PocketDOS | Y      | 4 minutes, 36 seconds  |
| EMU41      | PocketDOS | N      | 14 minutes, 11 seconds |
| HP41CX     | Native    | -      | 12 minutes, 52 seconds |

So EMU41 running in turbo mode on an Xscale processor emulating an 80286 (presumably) is more than three times faster running this user code than the native 41C. Pretty impressive!

Regards,  
Howard

## Re: EMU71 (and EMU41) to go.

Message #6 Posted by [Egan Ford](#) on 16 July 2007, 5:20 a.m.,  
in response to message #5 by Howard Owen

Its emulating an 80186. Check for numerical accuracy. Eg.:

```
WINDOWS EMU71 RADIANS @ SIN(5) = -.958924274663
POCKETDOS EMU71 RADIANS @ SIN(5) = -.960189148053
```

PocketDOS is based on DOSBOX. DOSBOX does not have this problem. Both DOSBOX and PocketDOS have problems with EMU71 clock skew.

So far EMU41 does not appear to have a problem with numerical accuracy or clock skew. EMU41/accelerated on my phone is 1:1 to a 41CX.

---

**Re: EMU71 problem with PocketDOS?**

*Message #7 Posted by **J-F Garnier** on 16 July 2007, 7:16 a.m.,  
in response to message #6 by Egan Ford*

Emu71 and Emu41 run the HP ROM code, and don't rely on the host CPU floating point capabilities. You should get no differences between Emu71 running on Windows or Pocket PC, except if there is a serious bug in 80x86 emulation in PocketDOS.

Emu71 uses my Saturn emulation engine based on hand-written, highly optimized assembly language. It uses for instance the decimal arithmetic support of the 80x86, specifically the DAA and DAS instructions, that may be not fully or correctly implemented in PocketDOS.

Emu41 uses more "usual" C routines to implement the HP decimal arithmetic, and is less sensitive to the quality of the underlying 80x86 emulation.

Thanks, Egan, for this interesting test report!

J-F

---

**Re: EMU71 problem with PocketDOS?**

*Message #8 Posted by **Egan Ford** on 16 July 2007, 8:01 a.m.,  
in response to message #7 by J-F Garnier*

If you load the PDOS\_DOSBOX\_CPU.dll plugin the problem goes away. However it cuts the speed by half. Screen writes are slow. Clock skew still exists. No clock skew with EMU41. Any ideas?

Thanks.

---

**Re: EMU71 problem with PocketDOS?**

*Message #9 Posted by **J-F Garnier** on 16 July 2007, 1:12 p.m.,  
in response to message #8 by Egan Ford*

I don't know much about PocketDOS. My guess is that the plugin improves the 80x86 emulation accuracy, at the expense of lower speed.

In case of clock skew, especially if the emulation speed is less than the original HP71, you can try the Emu71 option /s : "emu71 /s".

J-F

---

**Re: EMU71 problem with PocketDOS?**

*Message #10 Posted by **Egan Ford** on 17 July 2007, 10:15 a.m.,  
in response to message #9 by J-F Garnier*

No difference in speed or clock skew. Not a big issue.

---

**Re: EMU71 (and EMU41) to go.**

*Message #11 Posted by **PocketDOS** on 17 July 2007, 4:59 a.m.,  
in response to message #6 by Egan Ford*

Dear Sir,

PocketDOS is not based on DOSBox at all. We have compiled the DOSBox CPU code into a plug-in DLL which can be loaded under PocketDOS. PocketDOS' own CPU emulator is less complex (and hence much faster) than DOSBox. We will investigate the DAA and DAS instruction implementation to see if there is a problem with them that would cause accuracy issues.

Thank you for your interest.

---

PocketDOS - Adds DOS compatibility to your Pocket Computer.  
<http://www.pocketdos.com>

**Re: EMU71 (and EMU41) to go.**

*Message #12 Posted by [Egan Ford](#) on 17 July 2007, 10:14 a.m.,  
in response to message #11 by PocketDOS*

Quote:

\_\_\_\_\_  
PocketDOS is not based on DOSBox at all. We have compiled the DOSBox CPU code into a plug-in DLL which can be loaded under PocketDOS.  
\_\_\_\_\_

Sorry, my misunderstanding.

Quote:

\_\_\_\_\_  
We will investigate the DAA and DAS instruction implementation to see if there is a problem with them that would cause accuracy issues.  
\_\_\_\_\_

Thanks!

---

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## HP Forum Archive 17

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### HP 35s Emulator Software

Message #1 Posted by [Richard Garner](#) on 13 July 2007, 9:45 a.m.

When the HP 33s came out HP also offered an emulator that teachers only could get. Will HP offer an emulator of the HP 35s as well? If it does I hope this time it will be available to everyone, not just teachers. I would think an emulator would be useful to everyone who owns one, not just for the very few who qualify.

### Re: HP 35s Emulator Software

Message #2 Posted by [Valentin Albillo](#) on 13 July 2007, 10:09 a.m.,  
in response to message #1 by Richard Garner

Hi, Richard:

Richard posted:

*"Will HP offer an emulator of the HP 35s as well? If it does I hope this time it will be available to everyone, not just teachers."*

Good luck with this. At the time, I did my best to try and get the HP33S emulator in order to be able to create programs for it and then write and publish articles featuring said programs, with the idea of ultimately making freely available a sizable amount of useful software for that newly introduced machine and provide some service to the community.

But, not being a teacher, it proved impossible. And of course there was no way I'd buy it, so the programs were never created and the articles about it were never written. A real pity, as I had so many useful self-developed math and engineering software for such machines as the HP-34C and the HP-67/97 which I intended to convert and upgrade for the HP33S and which might have proven useful to many ...

In other words, get a seat lest you'll tire of waiting for the "free-for-all" HP35S emulator.

Best regards from V.

### Re: HP 35s Emulator Software

Message #3 Posted by [Jeff O.](#) on 13 July 2007, 12:57 p.m.,  
in response to message #2 by Valentin Albillo

Quote:

\_\_\_\_\_

And of course there was no way I'd buy it..

\_\_\_\_\_

V.

Do you anticipate that you might buy a 35s? I'm sure that all of us who are eagerly purchasing one would love to see your self-developed math and engineering programs ported to it, if you were inclined to do so.



Best Regards

**Re: HP 35s Emulator Software**

Message #4 Posted by **Valentin Albillo** on 13 July 2007, 1:59 p.m.,  
in response to message #3 by Jeff O.

Hi, Jeff:

*"Do you anticipate that you might buy a 35s?"*

Yes, I'm taking affirmative actions to get hold of one as fast as possible, no matter the price, precisely for the very purposes you suggest below.

I know for certain that it would be better to wait for the the next revision, when most important bugs eventually discovered will have been removed and perhaps some physical aspects have been improved, but for the purpose of upgrading my existing software or creating new routines expressly for it, an allegedly bug-ridden, flea-ridden Mark 1 version will do.

*"I'm sure that all of us who are eagerly purchasing one would love to see your self-developed math and engineering programs ported to it [...]"*

Thanks a lot for your interest and kind words, that's exactly the idea. I couldn't do it for the HP33S as it was my intention because I was unable to get hold of the emulator despite repeated attempts, and I certainly wasn't purchasing one no matter what (or even accepting one as a gift) as I really dislike it and didn't want that thing in my home.

But the HP35S is entirely another matter so as soon as I can get one I'll finally be able to fulfill that goal of mine ( ... does this rhyme with "gold mine" ? Oh well ...)

Best regards from V.

**Re: HP 33s Programs**

Message #5 Posted by **Paul Brogger** on 13 July 2007, 2:06 p.m.,  
in response to message #4 by Valentin Albillo

V:

Send me an address, and I'll mail you a working 33s, if that'll help the community. I won't guarantee the latest display or bug-fixes, but it will be otherwise a perfectly functional example.

(Besides, its value has decreased somewhat, in light of recent developments!)

-- Paul B.

**Re: HP 33s Programs**

Message #6 Posted by **Jeff O.** on 13 July 2007, 3:27 p.m.,  
in response to message #5 by Paul Brogger

Paul,

While I certainly won't presume to speak for Valentin, I wondered if you overlooked his statement regarding the 33s:

Quote:

---

...and I certainly wasn't purchasing one no matter what (**or even accepting one as a gift**) as I really dislike it and didn't want that thing in my home.

---

(The bold emphasis is mine.)

Best Regards,  
Jeff

### **Re: HP 33s Programs**

*Message #7 Posted by **Paul Brogger** on 13 July 2007, 3:49 p.m.,  
in response to message #6 by Jeff O.*

Shows you how closely I read the other post.

My apologies for even suggesting such a thing.

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### HP 35s Press release

Message #1 Posted by **Howard Owen** on 13 July 2007, 6:29 a.m.

[http://www.hp.com/hpinfo/newsroom/press\\_kits/2007/mobility/nr\\_hp35s.pdf](http://www.hp.com/hpinfo/newsroom/press_kits/2007/mobility/nr_hp35s.pdf)

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## HP Forum Archive 17

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### Confusion On HP's Website

Message #1 Posted by **Walter B** on 13 July 2007, 1:44 a.m.

The 35s is available (and was so even [yesterday](#) already) as a small & medium business product, though not mentioned on [the page directly above](#). Look for the same calc as an home & home office product, and you'll find it [this way](#). Remember when you order: You are a small or medium business ;-)

*Edited: 13 July 2007, 1:48 a.m.*

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**35s Owner's Handbook**

Message #1 Posted by [Trent Moseley](#) on 12 July 2007, 4:09 p.m.

What's the quality of the 35s owner's manual? The same as the 33s or better?

tm

**Re: 35s Owner's Handbook**

Message #2 Posted by [Gene Wright](#) on 12 July 2007, 4:32 p.m.,  
in response to message #1 by Trent Moseley

386 pages, hopefully fewer errors. Hope it is online soon.

**Re: 35s Owner's Handbook**

Message #3 Posted by [Howard Owen](#) on 12 July 2007, 6:39 p.m.,  
in response to message #2 by Gene Wright

Quote:

386 pages, hopefully fewer errors. Hope it is online soon.

Written by someone we know, no doubt.

8)

Regards,  
Howard

**Re: 35s Owner's Handbook**

Message #4 Posted by [gene wright](#) on 12 July 2007, 6:53 p.m.,  
in response to message #3 by Howard Owen

nope, not me.

**Re: 35s Owner's Handbook**

Message #5 Posted by [Howard Owen](#) on 12 July 2007, 7:09 p.m.,  
in response to message #4 by gene wright

Too bad, you might have been able to slip us a review copy. 8)

Regards,  
Howard

**Re: 35s Owner's Handbook**

*Message #6 Posted by [David Ramsey](#) on 12 July 2007, 8:27 p.m.,  
in response to message #1 by Trent Moseley*

Sadly not spiral-bound...

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### Additional misc 35s notes

Message #1 Posted by [Gene Wright](#) on 12 July 2007, 3:36 p.m.

I do hope those interested will take the time to go through the learning modules on HP's site. However, there are a couple of things I'd like to point out.

1 ) The indirect data register packing program is really quite neat, if Jake and I say so ourselves. You allocate a number of indirect registers, which are initialized with 3-D vectors containing zeroes. To store a number into logical indirect register N, key the number, press ENTER key the register number N and XEQ the program label. To recall, simply enter N as a negative number. The other stack registers are preserved, so you can recall two numbers from the packed indirect registers sequentially and perform an operation on them. Why do this? Since indirect registers use 37 bytes EACH, using this program saves about 2/3 of that RAM for other uses.

2 ) The ability to use algebraic commands within RPN programs is really worth serious study by even the most diehard RPN-only programmer. For example, to multiply the value in X by 2 without losing the stack in a program, you can: perform a RDN, then the EQN REGT\*2 will do the trick. To enter the REGT instruction, press RDN after you are in equation mode and move the cursor over to point to the T register and press ENTER. Very handy. You can do many, many calculations in a single program line this way without altering the stack. Another example: the remainder function RMDR can be put on a program line as an equation/algebraic object so that RMDR(A+B-REGT,COMB(C,REGX)) would compute the result (of whatever that does) and keep the previous X, Y, and Z values in Y, Z and T. That's an amazing new ability to keep stack values.

3 ) Matrix functions? Not included. However, there's already an HP35s port of the M1 through M5 and BE and BX routines from the PPC rom. These matrix utilities can form the basis for a row reduced matrix program similar to the RRM companion program found in the PPC ROM manual. A determinant of a 28x28 matrix should be possible (but why would you want to try it?). If these programs were modified to use the indirect data packing approach mentioned above, even larger matrices could be worked on.

### Re: Additional misc 35s notes

Message #2 Posted by [Thomas Radtke](#) on 12 July 2007, 4:07 p.m.,  
in response to message #1 by Gene Wright

Sorry if this has been already answered somewhere: Are the keytop symbols painted?

### Re: Additional misc 35s notes

Message #3 Posted by [Gene Wright](#) on 12 July 2007, 4:30 p.m.,  
in response to message #2 by Thomas Radtke

Yes, they are painted. No injection moulding (and hasn't been for ages).

### Re: Additional misc 35s notes

Message #4 Posted by [hugh steers](#) on 12 July 2007, 5:39 p.m.,  
in response to message #1 by Gene Wright

thanks for the interesting review. its a pity there's no way to get programs on or off it like IR or SD/USB. presumably this has something to do with exam rules.

also, am i right in thinking that this now represents the only production keystone programmable scientific calculator?

*Edited: 12 July 2007, 5:40 p.m.*

### **Re: Additional misc 35s notes**

*Message #5 Posted by **Gene Wright** on 12 July 2007, 5:49 p.m.,  
in response to message #4 by hugh steers*

Might be no IO because of exams, might also be because of the model heritage this possesses (32s, 32s2, 33s series). Don't know.

As to whether it is the \*only\* one, depends on if the 33s is killed off. Don't know that either.

### **HP 35s I/O**

*Message #6 Posted by **Nenad (Croatia)** on 13 July 2007, 5:17 a.m.,  
in response to message #4 by hugh steers*

Please, do not misunderstand the opinion I would express below: with the exception of its I/O capabilities I find the present HP35s (hopefully, this is not a too strong expression) "simply beautiful".

IMHO, regardless of the HP35s programming capabilities, it is a big disadvantage not to have a possibility of programs input other than the keyboard. It would be much easier for me if I would be able to prepare the program implementing my favorite editor on a PC and somehow transfer it afterwards to my HP35s. If an USB cable were be required for this, the communication among the attendees of an exam (supposing that they are trying to cheat) would be prevented. The only thing a cheater can do, in such a "would be" situation, is to "cut and paste" a certain amount of text from the textbook into HP35s, forbidden on a closed-book-exam; but is this really the reason to omit I/O?

Another important issue is backup. OK, there is plenty of space in HP35s for many everyday necessary programs one could need, but what if I somehow lose what I have been entering for a long time? The reason may be a simple human error: somebody inexperienced presses some combination of "hard reset"; or similar.

Should we wait for HP35s+ or HP35sx: may be the same as HP35s, but with I/O?

### **Re: HP 35s I/O**

*Message #7 Posted by **Dave Johnson** on 13 July 2007, 10:52 a.m.,  
in response to message #6 by Nenad (Croatia)*

The next generation will be the HP-41S series -

Keystroke programming Unit conversion 48 style 42 menu style No CAS External Program Storage/Backup

Released on the 30th Anniversary of the 41C series - 2009!

So you will have to wait a bit longer...



**Re: HP 35s I/O**

*Message #8 Posted by **Walter B** on 13 July 2007, 11:06 a.m.,  
in response to message #7 by Dave Johnson*

I'd like to see a 42s+ to celebrate the 20th anniversary of the 42S in 2008 already. External I/O via USB or SD cards. Shape of keys taken over from 35s. LCD size 150% of 35s. Dot matrix considerably larger than 35s. Drafts of such a calculator have been shown here some times already.

*Edited: 13 July 2007, 11:09 a.m.*

**Re: HP 35s I/O**

*Message #9 Posted by **Dave Johnson** on 13 July 2007, 11:13 a.m.,  
in response to message #8 by Walter B*

Boy are you greedy!

**Re: HP 35s I/O**

*Message #10 Posted by **Gene Wright** on 13 July 2007, 11:55 a.m.,  
in response to message #8 by Walter B*

Dreams are fun.

Don't let them distract you from reality. :-)

**Re: HP 35s I/O**

*Message #11 Posted by **Jonathan Eisch** on 13 July 2007, 5:20 p.m.,  
in response to message #8 by Walter B*

Quote:

I'd like to see a 42s+ to celebrate the 20th anniversary of the 42S in 2008 already.

I dunno. We're getting a 35th anniversary 35, so shouldn't we expect a 42nd anniversary 42 in 2030? I think I'm going to hold out for a 71st anniversary 71B in 2055.

-Jonathan

Fortunately I've never used a 9100A.....

**Re: HP 35s I/O**

*Message #12 Posted by **Walter B** on 15 July 2007, 1:39 a.m.,  
in response to message #11 by Jonathan Eisch*

After all, all the parts necessary are available already: take the LCD of any HP graphic calc, the SD port of 49/50, key molds of 35s, even the keyboard PCB layout may be taken over from the 35s. It may need a bit longer housing for the higher LCD and larger batteries - not too time consuming. And an extended function set, of course. But, as one of my bosses used to say, "that's only software"! So, if the 35s will sell well, why not?

**Re: HP 35s I/O**

*Message #13 Posted by [Raymond Del Tondo](#) on 15 July 2007, 5:37 a.m.,  
in response to message #8 by Walter B*

The hardware seems to be there, see the reincarnation of the 17bII+ ...

Raymond

**Re: HP 35s I/O**

*Message #14 Posted by [Nenad \(Croatia\)](#) on 13 July 2007, 4:52 p.m.,  
in response to message #7 by Dave Johnson*

Quote:

\_\_\_\_\_

The next generation will be the HP-41S series -

\_\_\_\_\_

First time when I saw the photo of HP35s my first thought was: "This is a 21st century HP41".

---

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## HP Forum Archive 17

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### HP35s: just ordered mine!

Message #1 Posted by [Alain Mellan](#) on 12 July 2007, 1:37 p.m.

HP already takes order on the web site, and the shipping date is 7/17...

Can't wait!

-- alain.

### Re: HP35s: just ordered mine!

Message #2 Posted by [Dave.Johnson](#) on 12 July 2007, 1:39 p.m.,  
in response to message #1 by Alain Mellan

Same here, ordered 2, one for me and one for my son!

### Re: HP35s: just ordered mine!

Message #3 Posted by [Mark W Paris](#) on 12 July 2007, 1:40 p.m.,  
in response to message #2 by Dave.Johnson

Can you post the URL? The only thing I see says, "Coming soon Please check back soon."

### Re: HP35s: just ordered mine!

Message #4 Posted by [Seth Morabito](#) on 12 July 2007, 2:08 p.m.,  
in response to message #3 by Mark W Paris

Hello Mark,

I wasn't able to find an "add to cart" link either, until I went to the "Training and Modules" page.

The link to buy the calculator can be found here:

<http://h30094.www3.hp.com/product.asp?sku=3587762&pagemode=ca>

I've ordered mine! With some luck, it'll be here next week. If not, I can be patient (really!)

### Re: HP35s: Thanks -- that did it.

Message #5 Posted by [Paul Brogger](#) on 12 July 2007, 2:22 p.m.,  
in response to message #4 by Seth Morabito

(Imagine: impatiently waiting, strumming fingers on desk . . . )

And, re: talking to salespeople -- If I've got it right, these online orders are being taken as "pre-orders" by H-P's Medium & Small Business unit. (Or is that "Small & Medium"?) The salesperson

I talked to tossed that off as if it was a known quirk of that unit's operation.

But as far as the salesperson was concerned, there was no way I was going to buy one soon over the phone.

(So, thanks again for the link!)

*Edited: 12 July 2007, 5:14 p.m.*

**Re: HP35s: just ordered mine!**

*Message #6 Posted by **Howard Owen** on 12 July 2007, 2:44 p.m.,  
in response to message #4 by Seth Morabito*

Thanks for the link!

I've ordered my first one. If one pops up at a reseller close to where I am physically, I'll snag my second one there. Otherwise, I'll send them another full-price order via the link above.

Regards,  
Howard

**Re: HP35s: just ordered mine!**

*Message #7 Posted by **Mark W Paris** on 12 July 2007, 4:20 p.m.,  
in response to message #4 by Seth Morabito*

Hey Seth -- you are the man. Much thanks.

Actually, before you sent the URL, I called HP and spoke to a sales representative. I told him after going through several iterations of description, "A friend of mine told me I was able to buy it online." He responds, "Your friend is wrong."

Thanks again.

Mark

**Re: HP35s: just ordered mine!**

*Message #8 Posted by **Richard Garner** on 13 July 2007, 3:21 p.m.,  
in response to message #7 by Mark W Paris*

Shipping Date 7/18/07

Just for information purposes:

Hp 35s - \$59.99, 2 Day UPS Shipping - \$6.00, Arkansas Sales Tax - \$6.60, Total - \$72.59

**I can get no satisfaction!**

*Message #9 Posted by **Doctor Bubu** on 12 July 2007, 2:47 p.m.,  
in response to message #1 by Alain Mellan*

I was there and make my very best!

But there was no possibility to entry germany as the delivering country. :( Is there anybody who knows a way

out?

Jürgen Richter

**Re: I can get no satisfaction!**

*Message #10 Posted by [Thomas Radtke](#) on 12 July 2007, 3:31 p.m.,  
in response to message #9 by Doctor Bubu*

Sure. Wait until german dealers offer them at twice the money :-).

**Re: I can get no satisfaction!**

*Message #11 Posted by [Walter B](#) on 12 July 2007, 4:10 p.m.,  
in response to message #9 by Doctor Bubu*

Always the same: first they tell us something about free trade and globalization, then they want us to pay twice the original price :-)

**Re: HP35s: just ordered mine!**

*Message #12 Posted by [Fred Lusk](#) on 13 July 2007, 10:59 a.m.,  
in response to message #1 by Alain Mellan*

I couldn't stand up to the peer pressure. I ordered mine last night.

The 35s is nowhere near a replacement for my 42s, but it should make a better home calculator than the 32sii.

Fred

**Re: HP35s: just ordered mine!**

*Message #13 Posted by [ECL](#) on 13 July 2007, 12:21 p.m.,  
in response to message #12 by Fred Lusk*

Fred,

I'd be happy to take that crappy 32sii off your hands...will you be selling it?

ECL

**Re: HP35s: just ordered mine!**

*Message #14 Posted by [Fred Lusk](#) on 15 July 2007, 11:23 p.m.,  
in response to message #13 by ECL*

Sorry. The 32sii will remain part of my modest collection of 10 HP calcs, but now with the batteries out.

**Be sure to post the serial #'s of these early sales!**

*Message #15 Posted by [Ren](#) on 13 July 2007, 12:21 p.m.,  
in response to message #1 by Alain Mellan*

Okay,

Maybe it is not important, but when your new 35s's arrive, post a few of the early S/n's.

Walter B., What was the s/n of the baby's mobile? B^)

Ren dona nobis pacem

**Re: Be sure to post the serial #'s of these early sales!**

*Message #16 Posted by **Walter B** on 13 July 2007, 5:09 p.m.,  
in response to message #15 by Ren*

Ren, I'm *\*very\** sorry, but that baby isn't mine. I think you can imagine why I'm sorry... ;-)

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## HP Forum Archive 17

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### **This HP-41c doesn't work --- what next?**

Message #1 Posted by [Mark W Paris](#) on 12 July 2007, 12:34 a.m.

Hi all,

I've recently come into possession of a non-functioning 41c. I have read a good amount of the available online repair guides and I feel like I'm getting my head around the issues. But I'm stuck and would be happy to hear your considered advice.

I have disassembled the unit. It took me some time to realize that those two 0.15" nuts (!! ) screwed onto the lower CPU board posts were someone else's repair attempt. Both upper posts are cracked. The lower ones look alright (not cracked, that is) except for the threads cut by the 0.15" nuts. If you squeeze the two case halves together you can get the screen activated but it only (alas!) shows jibberish. Incidentally, the unit is in excellent cosmetic condition and the battery compartment, in particular, and contacts look very good.

I've considered rebuilding the upper posts and keeping the nuts on the lower ones to see if that would do it -- but I'm skeptical that it would. I would have thought that by squeezing the two case halves together (firmly but accurately) at the upper and lower post points I'd be able to see something sensible on the display when turning it on. Can anyone comment on this point? Shouldn't squeezing by hand do it?

The next step, I suppose, is to cut out the middle-man and just go ahead and solder wires between the pressure contacts. But this seems like some good amount of work. And, being a pessimist, I'm assuming the electronics are fried anyway.

My question is: does anyone know how to check the chips? Can't I use a digital multimeter to check point-to-point resistances or voltages and compare to a chart of expected values? I'm stabbing in the dark here, clearly. But I think there should be some way to do this.

Your advice and comments are most welcome. Let me know if I should try something else. (I'm hoping to fix it myself -- sorry FixThatCalc -- or chop it for parts.)

Thanks in advance.

Mark

### **Re: This HP-41c doesn't work --- what next?**

Message #2 Posted by [Randy](#) on 12 July 2007, 11:53 a.m.,  
in response to message #1 by [Mark W Paris](#)

Upper posts being cracked - that's usually no big deal unless the screws don't tighten.

The nuts on the lower posts wasn't a repair attempt, it was the original method HP used to secure the logic board to the keyboard. It worked quite well until you removed and installed the logic board several times - at which point the post threads would fail and the nuts would no longer hold the board tight enough to make proper contact. HP did have undersized nuts (they were usually gold in color) for these cases but ultimately they would strip too.

Quote:

Shouldn't squeezing by hand do it?

No, it usually will not work. The logic board has to make (IIRC) 28 connections to work... and you simply can't apply pressure in the correct places.

Quote:

The next step, I suppose, is to cut out the middle-man and just go ahead and solder wires between the pressure contacts

DO NOT DO THIS!!! It is absolutely the wrong thing to do. There is NEVER a good reason to do this. It's a horrible mess which makes your 41 non-modular thus preventing any further testing by simple board swapping.

Quote:

My question is: does anyone know how to check the chips?

Yes, it's called the Service ROM. It's the only way.

Quote:

I'm assuming the electronics are fried anyway

That is *\*VERY\** pessimistic.

Bottom line: Remove the logic board, clean both sides with isopropyl alcohol and dry well. Re-install and use the nuts to secure the logic board if they hold. If not, you'll need to fashion some spacers in place of the nuts in order to apply pressure to the board. Check the soldered connections between the keyboard and display driver, resolder any fractured joints.

You'll probably find it works...

*Edited: 13 July 2007, 2:49 p.m. after one or more responses were posted*

## **Re: This HP-41c doesn't work --- what next?**

*Message #3 Posted by **Mark W Paris** on 12 July 2007, 1:32 p.m.,  
in response to message #2 by Randy*

Hi Randy,

Thanks for the advice. And for setting me straight on the nuts.

You said: Bottom line: Remove the logic board, clean both sides with isopropyl alcohol and dry well. Re-install and use the nuts to secure the logic board if the hold. If not, you'll need to fashion some spacers in place of the nuts in order to apply pressure to the board. Check the soldered connections between the keyboard and display driver, resolder any fractured joints.

I can do the cleaning and reassemble. Just to be clear -- the "soldered connection b/w the k/b and display" are the 16 (I think) steel looking metal bars at the top of the calc, right?



I'll work on it tonight.

Another question -- any feelings about using cyanoacrylate to repair the posts?

Mark

**Re: This HP-41c doesn't work --- what next?**

*Message #4 Posted by **Randy** on 12 July 2007, 4:11 p.m.,  
in response to message #3 by Mark W Paris*

Yes, I was referring to the interconnects at the top edge of the keyboard.

Quote:

Another question -- any feelings about using cyanoacrylate to repair the posts?

Yes, definite feelings. Don't do it. It will not work and it is irreversible. IMO, there isn't one 41 repair that should be done with cyanoacrylates. In general, keep the stuff away from calculators, it's not suited to the task. Any and all 41 plastic repairs should be done with plastic model welding solvent. This is NOT the stuff found in hardware stores used to join plastic pipe. You'll find it in hobby shops, it is used to assemble styrene plastic models and is sold in small glass bottles. It's a clear liquid, you brush it on and hold the parts together for a minute, then let cure overnight. It's the only way to repair cracked posts. Any other adhesive will fail.

I have to mention again that if the upper post screws tighten, don't bother with repairing, at least at this stage of the game. Cracked posts are very common and do no harm, it's not causing the improper operation.

*Edited: 12 July 2007, 4:17 p.m.*

**Re: This HP-41c doesn't work --- what next?**

*Message #5 Posted by **Mark W Paris** on 12 July 2007, 9:27 p.m.,  
in response to message #4 by Randy*

Hi Randy --

Can't thank you enough for your astute advice. Turns out my pessimism was, as usual, unwarranted.

I checked the interconnects by moving them with the tip of my needle-nose pliers. Turns out that one of them was loose. Soldering it back in place did the trick. I guess this unit took a good tumble at some point.

The case exterior looks great but you can see scratches on the plastic under the feet where someone used metal (?!) to pry them up. No worries there really, I only mention it because it makes it obvious that someone has mucked around with this unit at some point. Point is, the screw-head seat in the upper left screw-hole has been cracked and some plastic has broken away -- I'm guessing from the mucker cranking down on the screw in a misguided effort to "fix" the unit. Any advice for rebuilding this screw-seat? Worse comes to worse I can use a washer but that'd be ugly.

Thanks again.

Mark

## **Re: This HP-41c doesn't work --- what next?**

*Message #6 Posted by **Randy** on 12 July 2007, 11:30 p.m.,  
in response to message #5 by Mark W Paris*

Virtually all 41's that have been serviced have scars under the feet where the pads got lifted with small screwdriver... yours is in good company.

It's pretty common for the screw seats to get busted out or at least cracked. It probably happened when the unit took a dive off a desk which was in all likelihood why the display connection was fractured. Make sure that little strip of black plastic goes back into place along the top edge of the display. That prevents the display from moving when the case is closed. Leave it out and you'll find lots more of the connections fractured in a few years - due to the display flexing the solder joints.

This is where the plastic solvent cement comes to the rescue. You might have to piece it together in two steps but they always go back together. Just be sure to not rush the job and give it a minimum of twenty four hours drying time before putting screw pressure on the seat. Don't trust the label on the bottle that says a few minutes is all that is required. The solvent has to completely evaporate for the repair to reach maximum strength.

## **Re: This HP-41c doesn't work --- what next?**

*Message #7 Posted by **Mark W Paris** on 13 July 2007, 11:50 a.m.,  
in response to message #6 by Randy*

Hi Randy,

I probably should have asked your hourly consultant rate before we got into this...thanks again for the help.

I didn't quite follow your last comments.

Quote:

-----  
This is where the plastic solvent cement comes to the rescue. You might have to piece it together in two steps but they always go back together. Just be sure to not rush the job and give it a minimum of twenty four hours drying time before putting screw pressure on the seat. Don't trust the label on the bottle that says a few minutes is all that is required. The solvent has to completely evaporate for the repair to reach maximum strength.  
-----

I understand about giving the solvent ample time to cure -- I'm in no rush. But what are the "two steps" that you refer to?

My conceptual difficulty here is that the broken out screw seat appears to require significant reconstruction. If the seat were exposed, like a post, I think I could manage it (if I could figure out somewhere to get some (same color?) filler plastic and melt it down with some solvent...). But this screw-seat here is in a recessed hole. And to complicate matters, the cracked out part isn't exposed from the backside either. Any advice? (I could send a pic if my description is lacking.)

Mark

**Re: This HP-41c doesn't work --- what next?**

*Message #8 Posted by [Randy](#) on 13 July 2007, 2:46 p.m.,  
in response to message #7 by [Mark W Paris](#)*

I think I understand...

The bosses are exposed, from the inside of the case. I had assumed you had removed the port i/o block... I forget that sometimes they can seem as though they are one with the case bottom, but they're not. Remove the four port fillers or any modules and you should be able to lift the block off the case.

If the block is stuck in place, use a small flat screwdriver slid in from the module side under one corner of the block. Work the screwdriver over to middle and twist the screwdriver such that it lifts the block up and off the four retainers. It may give way with a loud snap but it should be okay, it had just fused itself to the retainers.

Once the block is out, it will expose the bosses and you should be left with the broken out pieces and the proper side to repair from. With the new perspective, all should be self-evident.

**Re: This HP-41c doesn't work --- what next?**

*Message #9 Posted by [Mark W Paris](#) on 19 July 2007, 5:48 p.m.,  
in response to message #8 by [Randy](#)*

Randy -- I haven't gotten a chance to follow your good advice. I'll have to get to it after vacation. Thanks, again. -Mark

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## HP Forum Archive 17

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### HP35s announced ... lots of detail inside (edited)

Message #1 Posted by [Gene Wright](#) on 12 July 2007, 9:20 a.m.

The HP 35s is finally announced! I've been using it for months and really like this new model.

On the HP 35s webpage found at [www.hp.com/calculators](http://www.hp.com/calculators), there are 55 learning modules for your download.

HPCC.org has graciously put up a link to my review of the HP 35s that appears in their special HP 35s Datafile issue which you can read/download on their website here:

<http://www.hpcc.org/datafile/V26Special/the35s.pdf>

Be sure to check out the review and all the other goodies in the special HP 35s issue of Datafile. Join now! :-)

Highlights of the HP 35s:

- \*\* Two index registers, regular variables I and J. Dedicated i register is gone.
- \*\* 801 indirect registers plus 32 other registers (A through Z and stat registers).
- \*\* Indirect registers dynamically allocated based on highest non-zero value containing indirect register.
- \*\* Each indirect register allocated uses 37 bytes of available program memory.
- \*\* Index values of 0 through 800 reference the indirect registers.
- \*\* Index values of -1 to -26 reference A through Z.
- \*\* Index values of -27 to -32 access stat registers.
- \*\* The index registers are no longer in the middle of the address space as on the 33s.
- \*\* 26 global labels with dynamic line number GTO and XEQ instructions.
- \*\* Transfer execution to any line number within any program.
- \*\* Add / delete a step and the GTO/XEQ instructions renumber themselves appropriately.
- \*\* They keep pointing where you want them to point.
- \*\* Programs "limited" to 999 lines per label now. A001 through A999, B001 through B999, etc.
- \*\* Since each program line uses at least 3 bytes, 1000 lines equals 3000 bytes. 26 labels x 3000 bytes is more than available memory.
- \*\* 20 subroutine levels now available.
- \*\* The stack can hold 4 full complex numbers.

- \*\* 2-D and 3-D vectors as a new data type.
- \*\* The stack can hold 4 vectors, 2-D or 3-D.
- \*\* No direct P->R or R->P conversions. Change display mode instead. Polar parts can be separated.
- \*\* Equations no longer limited to 255 characters.
- \*\* Ability for non-destructive editing of equations using left cursor.
- \*\* New LOGIC functions work on base-N numbers. OR, NOR, NOT, AND, XOR, NAND
- \*\* Algebraic mode equation/stack "tricks" work in RPN mode providing very useful stack methods.
- \*\* A program line of REGTxREGZxREGYxREGX will find the product of all four stack registers and store the result in X. Only T would be lost.
- \*\* If you roll the stack down, the program line of REGTx2 will double the value previously in X without losing any stack levels.
- \*\* Learning module available allowing for 2400 real numbers to be stored/recalled in indirect registers using 3-D vectors. Stack is preserved by this program. Shows many techniques for creating, modifying values in vectors and the indirect registers.
- \*\* Datafile article available showing program for translated PPC ROM matrix utilities programs M1, M2, M3, M4, M5 along with BE and BX. All that is needed now to find the determinant of a 28x28 matrix or the inverse of an 18x18 matrix is the equivalent RRM style program. (Yes, I've been working on one but it isn't finished yet!)
- \*\* Algebraic mode now operates much more like an equation operating system than the HP 33s algebraic mode did.
- \*\* Key a long calculation in ALG mode and press ENTER. To go back and revise one part of that calculation, press the left cursor key, go back and make your change, then press ENTER again.

For more, read the review!

Gene

*Edited: 12 July 2007, 5:43 p.m. after one or more responses were posted*

### **Re: HP35s announced ... lots of detail inside**

*Message #2 Posted by [S. Martin](#) on 12 July 2007, 9:32 a.m.,  
in response to message #1 by Gene Wright*

Gene,

How about a comment on one of the most important issues of recent HP calcs: The feel (response) of the keys.

Thanks, Steve

### **Re: HP35s announced ... lots of detail inside**

*Message #3 Posted by [Gene wright](#) on 12 July 2007, 10:14 a.m.,  
in response to message #2 by S. Martin*

The keys of the 35s look good, feel good and work good (ok, work well).

In the same way the HP50g keys work very well compared to the 49g+, the keys on the 35s do a good job too.

**Re: HP35s announced ... lots of detail inside**

Message #4 Posted by [Jake Schwartz](#) on 12 July 2007, 3:49 p.m.,  
in response to message #2 by S. Martin

Quote:

Gene,

How about a comment on one of the most important issues of recent HP calcs: The feel (response) of the keys.

Thanks, Steve

Having used a machine for a few months now, I can say that the keyboard feel is *\*very\** good. No lost keystrokes have been experienced and one can be pretty confident that what was pressed is what one gets.

Jake Schwartz

**Re: HP35s announced ... lots of detail inside**

Message #5 Posted by [Howard Owen](#) on 12 July 2007, 10:53 a.m.,  
in response to message #1 by Gene Wright

At HHC 2006, I told HP that I didn't want them to bring back the HP-42S. I wanted the machine that the 42S would have become, if they had continued development on RPN along those lines. I also said "I want to be surprised by the innovations in keystroke programming you come up with." Well, this machine isn't a 42S successor, but it certainly is a worthy successor to the HP32. And the unlimited line based GOTO and XEQ surprised me. It strikes me as a novel (for an RPN calculator) method of solving the HP33s deficiency in the number of labels. Prior HP calculators had line number GTO instructions, but didn't automatically renumber in the case of addition/deletion of lines. A cynic might observe that we have now passed MBASIC and Applesoft BASIC, since neither of those did automatic line numbering. But I appreciate the effective solution to a problem that this community identified as a serious shortcoming of the 33s.

But that's not the only surprising thing about the 35s. There are tons of *extremely* interesting features mentioned in Gene's post. Imaginary numbers/2d vectors occupying one stack position is great, but the addition of 3d vectors is outstanding. New logic possibilities will make my work easier when designing IP networks. "Stack tricks" sound intriguing. My bottom line is that HP has clearly delivered a product that innovates on top of the solid base of its heritage in scientific RPN calculators. Way to go, HP!

I want one *now!* 8)

Regards,  
Howard

**Re: HP35s announced ... lots of detail inside**

Message #6 Posted by [Gene wright](#) on 12 July 2007, 11:12 a.m.,  
in response to message #5 by Howard Owen

Without the "dynamic" renumbering, line number GTO and XEQ instructions would not be very helpful at all. The 12c uses line numbers for GTOs and it is very painful when you have to insert or delete a step. The 35s solution, while not as nice as unlimited labels :- ) is a nice compromise, IMO.

**Re: HP35s announced ... lots of detail inside**

*Message #7 Posted by **Howard Owen** on 12 July 2007, 11:38 a.m.,  
in response to message #6 by Gene wright*

Quote:

Without the "dynamic" renumbering, line number GTO and XEQ instructions would not be very helpful at all.

I agree. The fact that it's there is the suprising thing.

Regards,  
Howard

**Re: HP35s announced ... lots of detail inside**

*Message #8 Posted by **Arnaud Amiel** on 12 July 2007, 11:07 a.m.,  
in response to message #1 by Gene Wright*

All this looks great, but the main reason (work in hex and conversions to DEC) I use a 33 or 32 over an RPL machine has gone! What a pity.

I will get a 35 anyway.

Arnaud

**Re: HP35s announced ... lots of detail inside**

*Message #9 Posted by **David Ramsey** on 12 July 2007, 12:12 p.m.,  
in response to message #8 by Arnaud Amiel*

Quote:

All this looks great, but the main reason (work in hex and conversions to DEC) I use a 33 or 32 over an RPL machine has gone! What a pity.

I will get a 35 anyway.

Arnaud

Yeah, the base feature's surprisingly clumsy to use with this requirement. I kept thinking I was doing something wrong...

**Re: HP35s announced ... lots of detail inside**

*Message #10 Posted by **Walter B** on 12 July 2007, 11:58 a.m.,  
in response to message #1 by Gene Wright*

Gene, after looking through your review article and some of HP's learning modules I agree with your

conclusion. It's by far the most appealing RPN calculator emerged for 1.5 decades at least.

IMHO there is one thing, however, which ought to be improved \*very\* soon: the representation of **theta** in the dot matrix display is terrificly close to **8**. There, the designer must have been \*very\* tired. A simple solution may be to make **theta** two dots smaller vertically.

The error in formula 2 of the formula solver learning module part 2 will be far easier to correct.

The unit conversions (though totally obsolete IMO as you know ;-)) contain some surprising nice features. Programming technique sounds good. And we'll have simultaneous equations at least for up to 3 unknowns. Fine!

So I'll buy one asap. But I will not drop my 42s until HP will launch a successor for this calc, too, including all the features discussed in this forum several times. So please, HP, you know where to look...

*Edited: 12 July 2007, 12:06 p.m.*

### **Re: HP35s announced ... lots of detail inside**

*Message #11 Posted by [Paul Brogger](#) on 12 July 2007, 12:15 p.m.,  
in response to message #1 by Gene Wright*

In your article, I see the missing function on the beta unit's keyboard is the "->gal" function.

But the reciprocal ("->guy") isn't there either.

;-)

(Seriously, it's simply amazing that H-P sees fit to produce calculators *at all*, let alone one as promising as this.)

### **Re: HP35s announced ... lots of detail inside**

*Message #12 Posted by [Egan Ford](#) on 12 July 2007, 4:07 p.m.,  
in response to message #1 by Gene Wright*

Perhaps I missed something, but is there any type of I/O?

### **Re: HP35s announced ... lots of detail inside**

*Message #13 Posted by [Gene Wright](#) on 12 July 2007, 4:32 p.m.,  
in response to message #12 by Egan Ford*

No I/O.

Keep in mind that this is a revision of the 32s, 32s2 and 33s line, not the 42s line.

As such, there are operating system limitations as to what can be done.

Wish there WERE I/O, but there isn't.

### **Re: HP35s announced ... lots of detail inside- no I/O**

*Message #14 Posted by [Donald Williams](#) on 12 July 2007, 6:11 p.m.,  
in response to message #13 by Gene Wright*



Thats too bad. I consider the lack of backup capability a major flaw in the design. I can't imagine anyone doing serious work with a device than has no backup.

I can already invision the calc imbedded in the dry wall above my desk the first time I get a "memory lost" condition. I think I will save my time, money, and patience.

I learn the hard way, but I learn.

**Re: HP35s announced ... lots of detail inside- no I/O**

*Message #15 Posted by [bill platt](#) on 13 July 2007, 7:15 a.m.,  
in response to message #14 by Donald Williams*

Lots of serious stuff has been done with the 15c and it has no back-up.

Really, no I/O is no big deal for calculating. If you want backup, use a computer.

: -)

Just having a new, well-made RPN with a readable keyboard, readable display, and yes, even the ENTER key in the right place, is every reason for me--even if it weren't programmable at all, I'd get one at this price.

**Re: HP35s announced ... lots of detail inside- no I/O**

*Message #16 Posted by [Howard Owen](#) on 13 July 2007, 7:50 a.m.,  
in response to message #15 by bill platt*

Lack of I/O hasn't prevented me from buying one. I intend to buy one more, in fact. But any device I leave the results of serious work on ought to be able to save those results on external media. I'm guessing that the intersection of certification hassles, design complexity and production cost accounts for the lack of I/O on this machine. But I can't pretend I'm not disappointed in that. Over all, of course, I'm delighted.

Regards,  
Howard

**Re: HP35s announced ... lots of detail inside- no I/O**

*Message #17 Posted by [Donald Williams](#) on 13 July 2007, 2:47 p.m.,  
in response to message #15 by bill platt*

My first post about I/O sounds a little harsh because I am a little frustrated about the lack of I/O (actually backup), but all comments are intended as constructive criticism.

"Lots of serious stuff has been done with the 15c and it has no back-up."

Agreed, but you may be comparing apples and oranges. I am not an expert on the 15C but AFAIK it does not have a reset button or a reset procedure. The 33 (the 35s predecessor) reset procedure is on page A4 and B2 of the user manual. I have had to use it twice so far. I don't imagine too many 15C users have had that experience. Otherwise, I am afraid that less serious stuff would have been produced.

These reset tools seem to exist almost universally across all the computing devices I have bought in the last 20 years regardless of the manufacturer. I accept them because I have to. To

me it is a tacit admission by the manufacturer that 1 of 3 things is true

1. This device has become so complex that that we are unable to test all possible permutations. (I suspect this is the case)
2. We are unwilling to spend the finances to insure that all possible permutations have been tested. (This may be the case)
3. We know from first hand experience that this device will crash and this is the only way out. (I hope this is not the case)

"Really, no I/O is no big deal for calculating. If you want backup, use a computer.

:-)"

Its no big deal if you have a device as "bullet proof" and reliable as a 15C. The proliferation of the reset capabilty may imply that this type of manufacturing is no longer possible. I am willing to accept that (Do I have any choice?) if I can protect my intellectual property. I would argue that if it requires a reset capability then it requires a back up capability

"Just having a new, well-made RPN with a readable keyboard, readable display, and yes, even the ENTER key in the right place, is every reason for me--even if it weren't programmable at all, I'd get one at this price."

I think you reflect the opinon of just about every enthusiast on this forum. I want this calculator to be a success in the maket place but I find it puzzling that a programmable device has no back up or documentation capability.

**Re: HP35s announced ... lots of detail inside- no I/O**

*Message #18 Posted by [Egan Ford](#) on 13 July 2007, 3:04 p.m.,  
in response to message #17 by Donald Williams*

The 15C does have a reset, however the memory is so limited that you can backup your 15C on paper (I have) and restore it during your lunch hour with time to spare for lunch.

**Re: HP35s announced ... lots of detail inside- no I/O**

*Message #19 Posted by [Donald Williams](#) on 13 July 2007, 3:34 p.m.,  
in response to message #18 by Egan Ford*

I guess I am just getting ahead of the curve again. I am complaining about backing up the 35s with pencil and paper and neither myself nor probably anyone else has done it yet. Might take the better part of the afternoon. Anyone for a long lunch break.

**Re: HP35s announced ... lots of detail inside- no I/O**

*Message #20 Posted by [Gene Wright](#) on 13 July 2007, 3:41 p.m.,  
in response to message #19 by Donald Williams*

Well, of course good programmers write and debug their programs on paper first...so you should always have a paper copy filed.

Big :-)

Seriously, I too wish for I/O. But I'll certainly take this much improved model!

**Re: HP35s announced ... lots of detail inside**

*Message #21 Posted by [Gerson W. Barbosa](#) on 12 July 2007, 6:35 p.m.,  
in response to message #1 by Gene Wright*

It's a pity apparently the [trig bug](#) hasn't been addressed thus far. My HP-67 (1976) doesn't have this kind of bug, but it has the  $\sin^{-1}$  and  $\cos^{-1}$  bugs. However, they are well documented in the addendum to the Owner's Handbook (these would eventually be fixed). Can we expect something like that from today's HP?

Gerson.

**Re: HP35s announced ... lots of detail inside (edited)**

*Message #22 Posted by [Les Wright](#) on 12 July 2007, 8:25 p.m.,  
in response to message #1 by Gene Wright*

The use of 26 alpha labels as global labels and dynamically renumbered line-based GTO/XEQ within programs is not what I was hoping for (I really would've preferred the system in the 41 and 42S), but it is a hell of good compromise.

At first I thought 26 global labels weren't much for my purposes, but practically speaking I don't think I have anymore than a dozen or so user programs in my 41CX or 42S at any one time. Also, I am mindful that in the 33S my programming style gobbles up the local labels like crazy. Now, I can port those fast programs and use the line addressing.

Sounds like a real gem for only 60USD!!!

Les

**Re: HP35s announced ... lots of detail inside (edited)**

*Message #23 Posted by [ECL](#) on 12 July 2007, 10:29 p.m.,  
in response to message #1 by Gene Wright*

Whoo-hoo! The 35s is on the way...Many of it's characteristics and elements are competing for my attention. Particularly, the 3-space vector, 0.98 reversion to classic HP looks, and the new programming features (memory, architecture, and "tricks")

This is great news, I look forward to getting my article.

I'm likely to stalk the local Fry's to pick up my copy. Online purchases just don't have enough bang. Much more fun to court the calc on the shelf in person.

ECL

**Re: HP35s announced ... lots of detail inside (edited)**

*Message #24 Posted by [Seth Morabito](#) on 12 July 2007, 11:09 p.m.,  
in response to message #23 by ECL*

When Fry's has them in stock, please let us know!

**Re: HP35s announced ... lots of detail inside (edited)**

*Message #25 Posted by [Don Shepherd](#) on 15 July 2007, 11:40 a.m.,  
in response to message #1 by Gene Wright*

Gene, from the picture in your review, I don't see IP and FP. Did I miss them or are they in some menu?

**Re: HP35s announced ... lots of detail inside (edited)**

*Message #26 Posted by [Gene Wright](#) on 15 July 2007, 5:26 p.m.,  
in response to message #25 by Don Shepherd*

The yellow shifted INTG menu has the functions IP and FP along with INTdivide, Remainder and INT.

**Re: HP35s announced ... lots of detail inside (edited)**

*Message #27 Posted by [Don Shepherd](#) on 15 July 2007, 5:48 p.m.,  
in response to message #26 by Gene Wright*

Thanks Gene. I was thinking that the INTG key would probably have those functions, but couldn't tell without further documentation.

**Re: HP35s announced ... lots of detail inside (edited)**

*Message #28 Posted by [Walter B](#) on 15 July 2007, 6:30 p.m.,  
in response to message #26 by Gene Wright*

Quote:

\_\_\_\_\_

The yellow shifted INTG menu has the functions IP and FP along with INTdivide,  
Remainder and INT.

\_\_\_\_\_

Gene, what does the last function of your list?

**Re: HP35s announced ... lots of detail inside (edited)**

*Message #29 Posted by [Gene Wright](#) on 15 July 2007, 8:41 p.m.,  
in response to message #28 by Walter B*

Greatest integer. Different from IntegerPart (IP).

[Greatest Integer](#)

**Re: HP35s Modulo function?**

*Message #30 Posted by [Trent Moseley](#) on 15 July 2007, 11:02 p.m.,  
in response to message #29 by Gene Wright*

Gene,

Does the 35s have a remainder function (RMDR) as does the 33s or the modulo (MOD) on the 42s? Or even the remainder function (RMD) of the 16C in integer mode?

tm

**Re: HP35s Modulo function?**

*Message #31 Posted by [Gene Wright](#) on 16 July 2007, 12:00 a.m.,  
in response to message #30 by Trent Moseley*

Remainder, RMDR.

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## HP Forum Archive 17

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### New HP35S - First FAQs

Message #1 Posted by [Giancarlo \(Italy\)](#) on 12 July 2007, 5:01 a.m.

Hi all.

You may find this post by Joe Horn interesting:

[14 HP 35s question & answers](#)

Seems like somebody has already got hands on it ;-)

Best regards.

Giancarlo

### Re: New HP35S - First FAQs

Message #2 Posted by [Walter B](#) on 12 July 2007, 5:27 a.m.,  
in response to message #1 by [Giancarlo \(Italy\)](#)

Buon giorno, Giancarlo,

that is really great news! Thanks a lot for finding and posting it here. This clarifies the storage register addressing. And it explains to some extent what's to be expected inside INTG. Does anybody know the menus already (and is allowed to share this knowledge)??

### Re: Greeting in one's original language (OT)

Message #3 Posted by [Giancarlo \(Italy\)](#) on 12 July 2007, 5:49 a.m.,  
in response to message #2 by [Walter B](#)

Guten Tag, Walter.

Your reply reminded me a comment I always had the intention to do but never did.

I find extremely polite and kind to try to greet someone else in his (her) own language, like you did.

It's a tiny effort (sometimes) that has, to me, a great meaning as far as politeness and good attitude goes.

Thanks to all who keep this "custom" alive.

Best regards.

Giancarlo

### Re: Greeting in one's original language (OT)

Message #4 Posted by [Valentin Albillo](#) on 12 July 2007, 7:12 a.m.,  
in response to message #3 by [Giancarlo \(Italy\)](#)

Hi, Giancarlo and Walter:

Walter is one of the very few people that goes that extra step in politeness. In a recent thread, his reply to a post of mine began with:

*"Buenas tardes, Valentin,"*

which is the correct Spanish salutation for the particular time, equivalent to "Buona sera" in

Italian, "Good afternoon" in English, "Bon soir" in French.

It's certainly much appreciated by us non-native English speakers, to be saluted in our own native languages. Kudos to Walter B ! :-)

Best regards from V.

### Re: New HP35S - First FAQs

Message #5 Posted by **Howard Owen** on 12 July 2007, 7:51 a.m.,  
in response to message #1 by Giancarlo (Italy)

Wow!

An unexpected reference to pre-41C programming rescues the 35s from the label poverty of the 33s! That is very cool.

Regards,  
Howard

### Re: New HP35S - First FAQs

Message #6 Posted by **Bill (Smithville, NJ)** on 12 July 2007, 8:43 a.m.,  
in response to message #5 by Howard Owen

Hi Howard,

I may be a little bit jaded. I never even held, let alone used, the HP-33, so I have very little to compare the new 35S to except for my trusted HP-42S. Maybe the features that Joe raves about in the FAQ are trully amazing when compared to the 33S, but really leaves me a little bit confused when I compare them to the 42S.

You wrote:

Quote:

rescues the 35s from the label poverty of the 33s! That is very cool

I must have missed something in the FAQ. In answer A4 the FAQ says:

Quote:

... However, each "program" (A through Z and the unlabeled one at the beginning of program memory) is artificially limited to a maximum of 999 steps each....

Not sure the "Label Poverty" has been corrected. I hope you're right, but... Looks like maximum of 27 programs could be in memory. Also only 26 labeled storage registers - actually only 24 if you want to use the indirect features of I and J.

Maybe you're referring to using the Program Label with the line number in the GTO statements for local flow control as helping with the "Label Proverty"?

Since it's fairly low cost, I'll probally pick one up when it comes out. But I don't think I'll be giving up my HP-42S any time soon.

But it is good to see that HP has gone back to the great keyboard.

Bill

**Re: New HP35S - First FAQs**

*Message #7 Posted by **Paul Brogger** on 12 July 2007, 9:00 a.m.,  
in response to message #6 by Bill (Smithville, NJ)*

Quote:

Not sure the "Label Poverty" has been corrected.

I'd say it has. With GTO and XEQ targets each specified by a line number (letter and three digits), available memory will provide the only practical limit to the number of separate "programs" that may be stored.

**Re: New HP35S - First FAQs**

*Message #8 Posted by **Patrick Rendulic** on 12 July 2007, 8:17 a.m.,  
in response to message #1 by Giancarlo (Italy)*

Regarding the [14 HP 35s questions & answers](#), the new calculator is indeed more than a copy of the 33s. It may be the missing replacement / upgrade of the 32sii, but it still does not reach the capabilities of the 41 / 42 series.

Anyway, the most important in my view is that the good old quality of the case and the keys (the "feeling") is back. It may be a good start for future calculators!

42siix, 50giix ... that would be wonderful ...

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## HP Forum Archive 17

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### Upcoming 35s question #2

Message #1 Posted by [Gene Wright](#) on 11 July 2007, 10:58 p.m.

The answer to question 1 was E. The early models did not have a lowered-ON key.

Question 2: In the spirit of guessing, how many full-precision real numbers can be stored in registers on the HP 35s?

No multiple choice this time.

### Re: Upcoming 35s question #2

Message #2 Posted by [Thomas Radtke](#) on 12 July 2007, 4:08 a.m.,  
in response to message #1 by Gene Wright

Let me say, as much as can be represented by floating point numbers within the limits of the machine :^).

(I was right on q#1, I can afford to fail this time :-)

*Edited: 12 July 2007, 7:19 a.m.*

### Re: Upcoming 35s question #2

Message #3 Posted by [Gene wright](#) on 12 July 2007, 9:26 a.m.,  
in response to message #2 by Thomas Radtke

Answer is well over 2400 floating point, full precision numbers.

### Re: Upcoming 35s question #2

Message #4 Posted by [Paul Dale](#) on 12 July 2007, 4:47 p.m.,  
in response to message #3 by Gene wright

That isn't exactly a precise answer to the question...

- Pauli

### Re: Upcoming 35s question #2

Message #5 Posted by [Gene Wright](#) on 12 July 2007, 5:24 p.m.,  
in response to message #4 by Paul Dale

Lol. Ok,

2514 is the actual, non-useful number.

$801 \times 3 + 26 \times 3 + 6 \times 3 + 5 \times 3$

which fills up all 801 indirect registers, all 26 lettered registers, all 6 stat registers (which have to be stored indirectly) and all 4 stack registers and lastx too.

Reality is that you can now have indirect registers 1 through 800 filled with 3-D vectors containing 3 full precision real numbers using the program supplied in the learning module.

That ought to do for now. :-)

**Re: Upcoming 35s question #2**

*Message #6 Posted by **Thomas Radtke** on 12 July 2007, 5:24 p.m.,  
in response to message #4 by Paul Dale*

Indeed, my answer was way better. You just have to read the question the right way ;-).

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## HP Forum Archive 17

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### Hp35s photos (from Japan)

Message #1 Posted by [y.miyata](#) on 11 July 2007, 10:23 p.m.

Hi, I found several very nice photos of the new HP35s in a Japanese web site.

[Photo-1](#)

[Photo-2](#)

[Photo-3](#)

I'm thinking to obtain one, since my old HP42s is getting worn out a bit...

### My God! It's full of (actual) keys... (NT)

Message #2 Posted by [Vieira, Luiz C. \(Brazil\)](#) on 11 July 2007, 11:15 p.m.,  
in response to message #1 by y.miyata

### Re: Hp35s photos (from Japan)

Message #3 Posted by [Seth Morabito](#) on 12 July 2007, 12:03 a.m.,  
in response to message #1 by y.miyata

"My God" is right. Those keys! They're positively HP-41-esque.

I still really don't understand "cm" vs. "KM", but I can live with a typo like that if the keys feel as good as they look.

HP, thank you for listening!

### Re: Hp35s photos (from Japan)

Message #4 Posted by [Maximilian Hohmann](#) on 12 July 2007, 2:33 a.m.,  
in response to message #3 by Seth Morabito

Hi!

Quote:

\_\_\_\_\_

I still really don't understand "cm" vs. "KM"...

\_\_\_\_\_

My guess is that they spelt "KM" and "MILE" in capitals to better distinguish "physically large" units from small ones like "in" and "cm". Ergonomics at work, so to say.

Greetings, Max

### Real Big Units

Message #5 Posted by **Walter B** on 12 July 2007, 3:00 a.m.,  
in response to message #4 by Maximilian Hohmann

: -))

So, after **mm** and **cm**, we shall write **KM** and **LIGHT YEARS**? Well, if this is the only way to convince USA to use SI units, one shall think about it ; -)

P.S.: I know the light year isn't SI, but it was the biggest unit at hand :-)

### Re: Hp35s photos (from Japan)

Message #6 Posted by **Olivier TREGER** on 12 July 2007, 3:50 a.m.,  
in response to message #3 by Seth Morabito

Quote:

"My God" is right. Those keys! They're positively HP-41-esque.

I rather see HP12C Platinum-like keys: Chinese manufacturing...

Although my 12CP is certainly 10 times faster than my good'ol 12C, there's no chance I drop the 12C in favor of the other one. Reason: the keys.

I'm afraid the 35s goes the same way.

### Re: Hp35s photos (from Japan)

Message #7 Posted by **Seth Morabito** on 12 July 2007, 12:33 a.m.,  
in response to message #1 by y.miyata

And more pictures of the new HP 17bII+, as well:

[http://www.july.co.jp/index.php?main\\_page=product\\_info&products\\_id=232](http://www.july.co.jp/index.php?main_page=product_info&products_id=232)

### Re: Hp35s photos (from Japan)

Message #8 Posted by **Wayne Brown** on 12 July 2007, 12:33 a.m.,  
in response to message #1 by y.miyata

Yuck. Those cursor keys are even uglier when seen from the side than from above. What a shame that such an otherwise attractive device should be spoiled in such a way.

### Re: Hp35s photos (from Japan)

Message #9 Posted by **Walter B** on 12 July 2007, 2:23 a.m.,  
in response to message #1 by y.miyata

3 observations:

- In Japan, the 35s seems to cost just 10% more than the 33s
- The LCD of the 35s shown looks slightly misaligned
- Together with the 17bii+, there is a set of wonderful keys and housings opening further perspectives



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## HP Forum Archive 17

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### HP 41 Keyboard Overlay

Message #1 Posted by [Doctor Bubu](#) on 11 July 2007, 3:37 p.m.

Hallo!

Thanks to Don from Montana, who send me an original Overlay.

I measured it and transfer it to Corel Draw 10. The result you can see here.

<http://doktor-bubu.de/bilder/overlaycd10.jpeg>

And if you wish download:

<http://www.doktor-bubu.de/Bilder/hp41overlay.cdr>

Enjoy it

Jürgen

### Re: HP 41 Keyboard Overlay

Message #2 Posted by [Les Wright](#) on 11 July 2007, 5:18 p.m.,  
in response to message #1 by Doctor Bubu

This is gorgeous!

I assume this reflects your own User Key assignments? This isn't the standard layout....

Les

### Re: HP 41 Keyboard Overlay

Message #3 Posted by [Walter B](#) on 11 July 2007, 5:23 p.m.,  
in response to message #1 by Doctor Bubu

Hallo Jürgen,

very nice work! Just don't know what s-bar shall be.

### Re: HP 41 Keyboard Overlay

Message #4 Posted by [Doctor Bubu](#) on 12 July 2007, 12:34 a.m.,  
in response to message #3 by Walter B

Hallo Walter!

That means s without a bar, the bar has to be removed. It is "sdev".

I changed it.

Jürgen

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## HP Forum Archive 17

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**Upcoming 35s question #1**

Message #1 Posted by [Gene Wright](#) on 11 July 2007, 2:07 p.m.

In the spirit of guessing, which prominent, classical keyboard feature(s) does the HP 35s appear to bring back?

- A) Lowered ON key
- B) Raised keyboard frame
- C) BIG ENTER key
- D) Three of the above
- E) Two of the above
- F) One of the above

**Re: Upcoming 35s question #1**

Message #2 Posted by [Thomas Radtke](#) on 11 July 2007, 2:39 p.m.,  
in response to message #1 by Gene Wright

Since the classics had no on key but a switch, I figure the answer must be E)

: -)

**Re: Upcoming 35s question #1**

Message #3 Posted by [Howard Owen](#) on 11 July 2007, 2:55 p.m.,  
in response to message #1 by Gene Wright

I can't tell from the pictures whether or not the ON key is lowered with respect to the others. But I'm sure that the calculator includes a large ENTER key and a raised edge around the keyboard. The first is obvious from the photos, and the second is mentioned in the sales flyer.

So that would be two, or three of the above. 8)

Regards,  
Howard

**Re: Upcoming 35s question #1**

Message #4 Posted by [ECL](#) on 11 July 2007, 2:54 p.m.,  
in response to message #1 by Gene Wright

Well, feature 'A' is present on my 33s, 50g, and other recent machines, so that's out.

Features 'B' and 'C' are returning.



Thus, I say the answer is 'E'

ECL

### **Re: Upcoming 35s question #1**

*Message #5 Posted by [Paul Brogger](#) on 11 July 2007, 7:02 p.m.,  
in response to message #1 by Gene Wright*

If anyone has an active link to the picture of Cyrille deBrebisson's baby "using" an HP-35s, s/he may put to rest the 'Lowered ON key' question.

Assuming Gene is participating in a "Hype the 35s ahead of its imminent release" campaign (not that there's *anything* wrong with that, if he is), I suspect the answer is "D". (Why call attention to any negative aspects of the new calc, however insignificant?)

### **Re: Upcoming 35s question #1**

*Message #6 Posted by [ECL](#) on 11 July 2007, 10:14 p.m.,  
in response to message #5 by Paul Brogger*

If you interpret Gene's post strictly, a 'returning' feature would be one that has been absent in say the last three generations (or series) of HP calculators. (ie. the blue 49g, gold49g+, black 50g, 33s, 30s, etc.)

Even the 32sii, and 42s are "recent" in the eyes of some of our members...and both these machines had raised keyboard rims, large keys, and lowered ON keys.

Assuming you draw the datum plane at these machines, later machines have all been absent of the large ENTER key, and raised keyboard rim.

I rest on my first claim: only the raised rim and large ENTER key.

ECL

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## HP Forum Archive 17

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### HP35s's Parentheses

Message #1 Posted by [Walter B](#) on 11 July 2007, 3:18 a.m.

Hi, all,

Any idea why parentheses are placed so prominently on this "ultimate RPN" calc? Even 2 kinds of them! And we agreed so far there will not be a matrix functionality... :-?

Since it seems the keyboard will remain as seen first completely (i.e. with the blue shift arrow pointing up, and ">KM" instead of ">km"), it may be worth some speculation.

### Re: HP35s's Parentheses

Message #2 Posted by [DaveJ](#) on 11 July 2007, 4:07 a.m.,  
in response to message #1 by [Walter B](#)

Quote:

Hi, all,

Any idea why parentheses are placed so prominently on this "ultimate RPN" calc? Even 2 kinds of them! And we agreed so far there will not be a matrix functionality... :-?

Well, I guess an "Ultimate RPN calc" wouldn't have selectable algebraic mode now would it? ;-)

Once you decide to have algebraic mode, you gotta have a primary parentheses key.

Quote:

Since it seems the keyboard will remain as seen first completely (i.e. with the blue shift arrow pointing up, and ">KM" instead of ">km"), it may be worth some speculation.

Yes, that Blue arrow key really bugs me. Someone left their brain out of gear on that one.

Dave.

### Re: HP35s's Parentheses

Message #3 Posted by [Gene wright](#) on 11 July 2007, 8:12 a.m.,  
in response to message #2 by [DaveJ](#)

There is also equation mode to consider. Parentheses do figure rather prominently in a few equations.

These days, you probably can't have parentheses be a shifted function and be taken seriously as an ALG machine.

Who needs ALG users? HP does to sell enough units to make these goodies viable.

So be glad there are ALG users out there.

### Re: HP35s's Parentheses

Message #4 Posted by **DaveJ** on 11 July 2007, 8:54 a.m.,  
in response to message #3 by Gene wright

Quote:

There is also equation mode to consider. Parentheses do figure rather prominently in a few equations.

These days, you probably can't have parentheses be a shifted function and be taken seriously as an ALG machine.

It ain't just these days. Every ALG calculator bar a 4-banger needs parentheses as the primary keys, always has. Just as vital as say ROLL and SWAP on an RPN calc.

HP did the right thing in the case of the 35S, the parentheses key is good and it's in the right spot.

Dave.

### Re: HP35s's Parentheses

Message #5 Posted by **Walter B** on 11 July 2007, 9:34 a.m.,  
in response to message #2 by DaveJ

Hi Dave,

FYI: the "ultimate RPN" was a quote of HP's data sheet for the 35s :-)

### Re: HP35s's Parentheses

Message #6 Posted by **Paul Brogger** on 11 July 2007, 10:16 a.m.,  
in response to message #5 by Walter B

And, don't be surprised if "the Ultimate RPN Calculator" boots to ALG by default.

I wonder how many 33s' were returned to Wal-Mart because they "didn't work" when first turned on?

If they want the thing to be sold via a big-box retailer, they'll want it to default to ALG.

Quote:

... the blue shift arrow pointing up ...

That is quirky, but hey: they've returned to printing functions on the 2nd, angled faces of the keys! That's a MAJOR step forward (or backward, to where they used to be, or wherever . . . ) Too bad they didn't do that on the 50g.

Edited: 11 July 2007, 10:24 a.m.

**Re: HP35s's Parentheses**

Message #7 Posted by **Walter B** on 11 July 2007, 1:26 p.m.,  
in response to message #6 by Paul Brogger

Hi, Paul, I didn't complain, I just wonder ;-)

Anyway, you're right, printing on the angled faces of the keys is a major step (in any direction whatsoever) I welcome for sure. Nevertheless, I can imagine even nicer, cleaner arrangements still (see [here](#), for example).

**Re: HP35s's Parentheses**

Message #8 Posted by **Paul Brogger** on 11 July 2007, 2:19 p.m.,  
in response to message #7 by Walter B

Walter, I do hope H-P consults you if/when they design the layout of their next calculator. Leaving aside of alpha mode, graphical screen, and other major feature enhancements you've suggested, your choices for colors and placement of the keyboard legends have obvious merit.

(H-P: I suggest you immediately contract with "the Walter B. Design Bureau" and save yourselves much pointless distraction and diversion.)

**Re: HP35s's Parentheses**

Message #9 Posted by **Giancarlo (Italy)** on 11 July 2007, 4:52 p.m.,  
in response to message #8 by Paul Brogger

Quote:

(H-P: I suggest you immediately contract with "the Walter B. Design Bureau" and save yourselves much pointless distraction and diversion.)

Amen, brother!  
Best regards.  
Giancarlo

**Re: HP35s's Parentheses**

Message #10 Posted by **Walter B** on 11 July 2007, 5:36 p.m.,  
in response to message #8 by Paul Brogger

:-D Ok, ok, I'll keep quiet in this matter ... for some days at least ;-)

**Re: HP35s's Parentheses**

Message #11 Posted by **Dave Johnson** on 11 July 2007, 11:14 a.m.,  
in response to message #1 by Walter B

Not that I ever use the algebraic mode, but it would certainly be nice if HP abandoned the postfix nature of the algebraic entry on the 33S and converted to a prefix algebraic entry for the 35S.

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## HP Forum Archive 17

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**HP-97 Thermal Paper**

Message #1 Posted by [Kostas Kritsilas](#) on 11 July 2007, 12:51 a.m.

Hi,

I have just purchased a HP-97 from eBay (local seller), and I should be getting it within the next day or two. This brings up the question of paper for this calculator's printer section. Is there specific printer paper for this prenter still available from HP, or is there other printer paper that can be used? I remember seeing some old calculator printouts in blue, but don't remember if they were from an HP calculator, or from a TI-59 with its printer. Please let me know if anybody has found a solution to this.

Kostas

**Re: HP-97 Thermal Paper**

Message #2 Posted by [Patrick Rendulic](#) on 11 July 2007, 1:18 a.m.,  
in response to message #1 by Kostas Kritsilas

Any THERMAL print paper with the right width (57 mm or 2 1/4 inch) can be used. The newer the paper, the better the print quality.

I use paper from a local office supplier. I pay less than 1 EUR per roll.

**Re: HP-97 Thermal Paper**

Message #3 Posted by [Kostas Kritsilas](#) on 11 July 2007, 4:20 p.m.,  
in response to message #2 by Patrick Rendulic

Patrick:

Thanks for the response. Both Staples and Office Depot in Calgary carry 2 1/4" wide thermal paper. All I have to do now is figure out which length, which shouldn't be too difficult.

Kostas

**Re: HP-97 Thermal Paper**

Message #4 Posted by [Les Wright](#) on 11 July 2007, 5:22 p.m.,  
in response to message #3 by Kostas Kritsilas

I use the NCR paper, available at Staples in Toronto so it should be in Calgary too.

I buy the three pack of the big rolls and split each big roll into two little ones. I keep old plastic and cardboard cores for this purpose, but I suppose the demi-roll would work fine without a core.

Look for the black and white box. Price is about \$9CDN, so about \$1.50 plus tax per little roll.

Les

**Re: HP-97 Thermal Paper**

*Message #5 Posted by [Kostas Kritsilas](#) on 12 July 2007, 11:21 a.m.,  
in response to message #4 by Les Wright*

Les:

Thanks for the recommendation on the NCR paper. Do the long rolls not fit in the HP97 (I don't have mine yet, but should by the weekend)?

Kostas

**Re: HP-97 Thermal Paper**

*Message #6 Posted by [Les Wright](#) on 12 July 2007, 9:08 p.m.,  
in response to message #5 by Kostas Kritsilas*

I don't think the big rolls will fit. Believe me it really is no hassle at all to manually spool off half the roll onto a finger or spare plastic or cardboard spool.

Les

**Re: HP-97 Thermal Paper**

*Message #7 Posted by [Kostas Kritsilas](#) on 17 July 2007, 10:05 p.m.,  
in response to message #6 by Les Wright*

Hi,

Just wanted to confirm what Les said about the NCR paper; it works really well, and prints out nice and black. I ended up getting the 12 pack of 75' rolls, just to get things going. It came out to just under \$CAN15 at Office Depot. I'm sure the longer rolls that Les prefers would work just as well, and are a little cheaper, too. I'll keep the spindles from these rolls when the paper is used up, and go with the longer rolls at the next purchase.

Kostas

P.S. The HP 97 had a half used up roll of thermal paper in it when I got it, and it printed out blue instead of black. I would assume that this is the original HP paper. It printed out pretty unevenly, so I took it out. The NCR paper prints out black, but very evenly.

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## HP Forum Archive 17

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**Module conflict**

Message #1 Posted by [Geir Isene](#) on 10 July 2007, 7:01 p.m.

I must be missing something. Please shake my head to loosen a screw so that an answer may fall out.

My setup is a HP-41CX with NoV-32 with CCD-OSX in Page #C and Extended IO in Page #D. I have an AECrom in port 4 (Page #E and #F)

As long as I have the AECrom inserted, it behaves funny (locks up, hard to unlock and then flags are a mish-mash etc.). When I remove the AECrom, everything is fine.

Why? Can't see any XROM conflicts...

**Re: Module conflict**

Message #2 Posted by [Geir Isene](#) on 10 July 2007, 7:18 p.m.,  
in response to message #1 by [Geir Isene](#)

Head shaken and screw is loose: After testing the config with another CX, it seems the first calc has a faulty port 4. Oh well.

**Re: Module conflict**

Message #3 Posted by [Diego Diaz](#) on 11 July 2007, 5:31 a.m.,  
in response to message #2 by [Geir Isene](#)

Hi Geir,

Just to put it black on white: You've released me from a big load of headaches!!! Ha ha ha...

(Oh well... I know you knew that already... ;-)

Best wishes and keep enjoying your 41's

Diego

**RS-232 (Was: Module conflict)**

Message #4 Posted by [Geir Isene](#) on 11 July 2007, 6:59 a.m.,  
in response to message #3 by [Diego Diaz](#)

But the original problem was calc-agnostic ;)

It seems stable now with a fantastic module-combo:

CX w/NoV-32 (CCD OS/X & Extended I/O) + AECrom + double XM + HP-IL w/Video Interface, RS-232, 82162A printer in the loop. Now we are talking ;)



I only need the RS-232 to talk to my Linux laptop...

It seems to use a 25 pin parallell cable for serial communication. I have read something about a needed adapter to make it work. Anybody has any specifics?

**Re: RS-232 (Was: Module conflict)**

*Message #5 Posted by **Tony Duell** on 11 July 2007, 12:28 p.m.,  
in response to message #4 by Geir Isene*

I assume you're refering to the HP82164 HPIL-RS232 converter.

It has a standard 25 pin RS232 serial connector. For the record, the DB25 parallel printer connector and the DE9 serial connector are really PC-isms (the latter came in with the PC/AT). The RS232 standard specifies a DB25 connector.

There is a jumper block inside the interface that you can plug in either way round. One way, the interface has the pinout of a DTE (so will link directly to a modem), the other way it has the pinout of a DTE (so will link directly to a terminal or computer). But I find the only way to remain (in)sane while using it is to leave the jumper at the DTE position and wire up the external cable appropriately.

The problem with that interface is that HP seem to have read the RS232 standard, and nobody else did :-). Which means that if you want to use hardware flow control (and I strongly recomend it), you have to wire up a special adapter.

You can find the wirelist of the adapter and some linux-related software in the distribution mentioned on

[http://www.hpcc.org/datafile/hpil/lif\\_utils.html](http://www.hpcc.org/datafile/hpil/lif_utils.html)

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## HP Forum Archive 17

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### MLDL2000 Update

Message #1 Posted by [Meindert Kuipers](#) on 10 July 2007, 3:22 p.m.

I have made some improvements in M2kM, the user interface is a bit better, after input from users. Also the JTAG software for firmware updating is almost done. This was really complicated and is working perfectly now, I just want to make some improvements for making it really safe to work with.

When that is done there will be a new software release. Right now I have a business strip, vacation, and more business activities coming up. I expect to do the new release end August.

After the software release I will start on V2 of the MLDL2000, adding the USB Host interface and trying to get a prototype working. Details of the MLDL2000 V2 will be announced at the HCC Conference in San Diego, I am busy working on the paper, that will also serve as the specifications. If all goes well I will do a presentation (although I am not physically present) on the extra's in V2.

I have booked the weekend in London for the HPCC conference, where I want to do the same presentation, this time in person. I hope to see many of my friends there.

I wish a good summer to all of you!

Meindert

### Re: MLDL2000 Update

Message #2 Posted by [Matthias Wehrli](#) on 10 July 2007, 3:58 p.m.,  
in response to message #1 by Meindert Kuipers

Cool, I will be in London, too... Anyone else?

Matthias

### Re: MLDL2000 Update

Message #3 Posted by [Geir Isene](#) on 10 July 2007, 7:07 p.m.,  
in response to message #2 by Matthias Wehrli

/me intend to

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## HP Forum Archive 17

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### Large HP 35s picture

Message #1 Posted by [Seth Morabito](#) on 10 July 2007, 1:50 a.m.

Thanks to Joe Horn's HHC2007 website, now we've got a very up close and personal view of the HP 35s (1119x2054 pixels!)

<http://holyjoe.net/hhc2007/hp-35sLarge.jpg>

He's such a tease!

### Re: Large HP 35s picture

Message #2 Posted by [HrastProgrammer](#) on 10 July 2007, 5:04 a.m.,  
in response to message #1 by Seth Morabito

After a long time of HP-49G+/HP-48GII/HP-33S/.../HP-50G ugliness, I must admit that I actually like this one very much ...

*Edited: 10 July 2007, 5:04 a.m.*

### Re: Large HP 35s picture

Message #3 Posted by [brianh](#) on 10 July 2007, 7:42 a.m.,  
in response to message #1 by Seth Morabito

Two please. Hold the user's guide.

### Re: Large HP 35s picture

Message #4 Posted by [NACHO](#) on 10 July 2007, 9:43 a.m.,  
in response to message #3 by brianh

<http://www.calculatrices-hp.fr/35s.html>

great machine.

### Re: Large HP 35s picture

Message #5 Posted by [Patrick Rendulic](#) on 10 July 2007, 6:05 a.m.,  
in response to message #1 by Seth Morabito

Thanks for the picture! It does look nice! It's just a pity that it is not switched on! It would be interesting to see the working display.

I just wonder why HP designers / technicians are unable to make the difference between left / right, top / bottom ...

## Re: Large HP 35s picture

Message #6 Posted by **DaveJ** on 10 July 2007, 6:29 p.m.,  
in response to message #5 by Patrick Rendulic

Quote:

Thanks for the picture! It does look nice! It's just a pity that it is not switched on! It would be interesting to see the working display.

Yes, I'm curious to see what the exponent display is like.

HP have done some shockers in this area, like the 20S with it's large "E" which blends in very nicely with the other digits, you have to study the display closely to see if your answer has an exponent or not.

Dave.

## Exponent display

Message #7 Posted by **Karl Schneider** on 10 July 2007, 8:56 p.m.,  
in response to message #6 by DaveJ

Quote:

Yes, I'm curious to see what the exponent display is like (*on the HP-35S*).

HP have done some shockers in this area, like the 20S with it's large "E" which blends in very nicely with the other digits, you have to study the display closely to see if your answer has an exponent or not.

There's no reason to expect it to be different from the HP-33S display, with its individual dot-matrix characters.

As for the full-size "E" denoting a base-10 exponent on the HP-20S and HP-21S: With a uniform 12-digit 7-segment display, that was the only reasonable approach other than the one employed on all previous models, which was to right-justify the (two-digit) exponent on a 10-digit display.

"1.234567E-123" was deemed preferable to "1.234567 -123" or "1.2345678-123". Not all would agree.

The original HP-32S also used a full-size "E" and centered exponent sign, even though it had a more-versatile dot-matrix character display. Two small refinements were provided in the HP-32SII: A reduced-size "E", as well as a raised negative-exponent sign to distinguish it from a minus sign used in equations.

-- KS

*Edited: 10 July 2007, 9:05 p.m.*

## Re: Exponent display

Message #8 Posted by **DaveJ** on 10 July 2007, 9:11 p.m.,  
in response to message #7 by Karl Schneider

Quote:

There's no reason to expect it to be different from the HP-33S display, with its individual dot-matrix characters.

As for the full-size "E" denoting a base-10 exponent on the HP-20S and HP-21S: With a uniform 12-digit 7-segment display, that was the only reasonable approach other than the one employed on all previous models, which was to right-justify the (two-digit) exponent on a 10-digit display.

"1.234567E-123" was deemed preferable to "1.234567 -123" or "1.2345678-123". Not all would agree.

---

I certainly don't agree. It's Ok when you have a negative exponent like "1.234E-3" as the minus sign makes it stand out. But positive exponents just get buried like "1.234E5" (it's worse on the LCD screen), it's just awful, a really bad design decision IMHO. An underscore would have been much better, like "1.234\_5", or a small "L", or anything except "E"!

That, and the fact that there is no dedicated exponent key are my only two gripes with the 20S. All the same I currently use it as my daily calc at work.

Dave.

### **Exponent display: explanation & other methods**

*Message #9 Posted by **Karl Schneider** on 11 July 2007, 10:06 p.m.,  
in response to message #8 by DaveJ*

Quote:

---

It's Ok when you have a negative exponent like "1.234E-3" as the minus sign makes it stand out. But positive exponents just get buried like "1.234E5" (it's worse on the LCD screen), it's just awful, a really bad design decision IMHO. An underscore would have been much better, like "1.234\_5", or a small "L", or anything except "E"!

---

I agree with you that "1.234E5" is not very legible on 7-segment displays; I preferred the original method (used on all 10-digit models) of one or more blank characters separating the mantissa and the exponent, with an exponent minus-sign occupying one of those separators.

Perhaps the intent for the Pioneer series was to utilize that generally-understood display method of Fortran, C, and other languages to represent exponentiated numbers using an "E". This was certainly reasonable for the mid-grade and high-end Pioneers featuring dot-matrix displays, so it was simpler to do the same for the low-end Pioneers (HP-10B, HP-20S, and HP-21S) with their 7-segment displays.

However, "1.234E5" is more legible in standard alphanumeric fonts than in 7-segment displays, due to curvature of the numerals. Also, a display utilizing spaces between a mantissa and exponent would be impractical for compiled code, because of difficulty in parsing.

Casio models typically display an exponent using two smaller, elevated digits at the far right of the display. This renders some of the display space unavailable, however.

-- KS

### **Re: Exponent display: explanation & other methods**

Message #10 Posted by **ECL** on 11 July 2007, 10:22 p.m.,  
in response to message #9 by Karl Schneider

Dave commented on the problem with the 12.34E-5 convention for the case when the exponent is positive (12.34E5).

I'd suggest the simple (edited out: simply) and uniform solution would be to use this:

12.34E+5 for positive exp

12.34E-5 for negative exp

This is the convention followed in some engineering packages that I use/used.

ECL :)

*Edited: 11 July 2007, 10:24 p.m.*

### **Re: Exponent display: explanation & other methods**

Message #11 Posted by **DaveJ** on 11 July 2007, 10:52 p.m.,  
in response to message #10 by ECL

Quote:

---

Dave commented on the problem with the 12.34E-5 convention for the case when the exponent is positive (12.34E5).

I'd suggest the simple (edited out: simply) and uniform solution would be to use this:

12.34E+5 for positive exp

12.34E-5 for negative exp

This is the convention followed in some engineering packages that I use/used.

ECL :)

---

Yep, no problems with that. It visually breaks up the exponent nicely. I like that better than a space.

Dave.

### **Re: Exponent display: explanation & other methods**

Message #12 Posted by **DaveJ** on 11 July 2007, 10:34 p.m.,  
in response to message #9 by Karl Schneider

Quote:

---

I agree with you that "1.234E5" is not very legible on 7-segment displays; I

preferred the original method (used on all 10-digit models) of one or more blank characters separating the mantissa and the exponent, with an exponent minus-sign occupying one of those separators.

Perhaps the intent for the Pioneer series was to utilize that generally-understood display method of Fortran, C, and other languages to represent exponentiated numbers using an "E". This was certainly reasonable for the mid-grade and high-end Pioneers featuring dot-matrix displays, so it was simpler to do the same for the low-end Pioneers (HP-10B, HP-20S, and HP-21S) with their 7-segment displays.

However, "1.234E5" is more legible in standard alphanumeric fonts than in 7-segment displays, due to curvature of the numerals. Also, a display utilizing spaces between a mantissa and exponent would be impractical for compiled code, because of difficulty in parsing.

Casio models typically display an exponent using two smaller, elevated digits at the far right of the display. This renders some of the display space unavailable, however.

-- KS

---

Yes "E" is a perfectly normal and excepted way to represent an exponent, no problems there. But it should never be used on a 7 segment display unless there is a space before the "E", but then you waste an extra digit.

I prefer the Casio displays, having the exponent as smaller raised digits. Very sensible and very obvious to look at a glance.

I do like the raised and centered "E" on the 42S though.

In fact I much prefer the fixed location of an exponent with the digits filling up right to left as on the Casios. I've always thought the left-to-right display which HP uses to be not as good. It means your attention is always darting back and forth around the screen which I find a tad more annoying.

Dave.

## Re: Large HP 35s picture

Message #13 Posted by [Les Bell](#) on 11 July 2007, 3:45 a.m.,  
in response to message #5 by [Patrick Rendulic](#)

Quote:

---

Thanks for the picture! It does look nice!

---

I very much agree. Just one thing that could have made it nicer, and an added nod to the original 35: if the name Hewlett-Packard, the model number and the HP logo had been on the bottom-front edge of the machine. That would have been *so* nice!

Best

--- Les

[<http://www.lesbell.com.au>]

**Re: Large HP 35s picture**

*Message #14 Posted by **Walter B** on 10 July 2007, 10:04 a.m.,  
in response to message #1 by Seth Morabito*

For readers in Germany: There is no definite release date for the HP35s in Germany so far (official statement of HP today). More information may be available in September.

For the time until then, some folks in the internet may make a bit more ;-)

**Re: Large HP 35s picture**

*Message #15 Posted by **Nenad (Croatia)** on 10 July 2007, 2:52 p.m.,  
in response to message #1 by Seth Morabito*

Just wondering if it will be possible to connect the HP35s to PC in order to save/load programs.

Apologize that I did not read the HP35s specification carefully. May we expect the same problem as with the HP42s (a powerful machine, with very limited means for entering a program, i.e. keyboard only)?

**Re: Large HP 35s picture**

*Message #16 Posted by **Walter B** on 10 July 2007, 4:16 p.m.,  
in response to message #15 by Nenad (Croatia)*

Yes, we may.

---

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## HP Forum Archive 17

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**Javascript RPN calculators?**

Message #1 Posted by [gene wright](#) on 9 July 2007, 11:56 p.m.

Hi all. Looking for Javascript (not Java) RPN calculators similar to the HP 35 javascript simulation on the simulation page of the museum.

Sadly, the simulation is a tad too big to fit into the screen of the device I'm using. (it has to fit in about 320x400 or so and it is about 80 pixels too tall).

Any ideas?

Gene (The device? An iPhone of course)

**Re: Javascript RPN calculators?**

Message #2 Posted by [Seth Morabito](#) on 10 July 2007, 1:34 a.m.,  
in response to message #1 by gene wright

You're in luck! A friend of mine has been working on exactly such a calculator for his iPhone.

<http://scicalc.belfry.com/>

It looks quite funky on non-iPhone devices, but I am led to understand that it looks pretty slick on the iPhone. Give it a whirl.

**Re: Javascript RPN calculators?**

Message #3 Posted by [Gene wright](#) on 10 July 2007, 8:52 a.m.,  
in response to message #2 by Seth Morabito

That's perfect! Do you have his email or could you put me in contact with him? I'd love to stay in touch as he makes updates. :-)

Thanks!

Now, if only we had a new physical RPN calculator ...

**Re: Javascript RPN calculators?**

Message #4 Posted by [Egan Ford](#) on 10 July 2007, 1:57 a.m.,  
in response to message #1 by gene wright

<http://xmission.com/~egan/35/calc.html>

Too small or too big?

### **Re: Javascript RPN calculators?**

*Message #5 Posted by [Gene wright](#) on 10 July 2007, 8:48 a.m.,  
in response to message #4 by Egan Ford*

That's the one I was using and it is just SLIGHTLY too big. Needs to be about 80 pixels smaller and it would be a wonderful widget for my iPhone.

### **Re: Javascript RPN calculators?**

*Message #6 Posted by [S. Martin](#) on 10 July 2007, 9:46 a.m.,  
in response to message #1 by gene wright*

Gene,

The current solution for app developers of the iPhone to use Web 2.0 technologies is IMO not adequate. I hope (and believe) that Apple will open the iPhone to developers at some point in the future, at which point we can natively port HP calculator emulators to the iPhone. A voyager series model would have a very good form factor (although a bit smaller) on the iPhone. I think a port of Eric Smiths Nonpareil HP 11C or 15C would be great. Especially since the back end engine could be taken as is and only the front-end would have to be re-written. I did toy with the idea of porting Nonpareil to javascript, but, there is the speed issue and the idea of having to launch the web browser to run the app is not very appealing.

Steve

### **Re: Javascript RPN calculators?**

*Message #7 Posted by [gene wright](#) on 10 July 2007, 10:53 a.m.,  
in response to message #6 by S. Martin*

Oh, I agree it isn't as easy to launch the web browser to run an app, but that's what is allowed at the moment.

Javascript is the game right now.

The RPN calc shown in an earlier response is really nice.

### **Re: Javascript RPN calculators?**

*Message #8 Posted by [gene wright](#) on 10 July 2007, 11:41 a.m.,  
in response to message #7 by gene wright*

Here's the image of that javascript RPN calculator on the iPhone.

Gene

[http://home.comcast.net/~genela/rpn\\_calc\\_on\\_iphone.jpg](http://home.comcast.net/~genela/rpn_calc_on_iphone.jpg)

### **Re: Javascript RPN calculators?**

*Message #9 Posted by [S. Martin](#) on 10 July 2007, 2:27 p.m.,  
in response to message #8 by gene wright*

Ahhhh, the beauty of the iPhone!

At least you now have an RPN calc instead of the meager Apple Calc app.

Thanks for the pix! Steve

**Re: Javascript RPN calculators?**

*Message #10 Posted by [Matt Kernal](#) on 10 July 2007, 2:46 p.m.,  
in response to message #9 by S. Martin*

Quote:

At least you now have an RPN calc ...

.. EIDHABEB!

and for the non-text-messengers (like me):

.. except it doesn't have a big enter button!..

(just funnin' with ya) 8^)

Matt

**Re: Javascript RPN calculators?**

*Message #11 Posted by [Alain Mellan](#) on 11 July 2007, 1:47 a.m.,  
in response to message #8 by gene wright*

And when you flip the phone to horizontal, you get an HP15C ?

:~)

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## HP Forum Archive 17

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### Resources used by the HP-IL ISA card

Message #1 Posted by [PeterP](#) on 9 July 2007, 11:48 p.m.

Hi,

I have on of those famous cards from Christoph Klug to connect the HP-IL world with the PC. However, as my computer does not have an ISA port I was trying to find a way to use these cards with modern computers.

During my search I found the following company [Arstech](#) that provides ISA-TO-USB adapters. They provide the adapter, if necessary power-modules for the adapters and the software to redirect the resources from the ISA card expects to the USB and back.

I have not gotten it to work (especially as they have forgotten to send me the Software) yet from studying their descriptions [here](#) and [here](#) it is apparent that I will need a few bits and pieces of information. My hope was that someone can help me out:

- 1) Power and voltage need: from the description and looking at the pins that are used in the ISA-HP-IL card, it seems that the card does need 12V as well as the usual 5V. Is that correct?
- 2) The simple power-modul will supply 5V and 12V current up to 50 mA I believe. Question: Is that enough for the card or does the card need more?
- 3) what base port(s) is the card using?
- 4) what IRQ does it need?

I do not have an ISA computer where I could plug the card in and then simply look it up in the device manager, yet I hope that someone might know the answers or does have the card installed in an ISA computer and be willing to look it up for me.

Last but not least for Christop, Diego, Tony and the other HP-IL engeneers, it might be worth while looking at the company and their product, as they also offer a SDK for their card. IF we can get this to work, it might make the connection of HP-IL stuff via Christoph's card with modern computers much easier/possible. Their SDK is described [here](#)

Thanks a lot in advance

Cheers

Peter

---

### Re: Resources used by the HP-IL ISA card

Message #2 Posted by [Egan Ford](#) on 10 July 2007, 2:07 a.m.,  
in response to message #1 by [PeterP](#)

I have a 82973A, it is 5V only (no 12V required). Base I/O port can be configured with dip switches (default is 1700). I have not seen the Klug Card. If the card is exactly the same as the 82973A, read the 82973A docs for the I/O settings. There is no IRQ.

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## HP Forum Archive 17

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**NiMH batteries for HP-41 and 71**

Message #1 Posted by [PeterP](#) on 9 July 2007, 7:47 p.m.

Hi, just a quick info for those using the actual machines at least aside the fantastic EMUxx et al versions:

I found a good source for n-cell NiMH batteries PLUS a charger. The nice benefit is that the charger is for AAA cells (the one the 71b likes) and with a little space charges the N-cell batteries. Only problem - it is in the US and I do not know if the company has any EU or UK thing to sell.

Here is the link to the [charger and batteries](#)

Scroll down about halve way and you will see it: the part number for the charger is P/N 850-0047 and the part number for the batteries is P/N 850-0049 (4-Pack).

Additionally, the company is super responsive and fantastic with Customer Care!

Cheers

Peter

**Re: NiMH batteries for HP-41 and 71**

Message #2 Posted by [db \(martinez, ca.\)](#) on 9 July 2007, 11:58 p.m.,  
in response to message #1 by PeterP

that's a great find. sooner or later the n cell is going the way of the dinosaur. i have nicads and a charger but your find will probably kept a lot of 41s (and those gameboy thingers) on the job.

**Re: NiMH batteries for HP-41 and 71**

Message #3 Posted by [Les Wright](#) on 10 July 2007, 12:10 a.m.,  
in response to message #1 by PeterP

Wow!

I have been interested for a long time in rechargeables for the 41 calcs, and have never known the NiMHs even exist.

This seems like a great solution. I think one would need two sets, though, one set charged all the time. I believe the last bit of juice in an NiMH drops off fairly quick and you would want to pop in a fresh set ASAP to preserve constant memory while rejuicing the other set.

Les

**Re: NiMH batteries for HP-41 and 71**

Message #4 Posted by [Garth Wilson](#) on 10 July 2007, 2:05 a.m.,

*in response to message #1 by PeterP*

NiMH batteries are 1.2V each, the voltage at which my HP-41 says the batteries are low. New alkalines are about 1.6V, and a set lasts me a couple of years.

### **Re: NiMH bateries for HP-41 and 71**

*Message #5 Posted by **Les Wright** on 10 July 2007, 10:39 a.m.,  
in response to message #4 by Garth Wilson*

Thanks Garth,

I have found a Canadian distributor close to where I work, and was all set to spend CDN32 for the charger and CDN17 for 4 packs of the cells, plus taxes.

Alkalines last me about a year, but that is with pretty regular card reader use.

I have also found that when the low battery icon is in the display there is no way the card reader will function properly. Moreover, Randy Sloyer recommends changing the alkalines annually whether they are low yet or not.

The bottom line about the mimio N cells--I think I will hold off.

That said, I continue to be a strong advocate for using NiMHs in the 49G+ (and presumably the 50G when I get one). I have been thoroughly delighted with the performance of my formerly little used 49G+ since I got rechargeables for it. I was reluctant to use it much before since it consumed alkalines like mad. Now, the gold paint is beginning to wear off, I use it so much!

Les

### **Re: NiMH bateries for HP-41 and 71**

*Message #6 Posted by **PeterP** on 10 July 2007, 6:37 p.m.,  
in response to message #4 by Garth Wilson*

makes sense. Just FYI, I used those NiMH in my 41 with Cardreader with no problem. And it just 'feels' better for me to use rechargeable batteries.

### **Re: NiMH bateries for HP-41 and 71**

*Message #7 Posted by **Randy** on 10 July 2007, 8:54 p.m.,  
in response to message #4 by Garth Wilson*

Garth said:

Quote:

\_\_\_\_\_  
NiMH batteries are 1.2V each, the voltage at which my HP-41 says the batteries are low  
\_\_\_\_\_

True, NiMH cells are nominally stated as 1.2 volts. But, that's somewhat misleading as most NiMH cells reach 1.4 volts when fully charged. Referring to the 41 documentation, HP has this to say about the supply voltage:

*2-38: The power supply circuit monitors the input voltage level by comparing it to a reference voltage generated internally. A differential amplifier in the IC senses whether the voltage has fallen below 4.2V at*

*the IC, and if so, it grounds the LLD line connected to the CPU.*

4.2V distributed over the four cells would mean that the low battery indicator turns on at 1.05 volts per cell, well above the nominal 1.2 volt level of NiMH cells. But, it has been my experience that the 4.2V level in practice is a bit low as I see units turning on the BATT indicator at 4.4 and 4.5 volts which works out to ~1.12 volts per cell. All things considered, it's still well below the 1.2 volt level of a NiMH cell.

So, that works for me... and yes, I use both NiCD and NiMH N cells to test 41's. Even when buying case lots of alkaline N cells, those little monsters are still quite expensive.

### **Re: NiMH bateries for HP-41 and 71**

*Message #8 Posted by [Les Wright](#) on 10 July 2007, 9:40 p.m.,  
in response to message #7 by Randy*

Thanks Randy, I will reconsider then.

The only drawback is this could turn into a slightly more expensive proposition--the supplier in Mississauga is not going to wave his shipping charge, even though he is about 10 minutes from where I work, since he has to order the stuff from the US anyway!

Still, two sets of NiMH cells, the charger, and 15CDN shipping cost still works out to less that what some people are willing to pay to obtain and refurbish the original NiCad pacs for the 41 series.

I wonder if there is any way to fashion little conductive spring loaded sleeves for the little suckers so thay fit in NiMH chargers that accomodate AA and AAA cells? I really like the NiMH quick charger I use for the AAAs in my 49G+

Les

### **Re: NiMH bateries for HP-41 and 71**

*Message #9 Posted by [Randy](#) on 10 July 2007, 9:59 p.m.,  
in response to message #8 by Les Wright*

Quote:

\_\_\_\_\_

I really like the NiMH quick charger I use for the AAAs in my 49G+

\_\_\_\_\_

While it may be fine, the charge rate might be higher than what is required for the N cells. Most AAA's are around 850 mah, the N's are typically 400mah. If possible, compare the charger output with the cell charge rates - which are usually 1/10 the cell mah ratings. Quick charge rates can be as high as 1/rating.

Quote:

\_\_\_\_\_

I wonder if there is any way to fashion little conductive spring loaded sleeves for the little suckers so thay fit in NiMH chargers that accomodate AA and AAA cells?

\_\_\_\_\_

The springs are usually present in the charger, if so, all that is required is a conductive spacer. I cut wooden dowels to the required length that I stuck copper foil across. Crude but it works.

*Edited: 10 July 2007, 10:03 p.m.*



**Re: NiMH bateries for HP-41 and 71**

*Message #10 Posted by [Dave Shaffer \(Arizona\)](#) on 11 July 2007, 10:31 a.m.,  
in response to message #9 by Randy*

"I cut wooden dowels to the required length that I stuck copper foil across. Crude but it works."

Slightly less crude perhaps: what about making your spacer out of conductive material itself - a piece of copper or aluminum rod?

**Re: NiMH bateries for HP-41 and 71**

*Message #11 Posted by [Les Wright](#) on 11 July 2007, 10:57 a.m.,  
in response to message #1 by PeterP*

I really wish that mimio sold directly outside of the US.

I am finding that the supposed mimio authorized resellers in Canada offer at best a partial list of mimio products and their pricing is all over the place.

I am really keen on the 12-pack, which seems unavailable here.

Peter, at the risk of opening the floodgates to similar requests, if you place an order to mimio on the future and wanted to add a 12-pack of cells to the order to forward to me for fair price, I wouldn't say no :)

Les

**Re: NiMH bateries for HP-41 and 71**

*Message #12 Posted by [PeterP](#) on 11 July 2007, 6:47 p.m.,  
in response to message #11 by Les Wright*

:-)

I think it might be worth while to consider the following, as I have already all the cells and chargers I need (i ordered the 12-pack and a charger and they were so kind to send me two of the n-cell inlets to use their AAA charger for the N-cells, so I'm all set...)

Lets see if there is a greater interest outside of the US for those Nimh cells from Mimio. If so, I could make a bulk order and then ship the things to Canada. If there is interest, we can figure out the total shipping cost etc. However, I wonder if it would not be possible to send an email to them in the US and ask to buy those things in Canada. All people I contacted at Mimio have been outstandingly helpful (probably one my top 3 customer service experiences in my life). They might be willing to do something (I can provide my contact person if there is interest, just send me an email through here with MIMIO in the subject line)

Anyway, if there is some interest, I'd be certainly happy to be the conduit.

Cheers

Peter

*Edited: 11 July 2007, 6:49 p.m.*

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## HP Forum Archive 17

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### Battery Doors for Classic Series

Message #1 Posted by [Kostas Kritsilas](#) on 9 July 2007, 3:38 p.m.

Hi,

I'm new here, and I have checked the forum archives, but haven't yet been able to find an answer. I would like to know if the battery doors/covers for all of the Classic series units (HP35, HP45, HP65, HP55, and HP67 (not sure the HP67 is Classic series)) are all the same, or if the doors are specific to each model.

Kostas

### Re: Battery Doors for Classic Series

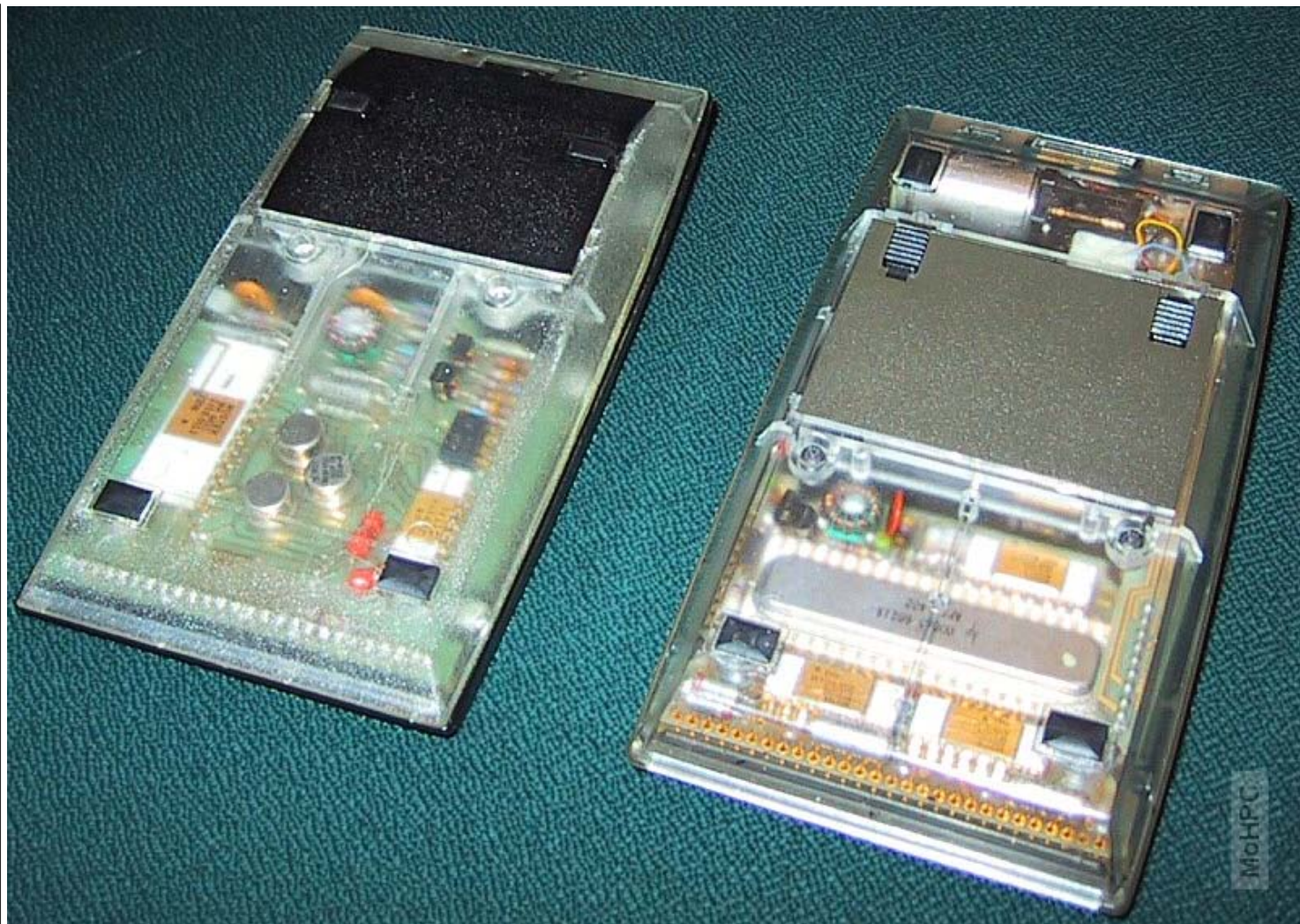
Message #2 Posted by [Gerson W. Barbosa](#) on 9 July 2007, 5:12 p.m.,  
in response to message #1 by [Kostas Kritsilas](#)

Kostas,

I have one HP-35, one HP-45 and one HP-67. The battery covers in the first two are exactly the same. I would guess they would fit in the HP-55 too. The HP-67, which does not belong in the Classic Series, appears to share the HP-65 battery cover.

Regards,

Gerson.



**Re: Battery Doors for Classic Series**

Message #3 Posted by **Walter B** on 9 July 2007, 5:17 p.m.,  
in response to message #1 by Kostas Kritsilas

Kalispera sou, Kostas,

there are 2 types of battery doors: 1 for 35, 45 (55, 70, 80?) - another one for 65 and 67.

(Just found Gerson did type faster than me. Parabems, Gerson!)

**Re: Battery Doors for Classic Series**

Message #4 Posted by **Dan W** on 9 July 2007, 11:06 p.m.,  
in response to message #3 by Walter B

I concur mostly. The door for the 35, 45, 80 are the same. The door for the 55 is the same except an olive drab color. The 70 is the same except an almond color. And the 65 and 67 are the same.

-- Dan

**Re: Battery Doors for Classic Series**

Message #5 Posted by **Kostas Kritsilas** on 9 July 2007, 11:45 p.m.,  
in response to message #4 by Dan W

Gerson, Walter, and Dan:

Thanks for clearing that up, doesn't really seem to be readily available anywhere I have been able to look. I remember a friend having an HP67, and another friend with an HP55, but didn't notice a difference in the battery door latches (horizontal on the classics, vertical on the HP65/67). Although I always wanted a HP, I ended up with a TI-58, but later moved onto a HP-15. I just recently started getting back into the older (i.e. non graphing) HP calculators, and have a particular affection for the classic models.

Kostas

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## HP Forum Archive 17

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### Simpson's Rule on HP17b/19b/200LX anyone?

Message #1 Posted by [Peter A. Gebhardt](#) on 9 July 2007, 11:07 a.m.

Does anyone have available a routine which allows to integrate functions with Simpson's Rule (or even Romberg's algorithm ...) on one of the Solver-equipped calculator series (and it's newer siblings) above?

Hints for implementation or code snippets would be welcome!

Reason: To enter the function in question only once - as demonstrated in Ed Keefe's articles on Palmtree Papers, where he used an implementation of the Trapezoid Rule.

TIA.

Best regards

Peter A. Gebhardt

PS: <http://www.technoir.org/hplx/hplx-1/>

couldn't be reached - temporarily shutdown or gone forever ???

Any mirrors / backups available?

*Edited: 9 July 2007, 11:19 a.m.*

### Re: Simpson's Rule on HP17b/19b/200LX anyone?

Message #2 Posted by [bill platt](#) on 9 July 2007, 12:19 p.m.,  
in response to message #1 by Peter A. Gebhardt

1424241

*Edited: 9 July 2007, 12:19 p.m.*

### Re: Simpson's Rule on HP17b/19b/200LX anyone?

Message #3 Posted by [Bill \(Smithville, NJ\)](#) on 9 July 2007, 1:28 p.m.,  
in response to message #1 by Peter A. Gebhardt

Peter,

If you have the HPMuseum DVD or CD's, then check out pages 36 thru 41 of the "HP-27S and HP-19B Technical Applications Step-by-Step Solutions" book.

It's a Solver example of Numerical Integration using Simpson's Rule.

This should also be usable for the HP-200LX and the HP-17BII.

Bill

## Re: Simpson's Rule on HP17b/19b/200LX anyone?

Message #4 Posted by **Peter A. Gebhardt** on 9 July 2007, 5:51 p.m.,  
in response to message #3 by Bill (Smithville, NJ)

Thx. a lot Bill!

I've already ordered the DVD from Dave today.

What bothers me conc. the implementation on the Solver is, how to get rid of the nuisance to enter the function several times (as demonstrated by  $y(0)$ ,  $y(i)$  and  $y(n)$  in the following code snippet:

Quote:

```
h = (xn - x0) / n
Integral = y(0)
For i = 1 To n - 1
  If i Mod 2 = 0 Then
    Integral = Integral + 2 * y(i)
  Else
    Integral = Integral + 4 * y(i)
  End If
Next
Integral = Integral + y(n)
```

An additional requirement:

Either achieving minimal error for a given number of function evaluations and/or computing an approximation having a given error bound, at minimal cost.

Best regards

Peter A. Gebhardt

PS: @Bill Platt, thank you too, for reminding me to express the problem in a way better to understand ;-)

*Edited: 9 July 2007, 5:58 p.m.*

## Re: Simpson's Rule on HP17b/19b/200LX anyone?

Message #5 Posted by **Bill (Smithville, NJ)** on 9 July 2007, 7:44 p.m.,  
in response to message #4 by Peter A. Gebhardt

Hi Peter,

Quote:

I've already ordered the DVD from Dave today.

Great - be sure to set aside some time (a lot of time) for perusing them. They are a great resource.

Quote:

how to get rid of the nuisance to enter the function several times

The secret is to use the SUM function to loop. When you get the DVD and look at the Technical Applications Book, it'll all become clear (or, in my case, a little less murky). Using the Sum let's you enter the function only one time.

The Technical Applications book is a Must Read for anyone wanting to make good use of the Solver. It has a

great section on the Let and Get functions that I haven't found in any other reference book.

Bill

**Re: Simpson's Rule on HP17b/19b/200LX anyone?**

Message #6 Posted by **Peter A. Gebhardt** on 10 July 2007, 7:27 p.m.,  
in response to message #1 by Peter A. Gebhardt

Current status - I have a working solution, BUT:

The implementation of an algorithm (as an example this one here)

[http://www.damtp.cam.ac.uk/lab/people/sd/lectures/nummeth98/integration.htm#E\\_Example\\_of\\_numerical\\_integration](http://www.damtp.cam.ac.uk/lab/people/sd/lectures/nummeth98/integration.htm#E_Example_of_numerical_integration)

does work reliably only with  $N ==$  powers of 2. Using other multiples of 2 shows an oscillating behaviour of the results dampening out with increasing  $N$ . (clearly visible thanks to the PLOT function of the HPCALC Solver!)

Excuse me for asking for help still - I suppose that this is an effect of the used algorithm (the integration) as such - are there any enhancements, I should/can add?

It's about 40 years since I was used to calculus, so pls. could you point me to some information where I can find useful info targetted to the 200LX Solver capabilities. For example, solutions using arrays for intermediate storage are a no-no, because of the read-only characteristics of the .STA lists.

TIA

Peter A. Gebhardt

*Edited: 10 July 2007, 7:35 p.m.*

**Re: Simpson's Rule on HP17b/19b/200LX anyone?**

Message #7 Posted by **Bill (Smithville, NJ)** on 10 July 2007, 8:39 p.m.,  
in response to message #6 by Peter A. Gebhardt

Peter,

You might want to try MERCURY from the HP200LX SUPER Site. It's supposed to be a replacement for Borlands Eureka's program and can be run on the HP-200LX. It does Integration as well as many other equations. You can find it here:

[Mercury](#)

Bill

**Re: Simpson's Rule on HP17b/19b/200LX anyone?**

Message #8 Posted by **Peter A. Gebhardt** on 10 July 2007, 9:00 p.m.,  
in response to message #7 by Bill (Smithville, NJ)

Bill,

Thx. again for your help offered. Because of the advisory process I use, I can't leave the Solver (data has to be used with other equations later on), so your advice is very welcome, but not what I'm looking for.

As an example, part of my work requires solving an Exponential Reciprocal Gamma Function, where part of the function is the Integral over  $x^{(\alpha-1)} \cdot \exp(-x/\beta) dx$  (for what I'm wanting to implement the algorithm).



So I'm still looking for a solution which I can "integrate" (no pun intended!) into the Solver environment.

Best regards

Peter A. Gebhardt

**Re: Simpson's Rule on HP17b/19b/200LX anyone?**

Message #9 Posted by **Bill (Smithville, NJ)** on 11 July 2007, 1:02 p.m.,  
in response to message #8 by Peter A. Gebhardt

Peter,

I went through my set of The HP Palmtop Paper On Disk and found the following Solver Equation:

Integral  
!CALC Num'cal Integration from TECH APP booklet E.G. Set  
A=-1,B=1,X=1 N=20 and find the area of a circle(I)!

```
I=L( H:(A-B)/(-2*N))/3*
  SIGMA(R,
    0,
    2*N,
    1,
    0*L(X,A+R*G(H))+(SGN(R)+SGN(2*N-R)+2*MOD(R,2))*
    (! function goes on next line(s) !
    ! e.g. area under a line (right triangle)!
    ! X !
    (2*SQRT(1-X^2))
    !area in top and bottom of circle! )
  )
```

This is based on the one in the Tech App Guide.

You can just replace (2\*SQRT(1-X^2)) with your F(X).

Note that N=20 means 40 iterations.

Have Fun.

Bill

*Edited: 11 July 2007, 1:03 p.m.*

**Re: Simpson's Rule on HP17b/19b/200LX anyone?**

Message #10 Posted by **Peter A. Gebhardt** on 11 July 2007, 1:06 p.m.,  
in response to message #9 by Bill (Smithville, NJ)

Bill,

Thx. a lot!

Peter A. Gebhardt

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## HP Forum Archive 17

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### Manual for HP-41 FORECAST I

Message #1 Posted by [Geir Isene](#) on 9 July 2007, 4:15 a.m.

Anybody has a manual for the module?

The programs are private, so reverse engineering what each does could prove to be a daunting task (or is there a way to unlock a private module?).

A funny thing about the module is that it is divided in two parts - one is the market forecaster (Cat 1 \*FORECAST), the other is an astronomy part (\*ASTRO)...

### Re: Manual for HP-41 FORECAST I

Message #2 Posted by [Meindert Kuipers](#) on 9 July 2007, 4:26 a.m.,  
in response to message #1 by Geir Isene

With the disassembler in the latest version of the MLDL2000 Manager (also works without an MLDL2000 connected) you will be able to list the user code. Of course you need to have the .ROM file of the module ....

Meindert

### Re: Manual for HP-41 FORECAST I

Message #3 Posted by [Geir Isene](#) on 9 July 2007, 11:41 a.m.,  
in response to message #2 by Meindert Kuipers

... and I'm eagerly awaiting a MLDL2000 - when can I buy one?

### Re: Manual for HP-41 FORECAST I

Message #4 Posted by [Meindert Kuipers](#) on 9 July 2007, 1:38 p.m.,  
in response to message #3 by Geir Isene

Just a bit more patience. I am finishing a new release of the M2kM software, and after that I have my hands free (as far as my spare time allows) to work on the proto of the new MLDL2000. When that is running I will finish the design and start production. If you plan to give yourself a Christmas gift this year .....

Meindert

### Re: Manual for HP-41 FORECAST I

Message #5 Posted by [Geir Isene](#) on 9 July 2007, 2:23 p.m.,  
in response to message #4 by Meindert Kuipers

I plan to give myself an MLDL2000 as *the* Christmas gift this year.

**Re: Manual for HP-41 FORECAST I**

*Message #6 Posted by [Prabhu Bhooplapur](#) on 9 July 2007, 10:04 p.m.,  
in response to message #4 by Meindert Kuipers*

Hi Meindert, I too have registered with you sometime ago and also wish to give myself this as a Christmas present. Prabhu

*Edited: 9 July 2007, 10:09 p.m.*

**Re: Manual for HP-41 FORECAST I**

*Message #7 Posted by [Ronald P](#) on 9 July 2007, 4:52 p.m.,  
in response to message #1 by Geir Isene*

Hello,

Are the programs normal usercode with the privat flag set?. In that case removing the flag with some synthetics tricks is easy to do. If it is however M-code than this is not applicable and you need to use the disassembler from the various projects like MLDL2000 etc.

Ronald

*Edited: 9 July 2007, 4:53 p.m.*

**Re: Manual for HP-41 FORECAST I**

*Message #8 Posted by [Geir Isene](#) on 10 July 2007, 3:50 p.m.,  
in response to message #1 by Geir Isene*

Seriously; Nobody has the manual for the FORECAST module? It doesn't exist in this community?

**Re: Manual for HP-41 FORECAST I**

*Message #9 Posted by [Matthias Wehrli](#) on 11 July 2007, 2:14 a.m.,  
in response to message #8 by Geir Isene*

I have about 40 modules where nobody in the community has a manual.. very depressive... Matthias

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## HP Forum Archive 17

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### **Stack enhancement program**

Message #1 Posted by [Iqbal](#) on 8 July 2007, 1:04 a.m.

Anyone knows where I can find a program for the 50G to enhance the menu keys like this program for the 48G:  
<http://www.hpcalc.org/search.php?query=tmenu2&hp48=1>

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## HP Forum Archive 17

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### comparing early flex circuit vs late rigid circuit series30 calculators

Message #1 Posted by [Which Dr.](#) on 7 July 2007, 10:47 p.m.

Hello, I am new at this HP calculator world. Here is my first question: can anyone tell me how to tell which version of the HP-38C series I have without taking off the back cover and cking? i.e is it the early (flex circuit) or late (rigid circuit) series 30 calculator that I have?

Perhaps you can you tell by the serial number if it is an early version or not?

Thanks in advance for any info!

### Re: comparing early flex circuit vs late rigid circuit series30 calculators

Message #2 Posted by [Hal Bitton in Boise](#) on 8 July 2007, 9:56 a.m.,  
in response to message #1 by [Which Dr.](#)

Hello,

The earlier flex PCB 30 series machines had 2 distinct characteristics:

1. They were rather heavy, as they had a steel plate inside to back up the flexible circuit boards.
2. The key detents were VERY firm with long travel (they used plastic snap domes).

One more thing

Because the flex circuit board machines were solderless, they were prone to having display segments blank out occasionally (a little twist on the housing usually brings them back).

Hope this helps.

Best regards, Hal

### Re: comparing early flex circuit vs late rigid circuit series30 calculators

Message #3 Posted by [Etienne Victoria](#) on 8 July 2007, 10:31 a.m.,  
in response to message #1 by [Which Dr.](#)

Hello,

If weight=220 g or 7,76 oz => early version with pressed components.

If weight <= 220g => latest version with soldered components.

Best regards

Etienne

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## HP Forum Archive 17

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### **welding tabs onto lithium batteries in san jose**

Message #1 Posted by [db \(martinez, ca.\)](#) on 7 July 2007, 11:46 p.m.

does anyone here know either a place in the san jose california area or a battery chain store (that might be around there) who can weld tabs to connect lithium ion batteries. i'd try but i blew up enough stuff on the 4th.

### **Re: welding tabs onto lithium batteries in san jose**

Message #2 Posted by [Eric Smith](#) on 8 July 2007, 2:03 a.m.,  
in response to message #1 by [db \(martinez, ca.\)](#)

That's something I'm interseted in as well. If I find any, I'll let you know.

### **Re: welding tabs onto lithium batteries in san jose**

Message #3 Posted by [Anthony L. Mach](#) on 8 July 2007, 7:12 p.m.,  
in response to message #1 by [db \(martinez, ca.\)](#)

Hi all,

I had heard rumors that Batteries Plus was the place to go to get this done. They do the spot welding in-shop. Of course, finding one near you might be tough.

Question: Are you working with larger cells or coin cells? In the latter, I would try Mouser for pre-tabbed cells. Soldering them is just too risky!

Have fun!

Tony

---

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## HP Forum Archive 17

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### HP 50g stack control

Message #1 Posted by [rocco lagioia \(Italy\)](#) on 7 July 2007, 2:35 p.m.

ok....i had to write this again after i read the "term of use". Let's say that I was not too polite with the HP engineers!!!

I have been using the 28S for 20 years. I loved it. Unfortunately does not work any more. Two weeks ago I bought the 50g. I shall use british understatement: "it's not my favorite calculator" !!! Bulcky, heavy, big....

But what is even worst it seems I have to press 4 or 5 keys to manage to pick a number from the stack.

Is there any way to put the stack control commands in the function keys? This was normal with the 28S.

Anyone can help me? thanks

### Re: HP 50g stack control

Message #2 Posted by [Gerson W. Barbosa](#) on 7 July 2007, 4:18 p.m.,  
in response to message #1 by [rocco lagioia \(Italy\)](#)

Quote:

Is there any way to put the stack control commands in the function keys? This was normal with the 28S.

Just set flag -117:

-117 SF

or

[MODE] [FLAGS] then check 117 to change from *CHOOSE boxes* to *Soft MENU*. Then [Left Shift] [PRG] [STACK]

HTH,

Gerson.

*Edited: 7 July 2007, 4:21 p.m.*

### Re: HP 50g stack control

Message #3 Posted by [James M. Prange \(Michigan\)](#) on 7 July 2007, 10:58 p.m.,  
in response to message #1 by [rocco lagioia \(Italy\)](#)

Quote:

Is there any way to put the stack control commands in the function keys? This was normal with the 28S.

---

???

Well, it's "normal" with the 50g too. LeftShift PRG followed by the STACK menu key give you a menu of the stack commands. Other than that, with the standard "stack display" (no "special environment" active), pressing the CursorUp key invokes an "interactive stack" environment, and even while in a "special environment", pressing the HIST key invokes an "interactive stack" environment.

As Gerson noted, you'll probably be more comfortable with flag -117 set, for "Soft MENU" instead of the default "CHOOSE boxes".

Of course, this applies to "RPN" mode; I wouldn't know about "ALG" mode.

Regards,  
James

---

### **Re: HP 50g stack control**

*Message #4 Posted by [Matthew W. Milligan](#) on 8 July 2007, 7:20 a.m.,  
in response to message #1 by [rocco lagioia](#) (Italy)*

I frequently use the PICK function to grab numbers from the stack. My solution is to use a CUSTOM menu that has my most used commands - one of which is PICK.

To create a custom menu you save a list of commands and/or functions with the name CST. Then left-shift MODE turns this list into your active soft menu for use with function keys.

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## HP Forum Archive 17

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### Letter to the Editor of Datafile

Message #1 Posted by [Eric Smith](#) on 7 July 2007, 5:22 a.m.

The following is a copy of a letter I just emailed to the editor of Datafile, the HPCC club journal:

It has been reported that an HPCC member has criticized the arrangement whereby Valentin Albillo (#1075) was given a free membership in exchange for the many articles he has written. As a result, that free membership has been eliminated.

Both Valentin and the member making the complaint have contributed dozens of articles to Datafile over the years. Rather than asking for Valentin's free membership to be revoked, perhaps a request for a similar deal could have been made. Even if that were not possible, it would have been more constructive to try to propose other possibilities, such as getting other members to contribute the membership fee.

I would like to see more articles from Valentin (and from the member who made the complaint, for that matter). I don't have any idea what Valentin's financial situation is. I have been unemployed for the last three months, and consequently am not exactly awash in loose cash. However, I have just sent £28 to the secretary to pay for a one year membership for Valentin, in the hope that he will continue to contribute articles.

Eric Smith #1028

### Re: Letter to the Editor of Datafile

Message #2 Posted by [Steve Borowsky](#) on 7 July 2007, 6:14 a.m.,  
in response to message #1 by Eric Smith

Geez, that's pathetic.

### Re: Letter to the Editor of Datafile

Message #3 Posted by [Howard Owen](#) on 7 July 2007, 1:42 p.m.,  
in response to message #1 by Eric Smith

Good going, Eric!

I hope the HPCC and Valentin can come to terms that will allow his continued contributions to Datafile. There are few authors whose articles I enjoy more. It would be a major loss to the community if this situation were the final state of affairs.

Regards,  
Howard

### [OT] Some pertinent explanations [LONG]

Message #4 Posted by [Valentin Albillo](#) on 7 July 2007, 2:49 p.m.,  
in response to message #1 by Eric Smith

Hi, Eric:

First of all, thank you *very* much for your interest in my HP-calc-related 'productions' and your kind support, which goes so far above and beyond 'the call of duty' that where other interested people just lurk in silence, in your case goes as far as to write a sympathetic letter to Datafile's editor, make it public here, and spend £28 of your hard-earned money in order to pay a subscription for me.

This leaves me with a bittersweet feeling. On one hand, I really *do appreciate* your extreme willingness to try and help.

On the other hand, I'm *saddened* by your taking the initiative to try and pay for a subscription for me without first getting in contact with me so that I would tell you the details of the initial arrangement and of the present controversy. This would have saved you from sending the money in the first place, because *this is not a matter of money*, at all. This being so, I expect that Datafile's Secretary will return you money uncashed, as I won't accept a membership for me at anyone's personal expense no matter how much I'm obliged by your gesture. So, I'll immediately contact Mr. Secretary and Mr. Editor via e-mail, formally asking for the money to be returned to you and to do likewise should other such attempts be made.

This said, and as I very much appreciate the kind and continuous support of my HP-related activities that many HPCC members and MoHP frequent visitors have demonstrated in the past, I think all of you deserve to be given a complete picture of the situation as I see it, which will be necessarily long but completely to the point, except I won't name names nor will I attempt to guess underlying personal motivations, let's everyone make their own minds on this. Here we go:

About my *commitment* to regularly provide articles and the 'membership offered in return', some people really have taken this arrangement so much at heart that it seems they won't stop at *anything* to see it *undone*. Initially they simply *anonymously* posted frequent public criticism in a most *unpolite* way each and every time I tried to promote Datafile or post about some new articles published there. It was really *unfair* to me and certainly attempted to *sabotage* my well-meant efforts to promote Datafile, but they were anonymous 'trolls' and that was it, nothing for me to do except stand it as well as I could.

Then the offensive scaled up one bit when I was told that some HPCC members had *violently opposed* this arrangement at public HPCC meetings, and some of them even went as far as to oppose in written form, by sending letters to the Chairman. This resulted in the topic being voted upon, and the majority decided to keep it as it was. It was even debated at some AGM, with the same result. That should have ended it all.

However, I was greatly surprised when one of my latest Datafile promotional posts at the MoHP was suddenly attacked *in the very same style and nearly the very same words* by some person which, far from being anonymous, is one of the most well-known HPCC members and further, *he's a member of the Committee* !

Thus we have the strange and unprecedented case of a member of the HPCC Committee who publicly *doesn't abide* by the very Committee's decisions and arrangements, and feels free to *ignore* their democratically voted decision and continue to publicly and unpolitely harass some other member who is just trying to help, and further, utterly sabotage his Datafile promotion attempts.

This, of course, was the last straw as far as my patience was concerned, so I formally requested an official, public statement by the Committee endorsing our agreement and supporting me against the unfair detractors. The Committee discussed the matter and the results were that they would do *\*nothing\**. They would *\*not\** reprimand the offending members, despite they unfairly attacking a fellow member and sabotaging his efforts to promote Datafile and despite they not abiding by an

official Committee agreement, and they would also post or publish *\*nothing\** in my support, not even simply just saying that it was true that we had an official, voted, approved arrangement and I was properly fulfilling my part of it. They would do *\*nothing\** of the sort, of any sort.

I was profoundly disappointed to realize that I had no support at all from an organization to which I had contributed so much (more than 30% of each issue on the average for a number of years), not even from some of the people who should be most grateful for it, and I certainly wouldn't *suffer* being treated like that, so I withdrew from the agreement and called it null, stopping my contributions to Datafile as a result.

How came this arrangement to be in the first place ? Well, it's quite simple. I've been a member of HPCC for *seven* years, and three years ago I saw that the club was heading *extinction*. It was losing membership at an alarming rate (already under 100), and besides the contents of Datafile were extremely poor, IMHO, with small 24-page issues which did only cover RPL models and scarcely at that, to the point where Palm coverage was attempted as well, in an effort to have something to fill those meager 24 pages with.

Seeing this, I decided this kind of contents were not of my interest, and further decided to *cancel my subscription*, as many of my friends had already done, because I didn't want to pay for those uninteresting contents that I wouldn't even read.

However, this saddened to me no end, as HPCC was practically all that was left of the golden PPC times, and I was very sore of seeing it go to extinction too. So I came up with the idea that the best way to help wasn't keeping an unwanted subscription for some unwanted materials, Datafile would decline all the same, but rather *contribute by developing, writing, and submitting good-quality articles for publication*, which would provide both quantity and quality, the kind of articles I loved to read back in PPC times, *the kind of articles I would love to read now*.

However, these articles of mine would be precisely the only ones who would interest me among all of the contents, the rest being uninteresting to me, and I would certainly not pay a subscription just to read an exact facsimile of my own articles (!), so I thus intended to cancel my subscription at once all the same. But this brings the problem that I certainly need to see how my articles appear in print, because a number of times errors do crept in during the editorial process, and I would have to warn Mr. Editor about them (formatting and such were the most common).

In order for me to be able to see the printed article, it would be utterly necessary for me to be sent a *printed copy of the relevant issue*. But I certainly didn't want to pay for it: after taking the considerable trouble, effort, and time to write 10-16 page quality articles, having to pay to get to see them in printed form would be like we in Spain say, "*hacer de p\*ta y poner la cama*", which roughly translates as one acting as a prostitute for free and, on top of having to perform that arguably disgusting activity, having to pay to do it. This obviously wasn't acceptable to me, so I contacted Mr. Editor and made him a proposal, namely I would *commit* to send *long, quality* articles on a *regular* basis, and I would get a free printed copy of each issue featuring one of my articles, for checking and reference purposes.

He thought it was a very good idea, which would alleviate a whole lot his continual, cronic *need* to try and get articles from whatever sources he could, thus making his already hectic editorial life much more pleasant to bear. He consulted the proposal with the Committee, which also agreed, and considered the arrangement as a "free subscription" in exchange for articles. Most probably, wording the arrangement that way was what prompted some people to *violently* oppose to it, on the basis that other people submitting articles weren't expected to receive any "payment" at all.

The truth, in a nutshell, is that I was about to end my subscription to Datafile in any case: I wasn't going to pay to read uninteresting (to me) contents, nor would I pay just to read my *\*own\** articles, so they would never get my money no matter what. I just offered them a solution to their

problem, out of a desire to help, though I knew it would be a *\*lot\** of work and there would be times when I wouldn't feel like writing anything because of workload, or grave familiar situations, or health problems. All I asked in return was to have a printed copy of each issue containing one of my articles, that's all I asked for, and that seemed reasonable enough to me.

It goes without saying that I could'nt care less for the few sterling pounds a yearly subscription costs, I spend twice as much twice a day, each and every day, just to get a taxi from home to work, so that is no money to me, it's peanuts. But, out of respect for myself, I'm *not* going to spend *80 hours each and every two months*, time and effort which I detract from my other hobbies and my family, to submit a publishable article for Datafile, then having to *\*pay\** to get to check it. No way I'm doing that. I'm the one helping them, not the other way around.

In fact, you've probably noticed the impact: the previous Datafile issues were 40- and 44- pages long, if I'm not wrong, with some long articles and all. The current issue, which features no article from me, is just 24 pages long, and most "articles" are extremely short and mostly focused on RPL models or obsolete hardware, with the one and only exception being an 8-page financial article for the HP-12C. I very much doubt Datafile will be able to subsist on that kind of contents for long, though fortunately for them the release of the new HP35S will mean a wealth of publishable materials which will help alleviate the situation for a while.

As for committing to write good-quality articles on a regular basis, you can't really know just *how much effort* some of them require. The latest one, "**Identifying Constants**", took me more than *4 hours a day, \*each\* and every day* for a whole month (that's about 100+ hours) to create, from the idea, to the programming, to the many, many well-chosen examples I had to laboriously create, to the setting and typesetting of the nearly 50 very complicated mathematical expressions, then writing it all in MS Word, checking it all by *typing by hand every line of code* and running every example on the actual calculator, etc, etc. There's no way a single, free 40-page printed issue (of which 16 pages are my own !) can pay for so much work. Not at my professional hourly rate anyway. :-)

Finally, after this nasty turn of events, I was very sorry for those people who might have joined HPCC after reading my promotional attempts, with the idea of getting first hand my articles, and felt morally obliged to lessen the impact on them of a situation they had done nothing to create and could do little to solve (I can only think of they *politely* writing the Committee expressing their opinion on this).

Thus, I fully intend to write the very same 4 articles I would have written and submitted to Datafile for publication this year, with the same formatting and quality, then send those articles in PDF format to each and every person who newly subscribed this year. All 4 are already written, in the sense of the corresponding program and examples already existing, but still need to be set up in MS Word and be exhaustively format-checked and run-tested.

Well, sorry for the extreme length of this post but I felt that all of you deserved a thorough explanation. It's been useful to me as well, I feel better now.

Thanks and best regards from V.

### **Re: [OT] Some pertinent explanations [LONG]**

*Message #5 Posted by [Eric Smith](#) on 7 July 2007, 4:06 p.m., in response to message #4 by Valentin Albillo*

Thanks for the detailed explanation. I would still prefer to pay for a year's HPCC membership for you than to get a refund, even though you've explained that the money is not the issue. However, if you're insistent on not accepting it as a gift, I will of course respect your wishes.

Eric

**Re: [OT] Some pertinent explanations**

*Message #6 Posted by **Walter B** on 7 July 2007, 4:22 p.m.,  
in response to message #4 by Valentin Albillo*

Buenas tardes, Valentin,

though I know only your side of the story now (audiatur et altera pars!), I must say the result is a real pity. I didn't check the archives for any names, which would be done easily. But what for? Well, I can only hope both sides (whoever is on the other side personally) may settle this matter like adults (by experience, such debates between men tend to end in kindergarten very often). Speaking for hopefully many of the members of this forum, a living Datafile is far better for all of us, the readers, than a tombstone claiming "I was right" (hope my limited English is sufficient to express my feelings).

Thanks for your promotional activities, and good luck for the necessary negotiations,

best regards,

Walter

**Re: [OT] Some pertinent explanations**

*Message #7 Posted by **Steve Borowsky** on 7 July 2007, 5:57 p.m.,  
in response to message #6 by Walter B*

I know this is really none of my business, and i'm not a significant contributor to this community, but I do consider myself a long-term member of the HP community here; i've probably been registered on this site for over ten years, so I feel justified in trying to express something of how I feel after hearing about this situation. When I posted my first response, I thought afterwards that perhaps I had been too harsh and quick to judgment, and that maybe there were other factors I wasn't seeing. But after reading Valentin's eloquent explanation, sadly I feel my criticism was inadequate. It's not only the behavior of the original HPCC member that I find pathetic and reprehensible, but the resulting actions of the HPCC leadership as well. I'm telling you, if I was walking around with that kind of head I think i'd have to kill myself.

**Re: [OT] Some pertinent explanations [LONG]**

*Message #8 Posted by **Fernando del Rey** on 7 July 2007, 5:59 p.m.,  
in response to message #4 by Valentin Albillo*

Hi Valentin!

As a long time friend of yours, and recent member of HPCC (per your recommendation), I'm really sorry for the state of affairs that has led to your decision.

While understanding and sharing your point of view on this matter, I can only ask you to reconsider your decision for the benefit of the HP calc fan community.

Keep in mind that there is always some reason for others to think or act differently from what we would expect. Please be forgiving when judging people's behavior.

Not being a contributor myself, nor practically active as an HP calc fan, I have nevertheless enjoyed and really appreciated reading your Datafile articles over the years. I wish to thank you for all those fun and

interesting materials, which surely you have dedicated long hard-working hours to produce.

If your decision with respect to Datafile is firm, may I suggest that you publish your future articles at the Articles Forum in this MoHP, or even better, why don't you think about gathering enough material for publishing a book.

Thanks for all you do for this community.

See you soon!

*Edited: 7 July 2007, 6:26 p.m.*

### **Re: [OT] Some pertinent explanations [LONG]**

*Message #9 Posted by **Wayne Brown** on 7 July 2007, 10:10 p.m.,  
in response to message #4 by Valentin Albillo*

This whole situation is very distressing. I guess I can see both sides (somewhat), and we *are* getting only one side of the story here. But it's hard to imagine that there could be any other information that would justify the way Valentin has been treated. If I put as much time and effort as he does into preparing free articles for publication, then the idea that I'd have to *pay* for the "privilege" of proofreading my own material would be not only ludicrous but offensive.

The thing I find most disturbing is the Committee's refusal to support -- or even *acknowledge* in public -- a good-faith agreement they made. The whole thing is unpleasantly reminiscent of the disrespect shown to Richard Nelson in the last stages of his involvement with PPC.

My first impulse on reading all this was a desire to resign my own HPCC membership immediately, but upon reflection I decided to wait and see what other facts, if any, come to light. However, I can promise that whatever happens will have a significant bearing on my decision at membership renewal time.

### **Re: [OT] Some pertinent explanations [LONG]**

*Message #10 Posted by **DaveJ** on 7 July 2007, 11:27 p.m.,  
in response to message #4 by Valentin Albillo*

Hi Valentin Although I have never read any of your articles or Datafile for that matter, but I am also a contributor of articles to other magazines, and I can certainly agree with how much effort goes into producing such articles. Those who haven't done it themselves can never appreciate just how much work is actually involved.

I agree that you should stand your ground on principle alone, and anyone who does not agree and has such spite as what is being displayed, simply does not deserve to be part of the "community".

I wish you all the best, and remember, there are always other ways to get your work out there *\*and\** get some financial reward for it.

Regards Dave.

### **Re: Letter to the Editor of Datafile**

*Message #11 Posted by **Bruce Bergman** on 8 July 2007, 1:35 a.m.,  
in response to message #1 by Eric Smith*

What's really pathetic here is that certain people just can't act like adults, and are either overwhelmed with jealousy and ego, or merely have a need to be petulant children. Sometimes I really wonder if there is some

sort of brain damage in our geek-full industry; I can't otherwise imagine why people can't just get along and act like mature adults and be considerate. Really.

I understand much of what was said, and I'm sure there is still a lot I don't understand. However, it's considered common practice -- literally common \*courtesy\* -- in the USA to send authors of published works in periodicals, free copies of the actual periodical once it is published. You write an article, long or short, and they send you at least one copy gratis, if not more. I have LONG worked in the publishing industry, and have not only written for journals and magazines, but also have written a monthly column in a major industry magazine for several years. While I DID get paid for my work, I \*also\* received free copies of the magazines and journals; that's expected and normal. I can't imagine what the hubbub is about simply doing something like that for Valentin. Like he said, it certainly doesn't make sense to write something and then have to pay for it -- that's idiotic. Granted, it's a different country, and maybe there are things I don't understand, but it certainly doesn't make sense to me.

Valentin, you're a stud for taking the high road. I personally think someone (else) needs to get their face slapped a few times and hopefully shake out some of that arrogance and jealousy.

Good luck,

bruce

*Edited: 8 July 2007, 1:49 a.m.*

## **Re: Letter to the Editor of Datafile**

*Message #12 Posted by **Tony Duell** on 8 July 2007, 5:13 a.m.,  
in response to message #1 by Eric Smith*

As one of the people who objected (and still objects) to the arrangement between HPCC and Valentin, I feel I have to respond.

Yes, I am on the HPCC committee. But when I post here, I only speak for myself. I don't claim to represent HPCC, I don't represent HPCC. And while I feel constrained to carry out club policy in as far as I asked to do so (a trivial example of this is that when the Datafile journals as posted, I would not have done anything to prevent Valentin's from being sent, even though I disagreed with the way he got membership), I do not feel I have to agree publically with everything the committee says or does. I would not remain a member of any club that expected that sort of behaviour from its members or committee members.

Eric mentions that he's been unemployed for 3 months. I've been essentially unemployed for, not 3 months, not 3 years, but 10 years. I'm a self-employed consultant, but very few people consult me. And yet I've paid my membership fee every year without question. I've been a member of HPCC for 15 years now....

In that time I feel I've contributed to the club. 10 years ago, shortly after my employment contract ending, I presented that HP48 I2C interface at the HPCC conference. To get that working, to be sure it was reproducible, to do all the demonstrations cost me, I estimate, over £1000. Since then, as some of you know, I've traced out schematics of many older HP calculators. In some cases (particularly handhelds), I borrowed the machines from trusting HPCC members. In others, I've had to buy the machines myself. I have given HPCC permission to sell CD-ROMs of said schematics, please note that I don't get a penny from this. All profits go to the club. I have no idea how many such CD-ROMs have been sold, but I believe it's enough to have easily covered my membership for the next 10 years or more.

And producing said schematics takes time. Valentin said he spent over 100 hours on one of his articles. Well, maybe I'm a slow worker, but producing schematics for the HP9100B took not 100 hours but, I estimate, over 10000 hours. It's a very difficult machine to make sense of.

You may not feel those schematics have any value. You are, of course, entitled to that view, but I don't think it's universally held. Just as views on the worth of Valentin's articles vary between people.

Other people contribute to the club in other ways. Or perhaps you think that accounts keep themselves, conferences organise themselves, journals edit themselves, other articles write themselves, and so on. As far as I know, none of them get any financial reward from the club. We all pay our membership fees every year.

And let me point out that while it may be common to give a free copy of the journal containing an article to each author, there is a big difference between getting Datafile and being a member of HPCC. The latter has considerably more perks.

Which brings me to my complaint. If it was HPCC policy that contributing to the club was rewarded by a discount in membership, I'd have no problem with that. If it was agreed that one form of contribution to the club, namely writing articles for Datafile, was rewarded (say 1/6th off the subscription for each article published), I'd have no problem with that. What I have a problem with is rewarding one person for his contributions while the rest of us put time and money into the club for no financial reward.

## **Re: Letter to the Editor of Datafile**

*Message #13 Posted by **James M. Prange (Michigan)** on 8 July 2007, 6:09 a.m.,  
in response to message #12 by Tony Duell*

Quote:

---

Yes, I am on the HPCC committee. But when I post here, I only speak for myself.

---

Of course; when anyone posts here, I expect that, unless otherwise stated, he's speaking only for himself, and not for any organization that he happens to belong to.

Quote:

---

And let me point out that while it may be common to give a free copy of the journal containing an article to each author, there is a big difference between getting Datafile and being a member of HPCC. The latter has considerably more perks.

---

But as far as I know (and I am an HPCC member), actually using those perks (other than receiving Datafile) would require travelling to London, which usually isn't feasible for many members. But that's okay with me; I was aware of it before I joined.

Quote:

---

Which brings me to my complaint. If it was HPCC policy that contributing to the club was rewarded by a discount in membership, I'd have no problem with that. If it was agreed that one form of contribution to the club, namely writing articles for Datafile, was rewarded (say 1/6th off the subscription for each article published), I'd have no problem with that. What I have a problem with is rewarding one person for his contributions while the rest of us put time and money into the club for no financial reward.

---

Well, I do understand your viewpoint, and of course Valentin's as well, but I don't think that this forum is an appropriate place to discuss internal HPCC matters; wouldn't it have been better to discuss this only within HPCC or published in a Datafile "member's letter"?

Regards,



James

## Re: Letter to the Editor of Datafile

Message #14 Posted by [Wayne Brown](#) on 8 July 2007, 1:21 p.m.,  
in response to message #13 by James M. Prange (Michigan)

Quote:

Quote:

And let me point out that while it may be common to give a free copy of the journal containing an article to each author, there is a big difference between getting Datafile and being a member of HPCC. The latter has considerably more perks.

But as far as I know (and I am an HPCC member), actually using those perks (other than receiving Datafile) would require travelling to London, which usually isn't feasible for many members. But that's okay with me; I was aware of it before I joined.

That's the way it is for me, too. I had two reasons for joining HPCC:

1. HPCC is a close relative of PPC, and having an HPCC membership number gives me a symbolic connection to the PPC legacy. That was, and remains, my primary reason for wanting to be a member.
2. I like having a subscription to *Datafile*, though I seldom read any articles that don't directly involve the HP-16C, HP-41 or HP48.

So if there are any other "perks" for a being member outside the UK, I have never noticed or taken advantage of them.

## Re: Letter to the Editor of Datafile

Message #15 Posted by [Eric Smith](#) on 8 July 2007, 5:39 p.m.,  
in response to message #13 by James M. Prange (Michigan)

Quote:

I don't think that this forum is an appropriate place to discuss internal HPCC matters; wouldn't it have been better to discuss this only within HPCC or published in a Datafile "member's letter"?

I suppose most of the blame for having a discussion in this forum is my fault, for posting my letter to the HPCC editor here. I did that because I knew that many HPCC members do read the forum here, and because Tony had criticized the arrangement between Valentin and HPCC in this forum on multiple occasions.

I'm not trying to pin blame on anyone. I think it should be possible for HPCC to adopt policies that should satisfy both Valentin and Tony, and that helpful suggestions have already been made in this discussion thread. That is exactly what I was hoping for by posting here; if the discussion had been restricted to member letters in Datafile, it would drag on for years, rather than helping to reach a solution in a timely manner.

Eric

**Re: Letter to the Editor of Datafile**

*Message #16 Posted by **Tony Duell** on 9 July 2007, 1:18 p.m.,  
in response to message #13 by James M. Prange (Michigan)*

Unfortunately, Valentin seems to think I was speaking for the club when I commented on his free membership. I was not.

As regards other perks from being a member, there is nothing to stop HPCC holding meetings other than in London. If there's a sufficient number of HPCC members in another place, then a 'local' meeting would seem to be a good idea.

And finally, yes, this should really be discussed at HPCC. But when I am flamed publically, I feel I have the right to respond.

**Re: Letter to the Editor of Datafile**

*Message #17 Posted by **Howard Owen** on 8 July 2007, 9:17 a.m.,  
in response to message #12 by Tony Duell*

I'm sorry, but this just sounds like obsessive and childish adherence to unwritten law at the expense of the HPCC membership, and of the larger HP calculator community. And that's the best interpretation I can put on the matter.

My HPCC membership will lapse at renewal time. My four page paper (with 7 pages of associated Mcode) will be published here (after HCC 2007) rather than in Datafile.

Howard

**Re: Letter to the Editor of Datafile**

*Message #18 Posted by **Wayne Brown** on 8 July 2007, 1:17 p.m.,  
in response to message #12 by Tony Duell*

Quote:

And let me point out that while it may be common to give a free copy of the journal containing an article to each author, there is a big difference between getting Datafile and being a member of HPCC. The latter has considerably more perks.

According to Valentin's account, all he asked for was "a free copy of the journal[s] containing [his] article[s]." Was he ever offered that *instead* of a free membership?

**Re: Letter to the Editor of Datafile**

*Message #19 Posted by **Eric Smith** on 8 July 2007, 4:52 p.m.,  
in response to message #12 by Tony Duell*

Quote:

I've been essentially unemployed for, not 3 months, not 3 years, but 10 years.

I was aware of that general situation, though not the details. Had I been asked to do so, I would have been just as happy to pay your membership fee, as I certainly value your your contributions. I'm not going to debate how much value your contributions have relative to Valentin's or anyone else's. Each reader will get different value from different articles.

At this point, though, I won't pay for your membership while you are taking actions that, however justifiable, are preventing Valentin from receiving the author's copy of the publication he has requested. It seems that there should be a way for HPCC to adopt a uniform policy for authors that would address both your concerns and Valentin's, and if that were to happen I would certainly be willing to pay for any remaining membership expenses for you for the indefinite future.

Quote:

---

What I have a problem with is rewarding one person for his contibutions while the rest of us put time and money into the club for no financial reward.

---

I understand your position, and it certainly has some merit. I generally respect people that take a principled stand on issues they consider important. But I think most of us would have been more willing to compromise on this issue, as getting a complimentary printed copy of each issue that one of his articles appears in (which is apparently what he requested) does not seem like a "financial reward" to me.

Did you ask (as an individual member, not as a committee member) whether you, or other authors, could have the same deal as Valentin?

Quote:

---

If it was agreed that one form of contribution to the club, namely writing articles for Datafile, was rewarded (say 1/6th off the subscription for each article published), I'd have no problem with that.

---

That seems like a reasonable plan. Did you propose that to the committee? Were the other committee members opposed?

I respectfully request that you and the other committee members try to adopt that plan, or something similar that will address both your concerns and those of Valentin.

Eric

---

## **Re: Letter to the Editor of Datafile**

*Message #20 Posted by **Walter B** on 8 July 2007, 6:19 p.m.,  
in response to message #12 by Tony Duell*

Tony,

I'm aware of you weren't posting as representative of the HPCC committee. So feel free to forward my following opinion to your colleagues as one vote of a simple HPCC member:

IMO it is a matter of course to send a complimentary copy of an edition of a magazine to all the authors who contributed. As far as I understood Valentin, that's all he wants. No more. So it shall be easy to settle this matter, and there shall be one problem less in this world.

Regards, Walter

P.S.: Ref. to your post: 1) Also I can't see any perks for me as a HPCC member on the continent besides receiving Datafile. Of course I would be glad to visit any meetings, speaking face to face with some of the famous people I know from their writings only so far, but I will certainly not travel to London just for that - too expensive in many ways. If there are more perks, please specify.

2) 1E4 ENTER 8 / 365 / 7 \* 5 / results in 4.8 - so 1E4 hours correspond to almost 5 years working 8 hours a day (but weekends) on this topic. Hmmmh!?

### **Re: Letter to the Editor of Datafile**

*Message #21 Posted by [Thomas Radtke](#) on 8 July 2007, 6:33 a.m.,  
in response to message #1 by Eric Smith*

I wonder if it isn't possible for an author outside HPCC to contribute and in return receive a voucher upon accepting the article. Sorry if I missed this information on hpcc.org.

### **Re: Letter to the Editor of Datafile**

*Message #22 Posted by [Forrest Switzer](#) on 8 July 2007, 9:07 p.m.,  
in response to message #1 by Eric Smith*

There are some clubs and non-profit organizations that have established rules (be they written or just understood) that no one is to be paid in any manner for any service without the approval of the Board. It seems to me that this may be one of those cases where someone decided to give out a membership without Board approval. (Just guessing.)

I belong to a club and have produced a monthly newsletter for over 600 members for approximately 5-years. The only help has been from volunteers that helped apply the labels and tape the newsletter closed. The only thing done by outside help was the copying and the posting (US Mail). I personally composed, all the content and folded every one of the 3,4, or 5 sheets in each issue. When I started that project, I did so to make sure the Club had a means to help it survive, and I understood the commitment. I didn't expect any remuneration, and I have never received any. I pay for my wife's and my memberships.

The absolutely only time when a member receives a free membership is when the member has contributed something material, like wood, steel, or something that would have cost the Club much more than the \$35 yearly membership that they are given.

But, in all cases that requires a Board action.

MY 0.02

Forrest

### **Re: Letter to the Editor of Datafile**

*Message #23 Posted by [Eric Smith](#) on 9 July 2007, 9:18 a.m.,  
in response to message #22 by Forrest Switzer*

Quote:

It seems to me that this may be one of those cases where someone decided to give out a membership without Board approval.

As I understand it, the "free" membership for Valentin was approved by the committee, though clearly not unanimously.

I assume that HPCC holds elections in which the membership votes for the committee positions, so the final recourse for members that disapprove of committee actions is to try to vote in a new committee.

### **Re: Letter to the Editor of Datafile**

*Message #24 Posted by **Tony Duell** on 9 July 2007, 1:15 p.m.,  
in response to message #23 by Eric Smith*

Quote:

As I understand it, the "free" membership for Valentin was approved by the committee, though clearly not unanimously.

Correct. It was voted on, IIRC, at the end of an AGM by the members present at the AGM. There was a majority in favour of giving Valentin free membership, but it certainly wasn't unanimous

Quote:

I assume that HPCC holds elections in which the membership votes for the committee positions, so the final recourse for members that disapprove of committee actions is to try to vote in a new committee.

Indeed it does. There is an election for the committee members at the AGM every year. IIRC, any member of HPCC who has renewed their membership at least once can stand for any committee post. I believe they have to find members to propose and second them, but that is not a problem normally.

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## HP Forum Archive 17

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**Surprisingly usefal Calc Stand**

Message #1 Posted by [Chuck](#) on 7 July 2007, 12:49 a.m.

I wasn't going to post this, but it turned out to be quite useful tonight, I figured `what the heck`. I was little bored in the workshop yesterday and made a little calculator stand for the Voyagers last night. Worked okay for the first one. I've got some incense cedar, purple heart, and mahogany to try a few more. This one is oak...not perfect, but never-the-less, okay; works good on the desk or the couch. [photo1](#)~~[Photo2](#)

I'll have to get a little more creative and start making a bunch of them this summer. Too bad these didn't come with the older models.

CHUCK

*Edited: 7 July 2007, 12:50 a.m.*

**Re: Surprisingly usefal Calc Stand**

Message #2 Posted by [Bruce Bergman](#) on 7 July 2007, 1:14 a.m.,  
in response to message #1 by Chuck

That's really beautiful, Chuck! Good job on something classy and smart, that still shows off the calc nicely.

If you decide to sell some on eBay or something, keep me in mind. ;-)

thanks, bruce

**Re: Surprisingly usefal Calc Stand**

Message #3 Posted by [Walter B](#) on 7 July 2007, 2:20 a.m.,  
in response to message #1 by Chuck

Really beautiful, good and solid craftsmanship! You must be a very talented woodpecker :-) Did you equip it with rubber feet?

**Re: Surprisingly usefal Calc Stand**

Message #4 Posted by [Wayne Brown](#) on 7 July 2007, 8:14 a.m.,  
in response to message #1 by Chuck

Very, very nice!

**Re: Surprisingly usefal Calc Stand**

Message #5 Posted by [Chuck](#) on 9 July 2007, 4:42 p.m.,  
in response to message #1 by Chuck

Thanks all for the comments. I'm still playing around with types of wood, and came up with two that I like

(sorry, no rubber feet yet.) I'm out of scrap wood, so time to hit the lumber yard. Here's what they're looking like... [More calc stands](#)

**AW: Re: Surprisingly usefal Calc Stand**

*Message #6 Posted by [Walter B](#) on 9 July 2007, 4:59 p.m.,  
in response to message #5 by Chuck*

Chuck,

If I'd have to choose, I like the one under the 12C best (though I prefer the other calcs ;-) Just one kind of wood in a small item, and I favor light wood over dark. Anyway, that's just my personal preference.

**Re: Surprisingly usefal Calc Stand**

*Message #7 Posted by [Geir Isene](#) on 9 July 2007, 6:13 p.m.,  
in response to message #1 by Chuck*

I want one.

**Re: Surprisingly usefal Calc Stand**

*Message #8 Posted by [PeterP](#) on 9 July 2007, 11:16 p.m.,  
in response to message #7 by Geir Isene*

... I want the calc's! (they are in such excellent condition!)

really beautiful stuff, well done! Thanks for sharing.

Cheers

Peter

**Re: Surprisingly usefal Calc Stand**

*Message #9 Posted by [db \(martinez, ca.\)](#) on 9 July 2007, 11:43 p.m.,  
in response to message #1 by Chuck*

it's a lot like the one i got from educalc a few years ago - but yours is better ;-) mine was made by peak products in san jose and it uses rubberized cork strips on the foot rails. probably that gasket material. that might work on yours unless you have found the rubber feet you are looking for.

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## HP Forum Archive 17

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**HP-28 Annunciators**

Message #1 Posted by **Palmer O. Hanson, Jr.** on 6 July 2007, 11:17 p.m.

I was doing some complex manipulations on my HP-28s when a circle appeared at the left end of the annunciator line. I don't have a manual so I didn't know what it was. I finally got rid of it by using the limited reset technique described in Wlodek's book.

What causes the circle to appear and how do I clear it?

**Re: HP-28 Annunciators**

Message #2 Posted by **James M. Prange (Michigan)** on 6 July 2007, 11:28 p.m.,  
in response to message #1 by Palmer O. Hanson, Jr.

That's the "program suspended" annunciator, which serves the same purpose as "HLT" in the status area of the 48 and 49 series. To "get rid of it" (and resume the suspended program), press Shift CONT (over the 1 key on a 28 series).

Regarfd,  
James

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## HP Forum Archive 17

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### Two NCEES committees endorse HP-33S

Message #1 Posted by [Norris](#) on 6 July 2007, 6:02 p.m.

The National Council of Examiners for Engineering and Surveying (NCEES) currently requires examinees to use one of four approved calculators (including the 33S) on professional engineering and surveying examinations. However, NCEES has been considering standardizing on a single calculator model, and issuing it in the exam room. There has been speculation that NCEES would choose a Casio or TI, rather than the HP-33S, given its relatively high cost.

Both the Examinations for Professional Engineers (EPE) committee and the Examinations for Professional Surveyors (EPS) committee were asked about their calculator preferences. The results:

Quote:

The EPE and EPS committees also examined the Council policy allowing candidates to bring their own calculators to the exam site. The policy — which limits the approved calculators to four approved models — is the result of past work by EPE, EPS, and EPP to develop a system of calculator usage to reduce the likelihood of candidates using calculators to cheat on or compromise the test.

Both EPE and EPS surveyed exam development volunteers, providing calculators from the Council-approved list of four and asking for their preferences among the models. The EPS Committee favored adopting the HP 33S as the sole approved calculator due to its ability to convert angles to degrees, minutes, and seconds as well as its ability to work in algebraic and reverse Polish notation (RPN) modes.

The EPE Committee also favored the HP 33S for the same reasons, but noted that many exam development volunteers voiced strong preferences for the Texas Instruments and Casio models. The EPE Committee also pointed to an ELSSES survey of exam candidates that found preferences evenly divided among the HP, TI, and Casio models. Pointing to this, EPE does not support the idea of supplying candidates with a single calculator model. It instead recommends that at least two models be provided if NCEES decides to provide examinees with calculators.

Based on these results, it appears likely that the 33S (or its successor, the 35S) will continue to be approved for use on NCEES exams, even if NCEES decides to start supplying calculators to examinees. This would preserve a major market for the 33S/35S.

Reported in [June 2007](#) issue of *Licensure Exchange*

### Re: Two NCEES committees endorse HP-33S

Message #2 Posted by [Bruce Bergman](#) on 6 July 2007, 8:43 p.m.,  
in response to message #1 by Norris

I welcome the day when the overwhelming "preference" will be back on the HP calcs, and TI and Casio will be second and third. I believe, the HP-35s will be a huge help in making that a reality...

thanks, bruce

### Re: Two NCEES committees endorse HP-33S

Message #3 Posted by [Walter B](#) on 7 July 2007, 2:36 a.m.,  
in response to message #1 by Norris

If these folks vote in favour of the terribly cluttered 33s, then the 35s will wipe out all competition in this field! Looking forward to the launch of this product (will have to wait for 24 more days maximum). Although NCEES is totally irrelevant for 95% of the world, nevertheless their votes may foster HP turning in the right direction. Any support is appreciated :-)

### Re: Two NCEES committees endorse HP-33S

Message #4 Posted by [Norris](#) on 7 July 2007, 12:33 p.m.,  
in response to message #3 by Walter B

Quote:

Although NCEES is totally irrelevant for 95% of the world, nevertheless their votes may foster HP turning in the right direction.

You may be underestimating the impact of NCEES on 33S sales. My guess is that NCEES policies are the single most important factor driving the 33S market worldwide. I would bet (1) that the US is the most important country for 33S sales, and (2) that within the US, NCEES exams are the most important reason for 33S purchases.

Since the 33S is not widely available in US stores, it's likely that a high percentage of 33S sales are online, and through Amazon.com in particular. If you check [Amazon](#) for the 33S, you get a "**Better Together**" discount offer for an FE Exam Equations book. Furthermore, the "**Customers who bought this item also bought**" section features five other items: two FE exam manuals, two Civil PE Exam manuals, and a Mechanical PE Exam manual.

I wouldn't be suprised if Amazon is the single biggest retailer of the 33S in the US (if not the world). And Amazon clearly sees a close sales relationship between the 33S and NCEES exam study materials.

*Edited: 7 July 2007, 12:43 p.m.*

### Re: Two NCEES committees endorse HP-33S

Message #5 Posted by [Walter B](#) on 7 July 2007, 12:44 p.m.,  
in response to message #4 by Norris

Well, Norris, what you were telling us may be read as "Almost nobody buys an HP33s besides those folks who are going to undergo an FE/PE exam in the USA". That's totally d'accord with what I posted ;-)

This correlation isn't a real surprise - just look at a 33s. IMHO the market of the 35s will be considerably larger, i.e. it will exceed the regulated area by far. Thus, more countries with free markets will contribute to the sales figures, reducing the relative importance of regulated areas to its appropriate value.

*Edited: 7 July 2007, 1:47 p.m.*

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## HP Forum Archive 17

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**Another Collection**

Message #1 Posted by **Chuck** on 6 July 2007, 4:16 p.m.

I was searching around and came across this nice collection. Has it been mentioned here before? Apologies if it has.

**Collection**

There's an HP-35 a ways down.

P.S. I hate knowing that I'm bidding against Microsoft people. :(

**Re: Another Collection**

Message #2 Posted by **Steve Leibson** on 6 July 2007, 6:35 p.m.,  
in response to message #1 by Chuck

"P.S. I hate knowing that I'm bidding against Microsoft people."

LOL.

Gordon Bell was one of the founders of Digital Equipment Corporation (DEC) in the 1960s, before Bill Gates got out of diapers. He and his wife Gwen started collecting computer antiquities when he realized that a lot of historic computer hardware, software, and documentation was going into landfills. First it was a private collection. However the Bells' tie to DEC meant that DEC competitors had problems donating material to the growing collection. So the Bell's helped to found the Computer Museum in Boston and infused the museum with their own collection.

Those artifacts have now migrated to the Computer History Museum in Mountain View, California. There's a massive HP calculator display at the entrance to "Visible Storage" where the on-display artifacts are kept. Visible Storage encompasses less than 10% of the collection, as the museum continues to collect donations so that it can open the throttle.

Gordon Bell may now work for Microsoft (working for DEC is no longer an option), but he hardly merits being tossed off as a "Microsoft People."

*Edited: 6 July 2007, 6:37 p.m.*

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## HP Forum Archive 17

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**Hp-46 printer problem**

Message #1 Posted by [Maximilian Hohmann](#) on 4 July 2007, 8:02 a.m.

Hello!

I have searched the archives already, but only found a reference to a possible power supply capacitor failure that might cause printing problems in an hp-46. If this is not the cause with my units (I will check it tonight), what other problems/solutions are known?

In my case, I have two otherwise fully working hp-46 calculators, both with the LED display option, that share the same printing malfunction: The paper advance only works sporadically, if at all. From the outside I suspect a worn drive roller or belt or non-engaging clutch. The working principle of the paper advance mechanism can only be guessed without disassembling the printer and I am a bit reluctant to do so, especially if there are no spare parts anyway...

Greetings, Max

NB: Sooner or later, because they take up too much space (says my wife) I will have to part with one of them - so if anyone is interested, watch the classifieds section! (I prefer trading to selling and could throw in a nice 41CX as well)

**Re: Hp-46 printer problem**

Message #2 Posted by [Tony Duell](#) on 4 July 2007, 1:51 p.m.,  
in response to message #1 by Maximilian Hohmann

You can get 'my' schematics of the HP46 from The Australian Site. The logic board diagrams show the circuit that operates the feed solenoid, you might just check that's working correctly, but I am pretty sure your problem is mechanical.

From what I remember (and it's been a few years since I've been inside the 46), the feed solenoid in the printer engages a follower on the main camshaft, and it's the force of that cam rotating that operates the feed ratchet. My guess is that there's hardened grease somewhere in the mechanism so that it doesn't snap over as sharply as it should. Unfortunately I've never stripped a 46 printer (I did a similar printer in a Fluke data logger about 20 years ago...), so I can't tell you just what to take off.

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## HP Forum Archive 17

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### Where to get crystal for an HP-45?

Message #1 Posted by [Mike Ingle](#) on 4 July 2007, 7:00 a.m.

Has anyone done the crystal mod on an HP-45? I got one today (1973 model) which has the timer, and might as well put in a crystal. The doc on the site says you need a 784 KHz crystal. Is this correct? It is not a standard value and is not in the Digikay or Mouser catalog that I can find.

Mike

### Re: Where to get crystal for an HP-45?

Message #2 Posted by [Allen](#) on 4 July 2007, 7:59 a.m.,  
in response to message #1 by Mike Ingle

Mike, have you tried searching <http://www.findchips.com/> ? I looked a few minutes, you are right a hard XTAL to find.

### Re: Where to get crystal for an HP-45?

Message #3 Posted by [John Limpert](#) on 4 July 2007, 1:39 p.m.,  
in response to message #1 by Mike Ingle

Try [International Crystal](#).

### Re: Where to get crystal for an HP-45?

Message #4 Posted by [Steve Leibson](#) on 5 July 2007, 4:44 p.m.,  
in response to message #1 by Mike Ingle

It's possible that Colorado Crystal (<http://www.coloradocrystal.com/>) will have some old crystals on the shelf. The place is just down the street from the HP Loveland site (which may no longer have HP as a resident) and engineers there may have had some crystals made for their HP 45s many moons ago. Good Luck!

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## HP Forum Archive 17

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### EMU71 text file via DOSLINK

Message #1 Posted by [Egan Ford](#) on 3 July 2007, 11:58 p.m.

I am using the following BASIC program from (<http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv015.cgi?read=85666>):

```
10 DIM A$(100)
20 CREATE TEXT "MYTEXT"
30 ASSIGN #1 TO "MYTEXT"
40 ENTER :DOSLINK;A$
50 DISP A$ ! just to follow the process, you can omit it
60 PRINT #1;A$
70 GOTO 40
```

And it does work (Thanks!), but I have a few problems:

1. After receiving the last line it just hangs there. I have to hit ATTN ATTN twice, then type STOP, then type CONTROL ON to get HP-IL virtual display working again.
2. I cannot use it again until exiting EMU71 and starting up again. It is as if there is an open file pointer at the end of the file. END, STOP, END ALL should close the file descriptor, but it appears it does not.

Can someone help me make this little program a bit more robust?

Thanks.

### Re: EMU71 text file via DOSLINK

Message #2 Posted by [J-F Garnier](#) on 4 July 2007, 6:43 a.m.,  
in response to message #1 by [Egan Ford](#)

You should use RESTORE IO, not CONTROL ON. Possibly RESET HPIL, then RESTORE IO.

When I'm importing large files (for instance large programs or large assembly source files I'm editing on PC), I add a final line like `"*EOF"`, and check for `A$="*EOF"` to properly exit the loop and close the file.

J-F

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## HP Forum Archive 17

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### HP-calc fans in Madrid ?

Message #1 Posted by [Valentin Albillo](#) on 3 July 2007, 8:23 a.m.

Hi,

Every other year or so, I use to post a request to see if there are any new (or old) HP-calc fans here in Madrid who would like to talk about this rather uncommon hobbie of us over a beer or two.

As of July 1st, I do have some spare time in the afternoons after work, so if you live in Madrid or can travel here and the above plan does suit you, please contact me through the MoHP and we'll arrange something.

Which is more, if you would be interested in getting some HP or SHARP calcs, I might have some spares to offer you as well. I'd rather see them in the loving hands of a true HP fan, whether user or collector, than spend their useful life utterly unused, stored away in a drawer.

Thanks and

Best regards from V.

### Re: HP-calc fans in Madrid ?

Message #2 Posted by [NACHO](#) on 4 July 2007, 1:03 p.m.,  
in response to message #1 by Valentin Albillo

Hello Valentin,

I'm from Barcelona and I'll be in madrid in 1 or 2 weeks.

It will be good to see you.

Can I have some Idea of your HP calcs?are you selling them?

Thanks and be in contact!

### Re: HP-calc fans in Madrid ?

Message #3 Posted by [Valentin Albillo](#) on 6 July 2007, 6:37 a.m.,  
in response to message #2 by NACHO

Hi, Nacho:

Nacho posted:

*"I'm from Barcelona and I'll be in madrid in 1 or 2 weeks. It will be good to see you."*

*I look forward to it, thanks for answering ! :-)*

*"Can I have some Idea of your HP calcs?are you selling them?"*



*Yes, but this is not the place for it. I'll contact you directly by e-mail and will tell you all the details, send pics, etc, if you want to. Keep an eye on your e-mail.*

*Best regards from V.*

**Re: HP-calc fans in Madrid ?**

*Message #4 Posted by [JoseL](#) on 5 July 2007, 5:36 a.m.,  
in response to message #1 by Valentin Albillo*

Hi Valentin

I,m from Madrid and user of HP calcs since 20 years ago.

It´s nice to know there are others users of clasics HP calculators so close.

Regards

**Re: HP-calc fans in Madrid ?**

*Message #5 Posted by [Valentin Albillo](#) on 6 July 2007, 6:40 a.m.,  
in response to message #4 by JoseL*

Hi, JoseL:

JoseL posted:

*"I,m from Madrid and user of HP calcs since 20 years ago. It´s nice to know there are others users of clasics HP calculators so close."*

*Thanks for answering ! :-) Yes, it's a real pity that we don get to meet more often, if at all. I'll contact you directly via e-mail and time permitting, we'll arrange something.*

*Best regards from V.*

---

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## HP Forum Archive 17

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### On / Off topic

Message #1 Posted by [Matthias Wehrli](#) on 3 July 2007, 7:02 a.m.

I updated my website....

- [new HP-41 module list](#)
- [new photo gallery: HDR pictures](#)

Matthias

[www.hp-collection.org](http://www.hp-collection.org)

### Re: On / Off topic

Message #2 Posted by [Maximilian Hohmann](#) on 3 July 2007, 8:30 a.m.,  
in response to message #1 by Matthias Wehrli

Hello!

Quote:

... [new photo gallery: HDR pictures](#) ...

Very interesting pictures, somewhat unreal! Of course, it would be interesting to learn a bit more about the technical background! What camera/sensor/scanner did you use for taking them and how do you process the images?

Greetings, Max

### Re: On / Off topic

Message #3 Posted by [Matthias Wehrli](#) on 3 July 2007, 6:11 p.m.,  
in response to message #2 by Maximilian Hohmann

Hi

I use a Nikon D80 and a very heavy tripod. I normally take 11 pictures in 10MP: -5 to +5 I currently use .jpg quality as the .raw picture is much larger but the result isn't really better. The unsharpness is a normal result of this technic. It looks a bit misterious. Very interesting is the picture with the moving leaves.

Matthias

### Re: On / Off topic

Message #4 Posted by [Maximilian Hohmann](#) on 4 July 2007, 2:40 a.m.,  
in response to message #3 by Matthias Wehrli

Hello!

Quote:

Very interesting is the picture with the moving leaves.

Yes, definitely! Really looks like it was taken on a different world...

Just to play around a little bit, last night I re-processed a single raw-file of my camera (Sigma SD10 with Foveon sensor, which has a very good dynamic range) into a (pseudo-)HDR image and was impressed how much hidden detail this technique was able to reveal (for the price of increased noise in this case): [http://www.bombie.de/tmp/IMG08930\\_HDR.jpg](http://www.bombie.de/tmp/IMG08930_HDR.jpg)

BTW, have you come across Helicon Focus yet ( <http://www.heliconsoft.com/heliconfocus.html> )? It is a somewhat related technique, that combines images from the same scene taken at different focal planes into one super-sharp "impossible" picture that is in focus everywhere (ideally at least). When you dont have enough planes or if you get moving objects in your scene, the effect is somewhat similar to your ghostly leaves: <http://www.bombie.de/tmp/rapsfeld.jpg>

It is really fascinating to witness, how increasing processing power changes (amateur) photography, I only wish I had a little more time...

Greetings, Max

**Re: On / Off topic**

*Message #5 Posted by [Matthias Wehrli](#) on 4 July 2007, 4:35 a.m.,  
in response to message #4 by Maximilian Hohmann*

Hi

Your pictures shows a airplane. In true HDR this is not possible as HDR doesn't allow to take pictures of moving elements. How did you converted this picture into HDR?

Matthias

**Re: On / Off topic**

*Message #6 Posted by [Maximilian Hohmann](#) on 4 July 2007, 4:54 a.m.,  
in response to message #5 by Matthias Wehrli*

Hi!

Quote:

How did you converted this picture into HDR?

I processed one single raw-file with different contrast and brightness settings into four different images: One optimised for the moon, one for the aeroplane, one for the smoke and one for the diffuse clouds in the background, then I combined these four images into this HDR (or pseudo-HDR, whatever you want to call it) image. The imaging sensor of my camera ( <http://www.foveon.com> ) is said to have twice the dynamic range (but less pixels) than the more common "Bayer"-sensors, so it is possible to extract all this information from a single raw file.

Greetings, Max

**Re: On / Off topic**

*Message #7 Posted by [Meindert Kuipers](#) on 4 July 2007, 5:13 a.m.,  
in response to message #6 by Maximilian Hohmann*

I do have some more experience with this, although I cannot disclose any details. I have worked with Bayer sensors with 12-bit dynamic range (per pixel!) which have the possibility of tweaking the amplifier settings. By taking the raw Bayer images and applying other filters much more information can be extracted. Especially since the green has double the resolution and has most of the luminosity information nice tricks can be done with this.

But this is getting way OT ...

Meindert

**Re: On / Off topic**

*Message #8 Posted by [Maximilian Hohmann](#) on 4 July 2007, 5:30 a.m.,  
in response to message #7 by Meindert Kuipers*

Hello!

Quote:

\_\_\_\_\_

I do have some more experience with this, although I cannot disclose any details.

\_\_\_\_\_

Well, my experience with this is limited to something like 15 minutes... But what a pity that you can't tell us more! Quite a few years back I did my ph.d. on radar/microwave imaging and in the end you can sum it all up with "extract as much as you can from the raw data".

Hopefully, future raw-data converters that come with digital cameras will include some kind of HDR-function!

Quote:

\_\_\_\_\_

But this is getting way OT ...

\_\_\_\_\_

Well, if we write a little program that does the necessary calculations for HDR image generation on an hp67, then we are back on topic, aren't we :-)

Greetings, Max

**Re: On / Off topic**

*Message #9 Posted by [Dave Shaffer \(Arizona\)](#) on 4 July 2007, 2:00 p.m.,  
in response to message #8 by Maximilian Hohmann*

re: "Quite a few years back I did my ph.d. on radar/microwave imaging"

Staying off topic (!), what exactly did you image? Was it single dish or synthetic

aperture? I do radio astronomy interferometry, and we, too, are always trying to get that last little bit of information out of the data (usually by worrying about Fourier components).

**Re: On / Off topic**

*Message #10 Posted by **Maximilian Hohmann** on 4 July 2007, 4:28 p.m.,  
in response to message #9 by Dave Shaffer (Arizona)*

Hello!

Quote:

what exactly did you image? Was it single dish or synthetic aperture? I do radio astronomy interferometry, and we, too, are always trying to get that last little bit of information out of the data (usually by worrying about Fourier components).

We did high-resolution multi-frequency synthetic aperture (and "inverse synthetic aperture" which corresponds more or less to computer tomography, but with microwaves instead of x-rays) imaging of natural targets like plants and soil samples. One aim was to obtain a radar signature database for classifying satellite based radar images of the Earth. The european satellite ERS-1 was launched while I did my work, so we actually could test some of our methods on its early raw data sets. The other aim was to develop and test concepts for three dimensional imaging through interferometry and 3-D-inverse synthetic aperture radar at laboratory scale ( <http://www-emsl.jrc.it/> )  
So there are some parallels to your work, especially the Fourier components :-)  
And we used mainly equipment of hp in our lab - to come back to the topic - but no pocket calculators I'm afraid!

Greetings, Max

*Edited: 4 July 2007, 4:29 p.m.*

**Re: On / Off topic**

*Message #11 Posted by **megarat** on 4 July 2007, 7:37 p.m.,  
in response to message #3 by Matthias Wehrli*

How do you merge the exposures into the final image? Do you use the "Merge into HDR" feature of Photoshop CS2?

(I only have a copy of CS, so I'm interested in any other techniques you might be aware of.)

**Re: On / Off topic**

*Message #12 Posted by **Paul Brogger** on 5 July 2007, 12:19 p.m.,  
in response to message #3 by Matthias Wehrli*

That explains the ghostly figures walking on the platform . . .

Really, a stunning effect. Thanks again!

*Edited: 5 July 2007, 12:28 p.m.*

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**Re: On / Off topic**

Message #13 Posted by **Paul Brogger** on 3 July 2007, 12:27 p.m.,  
in response to message #1 by Matthias Wehrli

Gorgeous. One of the train station pics is my new desktop background. Thank you!

**Re: On / Off topic**

Message #14 Posted by **Thomas Radtke** on 3 July 2007, 2:41 p.m.,  
in response to message #1 by Matthias Wehrli

Have your HDR pictures undergone something like unsharp masking? They look a bit equalized for brightness. Extremely tasteful and interesting to look at, though.

**Re: On / Off topic**

Message #15 Posted by **Chuck** on 3 July 2007, 4:22 p.m.,  
in response to message #14 by Thomas Radtke

"They look a bit equalized for brightness."  
=====

That's what HDR does. You take 3 or more photos at different exposures and combine them. The HDR process combines the best parts of all (shadows, midtones, highlights, etc) to make a picture that usually a single photo can't capture, but often it appears to be more like our eyes see it (because our pupils change).

**Re: On / Off topic**

Message #16 Posted by **Thomas Radtke** on 3 July 2007, 5:25 p.m.,  
in response to message #15 by Chuck

Ah, I thought there were already CCD chips capable for this range and that such a beast has been used :^).

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## HP Forum Archive 17

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### HP35s is back

Message #1 Posted by [KoenDV](#) on 2 July 2007, 4:46 p.m.

<http://www.calculators-hp.com/> mentions the new models for july 2007: the HP10s and the HP35s. Just thought you'd like to know.

regards,

koen

### Re: HP35s is back

Message #2 Posted by [Dave Shaffer \(Arizona\)](#) on 2 July 2007, 5:50 p.m.,  
in response to message #1 by KoenDV

Yeah, and among other things, it says most of them (HP calculators) are equipped with the "HP single seizure system"!

Hope I don't get sick using my new calculator!!!! (There must be a translation deficiency here!)

### Re: HP35s is back

Message #3 Posted by [Howard Owen](#) on 2 July 2007, 6:40 p.m.,  
in response to message #2 by Dave Shaffer (Arizona)

Quote:

Hope I don't get sick using my new calculator!!!!

No, no, you don't get it. HP has a *single* seizure input system as opposed to TI's (and Sharp's, and Casio's) *multiple* seizure input system.

I know which one I'd prefer. 8)

Regards,  
Howard

### Re: HP Single Seizure System

Message #4 Posted by [Paul Brogger](#) on 3 July 2007, 11:53 a.m.,  
in response to message #3 by Howard Owen

I'd prefer HP's too -- unless their single seizure is so named because of its "terminal mode" feature.

*Edited: 3 July 2007, 1:50 p.m.*

**Re: HP35s is back**

Message #5 Posted by **DaveJ** on 2 July 2007, 6:37 p.m.,  
in response to message #1 by *KoenDV*

I just noticed that the new 10s has an ever-so-slight chevron shape to the bottom keys.

Dave.

**Re: HP35s is back**

Message #6 Posted by **Bruce Bergman** on 3 July 2007, 1:22 a.m.,  
in response to message #5 by *DaveJ*

I wonder if that's an artifact of the photo or something. I say that because -- to me -- it doesn't look so much chevron shaped as kind of just poorly aligned. Like how my pictures look when I freehand them. ;-) I can't imagine it to be that, but it also seems strange to have just the last two rows be chevron shaped.

Weird.

**Re: HP35s is back**

Message #7 Posted by **Eric Smith** on 3 July 2007, 3:29 a.m.,  
in response to message #6 by *Bruce Bergman*

I'm pretty sure he's right, that the bottom four rows of keys of the calculator in the photo are deliberately laid out on a slight curve, with the middle keys closer to the bottom of the calculator.

While I have been quite vocal in my criticism of the 33s key layout, the slight nonlinearity in the 10s in the photo wouldn't bother me at all. The lack of RPN, on the other hand, does keep me from having much interest in the 10s.

On the other hand, I expect to buy at least two HP 35s calculators, and quite possibly more. It will probably become my main everyday calculator, at least until the calculators Richard Ottosen and I are developing reach a more advanced stage. (I expect that we will have some stuff to show off at HHC 2007.)

**Re: HP35s is back**

Message #8 Posted by **DaveJ** on 3 July 2007, 4:08 a.m.,  
in response to message #6 by *Bruce Bergman*

Quote:

I wonder if that's an artifact of the photo or something. I say that because -- to me -- it doesn't look so much chevron shaped as kind of just poorly aligned. Like how my pictures look when I freehand them. ;-) I can't imagine it to be that, but it also seems strange to have just the last two rows be chevron shaped.

The bottom 4 rows are chevron shaped, it is clearly deliberate and very symmetrical. Very easy to see in the big photo on the PDF, and still visible on the smaller photos (including the angled one) in the PDF.

Dave.



**Re: HP10s**

*Message #9 Posted by [Paul Brogger](#) on 3 July 2007, 1:25 p.m.,  
in response to message #5 by DaveJ*

Superficially, the 10s reminds me of the [SSC-200](#), a calculator briefly offered by Target stores [quite a while ago](#).

The shape and two-line display had me convinced I'd uncovered another case of HP re-badging, but a closer look leads me to doubt that. (Or, to put it more precisely, I now doubt that the SSC-200 is the calc that has been re-badged -- I've little doubt that the 10s is simply old wine in a new bottle.)

**Re: HP35s is back**

*Message #10 Posted by [Howard Owen](#) on 2 July 2007, 6:52 p.m.,  
in response to message #1 by KoenDV*

It's the identical brochure. (Md5sums match.)

Regards,  
Howard

**Re: HP35s is back**

*Message #11 Posted by [Walter B](#) on 2 July 2007, 6:53 p.m.,  
in response to message #1 by KoenDV*

Hey, and the "detailed data sheet" is back again, too. However, to me it seems to be unchanged (i.e. same keyboard, same meaningless reference to cube roots).

Anyway, there are only 28 days left in July, so the real thing must appear in this interval now :-)

**Re: HP35s is back**

*Message #12 Posted by [Howard Owen](#) on 2 July 2007, 7:00 p.m.,  
in response to message #11 by Walter B*

No manual yet, darn it.

Regards  
Howard

**Re: HP35s is back**

*Message #13 Posted by [Ralph](#) on 3 July 2007, 7:56 a.m.,  
in response to message #12 by Howard Owen*

The 35s is official. It is on the HP website proper.

[HP 35s](#)

**Re: HP35s is back**

*Message #14 Posted by [DaveJ](#) on 3 July 2007, 8:55 a.m.,  
in response to message #13 by Ralph*

Substantially more in price than the 33S, \$59.99 vs \$39.99.

Dave.

**Re: HP35s is back**

*Message #15 Posted by [Les Wright](#) on 3 July 2007, 5:10 p.m.,  
in response to message #14 by DaveJ*

I think the 33s price has been cut \$10 in anticipation of discontinuation. I always thought the MSRP was \$49.99.

If the 35s incorporates the strengths of the 33s and extends its capabilities, it will be easily worth the extra 10 or 20 bucks.

Les

**Re: HP35s is back**

*Message #16 Posted by [DaveJ](#) on 3 July 2007, 7:50 p.m.,  
in response to message #15 by Les Wright*

Quote:

\_\_\_\_\_

If the 35s incorporates the strengths of the 33s and extends its capabilities, it will be easily worth the extra 10 or 20 bucks.

\_\_\_\_\_

Bugger that, it simply looks better! :)

Dave.

**Re: HP35s is back**

*Message #17 Posted by [Seth Morabito](#) on 3 July 2007, 6:19 p.m.,  
in response to message #14 by DaveJ*

The 33s was \$49.99 when I bought mine, so they must have discounted it a bit in preparation for the 35s.

I think \$60 is a very fair price for a high-quality scientific calculator, assuming that the 35s really is higher quality than HP has been putting out in the last five years or so. Here's hoping!!

*Edited: 3 July 2007, 6:20 p.m.*

**Re: HP35s -- I tried ordering by phone . . .**

*Message #18 Posted by [Paul Brogger](#) on 3 July 2007, 11:59 a.m.,  
in response to message #13 by Ralph*

FYI, I figured I'd try to order by phone. The salesperson said the calculator won't be available any sooner by phone than via online, and (FWIW) that they usually put up the **Coming Soon** announcements "two or three weeks" ahead of actual product release.

(Not that I'm especially eager to buy one . . . )

**Re: HP35s -- I tried ordering by phone . . .**

*Message #19 Posted by [gene wright](#) on 3 July 2007, 2:48 p.m.,  
in response to message #18 by Paul Brogger*

Why aren't you eager? Or did I miss a smiley in there?

**Re: HP35s -- I tried ordering by phone . . .**

*Message #20 Posted by [Paul Brogger](#) on 3 July 2007, 5:23 p.m.,  
in response to message #19 by gene wright*

The smiley would have made it too obvious. :~)

(BTW, is there a "Mona Lisa" smiley? That is, an ambiguous smiley?)

**Re: HP35s is back**

*Message #21 Posted by [Dan M \(Vermont, USA\)](#) on 3 July 2007, 8:26 a.m.,  
in response to message #1 by KoenDV*

Well, OK. I'll buy one eventually, but I'd feel better about it if the web page at

<http://www.calculators-hp.com/35s.html>

wasn't entitled "hp 33s".

Not that I'm complaining or anything, but a little Quality Control often goes a long way.

happy calculating,

dan

ETA: That QC road is a long one. The picture of the "hp30s" at...

<http://www.calculators-hp.com/30s.html>

is labelled as "9s". Whatever. I'm not going to buy either of those anyway. Sloppiness wasn't always a hallmark of HP, but perhaps it is now. I do charge HP itself with enforcing its own Quality Standards with its choice of "official HP partners."

*Edited: 3 July 2007, 9:01 a.m.*

**Re: HP35s is back**

*Message #22 Posted by [Antonio Maschio \(Italy\)](#) on 3 July 2007, 10:49 a.m.,  
in response to message #21 by Dan M (Vermont, USA)*

Well, I just checked, and the title is "hp 35s". Maybe they're looking at this Forum?

-- Antonio

**Re: HP35s is back**

*Message #23 Posted by [Chan Tran](#) on 3 July 2007, 10:53 a.m.,  
in response to message #22 by Antonio Maschio (Italy)*

For sixty bucks, I think I am going to get one when they are available.

**Re: HP35s is back**

Message #24 Posted by [Wayne Brown](#) on 4 July 2007, 1:12 a.m.,  
in response to message #23 by Chan Tran

Quote:

For sixty bucks, I think I am going to get one when they are available.

I'd pay twice that for one without those cursor keys. But at least HP finally seems to be moving back in the right direction, so maybe the next model -- or the one after that -- will be something I could accept.

**Re: HP35s is back**

Message #25 Posted by [Chan Tran](#) on 5 July 2007, 7:43 a.m.,  
in response to message #24 by Wayne Brown

It would have been better without the cursor key. It would have been better if it has 35 keys like the original. It would have been better to have only the function on the original 35 but then I don't think that would happen. So I would settle for the 35s at \$60. At least that's one HP calc (or one calc of any brand) I want to buy in a long time.

**Re: HP35s is back**

Message #26 Posted by [Wayne Brown](#) on 5 July 2007, 11:02 p.m.,  
in response to message #25 by Chan Tran

Quote:

At least that's one HP calc (or one calc of any brand) I want to buy in a long time.

It's the closest HP has come in a long time to making anything I'd want to own, but it's not quite close enough.

**Re: HP35s is back**

Message #27 Posted by [Seth Morabito](#) on 6 July 2007, 3:00 a.m.,  
in response to message #26 by Wayne Brown

What is your favorite HP, and/or what do you use as a "daily calculator", curiously?

**Re: HP35s is back**

Message #28 Posted by [Wayne Brown](#) on 6 July 2007, 7:23 a.m.,  
in response to message #27 by Seth Morabito

I use my HP48GX daily; but most of the time I use it more as a personal organizer (appointment calendar, to-do list, phone directory, etc.) than as a calculator. For programming, I like my HP-41CX more than anything else. (I love playing around with synthetic programming, and that was my primary reason for buying the 41 in

the first place.) But my absolute favorite is my HP-16C, because it's so elegant, and unique; plus it was the first HP calculator I ever bought.

### Re: HP35s is back

*Message #29 Posted by [Seth Morabito](#) on 6 July 2007, 1:50 p.m.,  
in response to message #28 by Wayne Brown*

Nostalgia is a big factor for me as well. My 48SX was the first HP I ever owned, and a gift as well. It's still my favorite as a result.

I was aware of the 41 series, but I never owned one when they were new. I recently picked up a 41C from eBay, since it was relatively inexpensive. I'm eagerly awaiting its arrival in the mail.

### Re: HP35s is back

*Message #30 Posted by [Wayne Brown](#) on 6 July 2007, 2:50 p.m.,  
in response to message #29 by Seth Morabito*

Quote:

I was aware of the 41 series, but I never owned one when they were new. I recently picked up a 41C from eBay, since it was relatively inexpensive. I'm eagerly awaiting its arrival in the mail.

My first 41 (an HP-41CV) was purchased through one of the classified ads here at the Museum, back around 1998 or 1999 (nearly ten years after they were out of production). The things written about it here at the Museum were what motivated me to buy one. I liked it so well that I soon bought a 41CX from eBay and gave my 41CV to my son.

### Re: HP35s is back

*Message #31 Posted by [Chan Tran](#) on 6 July 2007, 3:06 p.m.,  
in response to message #30 by Wayne Brown*

My daily use calculator believe it or not is the HP48GX emulator running on my PC's. My favorite calculator is the 41. My first calculator is the 25. Broke it and got a 34C for 1 week. Returned the 34C and get the 41C (but still lusting after the 97) and then time module, card reader, printer, want.. Lost the 41C and get a 41CV I still have still today. Bought a 32E, a couple of 11C to give away as gifts. Next calculator was the 28C and didn't like it. I gave it away to my sister. Got the 48SX and 48GX when they came out. Got 6 41CX blank nuts like new at surplus store. Gave away 3 and sold 2. Still have 1. Saw the 97 on the desk of the chief engineer at a company that I did some contract work for. I asked him to let me know when he wants to get rid of it. Two year later he called saying that he is retiring and give me the 97. I use the 97 when I want to have a printer calculator, i.e. totaling tax or credit card bill or balancing check book. I use the 41 for light duty scientific calculations. I use the 48's when I need a programable portable device.

**Re: HP35s is back**

*Message #32 Posted by [Antonio Maschio \(Italy\)](#) on 6 July 2007, 11:25 a.m.,  
in response to message #27 by Seth Morabito*

Undoubtedly, my favorite is my HP-15C; but, to save it some usage, I use a HP-12C as a daily calculator, alternatively with my HP-32SII for scientific calculus.

At home, I like playing around with my HP-49g or my Casio fx-7700GB.

I own more than 70 calculators, by now, and so I could add: I like playing around with anyone of them!

-- Antonio

**Re: HP35s is back**

*Message #33 Posted by [Maximilian Hohmann](#) on 6 July 2007, 3:09 p.m.,  
in response to message #27 by Seth Morabito*

Hello!

Quote:

What is your favorite HP, and/or what do you use as a "daily calculator",  
curiously?

I think I answered this question over ten times already, but I don't mind answering another 100 times :-)

My favorite hp calculator has always been the hp-25. It is just so cute and it glows in the dark and it can do everything I really need a calculator to do for me.

My most often "daily used" calculator is either the "Calculator Application" of my Apple PowerBook (in RPN mode of course!) or my "ASA CX-1 Pathfinder".

Greetings, Max

**Re: HP35s is back**

*Message #34 Posted by [Trent Moseley](#) on 6 July 2007, 10:48 p.m.,  
in response to message #33 by Maximilian Hohmann*

Of course! My first was a 25C. Such a love! It still works today as the day I bought it on April 10, 1978. Just hold it in your hand and look at those beautiful red LED's!

tm

**Re: HP35s is back**

*Message #35 Posted by [Trent Moseley](#) on 7 July 2007, 12:35 a.m.,  
in response to message #34 by Trent Moseley*

More on the 25C. And it's a good traveler too. I took it to Kenya in 1980 to view a total eclipse of the sun where it was used for last minute timings.

tm

**Re: HP35s is back**

*Message #36 Posted by **Walter B** on 7 July 2007, 2:58 a.m.,  
in response to message #35 by Trent Moseley*

Trent, all,

You'll find quite some more lovers of the 25C here! As mentioned earlier several times (but <10), it was my first calc love, too. The Woodstock design still is most appealing to me. Such a beauty! If the 25C only had L.R., I had kept it - so I had to sell it some years later to replace it by an 11C. But I got a 25C again some years ago right when I started my modest collection :-)

Best regards, Walter

**Re: HP35s is back**

*Message #37 Posted by **Chris Haltiner** on 3 July 2007, 11:11 a.m.,  
in response to message #1 by KoenDV*

I noticed the CPU (SPLB31A) is missing from the HP 35s specifications PDF, but not from the specifications PDF on the calculators-hp.com site--interesting omission.

**Re: HP35s is back**

*Message #38 Posted by **Andrés C. Rodríguez** on 3 July 2007, 8:28 p.m.,  
in response to message #37 by Chris Haltiner*

Brochure size? US Letter pages are shorter than European A4s... so someone needed to delete some lines from the European version.

(Not seriously)

**Re: HP35s is back**

*Message #39 Posted by **Walter B** on 3 July 2007, 11:54 p.m.,  
in response to message #37 by Chris Haltiner*

By experience I expect a considerably higher resale price in Europe. Since transport costs aren't that high, there must be a quality CPU for Europe and a cheaper one for the USA.

;-)

**Re: HP35s is back**

*Message #40 Posted by **Patrick Colbeck** on 4 July 2007, 3:57 a.m.,  
in response to message #39 by Walter B*

Yes a HP-33S is £55 over here in the UK ie about \$110 at the current exchange rate !

**Re: HP35s is back**

*Message #41 Posted by [Antonio Maschio \(Italy\)](#) on 4 July 2007, 5:01 a.m.,  
in response to message #39 by Walter B*

Do you really think HP CPUs in the EU market have a higher quality than those sold in the US market?

-- Antonio

**Re: HP35s is back**

*Message #42 Posted by [Walter B](#) on 4 July 2007, 5:07 a.m.,  
in response to message #41 by Antonio Maschio (Italy)*

Antonio, please check the last 3 letters of my post.

**Re: HP35s is back**

*Message #43 Posted by [Antonio Maschio \(Italy\)](#) on 4 July 2007, 12:21 p.m.,  
in response to message #42 by Walter B*

Ah! :-(

Well, I suppose I was only hoping it to be true!

-- Antonio

**Re: HP35s is back**

*Message #44 Posted by [gene wright](#) on 4 July 2007, 11:46 a.m.,  
in response to message #39 by Walter B*

Remember, Eric Rechlin has been selling HP calculators in the past and shipping around the world. Might be cheaper than buying locally at inflated prices.

[www.hpcalc.org](http://www.hpcalc.org)

**Re: HP35s is back / What will it cost outside of the USA?**

*Message #45 Posted by [Walter B](#) on 4 July 2007, 6:37 p.m.,  
in response to message #44 by gene wright*

Thanks, Gene, for pointing this out. I will check this site as soon as sales will start.

BTW, is there a retail price difference for HP calcs between Canada and the USA? Or is it just the exchange rate?

**Re: HP35s is back / What will it cost outside of the USA?**

*Message #46 Posted by [Gerson W. Barbosa](#) on 4 July 2007, 6:54 p.m.,  
in response to message #45 by Walter B*

Walter,

Anoter option might be [Samson Cables](#). My HP-50g, HP-33s and HP-12C Platinum were purchased there. I was very pleased with their service: very fast order processing and shipping abroad. Probably I will order one HP-35s, when it's listed.



Best regards,

Gerson.

**Re: HP35s is back / What will it cost outside of the USA ?**

*Message #47 Posted by **Les Wright** on 5 July 2007, 1:13 a.m.,  
in response to message #45 by Walter B*

With the Canadian dollar rising against the US dollar, I expect the MRSP to be disproportionately higher than usual.

For example check [this](#) out. The York U bookstore is named on the HP Canada calculator page as the only official reseller of the complete calculator line. But look at the prices!!! \$230CDN for a 50G!!!! Even at 80 cents US on the dollar (as things were a year ago) that is overpriced. At 90 cents, the state of affairs today, that is just plain nuts, over \$200US. Outrageous when you think US buyers are finding them now for about 125US.

I suspect York U will carry the 35S and that it will be disproportionately overpriced as well.

Techcommint on eBay is based in Oakville, Ontario. Larry's prices are much more reasonable, and he carries the full HP line as soon as they are available. He may or may not charge shipping, given the situation, but will charge GST within Canada and GST and PST within Ontario. So that sort of stings. I recommend buying directly from him rather than thru the eBay store--he seems to have more flexibility in pricing that way.

When all is said, it may prove cheaper in the long run for Canadians to order from Eric Rechlin and pay shipping and Customs. I think the new 35S is going to be somewhat more costly for Canadians than Americans, and particularly pricey for Europeans and our friends in Australia and South America. But putting this in perspective--if it turns out to be a great calculator, I won't miss \$100CDN or so one bit.

Les

**Re: HP35s is back / What will it cost outside of the USA ?**

*Message #48 Posted by **Walter B** on 5 July 2007, 1:39 a.m.,  
in response to message #47 by Les Wright*

Thanks, all, so far. I'll be on a business trip to Canada next month and just thought I might save some bucks buying my 35s there instead of here in Europe. But it seems to be more favourable to use one of the sources you mentioned in the net.

Apparently HP makes a BIG fraction of its earnings outside of the USA :-? For my simple brain, letting some containers go from China to e.g. Australia can't be such more expensive than to California. Well, they won't make me start collecting financial calcs :-)

**Re: HP35s is back / What will it cost outside of the USA ?**

*Message #49 Posted by **Chan Tran** on 5 July 2007, 7:40 a.m.,  
in response to message #48 by Walter B*

The shipping cost never is the reason for prices. If it was then they wouldn't make them in China in the first place.

**Re: HP35s is back / What will it cost outside of the USA?**

*Message #50 Posted by [DaveJ](#) on 5 July 2007, 8:06 a.m.,  
in response to message #49 by Chan Tran*

Lots of companies have different pricing structures for different regions on all sorts of products, and exports are strictly controlled to the benefit of various local sales divisions, distributors and other middle men etc. It's got nothing to do with the exchange rate or postage.

GPS receivers for instance are one classic example, there is the "US price" and the "rest of the world price", so everyone just buys though eBay or direct mail order from those US shops who turn a blind eye ;-)

Dave.

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## HP Forum Archive 17

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**HP 50g**

Message #1 Posted by [Rinaldo](#) on 2 July 2007, 3:06 p.m.

I am a long time user of HP calculators, starting with the HP-67, then the HP-41C, and now the HP-50g.

I just bought it Friday and I have some nagging issues with it. Before I type up a lot of questions is this forum active with HP50g users that can answer questions?

Thanks

**Re: HP 50g**

Message #2 Posted by [James M. Prange \(Michigan\)](#) on 2 July 2007, 6:32 p.m.,  
in response to message #1 by [Rinaldo](#)

Quote:

Before I type up a lot of questions is this forum active with HP50g users that can answer questions?

Somewhat, but for all RPL models, I believe that you'd do better asking on the usenet group comp.sys.hp48. In case you aren't using your own newsreader, you can access the newsgroup at <http://groups.google.com/group/comp.sys.hp48/>. Please keep in mind that it's best to search for an answer before posting a question.

Regards,  
James

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## HP Forum Archive 17

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**TI-Nspire available...**

Message #1 Posted by [Joerg Woerner](#) on 1 July 2007, 10:34 p.m.

Hello Calculator Enthusiasts!

And finally the TI-Nspire made it to the store shelves. You may find one either on eBay (auction 140133301918 for the TI-Nspire, auction 140133302305 for the TI-Nspire CAS) or from [www.dynatech.de](http://www.dynatech.de). They claim "delivery from stock" and I double checked with TI-Europe:

"Hello Joerg,

The first TI-Nspire units have been shipping to the distributors (wholesalers) since calender week 23, so the authorised dealers will now have received the first units...."

Hope it finds its way to the United States soon...

Regards, Joerg

**Re: TI-Nspire available...**

Message #2 Posted by [db \(martinez, ca.\)](#) on 2 July 2007, 1:00 a.m.,  
in response to message #1 by Joerg Woerner

hi joerg;

thanks for the heads up - just one question. does it function in RPN? ;-)

see you in san diego. we make passable beer in california. it'll be like germany, with palm trees.

**Re: TI-Nspire available...**

Message #3 Posted by [Namir](#) on 2 July 2007, 8:29 a.m.,  
in response to message #1 by Joerg Woerner

Thanks Joerg for the info. I assume the ones sold in Germany have German manuals. For a machine like the TI-Nspire we need English manuals.

Glad it's out anyway.

Namir

**Re: TI-Nspire available...**

Message #4 Posted by [Walter B](#) on 2 July 2007, 1:08 p.m.,  
in response to message #3 by Namir

Quote:

\_\_\_\_\_

I assume the ones sold in Germany have German manuals.

\_\_\_\_\_

A device sold in country X must have a manual written in the language(s) spoken in country X. The world is organized this way, luckily. In Europe, it's the law.

Quote:

\_\_\_\_\_

For a machine like the TI-Nspire we need English manuals.

\_\_\_\_\_

I guess you wanted to say "I need"? \*We\* need proper Portuguese, Italian, French, Spanish, Chinese manuals or whatever language we have. FYI only.

**Re: TI-Nspire available...**

*Message #5 Posted by **Howard Owen** on 2 July 2007, 6:59 p.m.,  
in response to message #4 by Walter B*

Hmm. One of those European languages ought to be English, no?

That way, \*we\* would all need English manuals. 8)

Regards,  
Howard

**Re: TI-Nspire available...**

*Message #6 Posted by **Walter B** on 2 July 2007, 7:35 p.m.,  
in response to message #5 by Howard Owen*

Of course, \*some\* people need it in English ;-)

Sorry I forgot to mention the language of this island, but I skipped also Polish, Romanian, Czech, Hungarian, Greek and a lot more. All negligible compared with Chinese, however 8)

*Edited: 5 July 2007, 10:38 a.m.*

**TI have stopped selling Derive**

*Message #7 Posted by **BruceH** on 5 July 2007, 9:30 a.m.,  
in response to message #1 by Joerg Woerner*

On a related note... looking through the TI site I noticed that they stopped selling Derive at the end of June.

I still have it for the 200LX and very useful it is too. I wonder if we can persuade them to release it as abandonware?

**Re: TI have stopped selling Derive**

*Message #8 Posted by **Namir** on 5 July 2007, 11:38 a.m.,  
in response to message #7 by BruceH*

I noticed that too. I guess it did not sell as well as they expected.

**Re: TI have stopped selling Derive**

*Message #9 Posted by **Eric Smith** on 5 July 2007, 11:34 p.m.,*

*in response to message #7 by BruceH*

How did Derive compare to Maple and Mathematica?

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## HP Forum Archive 17

[ [Return to Index](#) | [Top of Index](#) ]**HP-15C Silver Anniversary! (Op-codes, synthetic matrices)**Message #1 Posted by [Karl Schneider](#) on 1 July 2007, 8:21 p.m.

tHP-15C fans --

After preparing this lengthy post over the past few days, I checked Craig Finseth's site, which states that 1 July, 1982 was the date of introduction for the HP-15C. Therefore, today is its **25th anniversary** of its public availability for purchase!

<http://www.finseth.com/hpdata/hp15c.html>

At the upcoming HHC conference in San Diego, we enthusiasts ought to hold an HP-15C silver anniversary observance as an "undercard" to the HP-35 35th anniversary theme.

The HP-15C offers exactly 700 programmable instructions stemming from well over 100 functions, all without benefit of *bona fide* alphanumeric. It is instructive to examine the fine engineering work that was done, more a quarter-century ago, to make this possible.

A complete instruction stored in program memory is identified by a unique operation code, or "op-code". These are not to be confused with key codes on 7-segment displays, which show the sequence of keystrokes for a programmed instruction using key identifiers that are usually numeric, but are sometimes a individual letter.

Relation and arrangement of op-codes to functionality is an important design consideration for a programmable calculator. Logically-selected codes facilitate testing and processing. Moreover, an insufficiency of available op-codes will restrict the amount of programmable functionality provided for the user.

First, some background: There are  $2^8 = 256$  unique one-byte op-codes. The "starting point" for the HP-15C -- namely, the HP-34C and HP-11C -- each use 255 codes for programmable instructions, with one spare code presumably by design, and a few possibilities omitted by necessity. For example, the HP-34C's sophisticated functions SOLVE and INTEG can be invoked with user-defined programs starting with labels A, B, 0, 1, 2, or 3, but not labels 4 through 9. This restriction due to insufficient op-codes caused William Kahan to make a selective statement in his fine article "Handheld Calculator Evaluates Integrals," in *Hewlett-Packard Journal*, 31:8, August 1980:

Quote:

*Some constraints ... are nuisances, such as 'Begin the f-program with a special label such as A'. The (INTEG) key is encumbered with no such nuisances. The f-program may begin with any of several labels...*

Left unsaid was, "but not all the labels..."

The HP-11C has only flags 0 and 1, omitting flags 2 and 3 that its predecessor HP-34C had. This saved six operations, to get the HP-11C under 256 programmable instructions. A concise list of differences between HP-34C

and the HP-11C programmable instructions is found in the following post within a long thread containing technical insights from Eric Smith:

<http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv016.cgi?read=98494#98494>

Which brings us back to the HP-15C: With all the functionality of the HP-11C, plus SOLVE and INTEG from the HP-34C, pioneering matrix-based and complex-number functionality, as well as extensions of traditional functions, clearly the uniform single-byte op-code would not be sufficient. If the byte were to remain the standard unit of size, some op-codes would require two bytes -- similar to what was done for the HP-41C. Given the limited RAM of the HP-15C (a maximum of 448 bytes programming space), the two-byte codes would need to be intelligently selected, such that the most commonly-used instructions would have one-byte codes.

The complete set of one- and two-byte HP-15C op-codes was revealed in an excellent article published not long after the HP-15C's introduction in mid-1982: "Synthetic Methods on the HP-15C" by Allyn F. Tennant. *PPC Calculator Journal*, Volume 10, No. 1, January/February 1983, pages 49-53. An easily-created synthetic matrix pointing to base of the pool of allocatable memory (and not simply the storage of the matrix itself) allowed direct viewing of the operating codes of entered programming instructions. Here's an example:

1. Clear all program memory [CLEAR PRGM], clear matrix data [MATRIX 0], and exit complex mode [CF 8]
2. Set R19 as the highest-numbered register [19 DIM (i)]
 

(NOTE: A master clear -- turning on while holding down the "-" key -- would accomplish all of the above.)
3. Type 1.000000044, turn calculator off, then turn it back on while holding down the  $y^x$  key
4. Store the (non-letter) descriptor of the resulting matrix to the indirect register [STO I]
5. Dimension matrix A as 1x23 [1, ENTER, 23, DIM A]
6. Set the matrix pointer to 1,23: [1, STO 0, 23, STO 1]
7. Enter program mode and key in the following instructions: DIM I, GTO 0,  $x^2$ , DSE 0, RCL\*I, LBL 3
8. Exit program mode and display the register containing the programmed instructions using [RCL (i)]. In default display mode (FIX 4), the display reads

"4.4536 99"

9. View the mantissa by holding down [CLEAR PREFIX]. The display reads

"3PEo 82-r1"

The complete hexadecimal contents of the register are "03DECF82BA1099". Here is a complete breakdown:

| display | hex value | representing                               |
|---------|-----------|--|
| (N/A)   | 0         | Left nibble of "LBL 3" (1-byte code "03")  |
| "3"     | 3         | Right nibble of "LBL 3" (1-byte code "03") |
| "PE"    | DE        | 2nd byte of "RCL*I"                        |
| "o "    | CF        | 1st byte of "RCL*I"                        |
| "82"    | 82        | "DSE 0" (1-byte code)                      |
| "-r"    | BA        | $x^2$ (1-byte code)                        |
| "1"     | 1         | Left nibble of "GTO 0" (1-byte code "10")  |
| (N/A)   | 0         | Right nibble of "GTO 0" (1-byte code "10") |
| "99"    | 99        | "DIM I" (displayed in exponent field)      |

The "DIM I" instruction is displayable as the exponent of the full floating-point number. As stated, the left nibble of the "LBL 3" and the right nibble of the "GTO 0" instructions are not directly displayable. For numbers, these



nibbles contain signs for the mantissa and exponent (among other information, such as matrix identifiers and LU decomposition status).

Here's the principle of the synthetic matrix: The ON/y<sup>x</sup> processor-reset operation rotates the 56-bit content of the x-register 22 bits to the right. So,

1.000000044 (float) =

0000 0001 0000 0000 0000 0000 0000 0000 0000 0100 0100 0000 0000 0000 (DCB)

becomes

0001 0001 0000 0000 0000 0000 0100 0000 0000 0000 0000 0000 0000 0000 (DCB)

after rotation. The first "1" indicates a matrix descriptor; the second "1" is the matrix identifier, which is not among the standard set of A through E that are encoded correspondingly in hexadecimal. (The value "1" in the mantissa is included to prevent automatic normalization to an exponentiated value, which would change the bit pattern.)

The selection and arrangement of the complete set of HP-15C 1-byte and 2-byte op-codes found respectively in Figures 3 and 4 of the PPC article exhibit the thoughtful planning, logical grouping, and overall attention to detail also found in the [arrangement of the HP-15C keyboard](#). Here are some observations:

#### One-byte codes:

- If the right nibble is hex F, then the byte is the first of a two-byte instruction. This enables BST to find instructions quickly (an improvement over the HP-41), but eliminates 16 possible 1-byte op-codes, leaving 240 such codes still available.
- Instructions whose value, register, or label is 0-9 have the corresponding hex value 0-9 as the right nibble. This holds for LBL, GTO, GSB, RCL, STO, TEST, and the numbers 0-9.
- RCL and STO using registers .0-.9 have the corresponding hex value 0-9 as the right nibble.
- Instructions whose value or input argument is A-E have the corresponding hex value A-E as the right nibble. This holds for LBL, GTO, GSB, RCL, STO, RCL g, STO g, RCL MAT, RES, DIM, and RCL DIM.
- RCL MAT A-E uses five 1-byte codes because these instructions would be used routinely for matrix-based calculations. (STO MAT A-E would be used only for *copying* entire matrices, and are 2-byte codes.)
- x< >, DSE, and ISG using register number 0, 1, I, or (i) as an argument are included as 1-byte instructions, whereas the same functions using a different argument are 2-byte instructions. The R0, R1, and I registers, which are non-allocatable and don't store statistical summation values, are always available for these functions.
- Most transcendental-function commands are grouped in the op-code table in the same way that they are located on the keyboard.

#### Two-byte codes:

- There are a total of 460 2-byte op-codes, which exceeds the 256 codes that a second table would provide. Thus, the second byte of some 2-byte codes matches a 1-byte code, making the left nibble of the 1st byte necessary for uniqueness. With the right nibble of the 1st byte being hex F, the 2-byte op-codes are essentially 3-nibble codes, most of which are unused.

- All eight register-arithmetic commands can be used with 0-9, .0-.9, A-E, (i), and I. Because this creates a set of **216** unique instructions, the instructions are 2-byte -- which is justified anyhow, given that STO and RCL arithmetic functions encompass two or more simple instructions. (RCL arithmetic is unavailable on the HP-41 as well as the HP-34C and HP-11C, which offer only 44 register-arithmetic instructions: STO #0-9 and STO #(i), where # is an arithmetic operation).
- LBL, GSB, and GTO with arguments .0-.9 are basically extensions of the corresponding one-byte codes for the arguments 0-9, the only difference being the pre-pended 1st byte: hex FF.
- RCL and STO of matrix elements in user mode are 2-byte. The codes were selected so that the 2nd byte matches the single byte of the corresponding instructions outside user mode, the only difference being the pre-pended 1st byte: hex BF.
- Indirect matrix access using stack pointers -- RCL g (i), STO g (i) -- is encoded to correspond with "RCL g D" and "STO g D", the only difference being the pre-pended 1st byte: hex AF: i.e., AF5D and AF6D versus 5D and 6D.
- All SOLVE and INTEG commands are 2-byte. These are infrequent in programs, but account for 50 unique instructions, as they are usable with all 25 labels (not just a few, as with the HP-34C).
- Flag operations and display-mode settings are 2-byte, as these account for 66 unique instructions. (The HP-15C has 10 flags, with access through the indirect register I as well.)

NOTE: There is a list of two-byte instructions on page 218 of the HP-15C Owner's Handbook. This list, however, omits [GSB][.] label , x < > {A-E}, DSE {A-E}, and ISG {A-E} -- the only mistakes I've ever found in that manual.

---

Of course, a picture is worth a thousand words; the preceding discussion is much easier to follow with the PPC Journal article and its tables at hand. The article is well worth perusing, and there's much more in it than I have discussed -- including a demonstration synthetic program that displays "HELLO PPC" in the display!

The article, included within the PPC archives, is available as the 10154-kB file "v10n1.pdf" on CD #1 from Jake Schwartz at <http://www.pahhc.org/ppccdrom.htm>, or on the Extended Archive DVD available from another site.

Tables of op-codes for the HP-11C, HP-34C, and two-byte op-codes for the HP-15C are available at Eric Smith's web pages:

<http://www.brouhaha.com/~eric/hpcalc/>

[http://www.brouhaha.com/~eric/hpcalc/hp15c/two\\_byte\\_instructions.html](http://www.brouhaha.com/~eric/hpcalc/hp15c/two_byte_instructions.html)

-- KS

*Edited: 4 July 2007, 1:58 a.m. after one or more responses were posted*

---

## **Re: HP-15C Silver Anniversary! (Op-codes, synthetic matrices)**

Message #2 Posted by [Antonio Maschio \(Italy\)](#) on 3 July 2007, 4:22 a.m.,  
in response to message #1 by Karl Schneider

Well, sum up and gather up all the information about the 15C such this, and make an article of it: it's too much interesting, and I'd want a pdf copy to carry with me.

You're great. Simply.

-- Antonio

Edited: 3 July 2007, 4:22 a.m.

## Re: HP-15C Silver Anniversary! (Op-codes, synthetic matrices)

Message #3 Posted by **Karl Schneider** on 3 July 2007, 1:37 p.m.,  
in response to message #2 by Antonio Maschio (Italy)

Hi, Antonio --

I was planning to respond to your reply from yesterday, which you apparently deleted and replaced with a new one. Thank you for the praise, which is admittedly difficult for me or anyone to truly fulfill...

:-)

In fact, it has been my intent to package the two "short essays" into a full-fledged MoHPC article with tabs. I'd like a little more feedback from others on the latest contribution.

One topic I'd like to be able to illuminate for readers concerns the engineering methods employed for the development of the HP-15C. I'm continually astounded how *perfection* in product development was nearly achieved -- no detail was overlooked, no feasible function that was necessary or useful was omitted, only one page of the manual contains errors, and only **one minor RPN bug** crept in -- a carryover from certain predecessor models, at that.

This excellence is more astounding, considering the pioneering functionality and fairly-short time of development. Obviously, it didn't happen by chance; some systematic, methodical engineering methods were employed, and I'd like to know what they were. I do have an idea how to find out more about them, but will discuss that when the time comes...

Best regards,

-- KS

## Re: HP-15C Silver Anniversary! (Op-codes, synthetic matrices)

Message #4 Posted by **Gerson W. Barbosa** on 3 July 2007, 8:34 p.m.,  
in response to message #1 by Karl Schneider

Quote:

\_\_\_\_\_

The article, included within the PPC archives, is available on DVD from Jake Schwartz at <http://www.pahhc.org/ppccdrom.htm>, or (ahem) "TOS".

\_\_\_\_\_

Karl,

Would you please tell me where to find the article in the DVD? (Mine is the "TOS" HP-41 Extended Archive DVD).

Thanks!

Gerson.

## Re: HP-15C op-codes/synthetics PPC article

Message #5 Posted by **Karl Schneider** on 4 July 2007, 12:00 a.m.,

*in response to message #4 by Gerson W. Barbosa*

Hi, Gerson --

Quote:

Karl,

Would you please tell me where to find the article in the DVD? (Mine is the "TOS" HP-41 Extended Archive DVD).

Thanks!

"Synthetic Methods on the HP-15C" by Allyn F. Tennant. *PPC Calculator Journal*, Volume 10, No. 1, January/February 1983, pages 49-53 is found in the file "v10n1.pdf", probably installed under

\Users Groups\PPC1\Volume10

Best regards,

-- KS

### **Re: HP-15C op-codes/synthetics PPC article**

*Message #6 Posted by **Gerson W. Barbosa** on 4 July 2007, 5:32 p.m.,  
in response to message #5 by Karl Schneider*

Thanks again, Karl!

So far I haven't read all through the article, only enough to be able to run the "HELLO PPC" program. It does work!

Best regards,

Gerson.

### **Re: HP-15C Silver Anniversary! (Op-codes, synthetic matrices)**

*Message #7 Posted by **Eric Smith** on 5 July 2007, 5:56 a.m.,  
in response to message #1 by Karl Schneider*

The referenced article "HP-15C Synthetics" by Allyn Tennant, from PPC Calculator Journal V10N1, has been converted to HTML and is available [here](#).

Any errors in the HTML conversion are undoubtedly mine.

### **HTML conversion of HP-15C synthetics PPC article**

*Message #8 Posted by **Karl Schneider** on 9 July 2007, 9:24 p.m.,  
in response to message #7 by Eric Smith*

Eric --

Many thanks for posting the link to some diligent work you performed in 2004. Your HTML conversion of the 1983 PPC Journal article is much more accessible to people (and easier to read) than the small-print

scanned Journal article purchased from Jake Schwartz or "TOS".

I couldn't help but notice, though, that the link to the HTML file is a "deep link" that does not appear under <http://www.brouhaha.com/~eric/hpcalc/>. The user is prohibited from viewing the contents of <http://www.brouhaha.com/~eric/hpcalc/hp15c/>, where your HP-15C "two byte instructions" spreadsheet is kept.

Is this by intent?

-- KS

**Re: HTML conversion of HP-15C synthetics PPC article**

*Message #9 Posted by [Eric Smith](#) on 10 July 2007, 2:10 a.m.,  
in response to message #8 by Karl Schneider*

I just haven't yet updated the "upper" page with links to it yet.

Eric

---

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## HP Forum Archive 17

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### Porting HP41CX programs

Message #1 Posted by [Prabhu Bhooplapur](#) on 1 July 2007, 8:42 a.m.

I am trying to port my HP41CX programs to 41CX emulator V41R8 (of Warren Furlow). I am transferring my programs to a 720kB DD diskette via a HP9114B disk drive. I have an old pc running Win98 and using the 3.5" 720kB disk drive of this pc I am able to transfer my files from the diskette to a directory on the hard disk. I used the LIF utility and used the LIF to DOS command. But the files so transferred have no extension. What format are these? Are they .lif files? I want to convert these into .raw format so that I can upload these to the 41CX emulator. I tried the WIN41UC program and the resulting .raw program has the first line in the program the LBL instruction missing. Could any Gurus please tell me how to go about this? Thanks for your help. Prabhu

### Re: Porting HP41CX programs

Message #2 Posted by [Egan Ford](#) on 1 July 2007, 6:13 p.m.,  
in response to message #1 by [Prabhu Bhooplapur](#)

I am no expert, but this just worked for me:

1. Convert the diskette to a LIF image. I can think of two possible ways to do this from DOS/WIN98:
  - LIFUTIL (<http://hp41.claughan.com/files/LIFUTIL.zip>). Alternatively you may be able to extract the individual files and convert with HP41UC.
  - EMU41. I tested this. EMU41/EMU71 under DOS can read 9114 floppies. Copy the code to HDRIVE1. HDRIVE1.DAT will be a LIF image.
2. Once you have your LIF image use HP41UC (<http://hp41.claughan.com/files/hp41uc.zip>) to extract and convert to RAW, e.g. to extract SAV41 from the image and convert to RAW run:

```
HP41UC.EXE /l=HDRIVE1.DAT /r=sav41.raw SAV41 /k
```

UPDATE: Read the HP41UC docs, page 12 for step-by-step on how to do this with LIFUTIL/HP41UC. IANS, LIFUTIL can extract files in RAW format. V41 should be able to read as input.

*Edited: 1 July 2007, 6:52 p.m.*

### Re: Porting HP41CX programs

Message #3 Posted by [Prabhu Bhooplapur](#) on 1 July 2007, 10:54 p.m.,  
in response to message #2 by [Egan Ford](#)

Thanks Egan. I will try your suggestions. Prabhu

### Re: Porting HP41CX programs

Message #4 Posted by [Diego Diaz](#) on 2 July 2007, 3:25 a.m.,  
in response to message #3 by [Prabhu Bhooplapur](#)

Hi Prabhu,

I tried to contact you by mail last saturday but got my message bounced back from your mailer.

Just contact me from other account if you can.

Thanks,

Diego.

PS: (Just to let you know): everything is on its way ;-))

---

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## HP Forum Archive 17

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### **For Allen RE: New 42S**

Message #1 Posted by [ce25593](#) on 30 June 2007, 1:27 a.m.

I have been unable to reply to your request for photos. Please provide a direct email so I can send photos of the new 42S.

Bob Haynes, San Diego [ce25593@san.rr.com](mailto:ce25593@san.rr.com)

---

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## HP Forum Archive 17

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**New HP42S**

Message #1 Posted by [ce25593](#) on 29 June 2007, 8:35 p.m.

I came across a new HP42S some time ago. It is still in the original plastic packaging material. The manual is still in the celophane wrap and has not been opened. The box is intact but showing some wear. What would this be worth today? I have a 42S at work I use all the time. I am trying to decide if I want to sell the new one or keep it as a spare.

Thank you.

Bob Haynes, San Diego

**Re: New HP42S**

Message #2 Posted by [Don Shepherd](#) on 29 June 2007, 9:44 p.m.,  
in response to message #1 by [ce25593](#)

Bob, they have been going for over \$300 on EBay recently.

**Re: New HP42S**

Message #3 Posted by [ce25593](#) on 29 June 2007, 11:54 p.m.,  
in response to message #2 by [Don Shepherd](#)

I know. There was one on Ebay today that was up close to \$500.

Bob

**Re: New HP42S**

Message #4 Posted by [Mike Ingle](#) on 30 June 2007, 12:25 a.m.,  
in response to message #1 by [ce25593](#)

Where'd you find that? I found a new HP15C on craigslist awhile ago for \$50. It was a gift in a defunct relationship, from the story I heard. Even though it was new, it had two broken heat stakes I had to repair.

Mike

**Re: New HP42S**

Message #5 Posted by [Alexander Wassermann](#) on 4 July 2007, 9:31 a.m.,  
in response to message #4 by [Mike Ingle](#)

Hi,

how do you repair the heat stakes on a 15C. My 23 year old 15C has about 10 broken off. I have tried to glue them back on some years back, but they did not hold. I have now some foam behind the PCB to

support it from behind. Unfortunately by this method some of the keys still "rattle" when shaking the unit.

Any comments would be welcome.

Regards, Alexander

### **Fix HP15C, was re: New HP42S**

*Message #6 Posted by [Mike Ingle](#) on 5 July 2007, 5:54 a.m.,  
in response to message #5 by Alexander Wassermann*

Check the archives for fixthatcalc's response to my question.

I got some Loctite super glue with an activator pen. Put the machine face down on a washcloth or other padded surface. Remove the back, and remove all the broken mushroom heads. For each broken one, press the circuit board down so the keys are firm. Treat the stake and board with the activator pen, and put a very small amount of super glue (I used a toothpick) on the stake and board where they meet. Keep it pressed down for a couple of minutes. A few seconds is not long enough. After reassembling, use rubber cement to attach the feet.

The 15C and 41C series have a basic flaw in that they rely on constant tension, in an organic material, to keep them working. HP did not know they would be collectors' items in 20+ years when they made them.

Mike

### **Re: New HP42S**

*Message #7 Posted by [Seth Morabito](#) on 30 June 2007, 2:26 a.m.,  
in response to message #1 by ce25593*

Sigh! I have New HP Calculators on the brain, I'm afraid. I saw the subject line and immediately though "Oh, HP is releasing a new version of the 42S?!"

Alas, no. But you do seem to have a very sought after little gem there! If I were you I'd keep it, but then I am something of a hoarder. If you need the money, I'd be interested to see how much it goes for on eBay. I'd love a 42S myself to help fill out my LCD-HP collection, but alas they're far too rich for my blood right now.

Please do let us know what happens with it!

---

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## HP Forum Archive 17

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**Let's play with a 3D model of HP-41C**

Message #1 Posted by [Jean-Michel](#) on 29 June 2007, 8:49 p.m.

Hello Gentlemen !

While some of us here enjoyed discussing about the next HP-35S, imagining numerous variants of keypads and the related functions, or solve some mathematical and programming challenges, the idea came to my mind to materialize me too my interest for HP calculators.

As I have, as most of us I assume, a special relationship with what is probably a pillar of the Hewlett Packard building, I mean the beloved HP-41, I decided to make my way a sort of tribute to this fascinating machine, by doing a complete tri-dimensional model of it. This is not, of course, as interesting as an emulator, but visually speaking, it goes further and, in this way, this is complementary.

I took the dimensions on my '41, which is an early one (serial no : 1944A...), also called a "tall key", with square corners on the screen and gold-plated ball-bearings on the side of the battery compartment (to allow for a future AC adaptor that was never produced, as you can read in the MoHPC).

[http://perso.orange.fr/Jean-Michel.XEQ-41C/HP-41C\\_3D/hp-41c.jpg](http://perso.orange.fr/Jean-Michel.XEQ-41C/HP-41C_3D/hp-41c.jpg)

As you can see on the attached picture (I apologize for the poor quality of this picture), I think the result is not so far from the original model. I really had some fun by making the parts one by one, and by assembling them to give life to this project, and I hope you will enjoy playing with it at your turn, because that's what you'll be able to do ! (Please, be indulgent with me, I didn't disassemble my '41 to draw the PCB !)

I explain : you'll find [here](#) a small website I've quickly made to host the 3D-file and a link to a free software, a viewer of 3D files, eDrawings viewer 2007®, necessary to display this file.

Download and install the viewer, then download and open with the viewer the file HP-41C.easm, and play ! You can zoom, rotate the model, move the components, hide them or make them see-through : you will see your HP-41 closer than you never did !

This is totally useless, but absolutely necessary for who is HP-41 fanatic !

Kind regards from Jean-Michel.

**Re: Let's play with a 3D model of HP-41C**

Message #2 Posted by [Namir](#) on 30 June 2007, 7:14 a.m.,  
in response to message #1 by [Jean-Michel](#)

Jean-Michel

I downloaded and installed the 3D viewer. Very nice 3D model. Almost feels like the real thing. Wish it had an accompanying emulator/simulator to make it work!!

Namir

---

**Re: Let's play with a 3D model of HP-41C**

*Message #3 Posted by **Gerson W. Barbosa** on 30 June 2007, 12:41 p.m.,  
in response to message #1 by Jean-Michel*

Hello Jean-Michel,

*Tout simplement fantastique!* Just fantastic!

Unlike you I am not an HP-41 fan (well, it's not your fault I couldn't afford a 41C/CV back then to develop a crush on it), but I have appreciated very much your 3D model. I won't bother you with a request for an HP-15C 3D model though :-)

It really looks like the real thing. Congratulations for such a passionate work!

Gerson.

---

**Re: Let's play with a 3D model of HP-41C**

*Message #4 Posted by **Jean-Michel** on 30 June 2007, 2:32 p.m.,  
in response to message #3 by Gerson W. Barbosa*

Hello Gerson,

Thank you very much for your congratulations, this warms the cockles of my heart. Be sure that I would be very pleased to make the same work on a HP-15C... if some of you could join themselves to offer me one ! :-)

Kind regards.

Jean-Michel.

---

**Re: Let's play with a 3D model of HP-41C**

*Message #5 Posted by **Namir** on 30 June 2007, 3:04 p.m.,  
in response to message #4 by Jean-Michel*

That's an offer WE CAN ALL REFUSE!!

:-)

Namir

---

**Re: Let's play with a 3D model of HP-41C**

*Message #6 Posted by **Jean-Michel** on 30 June 2007, 3:50 p.m.,  
in response to message #5 by Namir*

That was just a joke, man... When I want any HP calc, I just go to the auction site with my money. Keep your capital letters for something more important.

Amicalement.

---

**Re: Let's play with a 3D model of HP-41C**

*Message #7 Posted by [Namir](#) on 30 June 2007, 8:17 p.m.,  
in response to message #6 by Jean-Michel*

Jean Michel,

I was joking too. My guess a collector like you has a few HP-15C and just about any other worthwhile vintage HP calculator.

Namir

### **Re: Let's play with a 3D model of HP-41C**

*Message #8 Posted by [Gerson W. Barbosa](#) on 30 June 2007, 5:28 p.m.,  
in response to message #4 by Jean-Michel*

Hello Jean-Michel,

Quote:

---

I would be very pleased to make the same work on a HP-15C... if some of you could join themselves to offer me one ! :-)

---

Of course you don't need a *working* HP-15C for this job :-)

In case you're still interested, I'd send you a *dead* 11C. The HP logo, the battery compartment cover and the innards, except the damaged LCD, are missing. I am particularly interested in the aluminum bezel model, as it may eventually be used for producing replacement bezels.

Best regards,

Gerson.

P.S.: Don't be upset by capital letters. Everyone here knows you were joking, because of your smiley. Likewise you could have gessed Namir was joking too, because of his smiley at the end of his post :-)

---

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## HP Forum Archive 17

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### feeling old....

Message #1 Posted by [Les Wright](#) on 29 June 2007, 12:02 p.m.

I turned 43 on Wednesday and felt pretty good.

Then, in doing som SysRPL programming, I realized that that is 67 in hexadecimal.

I don't even want to think about dog years. Or binary. :)

Les

### Re: feeling old....

Message #2 Posted by [Gerson W. Barbosa](#) on 29 June 2007, 12:30 p.m.,  
in response to message #1 by Les Wright

Hello Les,

Happy Birthday! - albeit a little late...

Quote:

I turned 43 on Wednesday and felt pretty good.

Then, in doing som SysRPL programming, I realized that that is 67 in hexadecimal.

I fear there's a little mistake here, as  $\#67h = 6 * 16 + 7 = \#103d$ , isn't it? Actually, somehow you have converted your age to base **6** :-)

Best regards,

Gerson.

P.S.: Will turn 46 next Jul/22. That's #2Eh, which doesn't make me look any younger... Anyway, I was able to run 2510 meters in 12 minutes this morning :-)

*Edited: 29 June 2007, 12:35 p.m.*

### Re: feeling old....

Message #3 Posted by [Jeff O.](#) on 29 June 2007, 12:47 p.m.,  
in response to message #2 by Gerson W. Barbosa

At first I thought Les used base-6 also, but, of course he could not be 67 in base-6.

### Re: feeling old....

Message #4 Posted by **Gerson W. Barbosa** on 30 June 2007, 11:27 a.m.,  
in response to message #3 by Jeff O.

Oops! :-)

### Re: feeling old....

Message #5 Posted by **Paul Brogger** on 2 July 2007, 9:44 a.m.,  
in response to message #3 by Jeff O.

Even the *first* digit in **67** would be improper representing a value in base-six.

As we all know, when representing values in any base  $n$ , the value  $n$  appears as "10".

The numeral six ("6") shouldn't appear in any base-six value, just as the numeral eight ("8") doesn't appear in any octal representation, the numeral used for ten ("A") doesn't show in any decimal value, and the numeral that might be used for sixteen ("H") won't show in any hexadecimal value.

[End of pedantic rant/reminder.]

I (probably, all too predictably) remind folks at two oft-obsessed-over passages that:

$$40_{10} = 28_{16}, \text{ and}$$

$$50_{10} = 32_{16}$$

(I'm 55, which I might choose to represent as either  $37_{16}$ , or  $67_8$ .)

### Re: feeling old....

Message #6 Posted by **Gerson W. Barbosa** on 2 July 2007, 12:24 p.m.,  
in response to message #5 by Paul Brogger

Quote:

\_\_\_\_\_  
(I'm 55, which I might choose to represent as either  $37_{16}$ , or  $67_8$ .)  
\_\_\_\_\_

In order to avoid more silly mistakes, I will refrain myself from representing my age in bases others than 10. However, using Mars as a reference makes me look younger (only **24.42** martian years) and lighter (only **64.46** pounds. Mars wouldn't make me any taller than 5' 8" though :-)

### Re: feeling old....

Message #7 Posted by **Dave Shaffer (Arizona)** on 2 July 2007, 5:42 p.m.,  
in response to message #6 by Gerson W. Barbosa

"Mars wouldn't make me any taller than 5' 8" though"

Actually, depending on how you measure it, it would!

The meter was originally defined so that there were 10,000,000 meters from the equator to the pole (along the meridian through Paris - as opposed to those Brits, who preferred feet and yards and the Greenwich Meridian!). Since Mars is only about 60% as big (in diameter) as the Earth, a similarly-defined Martian meter would be 60% smaller than a terrestrial meter - so you would be 60% taller in Martian meters!!

**Re: feeling old....**

Message #8 Posted by **Dave Shaffer (Arizona)** on 2 July 2007, 5:45 p.m.,  
in response to message #7 by Dave Shaffer (Arizona)

Oops - not "60% smaller" but 60% as large!! But, since  $1/0.6 = 1.666$ , you would be more than 60% "taller."

**Re: feeling old....**

Message #9 Posted by **Gerson W. Barbosa** on 2 July 2007, 6:15 p.m.,  
in response to message #8 by Dave Shaffer (Arizona)

Good point! Hadn't thought of this. Being 2.88 Martian meters tall looks pretty good to me :-)

**Re: feeling old....**

Message #10 Posted by **Jeff O.** on 2 July 2007, 12:37 p.m.,  
in response to message #5 by Paul Brogger

Quote:

Even the first digit in 67 would be improper representing a value in base-six.

D'oh! So I guess Les is **111** in base-6. (He keeps getting older and older!)

Quote:

I (probably, all too predictably) remind folks at two oft-obsessed-over passages that:

$$\begin{aligned} 40_{10} &= 28_{16}, \text{ and} \\ 50_{10} &= 32_{16} \end{aligned}$$

Conjecture - If humans had 16 fingers instead of only 10, we would we all feel so much younger. (Probably not, actually.)

**Re: feeling old....**

Message #11 Posted by **Egan Ford** on 2 July 2007, 1:09 p.m.,  
in response to message #10 by Jeff O.

Quote:

Conjecture - If humans had 16 fingers instead of only 10, we would we all feel so much younger. (Probably not, actually.)

Two thumbs per hand would make thumbboarding the 71B much faster.

**Re: feeling old....**

Message #12 Posted by **Walter B** on 2 July 2007, 1:21 p.m.,  
in response to message #10 by Jeff O.

Quote:



---

Conjecture - If humans had 16 fingers instead of only 10, we would we all feel so much younger.

---

No need to go so far. Remember Mayas in todays Guatemala, Belize and Yucatan had a base-20 system. That would cover every reasonable human age, e.g. me showing up as a real twen -- feeling twice as elastic immediately :-)

BTW: 16 in base 16 would be G, if it would exist. End of pedantic correction.

### Re: feeling old....

Message #13 Posted by **Paul Brogger** on 2 July 2007, 6:53 p.m.,  
in response to message #12 by Walter B

Quote:

---

16 in base 16 would be G

---

Ouch! I'll stuff my pedantic troll back in his cave, and try to keep him there for a while . . .

### Re: feeling old....

Message #14 Posted by **Palmer O. Hanson, Jr.** on 2 July 2007, 8:48 p.m.,  
in response to message #5 by Paul Brogger

You wrote:

Quote:

---

Even the *first* digit in **67** would be improper representing a value in base-six.

---

Way back when, when I was first introduced to this stuff, we wouldn't have restricted the definition of a base six number as you do. We recognized that if the writer said that 67 was a base six number then the number was equal to decimal 43. We might have noted that the writer hadn't managed to perform all of the "carries" that were available.

When we used octal or hexadecimal representation as a shorthand for the ones and zeroes we recognized that the representation wouldn't have any digits greater than one less than the base. But, that's not really tied to the definition of base as I remember it.

### Re: feeling old....

Message #15 Posted by **Gerson W. Barbosa** on 2 July 2007, 9:41 p.m.,  
in response to message #14 by Palmer O. Hanson, Jr.

In fact, at least the first digit in **67** is not improper in this base-6 system:

[http://en.wikipedia.org/wiki/Bijjective\\_numeration](http://en.wikipedia.org/wiki/Bijjective_numeration)

Back to the usual definition of base, this Q&D HP-33s program might help me convert decimal numbers (up to 215) to base six correctly:

LBL N

```
ENTER
ENTER
6
INT/
x<>y
6
Rmdr
x<>y
ENTER
ENTER
6
Rmdr
x<>y
6
INT/
100
*
x<>y
10
*
+
+
RTN

43 XEQ N -> 111

the writer :-)
```

### Re: feeling old...

Message #16 Posted by [Les Wright](#) on 29 June 2007, 12:56 p.m.,  
in response to message #2 by Gerson W. Barbosa

Actually my logic in saying I am 67 is this:

$$67 = 4 * 16 + 3$$

I am using the decimal digits in the hexadecimal system to give the 67 numeral.

I know I have the logic backwards, but I thought it was funny.

Les

### Re: feeling old...

Message #17 Posted by [Walter B](#) on 29 June 2007, 12:59 p.m.,  
in response to message #16 by Les Wright

Happy birthday!

Quote:

\_\_\_\_\_

I know I have the logic backwards, but I thought it was funny.

\_\_\_\_\_

Oh yes, it was ;) Will become worse with age...

### Re: feeling old...

Message #18 Posted by [Jeff O.](#) on 29 June 2007, 12:42 p.m.,  
in response to message #1 by Les Wright

Wouldn't you be (only) 2B in hex? I think you flipped your conversion, as if you were 67 in decimal, you'd be

only 43 in hex.

Quote:

I don't even want to think about dog years.

When I turned 40, a "friend" gave me a shirt on which appeared a cartoonish drawing of a crumbling dog skeleton and the message "In dog years, I'm dead." Not sure what that means, but sometimes I feel that way. At 43 you're still just a (quite alive) pup.

### Re: feeling old....

Message #19 Posted by **Peter Geiser** on 29 June 2007, 12:56 p.m.,  
in response to message #18 by Jeff O.

It is said that each year a dog lives compares to seven human years. So, a 7-year old dog has about the same age as a 56-year old human. With 40 dog years, you'd be around 280, which is not likely achieved.

But back to the first post: congratulations Les! Let's be glad that we count in decimal, not hex. I hope you feel rather 43(oct)-ish...

Best regards  
Peter

### Re: feeling old....

Message #20 Posted by **Woody Larkin** on 29 June 2007, 7:59 p.m.,  
in response to message #19 by Peter Geiser

Hi, A newer approximaton of a dog's age compared to a human's is as follows: Age: 1st 2 years = 25 years; each additional year = 4 human years.

A 15 year old dog would be equivalent to a 77 year old person.

A 43 year old man would be equivalent to a 4 1/2 year old dog which is still in its prime.

### Babbling

Message #21 Posted by **Palmer O. Hanson, Jr.** on 29 June 2007, 9:26 p.m.,  
in response to message #1 by Les Wright

From the vantage point of decimal 78 this thread looks a lot like what we used to call "the babbling of babes in the woods".

But, Happy Birthday anyway.

### Re: feeling old....

Message #22 Posted by **db (martinez, ca.)** on 30 June 2007, 12:45 a.m.,  
in response to message #1 by Les Wright

les; you're only 516 months old? post again when you are old enough to have something interesting to say.

### Re: feeling old....

*Message #23 Posted by **JMBaillard** on 30 June 2007, 5:28 p.m.,  
in response to message #1 by Les Wright*

Happy Birthday Les!  
In fact, you're only 15708 days old, whereas I am 18328.419

Concerning sysRPL, I take notes  
but I only know very few things about long reals, for instance  
Rectangular-Polar at the address #2B498h  
Polar-Rectangular ----- #2B4C5h ( on a HP-48 )

Best regards,  
JMB.

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## HP Forum Archive 17

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### Thinning out the harmonic series even more.

Message #1 Posted by [Rodger Rosenbaum](#) on 29 June 2007, 12:09 a.m.

Valentin's recent challenge involving the harmonic series caused me to run across a related series:

<http://mathworld.wolfram.com/HarmonicSeriesofPrimes.html>

and a fascinating modification to it.

If you delete from the harmonic series of primes those primes that contain each of the digits 0,1,2,3,4,5,6,7,8,9 at least once, the series converges.

A paper providing a proof of this was published in Mathematics Magazine in October, 1995.

But, the author didn't provide the value of the limit.

Can we find it with our calculators?

### Re: Thinning out the harmonic series even more.

Message #2 Posted by [hugh steers](#) on 30 June 2007, 6:50 a.m.,  
in response to message #1 by Rodger Rosenbaum

Lets call harmonic(x) the harmonic series with digit x missing, primes(x) the 1/primes series with digit x missing. Then we know primes(x) also converges since  $\text{primes}(x) < \text{harmonic}(x)$  which converges.

Your series is  $\text{primes}(0-9) = 1/\text{primes}$  striking out those terms missing at least one of 0-9. I think this is what you mean by, delete those containing "each" of 0-9. Ie those than contain all digits are removed. Otherwise if you mean any of 0-9 then clearly this is all terms!

So  $\text{primes}(x)$  is part of  $\text{primes}(0-9)$ , since x is missing and  $\text{primes}(0-9) < \text{primes}(0) + \text{primes}(1) + \dots + \text{primes}(9)$ , since the latter counts some terms twice, but the latter has a value so the former must converge. So there's a convergence proof and an upper bound. This also means  $\text{harmonic}(0-9)$  converges and could be calculated by egan's program. We also have  $\text{primes}(0-9) < \text{harmonic}(0-9)$  too.

### Re: Thinning out the harmonic series even more.

Message #3 Posted by [Rodger Rosenbaum](#) on 30 June 2007, 4:27 p.m.,  
in response to message #2 by hugh steers

Quote:

Your series is  $\text{primes}(0-9) = 1/\text{primes}$  striking out those terms missing at least one of 0-9. I think this is what you mean by, delete those containing "each" of 0-9. Ie those than contain all digits are removed. Otherwise if you mean any of 0-9 then clearly this is all terms!

"striking out those terms missing at least one of 0-9" is not the same.

For example, your description would strike out 102345789 because it is missing the digit 6.

My description would not strike it out because it doesn't contain each of the digits 0,1,2,3,4,5,6,7,8,9 at least once; it doesn't contain the digit 6 at least once.

**Re: Thinning out the harmonic series even more.**

*Message #4 Posted by [hugh steers](#) on 30 June 2007, 5:02 p.m.,  
in response to message #3 by Rodger Rosenbaum*

i see.

i've noticed that my argument applies to your definition and not to mine! my previous definition was wrong. in fact the series made by striking out those missing one of 0-9 will be the series of those containing all of 0-9 which will be nearly all terms (after a while).

your series is then the opposite. you are striking about those containing all of 0-9 so the series primes(0-9) is 1/primes with at least one of 0-9 missing.

so then, primes(x) is part of primes(0-9) since if x is missing, it can't be struck off.

and then primes(0-9) <= primes(0) + primes(1) + .. + primes(9) as before.

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## HP Forum Archive 17

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### HP-41: a M-code question

Message #1 Posted by [JMBaillard](#) on 28 June 2007, 3:28 p.m.

Hi,

does anyone know how to program in M-Code  
an instruction like XEQ IND 00 ?

It seems that

?NCXQ  
24C7 is the entry point

with SETF7 for XEQ  
or CLRF7 for GTO

-But in what CPU register must be stored the address 00 ?

Regards,  
JMB.

### Re: HP-41: a M-code question

Message #2 Posted by [Howard Owen](#) on 28 June 2007, 4:27 p.m.,  
in response to message #1 by [JMBaillard](#)

User register 0 is not in a CPU register. It's in the user memory "peripheral." See pages 31-33 of "HP41 MCODE for Beginners" for a description of the layout of user memory. (Register 0 is at \$1FF of the user memory peripheral.) You access peripherals with the WRIT and READ instructions, after selecting the peripheral number with PRPHSLCT. HP41 user memory is peripheral 0.

Regards,  
Howard

### Re: HP-41: a M-code question

Message #3 Posted by [Meindert Kuipers](#) on 29 June 2007, 4:36 a.m.,  
in response to message #1 by [JMBaillard](#)

This is a bit strange entry point to be calling from Mcode, since it will call a numeric label in User Code, so this makes me a bit curious why you would want to do this. I have done something comparable in the past, a Mcode routine to skip a certain number of (User Code) lines with SKPLIN at 0x2AF9. Could be useful after a flag test or compare.

Meindert

### Re: HP-41: a M-code question

*Message #4 Posted by **JMBaillard** on 29 June 2007, 5:16 p.m.,  
in response to message #3 by Meindert Kuipers*

Hi ,

in fact, I'm not quite sure of this entry point but I would like to write a Gauss-Legendre integrator in M-code in which the constants could be inserted, thus avoiding the use of data registers to store these constants ( or very slow execution if they are in the "standard" program itself )

I've read in "Mcode for beginners" how to use status register c to find the absolute address of register R00, and I wonder if something like

```
... ( storing this absolute address in a proper CPU-register )
SETF7
?NCXQ
 24C7  would be equivalent to XEQ IND 00
```

Regards,  
JMB.

### **Re: HP-41: a M-code question**

*Message #5 Posted by **Doug** on 30 June 2007, 9:54 a.m.,  
in response to message #4 by JMBaillard*

I haven't tried that before. It does seem that f7 controls GTO/XEQ at that point. Looking @ ADRFCH 0004, it seems the register address is in the internal flag register, at 0008 it recalls it to C, clears the indirect bit then tests to see if it is a stack register (with ?FS 6, 5, 4).

If it is a stack register it stores the address in N then reads the register and returns with the unconverted LBL number (or text string) in C. Otherwise it's doing something with B in CHKADR.

A better way to implement such a thing might be to enter @ 24CC with the required LBL # or text string in C (in unconverted form), however, at that point R(X) controls the XEQ/GO choice. So one needs to execute SAVRC (27DF) before the above entry, or SAVRTN (27D3) if only XEQ is of interest.

It is not clear to me how you will use the function, SAVRTN will push the address located just after your function (actually the last byte of your function) in program memory, so it may be necessary to decrement the address twice before applying SAVRTN, yet then you are still presented with the problem of where you are at within the loop (no data are preserved within the CPU across user code calls). Initialize a counter in a ram register?

If you only want to execute a numeric LBL, time can be saved by skipping the BCDBIN call and just enter @ 24D1. Eg: something like:

```
XQNC GETPC 2950
```

```
XQNC DECADA 29CA
```

```
XQNC DECADA
```

```
XQNC SAVR10 27D5
```

```
LDI binary LBL number 0 to 63 (see the test @ 24D4)
```



GONC 24D1

Next time you see the process will be at your function entry point. So you will need some kind of counter in a ram register for branch purpose at entry to function, the fastest type counter would be a text string in say R00 that initializes to text null (simple increment in binary).

Another speed up would be to save the address of the found subroutine and your function call somewhere in ram register so no search is necessary after initial call. Both these addresses would fit in the high nibbles of R00 if R00(X) is used for the counter.

I haven't considered the problem of keyboard execution of the function, it may be impossible to "come back" or require exotic poll programming (how about we put it @4000 ? ,just kidding).

Best

**Re: HP-41: a M-code question**

*Message #6 Posted by [JMBaillard](#) on 30 June 2007, 4:55 p.m.,  
in response to message #5 by Doug*

Hi,  
thank you all for these informations  
Best regards  
JMB.

**Re: HP-41: a M-code question**

*Message #7 Posted by [Doug](#) on 30 June 2007, 7:17 p.m.,  
in response to message #6 by JMBaillard*

Now you have me thinking about your interesting idea.

Why bother with a LBL at all? Here is an idea, say your function name is, for example, GAUSS9. Then follow the function with the integrand! In this case one already knows where the entry to the user supplied integrand is, it might look like: (for example;  
F(X)=X\*\*2+SIN(X))

store limits/step size/etc. at specified registers

```
CLA
ASTO 00
GAUSS9
SIN
LASTX
X^2
+
RTN
```

The execute address is already present in the user PC, the last byte of GAUSS ("fall into" the subroutine). One just needs to set up R(X) so that when RTN is executed it returns to the byte before GAUSS9.

Lots more details, such as where do we go when the function is done? etc. This could be the fastest integrator method.

Best

**Re: HP-41: a M-code question**

Message #8 Posted by **JMBaillard** on 1 July 2007, 5:21 p.m.,  
in response to message #7 by Doug

Hi,

I've tested the following M-code routine:

```
34D ?NCXQ
09C 27D3
378 READ13(c)
03C RCR3
270 RAMSLCT
038 READ DATA
331 ?NCXQ
090 24CC
.....
```

After storing the global label name in R00, it works,  
even if we SST the program in main memory.  
Unfortunately, the following M-code instructions  
( .... after ?NCXQ 24CC ) are NOT executed!

So it seems impossible to write a Gaussian integrator this way.  
I did it in another way with the Gauss 5-point formula  
after coding in M-code the 5 coefficients,  
but using 5 entries in the FAT just for numbers is wasteful,  
and it would be even worse for the 16-point formula...

Regards,  
JMB.

P.S: I've read your last post and I don't really understand  
how it works: the Gaussian formula needs to compute  
the function at several arguments, so I don't see  
how the M-code routine could change these arguments  
if it is inserted in the function itself.  
( sorry I'm only a beginner in M-code ... )

**Re: HP-41: a M-code question**

Message #9 Posted by **Doug** on 2 July 2007, 8:13 a.m.,  
in response to message #7 by Doug

```
"the Gaussian formula needs to compute
the function at several arguments, so I don't see
how the M-code routine could change these arguments
if it is inserted in the function itself."
```

Guess I am not being sufficiently clear: A user code subroutine cannot be called by a  
microcode function, it will never return.

Thus one needs to use a "trick". One possible trick is to push the address of the function into  
the user code return stack so that when a user code RTN is hit, it returns to the function. It  
will return to the microcode at the entry point of the function.

In this code:

```
CLA
ASTO 00
GAUSS9 your function
SIN user code subroutine, f(X)
LASTX
X^2
+
```

RTN            must end with RTN

SIN LASTX X^2 RTN is repeatedly executed until the integral is completed, for 5 point gauss with 10 sections it is executed 50 times. Your function must supply the value of X in X at each point and do your summation of the integral upon reentry (because at that point the result of the integrand, f(X), will be in X).

At entry to the function, it is necessary to determine which time we are going through the function, thus a ram counter is required, that's what the CLA ASTO 00 lines accomplish: initialize the counter (or use CLX STO 00).

At entry, READ e RCR 3 RAMSEL READ and the counter is now in C. If it's zero we know that this is the first time through (a result is not in X). Then increment the counter and WRITE (for next time through).

Except for the first time through: multiply f(X) (now in X) by the appropriate weight (determined by the counter) and sum it into a ram register. Every time through, except the last, using the counter, get the next abscissa and put it in X.

The function then modifies the user code return stack and falls into the user code subroutine. Here is what the exit from your function could look like (except for the last time through):

```
XQNC 2950 GETPC
B=A WPT            save address of PC for re-insert
XQNC 29C8 DECAD+1 backup two bytes
XQNC 29C8 DECAD+1
XQNC 27D5 SAVR10   it's our return address
GONC 24F3 XEQ20+1 put it in the user code return stack
```

For the last time through, one could simply recall the value of the integral and put it in X and stop. Or one could jump to the line following the RTN and use user code to recall the result. Here is one way to do that:

```
XQNC 2950 GETPC
LDI 085 (hex value of RTN line, there must be a RTN)
M=C
XQNC 2AF7 NXLSST
C=0 XS
A<>B
A=C X
C=M
?A#C X
JNC +3
A<>B
JNC -9 (NXLSST)
A<>B
GONC 232F PUTPCX
```

As far as generating the abscissas and weights one option to consider is using synthetic functions RCL N and RCL M. One uses a synthetic 14 character text string in program then the above lines get the full precision data into X, for storage into registers.

Or, the first time into the function, the data could be generated and placed into registers, that's a lot of load digit instructions! Anyway, for multiple sections, ram registers should be used to avoid generating the Xi and Wi repeatedly.

On the other hand, if you are determined to not use registers for the Xi and Wi, or to generate higher order coef, a table grabber could be used so that each word holds a byte, instead of LD which takes two words to load a byte. For 12th order the table would be 84 words and possibly 10 words for the grabber.

Best

*Edited: 2 July 2007, 9:50 a.m.*

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## HP Forum Archive 17

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### HP 50g DMS

Message #1 Posted by [Jeffrey Connor](#) on 27 June 2007, 9:20 p.m.

Hello All,

I just bought a 50g and cannot figure out how to input and return angles in DMS. I do this frequently and would like to have it readily available. Any suggestions?

Thank you very much,

Jeff

### Re: HP 50g DMS

Message #2 Posted by [Allen](#) on 27 June 2007, 9:52 p.m.,  
in response to message #1 by Jeffrey Connor

Read page 3-79 of the [advanced users manual](#).

### Re: HP 50g DMS

Message #3 Posted by [Matthew W. Milligan](#) on 29 June 2007, 4:17 p.m.,  
in response to message #2 by Allen

The function  $\rightarrow$ HMS converts a decimal hour (or degree) into a form HH.MMSS and the function HMS $\rightarrow$  converts HH.MMSS into a decimal value. As far as availability goes this function is found either in the CATALOG or in the TIME menu under tools. If you use it frequently consider making it a part of a CUSTOM menu or a user defined key.

### Re: HP 50g DMS

Message #4 Posted by [Trent Moseley](#) on 29 June 2007, 11:05 p.m.,  
in response to message #3 by Matthew W. Milligan

Lots of luck on a 31E with all its trig functions! Of course the function should be on the keyboard and not hidden in some menu somewhere ala the 42S.

tm

### Re: HP 50g DMS

Message #5 Posted by [Jeffrey Connor](#) on 4 July 2007, 8:51 p.m.,  
in response to message #1 by Jeffrey Connor

Thank you very much for your replies. I have put the DMS commands on my Custom menu.

How about entering and returning degrees, minutes, and seconds directly? I believe that you can on TIs by

entering each value followed by a symbol (e.g. ' for minutes). I believe that results can be reported in a similar fashion.

Any thoughts?

Thanks again,

Jeff

**Re: HP 50g DMS**

*Message #6 Posted by **Peter A. Gebhardt** on 5 July 2007, 5:26 a.m.,  
in response to message #5 by Jeffrey Connor*

Jeff,

in RPL mode enter HH <space> MM <space> SS <Custom Function>.

If your custom function has been built with (say as an example)

```
DEFINE('K(h,m,s)=h*3600+m*60+s')
```

in algebraic mode (which I suppose, because of your question), calling your custom function as described above will solve the RPL equation:

```
<< -> h m s 'h*3600+m*60+s' >>
```

and display the expected result.

For a description on DEFINE see Chapter 3 of the User Guide (the large pdf document on CD).

For a more user-friendly implementation, pls. look up the fine descriptions of - '30 MENU' usage in equations - to build custom menus. A lot of sophisticated samples of this technique are available at

[http://groups.google.com/groups/search?q=30+menu&qt\\_s=Search+Groups](http://groups.google.com/groups/search?q=30+menu&qt_s=Search+Groups)

Hope this helps!

Peter A. Gebhardt

**Re: HP 50g DMS**

*Message #7 Posted by **Jeffrey Connor** on 5 July 2007, 9:15 a.m.,  
in response to message #6 by Peter A. Gebhardt*

Peter,

Thank you for your response; I'll give it a shot.

Jeff

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## HP Forum Archive 17

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### Extended Complex Number Calculations in SysRPL

Message #1 Posted by [Les Wright](#) on 25 June 2007, 7:50 p.m.

This follows up a back and forth I was having with James Prange in an earlier thread.

I have completed my SysRPL code to compute the sine and cosine integrals by complex continued fraction. The original Modified Lentz algorithm and formulae can be found in Numerical Recipes 2nd ed or later. Internally, the complex numbers are treated as two part entities, where each part is an extended real. The parts can be either the real or imaginary parts of rectangular form, or the modulus and argument of polar form. I have used NULLLAMs and stack manipulation. The complex arithmetic really is normal extended real number arithmetic on the constituent parts--I work in rectangular form for additions and subtractions, and polar form for multiplication, division, roots, and powers. The SysRPL functions %%R>P and %%P>R allow ready switch back and forth without getting bogged down in the trigonometry.

I have managed to keep track of everything and it works fine, but this is one case where the SysRPL code, albeit not yet optimized is perceptibly slower than my UserRPL version. However, the trade off can be construed as worth it--since the internal calculations are done to 15 digits, the 12 digit output is completely accurate provided that the input argument is of suitable size.

This leads me to a practical question, that I believe someone asked here earlier. When working in extended reals in SysRPL, what would you choose as a "machine epsilon" for the purpose of testing convergence? In double precision on my PC, I think machine epsilon is about 2.2e-16. In my program, the convergence test is when a particular multiplicative factor becomes unity and doesn't change in a subsequent iteration. In UserRPL, converging to actual equality works fine, but in extended reals in SysRPL, this expectation drags the computation out unnecessarily for some input. I have by trial and error settled on 2e-15 as my EPS. Any smaller and you might as well just converge to equality unnecessarily. So if variable del is the factor I want to be unity, the loop exits when LAM del %%1 %%- %%ABS %%2E-15 %%< returns True. Requiring LAM del %%1 EQUAL to be true consumes cpu time and offers no added benefit.

Any thoughts on this?

Les

### Re: Extended Complex Number Calculations in SysRPL

Message #2 Posted by [Les Wright](#) on 26 June 2007, 2:27 p.m.,  
in response to message #1 by [Les Wright](#)

There is potential for significant speed improvement here.

Though Dave has yet to add it to the HP41 Software Library, JM Baillard has shared with me a routine that computes the continued fraction from right to left by brute force for a predetermined number of terms. There is no futzing around with convergence tests, and flopping back and forth between polar and rectangular forms of the complex numbers is kept to a minimum. It is easy enough to determine the minimum argument size that will yield full precision for a given number of terms, and above that the extra terms are computed unnecessarily, but in a fast environment this shouldn't be that noticeable. Certainly it should be less noticeable than the delays in my own code due to convergence tests and frequent changes between polar and rectangular

mode. I should try to port that HP41 routine (which is, btw, less than 50 steps in length) and see how I make out. This may be one case where using the Modified Lentz algorithm is like using a shotgun to kill a fly!

Les

**Re: Extended Complex Number Calculations in SysRPL (JMBaillard take note!)**

*Message #3 Posted by [Les Wright](#) on 29 June 2007, 12:05 p.m.,  
in response to message #2 by Les Wright*

My port of JMB's code was a success, but it still isn't as fast as I would like. I gives results in around a second to full 12 digit precision for arguments greater than 5 (arguments less than 5 are well treated by a series summation which proceeds much faster). I may post my code here and in comp.sys.hp48 to see if I can get some optimization advice.

Les

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## HP Forum Archive 17

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### **From the HP-41C to the HP-48GX and a Broken 97**

Message #1 Posted by **Gerry Schultz (Los Angeles)** on 25 June 2007, 5:23 p.m.

To All:

Lately, I been having a lot of fun with old (new to me) calculators and I'm beginning to see the operational changes between my original HP-41C and the HP-48GX.

As mentioned in previous posts (thanks for the responses), I dropped using my HP-41C for a quite awhile until I bought an HP-48GX right when they came out. Thinking back, I remembered that I got interested in an Apple IIe as I needed to become more familiar with computers since work was going more and more that way. I then upgraded to an Apple IIGs and finally slipped over to a 486 with Windows 3.1. In '93, I got access to the Internet through dial up and I was lost for a long time.

I remember when I bought the GX as it was brand new and most available software was for the 48SX and I wondered if I had bought the right machine. When I started learning how to use it, I had a very hard time understanding all these new 'objects', an unlimited stack (oh, wow!) and 128K of storage (what is going on!?). I gave up a few times since the HP documentation didn't lift my cloud of confusion and only when 3rd party books started coming out explaining how the 48GX worked that it did began to sink in.

Now that I'm older and can afford to indulge my fetish, errr, interest in HP calculators, I recently purchased an HP-97, an HP-42s and an HP-28s. The 42s is great and as I started working through the Owner's manual, I could see how the old 4-position stack was moving over to HPL.

Now, with the 28s and it's great HP Owner's manual I really see how the 48GX became the calculator it is. Since the 28's manual goes step-by-step through the operation of the calculator, it is beginning to fill in all the missing little gaps of how this calculator works and along with it, the 48GX, the 49G, 49G+ and the 50G.

This going back and using these old calculators has helped me feel more confident with the newer ones. It also points out how poor HP's documentation is on it's present calculators. With the third party market for these calculators being so small, there aren't many books that explain how to use them. So, going back to these older machines and their documentation is as good as it gets.

I hope that when the HP-35s is released, that HP spends the time and money to write its manuals like how the 28s is written to help new-comers become more confident and make better use of their investments. HP makes some great calculators but if they don't help their customers master their machines, then only the smartest of us will make the full use of them.

Okay, enough reminiscing and complaining. I broke my 97 printer. I got a program that prints out prime numbers and I left it running last night printing out prime numbers. This morning the 97 printer was making a hi-pitched squeal and now doesn't work. I think the paper advance gears broke. Who works on 97 printers? I know the "Fixthatcalc.com" doesn't so whom else might?

Thanks for reading and indulging my lamenting of HP calculators.

Gerry

**Re: From the HP-41C to the HP-48GX and a Broken 97**

*Message #2 Posted by [Dan W](#) on 25 June 2007, 6:23 p.m.,  
in response to message #1 by Gerry Schultz (Los Angeles)*

You might write FixThatCalc.com, I thought they were still repairing HP-97's. there is a guy on That Auction Site that is selling one he says they repaired back in 2003 anyway.

I haven't met a 97 printer I couldn't repair. Send me a private e-mail if interested.

-- Dan W.

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## HP Forum Archive 17

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### Red light left of display on Spice (32E)

Message #1 Posted by [Olivier TREGER](#) on 25 June 2007, 4:04 p.m.

Hello to all,

I have a great working 32E, at least it holds charge with a brand "from the HP factory" battery.

But there's also this annoying strong red light on the left of the display that remains lit all the time.

I've tried to cruise in the archive but I certainly didn't look properly.

Can anybody help?

Thanks, Olivier

### Re: Red light left of display on Spice (32E)

Message #2 Posted by [Les Wright](#) on 25 June 2007, 11:33 p.m.,  
in response to message #1 by Olivier TREGER

Is it a dot on the upper left?

I think that is the lowbat warning.

Perhaps the pack is not as good as it seems

I use standard size NiMH AAs in my 33C and 34C, with a thin strip of aluminum foil on the right to complete the circuit. Works fine, though inserting and removing cells needs to be done carefully since the fit is snug and the contacts can flatten and break.

Les

### Re: Red light left of display on Spice (32E)

Message #3 Posted by [Olivier TREGER](#) on 26 June 2007, 4:10 p.m.,  
in response to message #2 by Les Wright

Quote:

Is it a dot on the upper left?

I think that is the lowbat warning.

It must be that but the calc remains online however...

### **Re: Red light left of display on Spice (32E)**

*Message #4 Posted by [Jeff Kearns](#) on 26 June 2007, 4:54 p.m.,  
in response to message #3 by Olivier TREGER*

Hi,

I was the lucky recipient of a great-looking 33E that I got from a colleague at work a couple of years ago - for free. It had no batteries nor charger and one of the battery contacts needed to be soldered. I purchased a set of rechargeable batteries (cannot recall which type and I have not opened it to find out) and a charger on eBay, then I soldered the contact and the unit has worked flawlessly ever since.

It does have the red LED dot to the upper left of the display - but only when it is on batteries. The batteries have lasted for months between charges (intermittent use) and appear to be of good quality. I just thought it was a battery power indicator rather than low-bat.

Jeff

### **Re: Red light left of display on Spice (32E)**

*Message #5 Posted by [Mike T.](#) on 26 June 2007, 6:13 p.m.,  
in response to message #1 by Olivier TREGER*

I've noticed when using my own SPICE series calculators that although they continue to function normally the low battery indicator can come on very soon after recharging when Ni-MH batteries are used. I haven't even thought about timing it but the low battery indicator doesn't seem to come on as soon when using Ni-Cad batteries, however these don't last nearly as long.

Although the nominal voltage of both type of cell is 1.2 volts I suspect that there is a small, but important, difference in the output voltage or impedance of these two different types of cell.

Can any one shed any more light (pun unintended) on this...

Mike T.

### **Re: Red light left of display on Spice (32E)**

*Message #6 Posted by [Trent Moseley](#) on 26 June 2007, 9:03 p.m.,  
in response to message #5 by Mike T.*

There might be something to your observation. I notice the indicator, at times, but not all the time since I have been using nickel metal hydride batteries in my 31E. It works with no problems. Of course I don't use it that much but I haven't had to recharge the batts so far. tm

### **Re: Red light left of display on Spice (32E)**

*Message #7 Posted by [Olivier TREGER](#) on 27 June 2007, 1:29 p.m.,  
in response to message #6 by Trent Moseley*

Just to put it back together:

I'm using original new-in-box HP batteries, freshly recharged although they can be defective.

The light is on whether it's on battery or charger, no difference.

*Edited: 27 June 2007, 1:29 p.m.*

## Re: Red light left of display on Spice (32E)

Message #8 Posted by **Karl Schneider** on 28 June 2007, 2:10 a.m.,  
in response to message #7 by Olivier TREGER

Hi, Olivier --

Quote:

---

I have a *great working* 32E...

---

Aaugh! Please don't use the favorite English phrases of "Coburlin"! :-)

You have a "32E that works fine", apparently. No greatness beyond 100% proper functionality is possible.

Quote:

---

...at least it holds charge with a brand "from the HP factory" battery.

...

I'm using original new-in-box HP batteries, freshly recharged although they can be defective.

---

Well, HP hasn't made Spice-series batteries for many years, so I'd say that never-used genuine-HP NiCd batteries are rather old, and are probably questionable due to chemical breakdown. They might appear to hold a charge, but will lose it quickly.

You should probably unwrap the battery pack, replace the old NiCd cells with fresh new 1.2V short cells (no + post), and re-tape.

If the battery terminals are already broken, you can squeeze in longer 1.2V NiMH cells with + posts that are rated 2000 mAh, jumpering the two cells with aluminum foil. These cells will go longer between chargings than NiCd cells.

-- KS

*Edited: 28 June 2007, 2:32 a.m.*

## Re: Red light left of display on Spice (32E)

Message #9 Posted by **Olivier TREGER** on 28 June 2007, 11:49 a.m.,  
in response to message #8 by Karl Schneider

Quote:

---

You should probably unwrap the battery pack, replace the old NiCd cells with fresh new 1.2V short cells (no + post), and re-tape.

If the battery terminals are already broken, you can squeeze in longer 1.2V NiMH cells with + posts that are rated 2000 mAh, jumpering the two cells with aluminum foil. These cells will go longer between chargings than NiCd cells.

---

Hello Karl,

I've done that on other Spices and it works well. However, I didn't suspect the genuine HP packs because they work in other calcs in [my collection](#).

Anyway, I think I'll follow your advice, too bad for the brand "new" HP batteries.

*Edited: 28 June 2007, 11:51 a.m.*

---

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## HP Forum Archive 17

[ [Return to Index](#) | [Top of Index](#) ]**A Serious Scientific Instrument Revisited**Message #1 Posted by [Walter B](#) on 24 June 2007, 6:45 p.m.

Hi all,

After shifting keys around some time, I found a solution well within the keyboard of the coming 35S:



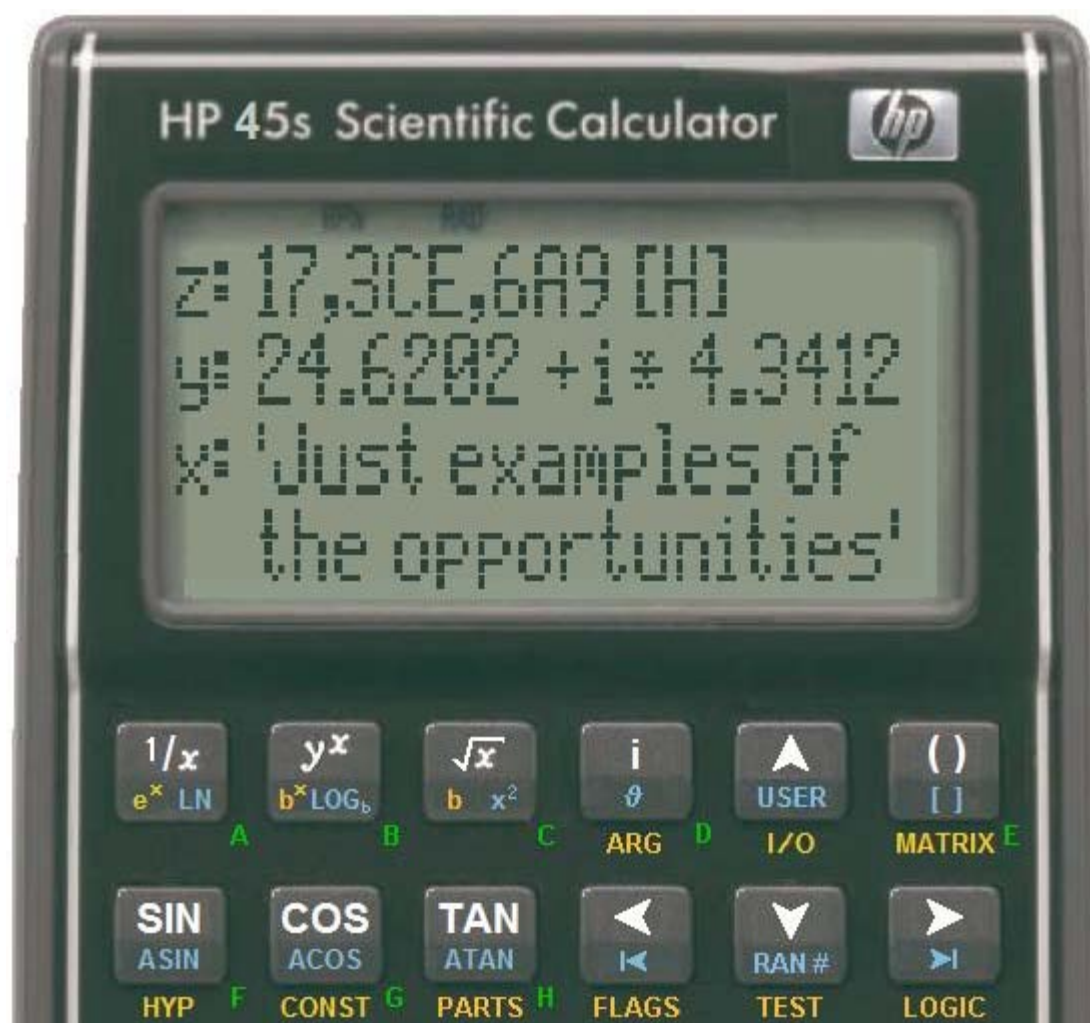


You'll find all the scientific functions in 2 lines of keys top left. Around ENTER, there is the classic layout of register and stack operations. On the right, below of the cursors, you find the keys for programming. The shifted keys 4 through 9 are for mode and base setting. Combined with the right arrow (unshifted GTO), they perform conversions.

This proposal allows for reusing at least the 35S housing and keys for some further development.

Oh, and for those members of this forum suffering from an allergy to diamonds, a slight modification may be more favourable:





However, this would leave the 35S's keyboard of course.

Both proposals would work with the poor old 2-line display of the 33S, too, but it would be a pity IMHO.

OK, now it's your turn again :-)) but remember, if you want different functions, please tell me what shall be omitted for them.

*Edited: 25 June 2007, 12:36 a.m. after one or more responses were posted*

### Re: A Serious Scientific Instrument Revisited

Message #2 Posted by [sjthomas](#) on 24 June 2007, 9:03 p.m.,  
in response to message #1 by Walter B

Very nice!

### Re: A Serious Scientific Instrument Revisited

Message #3 Posted by [Paul Brogger](#) on 25 June 2007, 12:08 p.m.,  
in response to message #1 by Walter B

Looks good -- I'll take two.

Quote:

Both proposals would work with the poor old 2-line display of the 33S, too, but it would be a pity

IMHO.

---

I gotta say, the (improved) 33s display has very nice contrast, and is very legible. Better, I think, than the graphical dot-matrix display as mocked up on your proposal.

So, I'd be happy either way.

Quite apart from display, alpha functionality, and the functions' arrangement, I do hope H-P will deign to pay attention to your suggestions re: keyboard colors and legend placement -- your images are *very* legible, indeed!

---

### **Re: A Serious Scientific Instrument Revisited**

*Message #4 Posted by [Wayne Brown](#) on 25 June 2007, 3:18 p.m.,  
in response to message #1 by Walter B*

Quote:

---

Both proposals would work with the poor old 2-line display of the 33S, too, but it would be a pity  
IMHO.

---

I think the two-line display looks better, but I could live with four.

---

### **Re: A Serious Scientific Instrument Revisited**

*Message #5 Posted by [Hal Bitton in Boise](#) on 26 June 2007, 4:32 p.m.,  
in response to message #1 by Walter B*

Yes Yes!! A very nice layout, Walter.

Another proposed HP with the Enter key in the proper place.

I love it!

HP, are you looking at(and learning from) these posts? (I hope so).

Best regards, Hal

---

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## HP Forum Archive 17

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### Opening up a 32E

Message #1 Posted by [brianh](#) on 24 June 2007, 7:51 a.m.

Hello all!

I just received a HP32E in great cosmetic condition. However, it suffered the dreaded 'battery pack leakage'. I cleaned up the battery contacts but if I put in a known good battery pack the calculator will not turn on. I figure I have nothing to lose and want to open it up to see the extent of damage the leaking caused. I am able to remove the two screws in the battery compartment but the calculator is still held together by something along the bottom edge. Viewing some of the 'exploded' 30-series calculator views on this website I get the impression the bottom edge is not held together by screws but is somehow staked or slip-fitted. Is there a trick to getting the two halves apart? Thanks in advance!

Brian

### Re: Opening up a 32E

Message #2 Posted by [Gerson W. Barbosa](#) on 24 June 2007, 11:46 a.m.,  
in response to message #1 by [brianh](#)

When I first had to open my HP-34C I tried a couple of methods. This is the one that worked:

<http://voidware.com/calcs/spicerepair.htm>

Thank Hugh Steers for that tip :-)

Regards,

Gerson.

### Re: Opening up a 32E

Message #3 Posted by [Randy](#) on 24 June 2007, 12:52 p.m.,  
in response to message #2 by [Gerson W. Barbosa](#)

Yes, that method works... to rip the flex circuit of the battery connector right off the terminal board... when the case snaps free.

A simple precaution is all that is needed to prevent damage. The top right photo shows the back being removed with the unit face down. That's fine but: **you must lift the top of the case back off the battery connector board before applying pressure to disengage the bottom latch.** Again, pull the case bottom away from the battery connector leaving the connector attached to the front of the case. Once it is free, then apply pressure downward to disengage the latch. You need a fair amount of force to snap it free, once it lets go, that energy goes into pulling the board out of its slot and tearing the flex circuit is collateral damage.

Also, fifth row down, left photo: NEVER SCRAPE THE CONTACTS or you'll be looking for a

replacement keyboard. Clean well with isopropyl alcohol, clean the spring contact and re-lube lightly with a good white grease with teflon.

### Re: Opening up a 32E

Message #4 Posted by **Gerson W. Barbosa** on 24 June 2007, 2:23 p.m.,  
in response to message #3 by Randy

Quote:

Yes, that method works... to rip the flex circuit of the battery connector right off the terminal board... when the case snaps free.

Well, I opened also a 33C using that method and I never had the flex circuit damaged. Either I was lucky or somehow I was careful enough. Anyway, thanks for calling our attention on this.

I opened them to change the decimal point to comma. I have another 33C which I never opened. One of these days it got me confused with a positive answer that was supposed to be negative. When I remembered to check the minus sign I noticed the minus segment was not working. I then let it fall from a one-inch height and it started working again. This was made in Brazil for local market, so the decimal point has been factory set to comma, therefore I didn't have to open it. But I am worried if I ever have to open it, as it is a solderless unit.

Regards,

Gerson.

### Re: Opening up a 32E

Message #5 Posted by **Karl Schneider** on 24 June 2007, 9:07 p.m.,  
in response to message #1 by brianh

Greetings, Brian --

Quote:

Viewing some of the 'exploded' 30-series calculator views on this website I get the impression the bottom edge is not held together by screws but is somehow staked or slip-fitted. Is there a trick to getting the two halves apart? Thanks in advance!

Not knowing exactly where and how to squeeze the case halves to separate them, I devised this "dental floss" method several years ago, using it *thrice on two Spices* with no damage:

<http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv009.cgi?read=22660>

-- KS

Edited: 24 June 2007, 9:12 p.m.

### Re: Opening up a 32E

Message #6 Posted by **Jeff Kearns** on 24 June 2007, 9:33 p.m.,  
in response to message #5 by Karl Schneider

Greetings Brian,

I have successfully opened up my 33E twice using the voidware - spice repair technique mentioned above. It is true that you have to be a little cautious with the battery contact but the method works well.

I did try Karls' dental floss method but the floss I used may have been too flimsy as it kept breaking. Maybe you need heavy duty dental tape...

In any event, opening a spice should not be a big deal - especially if you have read the above posts. Good luck.

Jeff

### **Re: Opening up a 32E**

*Message #7 Posted by [hugh steers](#) on 25 June 2007, 4:46 a.m.,  
in response to message #6 by Jeff Kearns*

i'd like to say that the credit for this technique goes to Tony Duell, who demonstrated this to me. i just made some pictures to help others.

glad that it has helped!

also,

i'd agree with the warning of never scraping the circuit board. in my case, i lightly scraped the back of the spring switch contact that had picked up a crust of corrosion of the years. the spring is all metal.

*Edited: 25 June 2007, 4:50 a.m.*

### **Re: Opening up a 32E**

*Message #8 Posted by [brianh](#) on 25 June 2007, 12:32 p.m.,  
in response to message #1 by brianh*

Thanks to all who responded! I did manage to get the case apart with no apparent damage and cleaned up everything inside, then reassembled. Unfortunately the problem did not get solved.

With a new battery pack installed, if I switch the calculator from 'Off' to 'On' there is no response. However, when I slide the switch back to 'Off' at about the mid-point between 'Off' and 'On' one of the LED segments in the upper left hand corner of the LED window glows faintly then fades out. This is the same behavior the calculator exhibited before I opened it up. I suspect corrosion got to the ribbon connector between the battery connectors and the circuit board but the traces still look good.

Anyone have any ideas?

### **On battery leakage**

*Message #9 Posted by [Palmer O. Hanson, Jr.](#) on 26 June 2007, 2:48 a.m.,  
in response to message #1 by brianh*

You wrote:

Quote:

---

... I just received a HP32E in great cosmetic condition. However, it suffered the dreaded 'battery pack leakage'.

What is interesting about all of the leakage problems is that there was a time back in 1972 when designers at both HP and TI understood that there was a potential problem with circuit damage from cell leakage and did something to prevent it.

You can see it in the HP product line in the Classic family where the assembled case provides a box around the battery pack. There was some of that in the Woodstock family. Any pretense of isolating the battery pack from the circuitry went out the window with the Spice family and the HP-41.

You can also see it in the TI product line in the Datamath machines. I recently purchased a TI-2500 (1972) -- the version with the six rechargeable batteries accessible through a trap door. I didn't have my Phillips head screwdriver with me but the device ran perfectly with the Adapter/Charger. I reasoned that there must not be any circuit damage from leakage so I bought it for a dollar. When I opened the trap door I found massive cell leakage. When I opened the calculator there was no circuit damage and I could see why. The case essentially formed a bathtub to enclose the cells and isolate any leakage from the circuitry. Any pretense of isolating the battery pack from the circuitry went out the window with the TI-30, TI-1XXX's, and the TI-5X's.

If the designers of the early machines at HP and at TI understood the need to isolate the circuitry from cell leakage then why did the later designers abandon the concept? Did they begin to believe the claims of the cell manufacturers for their "sealed" cells? Did they decide that since the cell manufacturers were offering to repair devices damaged by cell leakage then the user would suffer no economic damage from cell leakage? Any ideas out there?

### **Re: On battery leakage**

*Message #10 Posted by **Wayne Brown** on 26 June 2007, 1:40 p.m.,  
in response to message #9 by Palmer O. Hanson, Jr.*

Quote:

Any pretense of isolating the battery pack from the circuitry went out the window with the Spice family and the HP-41.

It must have continued at least a bit longer, into the Voyager family. I never noticed it until a few years ago, when my beloved 16C suffered a leaking battery. I was horrified to see all that gunk in the battery compartment, but while cleaning it out I discovered that the batteries were surrounded by a "bathtub" arrangement such as you described above. The only metal bits which any of the chemicals were able to reach were the two battery contacts, which are spring clips that hang over the top edge at opposite ends of the "tub." A little careful cleaning with a brush dipped in white vinegar made them good as new. (I just now opened it up to check them, and they're still bright and shiny.) None of the corrosion made it out of the battery compartment itself, and my 25-year-old HP-16C continues to work as well as the day I bought it.

### **Re: On battery leakage**

*Message #11 Posted by **Palmer O. Hanson, Jr.** on 26 June 2007, 9:45 p.m.,  
in response to message #10 by Wayne Brown*

Quote:

It must have continued at least a bit longer, into the Voyager family. I never noticed it until

a few years ago, when my beloved 16C suffered a leaking battery. I was horrified to see all that gunk in the battery compartment, but while cleaning it out I discovered that the batteries were surrounded by a "bathtub" arrangement such as you described above. The only metal bits which any of the chemicals were able to reach were the two battery contacts, which are spring clips that hang over the top edge at opposite ends of the "tub." A little careful cleaning with a brush dipped in white vinegar made them good as new. (I just now opened it up to check them, and they're still bright and shiny.) None of the corrosion made it out of the battery compartment itself, and my 25-year-old HP-16C continues to work as well as the day I bought it.

---

The only Voyager that I have here in North Carolina is a USA made HP-12C S/N 2636A64325 . There is a small possible path past the tab portion of the battery cover. How much leakage could get through would depend on how closely the tab fits into the slot which does appear to be a relatively close fit. I can see printed circuitry through the slot. In any case, a much better arrangement than the Spice family and the HP-41 since my experience suggests that somehow the leakage from a cell can tend to follow an electrical lead.

I have a HP-28S "Clamshell" here. I'm not going to fiddle with the world's worst battery cover design because I fear I may lose all my data.

I also have a representative of the Pioneers -- an HP-10B. It has a path for leakage out of the battery bathtub through the opening for the tab which is over twice as wide as the tab. Again, I can see printed circuitry through the opening.

---

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## HP Forum Archive 17

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**New 17bII+?**

Message #1 Posted by [Seth Morabito](#) on 24 June 2007, 4:36 a.m.

At the moment, the small thumbnail picture of the 17bII+ on HP's site sure looks different than the currently shipping product I've seen, or the close-up photos in the data sheet!

See:

<http://h10010.www1.hp.com/wwpc/us/en/sm/WF05a/215348-215348-64232-20036-215349-384708.html>

(I got a screen capture in case it reverts)

Looks like it has a wide ENTER key where it belongs, and an over-all design reminiscent of the alleged HP-35s!

Has anyone seen this model in the wild?

**EDIT, 26 June 2007:** Well, it looks like they've caught their error and reverted the thumbnail back to the currently shipping style. Ah well. I'll keep an eye out for the new design in stores.

*Edited: 26 June 2007, 3:59 a.m. after one or more responses were posted*

**Re: New 17bII+?**

Message #2 Posted by [DaveJ](#) on 24 June 2007, 6:30 a.m.,  
in response to message #1 by Seth Morabito

Looks like they have gone back to the 17BII layout. Strange that would happen and still keep the model number exactly the same.

Speaking of which, check out this funky blue model:

<http://www.gschwaninger.de/hobbies/hp/17bII+/17bII+.jpg>

Dave.

**Re: New 17bII+?**

Message #3 Posted by [Raymond Del Tondo](#) on 24 June 2007, 7:21 a.m.,  
in response to message #1 by Seth Morabito

Wow!

It seems 'hp' finally wants the older fans to buy new units again, after nearly ten years of, hmmm, problems listening to users?

At least for me, the new models with this kind of keyboard layout, incl. the ENTER bar where it belongs, are much more interesting than the, errr,



kinda problematic doorstops of the past few years;-)

Maybe there's hope for a new high-end model with HP-48 keyboard layout?

Raymond

### Re: New 17bII+?

Message #4 Posted by [Namir](#) on 24 June 2007, 7:36 a.m.,  
in response to message #1 by Seth Morabito

Good eye Seth!! My next comment is that buying this new version of the 17BII+ may require some waiting. When I clicked on the "Find Resellers" link in the new 17BII+ web page, I got the picture of the **older** 17BII+ in a web page that lists resellers. It seems that HP is **beginning** to update. Like with other updates (HP-33sand HP-49G+) it's hard to request a specific revision when buying online or by phone. You have to walk into a store and actually see the new version.

Soooo ... now the question is one of sighting of the new version. If anyone sees it, please flag us here and tell us which store has them.

Namir

*Edited: 24 June 2007, 7:38 a.m.*

### Re: New 17bII+?

Message #5 Posted by [Peter A. Gebhardt](#) on 24 June 2007, 10:43 a.m.,  
in response to message #1 by Seth Morabito

Seth, Thx for pointing us towards this news ..

For the time beeing it only looks like an cosmetic "dress-up" to align all products selling well towards one new "product image" (as of 35s) ...

Anyway, I happily would buy a new one if it only does get rid off the dreaded battery exchange procedure (pls. give me a backup battery to save memory contents!) OR it does allow for store & reload to/from a PC. I'm tired to type in valuable programs for hours (again and again ...)after battery exchange :=(

Best regards

Peter A. Gebhardt

PS: (25-Jun-2007)Last 'but not least - the L() and G() functionality should be implemtened in a way that all the great work of Tirone & Coffin could be used again as was possible on older models before the 17BII+ ...

[http://www.amazon.com/Professional-Estate-Problem-Solving-Using/dp/0962423637/ref=sr\\_1\\_2/104-6137473-5299928?ie=UTF8&s=books&qid=1182789845&sr=1-2](http://www.amazon.com/Professional-Estate-Problem-Solving-Using/dp/0962423637/ref=sr_1_2/104-6137473-5299928?ie=UTF8&s=books&qid=1182789845&sr=1-2)

[http://www.amazon.ca/Easy-Course-Using-Hp-19B/dp/0931011191/ref=sr\\_1\\_4/701-5306890-1584361?ie=UTF8&s=books&qid=1182790044&sr=1-4](http://www.amazon.ca/Easy-Course-Using-Hp-19B/dp/0931011191/ref=sr_1_4/701-5306890-1584361?ie=UTF8&s=books&qid=1182790044&sr=1-4)

*Edited: 25 June 2007, 12:49 p.m.*



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### Norm - Red LED's - and His 34C

Message #1 Posted by [Trent Moseley](#) on 23 June 2007, 11:35 p.m.

I miss Norm, his comments on red LED's, and his praises for his 34C. Has anyone heard from him?

tm

### Re: Norm - Red LED's - and His 34C

Message #2 Posted by [Gerson W. Barbosa](#) on 24 June 2007, 4:06 p.m.,  
in response to message #1 by Trent Moseley

I think this was his latest appearance here:

<http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv016.cgi?read=104305>

Gerson.

### Re: Norm - Red LED's - and His 34C

Message #3 Posted by [Trent Moseley](#) on 24 June 2007, 10:46 p.m.,  
in response to message #2 by Gerson W. Barbosa

Gerson,

Thank you for the link. I missed reading those messages.

tm

### Re: Norm - Red LED's - and His 34C

Message #4 Posted by [Gerson W. Barbosa](#) on 28 June 2007, 1:39 p.m.,  
in response to message #3 by Trent Moseley

You're welcome, Trent!

By the way, after reading Norm's funny post in the Memories Forum ([HP-34C BETTER THAN S\\*X](#)) I got interested in the HP-34C because my first programmable calculators had LED displays (TI-51-III and TI-59). I eventually got an HP-34C but I am still looking for a mint one. I don't agree with everything Norm says there though ;-)

Best regards,

Gerson.

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**12C Question**

Message #1 Posted by [Jeff](#) on 23 June 2007, 4:27 p.m.

Does anyone know if the blue and silver 12C Platinum has been discontinued in place of the 25th Anniversary edition?

Thanks.

**Re: 12C Question**

Message #2 Posted by [Bob Wang](#) on 23 June 2007, 10:10 p.m.,  
in response to message #1 by Jeff

The HP Web site lists 2 models:

[HP web site](#)

**Re: 12C Question**

Message #3 Posted by [Jeff](#) on 25 June 2007, 4:26 p.m.,  
in response to message #2 by Bob Wang

Exactly. It shows the 12C and the 25th anniversary edition. I wonder if the Platinum is gone....

**Re: 12C Question**

Message #4 Posted by [Gene Wright](#) on 25 June 2007, 4:29 p.m.,  
in response to message #3 by Jeff

Well, if it isn't shown, then it may well be gone.

I can only hope ...

**Re: 12C Question**

Message #5 Posted by [Don Shepherd](#) on 25 June 2007, 9:31 p.m.,  
in response to message #4 by Gene Wright

At one time, the 25th anniversary edition was to be produced for a limited time only. It looks like it may go on forever!

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### HP-41 RaceTrack Module

Message #1 Posted by [MikeG](#) on 23 June 2007, 1:21 p.m.

I recently purchased the Racetrack module by Dr. Zinc but have no clue to it's operation, anybody out there have documentation on this module.

Thanks in advance.

### Re: HP-41 RaceTrack Module

Message #2 Posted by [hpbo](#) on 4 July 2007, 7:25 p.m.,  
in response to message #1 by MikeG

Please send me Your address and I will send you a copy of the documentation. Regards.

---

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## HP Forum Archive 17

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**Balky 34c On/Off switch**

Message #1 Posted by [Matthew W. Milligan](#) on 22 June 2007, 7:07 a.m.

I am a "first-time poster" but long-time hp calculator user and fan. I recently came across my old hp-34c and decided to try and revive it just for fun. I charged the batteries overnight and what do you know it works just fine! (I guess we're not too surprised by that, eh?) However, the ON/OFF switch has got problems. I have to play with it and slide it back and forth ever so slightly to find the one position where the calculator will function properly.

So my question is this: should I just be happy that it works and leave it well enough alone? Or, should I try to give the switch some attention? I have read through previous posts and found that a dielectric grease should be used to lubricate the contacts - but, I am very hesitant to take it all apart. In my experience corroded contacts in switches, sliders, pots, etc. will sometimes improve simply by getting some use.

**Re: Balky 34c On/Off switch**

Message #2 Posted by [Dave Johnson](#) on 24 June 2007, 5:42 p.m.,  
in response to message #1 by Matthew W. Milligan

The switches do often get balky over time. In early versions of this calc the chips are held with pressure to the circuit board. This makes reassembly difficult. you can tell which version you have by the weight and reference to postings on this forum.

**Re: Balky 34c On/Off switch**

Message #3 Posted by [Matthew W. Milligan](#) on 25 June 2007, 10:55 a.m.,  
in response to message #2 by Dave Johnson

Thanks for the info. I believe I will leave well enough alone until (and unless) it gets worse.

---

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## HP Forum Archive 17

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### How to speak the problem?

Message #1 Posted by **Olivier TREGER** on 21 June 2007, 12:19 p.m.

Hello all,

Despite my now decent collection of HP calcs, I must admit that, having left school quite early, I miss the necessary basis to figure out how to spell the following problem.

my daughter Agathe was asked to solve the following kinda sudoku by her teacher: let's say a square 3x3 boxes.

In each box a number (left to right, top to bottom) such as:  $a+b+c=96$   $d+e+f=315$   $g+h+i=12$  but also  $a+d+g=72$   
 $b+e+h=40$   $c+f+i=126$  PLEASE NOTE:  $e=5$

I suspect there's something to do with matrices but I ain't sure. I've tried to use Mathematica (don't laugh...) to modelize (?) a formula with no success.

I'm sure somebody around will tell me in three words where to dig.

Thanks for help Olivier

### Re: How to speak the problem?

Message #2 Posted by **Monte Dalrymple** on 21 June 2007, 12:40 p.m.,  
in response to message #1 by Olivier TREGER

There appears to be no solution.

The first three equalities say  $a+b+c+d+e+f+g+h+i = 423$

The last three equalities say  $a+b+c+d+e+f+g+h+i = 238$

... or is there a typo in your post?

Monte

### Re: How to speak the problem?

Message #3 Posted by **Walter B** on 21 June 2007, 12:42 p.m.,  
in response to message #1 by Olivier TREGER

Bonjour Olivier,

je pense que ... you need two more constraints. You wrote "kinda sudoku", so was there anything further required implicitly?

### Re: How to speak the problem?



Message #4 Posted by **Dave Shaffer (Arizona)** on 21 June 2007, 3:25 p.m.,  
in response to message #3 by Walter B

I agree with Walter: there are 9 unknowns, so you need nine equations or constraints to determine a unique solution. If this is a true sudoku, then each digit (1 through 9) should be used only once. That, plus the equations and constraint you gave provide only 8 of the necessary 9 conditions.

**Re: How to speak the problem?**

Message #5 Posted by **Olivier TREGER** on 21 June 2007, 1:22 p.m.,  
in response to message #1 by Olivier TREGER

I'm completely sorry...

Please replace "+" by "x"

I thought I was unable to count. I can't type either...

**Re: How to speak the problem?**

Message #6 Posted by **Massimo Gnerucci (Italy)** on 21 June 2007, 2:06 p.m.,  
in response to message #5 by Olivier TREGER

I believe the solution is:

|             |   |           |   |           |   |     |               |
|-------------|---|-----------|---|-----------|---|-----|---------------|
| 4           | * | 4         | * | 6         | = | 96  | (2*2*2*2*2*3) |
| *           |   | *         |   | *         |   |     |               |
| 9           | * | 5         | * | 7         | = | 315 | (3*3*5*7)     |
| *           |   | *         |   | *         |   |     |               |
| 2           | * | 2         | * | 3         | = | 12  | (2*2*3)       |
| =           |   | =         |   | =         |   |     |               |
| 72          |   | 40        |   | 126       |   |     |               |
| (2*2*2*3*3) |   | (2*2*2*5) |   | (2*3*3*7) |   |     |               |

Greetings,  
Massimo

**Re: How to speak the problem?**

Message #7 Posted by **Olivier TREGER** on 21 June 2007, 2:41 p.m.,  
in response to message #6 by Massimo Gnerucci (Italy)

That's one solution.

Mine was: 8\*4\*3 9\*5\*7 1\*2\*6

But my question was: how to create a model that would solve the problem?

**Re: How to speak the problem?**

Message #8 Posted by **Egan Ford** on 21 June 2007, 2:51 p.m.,  
in response to message #7 by Olivier TREGER

Was one of the constraints that you can only used each digit once (like sudoku)? If so I think you have the correct answer.

## Re: How to speak the problem?

Message #9 Posted by **Olivier TREGER** on 21 June 2007, 4:36 p.m.,  
in response to message #8 by Egan Ford

Quote:

Was one of the constraints that you can only used each digit once (like sudoku)? If so I think you have the correct answer.

Yes. I forgot to mention it (again).

But still, I can't figure out what method to be used to solve it as a generic problem.

## Re: How to speak the problem?

Message #10 Posted by **Egan Ford** on 21 June 2007, 5:16 p.m.,  
in response to message #9 by Olivier TREGER

Quote:

But still, I can't figure out what method to be used to solve it as a generic problem.

I can think of a few.

1. Brute force. There are only 40320 possible outcomes. Try them all. If you have access to a quantum calculator you can test all possible outcomes simultaneously.
2. Random guesses. Could be faster or slower than #1.

Both #1 and #2 can be easily parallelized across multiple calculators. #1 would need a unique domain for each calculator. #2 would just use different random seeds.

3. Search. Start with the column or row with the least number of possibilities (pairs) that meets the condition of the row/column with the most knowns (5 in this case). Push that on a stack, remove the 2 digits from a list of possibilities. E.g. start with def, it can only be 9,5,7 or 7,5,9, then beh, then abc, adh, etc... once you get to a point where none of the pairs will work, pop off the stack the last working pair, and try a different pair, move forward, etc... you may have to pop off multiple pairs. Eventually you'll end up with an answer.

#1 and #3 will allow you to predict the worse case number of operations.

## Re: How to speak the problem?

Message #11 Posted by **Olivier TREGER** on 21 June 2007, 5:27 p.m.,  
in response to message #10 by Egan Ford

That doesn't look like an industrialized method :)

What I don't understand is that when I push the 6 equations in Mathematica, it gives me back, it says:

```
Equations may not give solutions for all "solve" variables.
```

although a solution can be found by simple guessing.

Ain't there no way to build a standard algorithm to find out?

### Re: How to speak the problem?

Message #12 Posted by [Egan Ford](#) on 21 June 2007, 5:44 p.m.,  
in response to message #11 by Olivier TREGER

Can you also tell Mathematica  $a!=b!=c!=d!=e!=f!=g!=h!=i$ , a through i belongs to the set of positive integers, and  $e=5$ ?

### Re: How to speak the problem?

Message #13 Posted by [Olivier TREGER](#) on 21 June 2007, 5:59 p.m.,  
in response to message #12 by Egan Ford

Quote:

Can you also tell Mathematica  $a!=b!=c!=d!=e!=f!=g!=h!=i$ , a through i belongs to the set of positive integers, and  $e=5$ ?

I just tried:

```
{a,b,c,d,f,g,h,i}<9  
{a,b,c,d,f,g,h,i}>1
```

with no success either

### Re: How to speak the problem?

Message #14 Posted by [Egan Ford](#) on 21 June 2007, 6:09 p.m.,  
in response to message #13 by Olivier TREGER

Needs to be  $\geq$ , not just  $>$ . You also need to state somehow that each variable is unique.

### Multiplicative sudoku

Message #15 Posted by [Karl Schneider](#) on 22 June 2007, 1:29 a.m.,  
in response to message #10 by Egan Ford

Quote:

Brute force. There are only 40320 possible outcomes. Try them all. If you have access to a quantum calculator you can test all possible outcomes simultaneously.

An arithmetical problem solved by brute force (i.e., testing all possible arrangements of input values for solutions) and by more-intelligent means was discussed in this recent thread:

<http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv017.cgi?read=112157#112157>

As Walter pointed out, the problem cannot be solved directly, because there are eight "degrees of freedom" for the nine inputs, but only six equations. Standard linear-algebra techniques can't be used to simplify the problem, because the problem isn't linear (whereas a standard sudoku puzzle is).

-- KS

### Re: How to speak the problem?

Message #16 Posted by **Egan Ford** on 21 June 2007, 2:01 p.m.,  
in response to message #1 by Olivier TREGER

Is this what the problem looks like?

|  |   |   |                       |
|--|---|---|-----------------------|
| a  | b | c | = 96                  |
| d  | e | f | = 315                 |
| g  | h | i | = 12                  |
| <div style="display: flex; justify-content: space-between; align-items: center;"> <div style="border: none; padding: 0 5px;"> <span style="border: none; padding: 0 5px;">\</span> <span style="border: none; padding: 0 5px;">/</span> <span style="border: none; padding: 0 5px;">\</span> </div> <div style="border: none; padding: 0 5px;"> <span style="border: none; padding: 0 5px;">-&gt;</span> <span style="border: none; padding: 0 5px;">- - - - -&gt;</span> <span style="border: none; padding: 0 5px;">- - - - -&gt;</span> </div> </div> |   |   | = 126<br>= 40<br>= 72 |

### Re: How to speak the problem?

Message #17 Posted by **Olivier TREGER** on 21 June 2007, 2:39 p.m.,  
in response to message #16 by Egan Ford

Yes it does look like this

### Re: How to speak the problem?

Message #18 Posted by **Allen** on 21 June 2007, 8:39 p.m.,  
in response to message #17 by Olivier TREGER

Using this 48/49/50 program you can find the Divisors of each number:

```
<<
{ } OVER SQRT 2 SWAP
  FOR N
    IF OVER N /
      FP 0 == THEN N+ END
    NEXT
  DUP2 / +
  SORT
  DUP 10 < *
>>
' SETS UP RANGE TO RUN 2 TO SQRT(N)
' APPEND TO LIST IF DIVISIBLE
' APPEND LIST ALL DIVISORS > SQRT(N)
' CRUDE MASK TO HIDE ALL VALUES <=9
```

YIELDS THE POSSIBLE DIVISORS FOR EACH ROW:

|  |    |    |                       |   |                                 |
|--|----|----|-----------------------|---|---------------------------------|
| a  | b  | c6 | = 96                  | = [2 3 4 6 8]                                   | [2 8]                           |
| d9   | e5 | f7 | = 315                 | = [3 5 7 9]                                     | [solved]                        |
| g  | h  | i3 | = 12                  | = [2 3 4 6]                                     | [1 4]                           |
| <div style="display: flex; justify-content: space-between; align-items: center;"> <div style="border: none; padding: 0 5px;"> <span style="border: none; padding: 0 5px;">\</span> <span style="border: none; padding: 0 5px;">/</span> <span style="border: none; padding: 0 5px;">\</span> </div> <div style="border: none; padding: 0 5px;"> <span style="border: none; padding: 0 5px;">-&gt;</span> <span style="border: none; padding: 0 5px;">- - - - -&gt;</span> <span style="border: none; padding: 0 5px;">- - - - -&gt;</span> </div> </div> |    |    | = 126<br>= 40<br>= 72 | = [2 3 6 7 9]<br>= [2 4 5 8]<br>= [2 3 4 6 8 9] | [3 6]<br>[1 2 4 8]<br>[1 2 4 8] |

So you can conclude that:

Step 1

1. e must be 5 (given)
2. f must be 7 (no other common divisors except 126 and 315)
3. d must be 9 ( $=315/(5*7)$ )

Step 2

4. i must be 3 (only CD with 126 and 12 (step 2))
5. eliminate [1 2 4 8] as divisors of 126 b/c must be for 40 and 72
6. c must be 6 ( $=126/(7*3)$ )

7. either a or b must be 8.

Try a:

g must be 1, leaving  $96=8*2*6$  works

Try b:

g must be 4, leaving  $2*8*6$  ALSO WORKS.

Is there more than one possible solution? perhaps I am missing something

*Edited: 21 June 2007, 8:47 p.m.*

## Re: How to speak the problem?

Message #19 Posted by [Dave Shaffer \(Arizona\)](#) on 21 June 2007, 11:09 p.m.,  
in response to message #18 by Allen

"4. i must be 3 (only CD with 126 and 12 (step 2))"

No - a 6 works, too (to give Olivier's solution)!

(I had already prepared the following):

Actually, if we read between the lines, there ARE other constraints.

If this is a sudoku of the normal type, perhaps the most compelling constraint is that the values must be (positive) integers. And, as noted by others, they must lie between 1 and 9 and in fact include ALL the integers from 1 to 9.

So, let's try some educated guess work. First, note that  $abc=96$ ,  $def=315$ , and  $cfi=126$  tell us that none of a, b, c, d, e, f, i can be a 1. (If one of the variables in a triple product was one, the maximum product would be  $8*9=72$ .) Thus, we know already that either g or h must be 1.  $ghi=12$  tells us that the other two (the pair g and i or the pair h and i) must be either the pair 2 and 6 or the pair 3 and 4. (Turns out, both work.)

Now, since  $beh = 40$  and  $e=5$ , we know that  $bh = 8$ . If b and h are positive integers (between 1 and 9!), then b and h must be the pair 1 and 8 or the pair 2 and 4. Similarly,  $def = 315$  leads to the conclusion that  $df = 63$  and thus d and f are the pair 7 and 9. Since  $adg = 72$ , d must be a 9 (and f a 7), because if d was a 7, it would not divide evenly into 72.

We now have for sure:  $e = 5$  (given),  $d = 9$ , and  $f = 7$ .

Also, from  $adg = 72$ , and  $d = 9$ , we get  $ag = 8$ . We already ascertained that g must be 1, or 2 or 6, or 3 or 4. Since all numbers must be integers,  $ag = 8$  rules out  $g = 6$  or 3, so g must be 1 or 2 or 4.

Note, too, that  $cfi = 126$  gives  $ci = 18$  (because  $f = 7$ ). So, c and i are either the pair 2 and 9 or the pair 3 and 6. Because  $d = 9$ , c and i must be the pair 3 and 6.

At this point, try  $b = 1$  or 2 or 4 or 8, using  $abc = 96$ . Look for inconsistencies with the known

values. Do the same for other possible pairs.

When you are done, I think you will find that there are at least two solutions consistent with all the triple product conditions:

a b c d e f g h i = 8 4 3 9 5 7 1 2 6 (as reported by Olivier)

a b c d e f g h i = 8 2 6 9 5 7 1 4 3 (my alternate solution)

*Edited: 21 June 2007, 11:09 p.m.*

### **Re: How to speak the problem?**

*Message #20 Posted by **Olivier TREGER** on 22 June 2007, 2:36 a.m.,  
in response to message #19 by Dave Shaffer (Arizona)*

So...

If I read well all the answers, there seem to be no way to automate the search for a solution.  
Right?

Oh, by the way, many thanks to all of you for these explanations. It happens that I found a solution but it seemed to be a matter of chance.

---

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## HP Forum Archive 17

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### Why not making new 97?

Message #1 Posted by [Chan Tran](#) on 21 June 2007, 10:46 a.m.

I see a lot of interest in the 97. I hope that HP will make a modern version of it. Without the card reader and its gummy wheel of course.

### Re: Why not making new 97?

Message #2 Posted by [Namir](#) on 21 June 2007, 11:02 a.m.,  
in response to message #1 by Chan Tran

Chan,

Your request joins that of others who would like to see other vintage models, like the HP-15C, brought back into production. Since HP's calculator division is currently a tiny fraction of what it used to be, these calculator revivals simply will not happen. What **can happen** is a group of well-funded investors approaching HP to get legal blessing and bring back the models we all love to see revived. On a financial basis, this venture is pure risky business, since the actual number of models sold will be very low due to a (most likely) high cost of production.

So, the past is the past. Time travels in one direction ... forward.

Namir

### Re: Why not making new 97?

Message #3 Posted by [Walter B](#) on 21 June 2007, 11:34 a.m.,  
in response to message #2 by Namir

Quote:

Time travels in one direction ... forward.

Let's get rid of entropy!

### Re: Why not making new 97?

Message #4 Posted by [Namir](#) on 21 June 2007, 3:23 p.m.,  
in response to message #3 by Walter B

From your lips to God's ears!!!

### Re: Why not making new 97?

Message #5 Posted by [Thor Lansen](#) on 21 June 2007, 1:06 p.m.,  
in response to message #2 by Namir

Quote:

bring back the models we all love to see revived

Why would you want to increase supply? Supply up...value down, simply economics. I want my collection (also investment) to appreciate in value, therefore I would not want to bring back any of the old models. Keep supply low! Selfish? maybe... but economically sound.

Regards, Thor

**Re: Why not making new 97?**

*Message #6 Posted by **Namir** on 21 June 2007, 3:22 p.m.,  
in response to message #5 by Thor Larsen*

Thor,

Rest assured your collection will keep increasing in value. No one is bringing back the vintage model the way we know them. Eric Smith **may** bring an interesting variant of the vintage models.

Namir

**Re: Why not making new 97?**

*Message #7 Posted by **James M. Prange (Michigan)** on 21 June 2007, 3:44 p.m.,  
in response to message #5 by Thor Larsen*

Plausible counterfeits might bring the price of "collectible" items down, but I think that as long as the new items are distinguishable from the "vintage" items, there would be little (if any) effect on the price of the "genuine" collectible items.

Other than that, I expect that for many collectors, the "value" isn't defined by the market price.

Regards,  
James

**Re: Why not making new 97?**

*Message #8 Posted by **Namir** on 22 June 2007, 12:47 a.m.,  
in response to message #7 by James M. Prange (Michigan)*

I have not seen any working counterfeit vintage calculators. Has anyone else seen them?

Namir

**counterfeiting calculators**

*Message #9 Posted by **Eric Smith** on 22 June 2007, 1:25 a.m.,  
in response to message #8 by Namir*

It's not clear that any of them, even the HP-01, fetch enough money on eBay to justify someone investing the engineering expense to develop a replica that was not obviously distinguishable from the original.

What probably does make sense is to build replacement electronics, e.g., for the Woodstock



series, since many of those go bad. I've considered doing that. However, I had not previously thought about the problem that people might try to sell an old HP with new innards, but represent it as original. I don't think it would be cost-effective for the seller, though. The replacement electronics wouldn't be all that inexpensive; I'd estimate that the replacement electronics would have to sell for at least \$100 just to break even.

Still, I'd probably design in some way to distinguish it from the keyboard, e.g., turn on while holding a specific pair of keys, and a message would be displayed.  
Re: Why not making new 97?

As far as creating modern reproductions of vintage HPs goes, I would make them obviously similar, but not identical. I'm not sure which models are most in need of reproductions. The HP-92, HP-15C, and HP-16C might be the most plausible. Reproductions of the HP-15C and HP-16C could feature more memory than the originals.

### **Re: counterfeiting calculators**

*Message #10 Posted by [Namir](#) on 22 June 2007, 8:11 a.m.,  
in response to message #9 by Eric Smith*

Eric,

Your work in reproducing any HP calculator is the work of a craftsman. That's a fact!! I hope your project is still on because I still have your coupon that I won in HHC2006. In any case, having a SD card slot that can be used to read and write programs and data is highly recommended. We sure love to see some of the vintage machines back. Jazzing them up just a bit is more than welcome.

Namir

*Edited: 22 June 2007, 8:11 a.m.*

### **Re: counterfeiting calculators**

*Message #11 Posted by [Eric Smith](#) on 22 June 2007, 11:53 p.m.,  
in response to message #10 by Namir*

Yes, we're still working on it, albeit slowly. I expect we'll show some stuff at HHC 2007.

Eric

### **Re: counterfeiting calculators**

*Message #12 Posted by [Namir](#) on 23 June 2007, 1:13 a.m.,  
in response to message #11 by Eric Smith*

SWEEEEEEEEEEEEEEEEET!!!!

### **Re: counterfeiting calculators**

*Message #13 Posted by [Antonio Maschio \(Italy\)](#) on 22 June 2007, 9:11 a.m.,  
in response to message #9 by Eric Smith*

Eric,

whenever you succeed in reproducing an old HP calculator (any), please, either post here a

message or write me to my email address, cause you bet, I'll buy a couple!  
BTW: Can you send artifacts to Italy?

: - )

-- Antonio

### **Re: counterfeiting calculators**

*Message #14 Posted by **Eric Smith** on 22 June 2007, 11:53 p.m.,  
in response to message #13 by Antonio Maschio (Italy)*

Anything we produce will definitely be announced here.

### **Re: counterfeiting calculators**

*Message #15 Posted by **Wayne Brown** on 22 June 2007, 12:45 p.m.,  
in response to message #9 by Eric Smith*

Quote:

---

As far as creating modern reproductions of vintage HPs goes, I would make them obviously similar, but not identical. I'm not sure which models are most in need of reproductions. The HP-92, HP-15C, and HP-16C might be the most plausible. Reproductions of the HP-15C and HP-16C could feature more memory than the originals.

---

What I'd like to see are copies that are absolutely identical in every way except the serial numbers. The SN (especially the older YYWWC##### format) make it clear at a glance what year a calculator was manufactured. I think it would be great to have a brand-new HP-16C that even an HP engineer couldn't distinguish from my 1982 vintage HP-16C until he turned it over and looked at the SN.

### **Re: counterfeiting calculators**

*Message #16 Posted by **Egan Ford** on 22 June 2007, 4:20 p.m.,  
in response to message #15 by Wayne Brown*

My 15C has served me well since 1984. It is the perfect calculator in its class. I have a 1985 15C in the box as a replacement (just in case--BTW, what is the half-life of a 15C?). But, if HP were to make it again, I'd like some improvements.

15Cii:

Don't:

- Change the form factor.
- Change the keyboard.

Do:

- Add 2 line dot matrix display. User can select between classic single line or new dual line.
- In program/debug mode display alpha RPN statements. Obvious enhancement if you have ever programmed any Voyager. 12C platinum should have done this

(IMHO).

- Increase speed. Again user selectable between classic, 20-year battery life, and full speed 6-month battery life.
- Add memory.
- Add I/O. It is so cheap to add I/O. Bluetooth would be great. Industry standard I/O is what got me to switch to the 48GX in 1993. Look at the software selection and support available for the 41CX, 71B, and 48GX. I/O makes a difference. I/O builds communities.
- 42S complex number display (again user selectable).

### **Re: counterfeiting calculators**

*Message #17 Posted by [Eric Smith](#) on 22 June 2007, 11:56 p.m.,  
in response to message #16 by Egan Ford*

Battery life on a replica is likely to be \*much\* worse than the original. Although the 25 years of improvement in technology in theory makes it possible to build a Voyager with even lower power dissipation, the available technologies for low-volume production do not.

In other words, if we could spin an ASIC for the calculator, like HP did back in the early 1980s, but using 2007 technology, we could get even better battery life. But using a flash-based microcontroller running emulation will have worse battery life.

### **Re: counterfeiting calculators**

*Message #18 Posted by [Peter Monta](#) on 24 June 2007, 3:32 a.m.,  
in response to message #17 by Eric Smith*

I wonder how TI's MSP430 microcontroller series would compare with the original HP ASICs. One could run the MSP430 tickless (keypad event generates an interrupt), and some software effort could reduce the emulation hit.

Best would be hardware closer to the native instruction set, though. The world needs a submicroamp FPGA. Or maybe aggressive power switching could make do with a leakier device: MSP430 keeping state and briefly turning on, say, a flash-based FPGA to do the crunching.

Cheers, Peter Monta

### **Re: counterfeiting calculators**

*Message #19 Posted by [Eric Smith](#) on 24 June 2007, 5:53 p.m.,  
in response to message #18 by Peter Monta*

Quote:

\_\_\_\_\_

MSP430 keeping state and briefly turning on, say, a flash-based FPGA to do the crunching.

\_\_\_\_\_

I've thought about doing that. The Actel Igloo FPGAs look attractive. I don't think they're shipping in volume yet.

## **Re: counterfeiting calculators**

*Message #20 Posted by **Paul Dale** on 24 June 2007, 6:07 p.m.,  
in response to message #18 by Peter Monta*

What about mixing some aggressive power switching with storing state in EEPROM (or flash) on powerdown and really turning the power off?

- Pauli

## **Re: counterfeiting calculators**

*Message #21 Posted by **DaveJ** on 24 June 2007, 6:34 p.m.,  
in response to message #18 by Peter Monta*

Quote:

---

I wonder how TI's MSP430 microcontroller series would compare with the original HP ASICs. One could run the MSP430 tickless (keypad event generates an interrupt), and some software effort could reduce the emulation hit.

Best would be hardware closer to the native instruction set, though. The world needs a submicroamp FPGA. Or maybe aggressive power switching could make do with a leakier device: MSP430 keeping state and briefly turning on, say, a flash-based FPGA to do the crunching.

Cheers, Peter Monta

---

There is more than one way to skin a cat, and you always have to ask do you even have to skin the cat...

With a little bit of extra circuitry (a FET power latch) you can make one of the switches a true ON/OFF switch so the micro is completely disconnected.

If you wanted to retain memory when the power switches off, then you could do it two different ways: Flash for storing programs, so never lose the contents when you change batteries. An external SRAM for storing the registers. RTCC chips often have a small amount of internal SRAM for this very purpose. So you could use a much lower power and optimised RTCC chip on permanent power and then completely disconnect the micro/FPGA.

Also, today's lithium batteries are greater capacity than those of years past. A 2032 cell is about 250mAh @ 3V, while an LR44 silver oxide cell (as used in the Voyagers and Pioneers) is about 170mAh @ 1.5V. So you can afford a lot extra drain for the same life.

Then of course it's all a big trade-off once you start talking power/processing grunt and what you actually need in this respect. I really wouldn't worry about it, pick the processor you want and live with whatever active current it gives you.

So in a new calculator design I'd put 0.1% effort into battery life, and 99.9% effort into the physical housing, LCD, and ease of development. It's too easy

to get caught on the diminishing returns curve for power consumption.

Dave.

## HP-15Cii

Message #22 Posted by [Karl Schneider](#) on 23 June 2007, 1:14 a.m.,  
in response to message #16 by Egan Ford

Hi, Egan --

Hmm, all without changing the form factor (which I assume to mean size and shape) or the keyboard of the HP-15C, incorporate the following list of improvements:

- *Add 2 line dot matrix display. User can select between classic single line or new dual line.*

*The only reasonable way that might be done is with a "single block grid" small-pixel display, a la the high-end Pioneer series, but more legible and less sensitive to viewing angle. Not impossible, but there would be a considerable cost in firmware development, as there would be two ways to display everything. That's why no such thing has been done before...*

- *In program/debug mode display alpha RPN statements. Obvious enhancement if you have ever programmed any Voyager. 12C platinum should have done this (IMHO).*

*"Debug", I assume, means single-step execution, though it would be nice to display the command with a sustained press of a button, as the HP-41, HP-42S, and HP-32S/SII did. A dot-matrix display would be required, but the HP-12C Platinum doesn't have one.*

- *Increase speed. Again user selectable between classic, 20-year battery life, and full speed 6-month battery life.*

*I certainly agree -- Saturn-processor speed as a minimum. I don't see a particular need for selectability. Higher speed is desirable for execution of programs, equations, and SOLVE/INTEG, but otherwise causes minor differences in battery life.*

- *Add memory.*

*Sure, but without a more-advanced programming paradigm (e.g., HP-41/HP-42S), matrix storage, and matrix editing, a large amount of additional memory would be difficult to utilize effectively. For example, would you want to store a large amount of programming, but not be able to organize it into directories or packages demarcated by alphanumeric external labels and "END" statements? Would you want to navigate a huge matrix element-by-element using two keystrokes each time, but not be able to store more than five matrices in a large amount of RAM?*

*If the modus operandi of the HP-15C were not to be changed at all, about 32 more registers would have been very useful (perhaps one extra R2D2 chip, cost and space permitting). This would have allowed solution of a 9x9 real-valued linear system, or solution of a 4x4 complex-valued linear system without fancy maneuvers (and clearing memory beforehand), or inversion of an 8x8 matrix without clearing*

*memory beforehand. However, the probable reason why 64 allocatable registers were provided was to make the latter two applications possible.*

- *Add I/O. It is so cheap to add I/O. Bluetooth would be great. Industry standard I/O is what got me to switch to the 48GX in 1993. Look at the software selection and support available for the 41CX, 71B, and 48GX. I/O makes a difference. I/O builds communities.*

*That would certainly require a new list of alphanumeric commands. The 41CX, 71B, and 48GX are all alphanumeric.*

- *42S complex number display (again user selectable).*

*I, too, like that display, but one should be mindful of the storage of variables in the registers, as well as the capability of the display to show abbreviated complex components having exponents, and complete mantissas as a minimum. Consider how "SHOW" (CLEAR PREFIX) would work.*

*The devil's in the details...*

*: -)*

*-- KS*

### **HP15Cii, IQ43SL, etc.**

*Message #23 Posted by [Walter B](#) on 23 June 2007, 2:50 a.m.,  
in response to message #16 by Egan Ford*

The 15Cii was discussed earlier several times already. Please see e.g. [here, where a tentative layout is given](#). I posted it then just to show the opportunities within the dimensions and with the keyboard of a Voyager :-)

With a dot matrix LCD, you may display any reasonable number of output lines as pointed out above, so 2 lines or only 1 line would be no problem at all. It would also allow to display menus and soft keys like in 27S, 42S, or 48, of course. You will find more about this searching the archives under "IQ43S".

*Edited: 23 June 2007, 7:26 a.m.*

### **Re: counterfeiting calculators**

*Message #24 Posted by [Dan W](#) on 22 June 2007, 2:08 p.m.,  
in response to message #9 by Eric Smith*

I am not too concerned with counterfeited calculators. I am more concerned with people creating Frankencalculators - calculators created from parts of several calculators. One could mix and match parts from several broken calculators to create a working one. But the mix and match may not be historically accurate. One could for example, create an HP-35 with "The Bug" that had a late serial number, or was a type 3 or 4. This could cause mass confusion among the collecting community.

### **Re: counterfeiting calculators**

*Message #25 Posted by [Walter B](#) on 22 June 2007, 5:48 p.m.,*

*in response to message #24 by Dan W*

Quote:

\_\_\_\_\_

This could cause mass confusion among the collecting community.

\_\_\_\_\_

Don't exaggerate - **mass** confusion will never happen in this community ;-)

### **Re: counterfeiting calculators**

*Message #26 Posted by [Jim Creybohm](#) on 22 June 2007, 7:00 p.m.,  
in response to message #25 by Walter B*

Don't be silly! No one here collects calculators! Not a one of us.

We are all "users".

Yeah.

### **Re: Why not making new 97?**

*Message #27 Posted by [Giancarlo \(Italy\)](#) on 21 June 2007, 12:05 p.m.,  
in response to message #1 by Chan Tran*

...because I've just got a vintage one on the auction site :-D

Just kidding...

Best regards.

Giancarlo

### **Re: Why not making new 97?**

*Message #28 Posted by [Chan Tran](#) on 22 June 2007, 4:25 p.m.,  
in response to message #27 by Giancarlo (Italy)*

I have a 97 and I don't care if its value goes down. I would like a modern version of the 97. I just like the way it looks. As we all know the problem with the card reader so I would want a better way for mass storage like flash memory card. The printer can be the same size but should be faster and quieter. The battery should last much longer. The display should display alpha character in program mode for easy viewing of the program. If a counterfeit works and looks as well or better than the original then it actually worths more to me than the orginal as I don't collect thing for rarity.

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## HP Forum Archive 17

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### Inefficient Market Theory for the HP collector

Message #1 Posted by [Mike Ingle](#) on 21 June 2007, 5:03 a.m.

HP-15C, new, with book, case, and manual, \$50 + shipping, required superglue on two heat stakes, rubber cement to replace feet, and is now perfect. Thanks FixThatCalc for the advice!

HP-42S, C rev, good used condition, with case, no manual, \$75 + shipping, required alcohol cleaning of keys and superglue under bezel, now works well.

HP-48GX, good used condition, R rev blue display, with books, case and cable, \$50 + gas

HP-19BII, good used condition, no manual, good side battery door, \$20 + shipping, required rubber cement on one foot.

HP-12C, 2002 model, with manual, \$10 + shipping, en route.

Do you want deals like this? Read on. I have most of the LCD models I want, and LED models are not showing up, so I might as well write this up now.

An efficient market is one in which (A) buyers can easily find sellers and (B) transaction prices are visible to all participants. Ebay is an efficient market.

An inefficient market is one where either A, B, or both are false. Garage sales are inefficient markets.

In efficient markets, collectors' items like HP calculators are expensive. The market quickly establishes a price range for each item, and it is hard to beat the market price. Anyone trying to buy a 15C or 42S on Ebay knows what I am talking about.

In inefficient markets, collectors' items can sell cheaply compared to the efficient market price, but you have to waste a lot of energy to find them. I got a good 11C for \$25 and a fixable 41CV for \$5 at thrift stores, but those were lucky finds.

What the buyer really needs is a market that is inefficient for most people, but efficient for him. There is such a market on the Internet: craigslist. Craigslist is stubbornly local. It provides no global search (A is false.) There is also no "completed items" search (B is false.)

However, there are third-party global searches for Craigslist which allow you to search all the sites, and you can use Ebay to check "market" prices. A and B are now true for you. I got all the deals above using this URL:  
<http://search.restrainingbolt.com/global.php3>

Search for "hp calculator" and "hewlett calculator". Sometimes the search fails partway through, but most of the time it works. You will see some calculators selling for Ebay prices, and some people posting want-ads for calculators. However, there are also some very good garage-sale prices. The search for "hewlett calculator" is particularly good, because people who don't put "HP" in the title get fewer buyers.

When you find a good deal, just email the seller and ask him to ship it. Most sellers are willing to ship calculators, and Priority Mail costs under \$5 for a calculator without manual.



Many users do not have Paypal. I have sent cash through the mail about 8 times now, and have not been burned yet. I have rejected two calculators which were in poor condition, and in both cases I got my money back. One seller offered a 200LX for \$30, and while the money was en route, looked online and realized his mistake. He sent me my cash back plus \$5 by way of apology!

These sellers are ordinary folk who value their good karma. Your mileage may vary, but I have had good luck. On the other hand, I had a scammer in China respond to an ad that I posted on hpmuseum.

Now I just need a source for a good HP-97.

Mike

### **Re: Inefficient Market Theory for the HP collector**

*Message #2 Posted by **Dan W** on 21 June 2007, 10:32 a.m.,  
in response to message #1 by Mike Ingle*

Good to know there is a search engine for Craigslist. But like you I have not had luck finding the LED models. I have had better luck on the Museum boards, and on eBay.

Regarding the 97, they can be had untested, or with known problems, on eBay for \$100-\$125. Unless you buy one refurbished, expect to repair both the card reader gummy wheel, and any number of problems with the printer. A refurbished 97 will run \$350-\$400 typically, more with accessories.

### **Re: Inefficient Market Theory for the HP collector**

*Message #3 Posted by **Kevin Kitts** on 21 June 2007, 3:07 p.m.,  
in response to message #1 by Mike Ingle*

I've noticed a similar thing when shopping for a computer. Craigslist has both outrageously high prices (people want the same price they paid 3 years ago for their computer) and a few low prices. A \*lot\* more variance in the prices. eBay prices seem to converge after a while at a price that is not much less than what you could get the item for new.

I've not had any luck finding old HP calculators on craigslist though...

### **Re: Inefficient Market Theory for the HP collector**

*Message #4 Posted by **Mike Ingle** on 21 June 2007, 3:32 p.m.,  
in response to message #3 by Kevin Kitts*

Here's one: HP-11C for \$25. I'd buy it except I have one already.

<http://sfbay.craigslist.org/pen/sys/356542074.html>

### **Re: Inefficient Market Theory for the HP collector**

*Message #5 Posted by **Seth Morabito** on 23 June 2007, 1:02 p.m.,  
in response to message #1 by Mike Ingle*

Shhhh, Mike, you're giving away all our best tricks! ;-)

But this does work. Today I picked up two calculators:

1. HP-48GX rev. R in almost perfect condition, including original shrink-wrapped manuals and box
2. HP-32SII in very good used condition, also including original shrink-wrapped manual and box (what is it with people who don't read the manual?!)

I got both for \$100 plus gas and the hassle of getting up at 7:30 on a Saturday morning thanks to Craigslist. So they're definitely out there, you just have to be vigilant to get them. And this is my first ever 32SII, so I'm a happy camper.

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## HP Forum Archive 17

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### **(O.T.) Two versions of the Durabrand 828**

Message #1 Posted by [Palmer O. Hanson, Jr.](#) on 20 June 2007, 10:59 p.m.

Do any of you remember last summer when I described the sixteen digit arithmetic of the Durabrand 828? It turns out that there are two versions of the device on the market. One version only does twelve digit arithmetic. It is very difficult to tell from the packaging which version is inside. You can read all about it at [http://www.rskey.org/~mwsebastian/reviews/durabrand\\_versions.htm](http://www.rskey.org/~mwsebastian/reviews/durabrand_versions.htm)

### **Re: (O.T.) Two versions of the Durabrand 828**

Message #2 Posted by [Trent Moseley](#) on 20 June 2007, 11:28 p.m.,  
in response to message #1 by [Palmer O. Hanson, Jr.](#)

rskey.org. You need a user key and a password?

ym

### **Re: (O.T.) Two versions of the Durabrand 828**

Message #3 Posted by [Palmer O. Hanson, Jr.](#) on 21 June 2007, 2:01 a.m.,  
in response to message #2 by [Trent Moseley](#)

Quote:

rskey.org. You need a user key and a password?

ym

I don't think so. I just copied out the address, pasted it into the address slot of Internet Explorer, hit GO and there I was.

---

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## HP Forum Archive 17

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### **A Third Order Complex Linear Equation Solver for the hp 33s**

Message #1 Posted by [Palmer O. Hanson, Jr.](#) on 20 June 2007, 10:42 p.m.

In response to publication of my "Sixth Order Linear Equation Solver for the hp 33s" (Article No. 676) correspondent Gerson W. Barbosa wrote "... Now, a fourth or even a third order Complex Linear Equation Solver would be great, but that would be asking too much, I recognize."

I have written a third order complex linear equation solver for the hp 33s. It is much too long to be in the Forum so it has been posted as Article 722.

So far, I have only tested the program with three problems:

1. The test problem in Article 722.
2. The test problem in Article 722 modified to cause a determinant of zero which will trigger the "DIVIDE BY ZERO" abort.
2. The Simultaneous Equation problem from page 15-18 of the hp 33s User's Guide to demonstrate the capability to solve third order linear equations with real coefficients.

### **Re: A Third Order Complex Linear Equation Solver for the hp 33s**

Message #2 Posted by [Gerson W. Barbosa](#) on 21 June 2007, 7:37 a.m.,  
in response to message #1 by [Palmer O. Hanson, Jr.](#)

Quote:

In response to publication of my "Sixth Order Linear Equation Solver for the hp 33s" (Article No. 676) correspondent Gerson W. Barbosa wrote "... Now, a fourth or even a third order Complex Linear Equation Solver would be great, but that would be asking too much, I recognize."

Hey, thank you very much Sir!

Of course, when I said "asking too much" I didn't mean this was not feasible. I meant it was a difficult task to ask to someone who'd already given us a sixth order linear equation solver (and later even an eighth order one!). I am glad you have written this, even if it might not be so useful to you as it may be to some of us here. When I needed to solve complex linear systems at college, I relied on an HP-28S, but then I did write a program for the SHARP PC-1211 for a colleague, but the task was way easier in BASIC than it is in RPN keystroke programming.

Quote:

So far, I have only tested the program with three problems

I will try it later with a real problem I once had to solve at work.

Best regards,

Gerson.

## Mea Culpa

Message #3 Posted by [Palmer O. Hanson, Jr.](#) on 24 June 2007, 4:35 p.m.,  
in response to message #1 by [Palmer O. Hanson, Jr.](#)

I listed the command at step M0058 incorrectly as STO (I) which, of course, is not a valid command. The command should be STO (i) .

## Re: A Third Order Complex Linear Equation Solver for the hp 33s

Message #4 Posted by [Gerson W. Barbosa](#) on 4 July 2007, 3:41 p.m.,  
in response to message #1 by [Palmer O. Hanson, Jr.](#)

For a problem this long, perhaps it should be useful if you include a length and checksum table in your article, so that the user has an easy way to check if everything was keyed in correctly:

| LABEL | LENGTH | CHECKSUM |
|-------|--------|----------|
| L     | 45     | C89C     |
| M     | 432    | A45A     |
| D     | 210    | 038E     |
| V     | 150    | 9987     |
| X     | 27     | 6AB0     |

A preference for *roman numerals* when choosing the labels or just a coincidence? I haven't checked your program with other problems, so the table should be checked against your own.

By the way, my n-order complex equation solver for the CASIO PB-700 finds the same answers to your test problem in 14.5 seconds.

Best regards,

Gerson.

```

-----
10 CLS :CLEAR :INP
UT "Order: ",N:N=N-1
R(I,N+1)=X:I(I,
:DIM R(N,N+1),I(N,N+
:
1)
20 FOR I=0 TO N:FO
"XR(";I+1
R J=0 TO N+1
";"):";USING"#####.##
30 CLS :PRINT "R("
#####;R(I,N+1);:LOCA
;I+1;";";J+1;"):";:L
OCATE 0,2:PRINT "I("
"XI(";I+1
;I+1;";";J+1;"):";
;"):";USING"#####.##
40 LOCATE 12,0:INP
UT " ",R(I,J):LOCATE
X$
12,2:INPUT " ",I(I,J)
NE
:
NEXT J:NEXT I
T=R(L,J):R(L,J)=R(I,
J):R(I,J)=T
100 T=I(L,J):I(L,J)
N+1)=Y:NEXT I:BEEP
=I(I,J):I(I,J)=T:NEX
T J
FOR I=0 TO N:CLS
220 PRINT
110 FOR J=I+1 TO N
120 A=R(J,I):B=I(J,
I):C=P:D=Q:GOSUB 290
:F=X:G=Y
TE 0,2
230 PRINT
130 FOR K=I+1 TO N+
1:A=F:B=G:C=R(I,K):D
=I(I,K):GOSUB 280
#####;I(I,N+1);
240 X$=INKEY$:IF
=" " THEN 240 ELSE
XT I
140 R(J,K)=R(J,K)-X
:I(J,K)=I(J,K)-Y:NEX

```

```

      50 CLS :PRINT "wai
THEN      t..." :FOR I=0 TO N-1
          :P=R(I,I):Q=I(I,I):L
:BEEP
          =0
solution  60 FOR J=I+1 TO N:
          A=R(J,I):B=I(J,I):GO
X$
          SUB 300:T=M:A=P:B=Q
25
          70 GOSUB 300:IF T>
          M THEN P=R(J,I):Q=I(
B*D:Y=A*D
          J,I):L=J
          80 NEXT J:A=P:B=Q:
M=C*C+D*D:X=(A*
A*D)
          THEN 260 ELSE IF L=
          0 THEN 110
M=A*A+B*B:RETUR
          90 FOR J=I TO N+1:
          T K:NEXT J:NEXT I
          150 A=R(N,N):B=I(N,
          N):GOSUB 300:IF M<1E
          -10 THEN 260
          160 FOR I=N TO 0 ST
          EP -1:R=0:S=0:J=I
          170 IF J>N-1 THEN 2
          00
          180 J=J+1:A=R(I,J):
          B=I(I,J):C=R(J,N+1):
          D=I(J,N+1)
          190 GOSUB 280:R=R+X
          :S=S+Y:GOTO 170
          200 A=R(I,N+1)-R:B=
          I(I,N+1)-S:C=R(I,I):
          250 IF X$=" "
          10 ELSE CLS :END
          260 CLS :BEEP
          :PRINT "No
          !"
          270 X$=INKEY$:IF
          =" " THEN 270 ELSE
          0
          280 X=A*C-
          +B*C:RETURN
          290
          C+B*D)/M:Y=(B*C-
          /M:RETURN
          300
          N
    
```

-----  
 -----  
 1 < N < 30 (with all three 4KB memory packs in place)

Edited to correct a typo in line 130.

Edited: 5 July 2007, 5:05 p.m.

## Re: A Third Order Complex Linear Equation Solver for the hp 33s

Message #5 Posted by [Palmer O. Hanson, Jr.](#) on 6 July 2007, 11:07 p.m.,  
 in response to message #4 by [Gerson W. Barbosa](#)

Gerson:

You wrote:

Quote:

-----  
 A preference for roman numerals when choosing the labels or just a coincidence? I haven't  
 checked your program with other problems, so the table should be checked against your own.  
 -----

I used the labels I did because those were the ones which were available with two other programs on the machine. That may mean that I have a distaste for roman numerals, but I don't think so.

I match your lengths for all five programs. Unfortunately, I had to move my 33s programs around and had to use Label P instead of Label D. That means that the checksums for M and P are different.

I devised the original test problems with pencil and paper so using integers was an easy way to do it. But, I am always a little nervous until I have also run a program such as this with non integers. I was using my HP-28s for another problem when I belatedly discovered that it can divide a complex vector by a complex matrix. I have subsequently run several problems with values other than integers and the HP-28s results and the HP-33s results agree.

Edited: 7 July 2007, 3:03 a.m.

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## HP Forum Archive 17

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### **My HP-35 has a 1 second counter mode!!!**

Message #1 Posted by [oscarHPfanatic](#) on 20 June 2007, 1:33 p.m.

All,

I don't know if this has ever been seen before but the other day I was trying to find out why an old HP-35 with a serial No. 1302S xxxxx wasn't operating(I bought it inoperable for spare parts).

What I found was so cool that at first I thought it was a glitch. The HP-35, when raising the input voltage to approximately +6.1VDC enters a special "1 second counter" mode...This is how I found it:

I connected my benchtop variable DC supply to the battery input on the HP-35 and I initially set the voltage to +3.6VDC(which is the specified battery voltage). I found out that a wire from the power jack to the PCB was broken so I fixed it but by then I had increased the voltage to 6.5VDC and I unwittingly connected the supply to the HP-35 at around that higher voltage. As expected, the LED display was erratic then I noticed that I still had the supply at 6.5V so I began turning the voltage down slowly and then IT HAPPENED right at about 6.1VDC the LED display started counting from 0 up at a frequency of approximately 1 sec per count. This is how it looked :

000000000000.\*\* then 0000000000001.\*\* >> 00000000000002.\*\* >> and so on. I counted 10 minutes and it was still going. The counter at 10 minutes(my modern watch) was off on the HP-35 by 14 seconds so I'm assuming the crystal on the HP-35 is not that accurate by modern standards but then again back in 1973 who cared.

It's repeatable and I was amazed that the circuitry wasn't blown at this higher voltage (6.1VDC). By the way, for you techies and engineers, at this voltage the HP-35 was drawing 215mA...which seems excessive but then again I'm way out of spec on the voltage so anything can happen.

I'm thinking HP engineers added a factory counter mode to test the display and other circuits in the HP-35. This is so cool. My HP-35 still doesn't work but I know that at the very least I can enter my special "counter" mode and leave it on as an eye catching display.

Has anyone seen this before? I know it's not in the user manual for the sole reason that you're not supposed to be cranking up the voltage past 4V.

If anyone has any other questions go ahead and email me.

regards, Oscar

REPLACE THIS TEXT WITH YOUR LISTING

### **Re: My HP-35 has a 1 second counter mode!!!**

Message #2 Posted by [Eric Smith](#) on 20 June 2007, 3:08 p.m.,  
in response to message #1 by [oscarHPfanatic](#)

The HP-35 hardware and microcode has been studied thoroughly, and there is no factory test mode that does what you describe. What is happening is that your HP-35 malfunctions when operated out of spec. Some kind of glitch is causing it to enter a loop that happens to increment the B register, and because the loop was entered



abnormally, the usual termination condition for the loop is not met.

I'm not sure what you're seeing in the display that you've represented as "\*". You might not see the low order digits of the count in the B register because the A register is used as a display mask, for instance to prevent the exponent from being shown when the display is in fixed format (vs. scientific notation).

If there had been a factory test mode, it most certainly would not have been invoked by raising the voltage beyond spec.

The HP-35 doesn't have a crystal. Like most HP calculators up until the mid-1980s, it uses an LC oscillator, which has nowhere near the frequency stability of a crystal. The HP-55, HP-01, HP 82182A Time Module, and the time module portion of the HP-41CX do use a crystal.

### **Re: My HP-35 has a 1 second counter mode!!!**

*Message #3 Posted by [oscarHPfanatic](#) on 20 June 2007, 3:31 p.m.,  
in response to message #2 by Eric Smith*

If it is a glitch, it is a very repeatable glitch. The '\*' represents a fast changing digit. The right-most digit is basically a static blur, the 2nd digit is blurry but you can see that the frequency at which it changes is about 10Hz approximately. The third digit(I correct my earlier description) is a flashing "-" at a rate of 2 to 3 Hz. The fourth digit is where the count started at "0".

You are correct Eric, there is no crystal, I see that an LC circuit was utilized for that operation.

I haven't come around to checking the output voltages on the three internal supplies (should be +8, +6 and -12) but I have a feeling that they're likely higher than expected.

The fact still remains that this is a counter that is entered by a rising battery voltage at around 6.03VDC. As soon as I drop the voltage it exits this counter mode and if I raise it to 6.03VDC it enters the counter sequence. You're probably right, it's not a factory test mode but it's certainly repeatable.

Does anyone want to try this? I have a second HP-35 1143-0xxxx model of the first 10k units produced. It's a vintage and there's no way in heck I'm jacking up the voltage past 4.7VDC on that one. So if anyone has a spare HP-35 that's not operational maybe you can try this experiment to find out if it's repeatable in other units.

regards, Oscar

### **Re: My HP-35 has a 1 second counter mode!!!**

*Message #4 Posted by [Dan W](#) on 20 June 2007, 3:51 p.m.,  
in response to message #3 by oscarHPfanatic*

I saw this happen a few months ago. I had an AC Adapter/Charger I had just bought off eBay. Plugged it in to my 35 and saw a variety of strange sequences. Started with all zeros flashing, then some counting, then some randomness, more flashing.

I didn't leave it plugged in long because I thought it was going to self destruct. I put a multimeter to the charger and it showed right around 6.1V.

I agree, while interesting, it isn't a likely test mode of any sort, just a behavior at a certain voltage that causes certain signals to get crossed in a repeatable way.

The Classics do interesting things when operated out of spec. Have you ever heard of the HP-67 PPC

Black Box? Or NNN characters (Non-Normalized Numbers)?

**Re: My HP-35 has a 1 second counter mode!!!**

*Message #5 Posted by [Eric Smith](#) on 20 June 2007, 7:28 p.m.,  
in response to message #3 by oscarHPfanatic*

I expect you mean that the next-to-the-last digit changes at approximately 100 Hz. The rate of the "-" flashing is consistent with digit 2 of the A register cycling at 10 Hz. (My previous description in this thread had the A and B registers reversed; B is the mask.)

An approximate 1000 Hz count as you are seeing is thus what one would expect from an increment loop using three or four microinstructions.

I can't identify any specific code segment in the ROM that would easily be expected to show this behavior, but if the machine is malfunctioning due to elevated voltage, anything can happen.

The fact that it is reproducible just means that you are raising the voltage to the point where the "weakest link" starts malfunctioning. This may or may not be the same malfunction that would be seen in any other specific HP-35.

I don't recommend doing much experimentation with this, at least on any HP-35 that you would not want to damage.

**Re: My HP-35 has a 1 second counter mode!!!**

*Message #6 Posted by [Ren](#) on 21 June 2007, 5:09 p.m.,  
in response to message #1 by oscarHPfanatic*

Please don't put higher voltages into an HP calc!

I accidentally put 12 volts into my HP-22 and now it is a paperweight.

IIRC, decades ago an electronics magazine had an article about converting an LED calculator to read capacitance.

I think it involved changing the capacitor for the clock circuit with the DUT (Device Under Test), and some other modifications so that as the DUT charged a proportional number was displayed on the LED.

I don't think any HP's were harmed by the article, as it specified using CHEAP calculators!

Ren

dona nobis pacem

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## HP Forum Archive 17

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**Reconditioning a 42S keyboard and bezel**

Message #1 Posted by [Mike Ingle](#) on 19 June 2007, 2:38 p.m.

The 42S I bought (S/N 32xx, ver C) had sticky keys. They did not stick down, but some keys resisted initial pressure then released with a click and pressed normally. It was usable but annoying. The metal front plate was also a bit loose on the right side, near the "RPN SCIENTIFIC" logo.

To fix the keyboard, I put enough 91% isopropyl alcohol on it to get some into the underside of the keyboard, then pressed the keys repeatedly. I wiped and shook out as much as possible. To dry the 42S I left it for several hours on a metal-cased fanless PC server, which gets quite warm but not too hot to touch. After two cleanings, the last one heated overnight, the stickiness is gone and all the keys work well. It remains to be seen if the repair lasts; has anyone done this?

The loose front plate is still a problem. I need to get some superglue under that bezel (1/2 mm crack or so) without getting any on the visible part of the calculator. Is there a known clever way to do that?

Mike

**Re: Reconditioning a 42S keyboard and bezel**

Message #2 Posted by [Walter B](#) on 19 June 2007, 3:42 p.m.,  
in response to message #1 by Mike Ingle

Quote:

I need to get some superglue under that bezel (1/2 mm crack or so) without getting any on the visible part of the calculator. Is there a known clever way to do that?

Don't know it's clever or not, but I'd try with a needle.

**Re: Reconditioning a 42S keyboard and bezel**

Message #3 Posted by [Paul Brogger](#) on 20 June 2007, 11:28 a.m.,  
in response to message #2 by Walter B

If you go the needle route, a ready supply of syringes and needles is generally available at the local farm supply / feed store.

**Re: Reconditioning a 42S keyboard and bezel**

Message #4 Posted by [Les Wright](#) on 19 June 2007, 10:10 p.m.,  
in response to message #1 by Mike Ingle

My very loose faceplate eventually came off entirely, so I didn't risk further damage by removing it--the worst was done.

Sticking this sucker down with CYA make me queasy. Rubber cement was a temporary solution but lacked hold. I eventually found fabric glue is a good compromise--the hold is a bit more avid but the excess pills away harmlessly like rubber cement.

I think you may get good results prying the offending corner up a tiny bit, tucking a bit of fabric glue in the corner, apply a little thumb pressure, and when the excess that exudes from the crack dries rub it away gently.

My rogue faceplate is curling up a little bit towards the bottom, but it has stayed tacked down nicely elsewhere. This fix is a few months old now. I also find the some of the apparent unevenness has improved, as though being held flat by the fabric glue has shaped the plate back partially toward a more desireable flat appearance. Not like new, but better.

Les

### **Re: Reconditioning a 42S keyboard and bezel**

*Message #5 Posted by [Mike Ingle](#) on 20 June 2007, 8:20 p.m.,*

*in response to message #1 by Mike Ingle*

I ended up lifting the edge a bit more with a jeweler's screwdriver, putting a drop of superglue on a piece of paper, and moving the piece of paper under the bezel to get glue on the underside of the bezel. This can be done without getting the glue on the edge. Then press it down and hold it for a while.

Mike

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## HP Forum Archive 17

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### 50g - lower serial port bit rates

Message #1 Posted by [James M. Prange \(Michigan\)](#) on 18 June 2007, 10:04 p.m.

For anyone who'd like to use a 50g with a serial port bit rate lower than 2400bps, see this [comp.sys.hp48 thread](#).

Regards,  
James

### Re: 50g - lower serial port bit rates

Message #2 Posted by [Egan Ford](#) on 18 June 2007, 10:37 p.m.,  
in response to message #1 by James M. Prange (Michigan)

Do you know if there are any low cost cables?

### Re: 50g - lower serial port bit rates

Message #3 Posted by [James M. Prange \(Michigan\)](#) on 19 June 2007, 3:48 a.m.,  
in response to message #2 by Egan Ford

The last time that I checked, the site that originally marketed a serial cable/level shifter for the 50g had raised its original price for it considerably.

A few weeks ago, Eric Rechlin started [this comp.sys.hp48 thread](#), so there seems to be some reason to hope for a reasonably-priced alternative becoming available.

Other than that, as far as I know, it would be a do-it-yourself project.

Regards,  
James

*Edited: 19 June 2007, 4:05 a.m.*

### Re: 50g - lower serial port bit rates

Message #4 Posted by [Eric Rechlin](#) on 20 June 2007, 3:43 p.m.,  
in response to message #3 by James M. Prange (Michigan)

I'm still working on it, but things are going slower than expected. I expect the first boards should arrive from the manufacturer within a week so I can assemble the first prototypes.

If anyone else is still interested in testing, please contact me, and I will keep you informed directly with more information when I am ready.

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### EMU41 2.4 ALPHA issue

Message #1 Posted by [Egan Ford](#) on 18 June 2007, 9:18 p.m.

I am new to EMU41 (I am using it for it's HP-IL support). When I press F4 for ALPHA I am only able to enter a,b,c,d,e, anything else is \*. It is as if all input is 41-shifted. F8-F4 (i.e. XEQ-ALPHA) does not have this problem. Has anyone else seen this?

Thanks.

### Re: EMU41 2.4 ALPHA issue

Message #2 Posted by [Howard Owen](#) on 18 June 2007, 10:42 p.m.,  
in response to message #1 by Egan Ford

Are you using the CX ROMs? Do you have the CCD module loaded? The CX ROMs are needed to have all the lowercase characters in ROM, of course. And the CCD ROM only does full lower case when USER mode is on.

Regards,  
Howard

### Re: EMU41 2.4 ALPHA issue

Message #3 Posted by [Egan Ford](#) on 18 June 2007, 11:36 p.m.,  
in response to message #2 by Howard Owen

Thanks. Unloading CCD fixed it. However, I didn't have USER mode enable. Thanks again.

### Re: EMU41 2.4 ALPHA issue

Message #4 Posted by [Raymond Del Tondo](#) on 20 June 2007, 12:18 a.m.,  
in response to message #3 by Egan Ford

Actually, the extended ALPHA mode of the CCD module is active when USER is OFF.

Apart from that, the CCD module and the CCD OS/X greatly improve the usability of the HP-41. Many user interface related things are much easier with the CCD OS Xtensions. My minimal config is CX/CY + CCD OS/X, of course;-)

HTH

Raymond

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## HP Forum Archive 17

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### Short & Sweet Math Challenge #19: Surprise ! [LONG]

Message #1 Posted by [Valentin Albillo](#) on 18 June 2007, 8:14 p.m.

Hi all,

Almost 3 months have passed by since my latest *S&SMC #18: April 1<sup>st</sup>'s Spring Special*, so it's high time to indulge in a new Short & Sweet Math Challenge<sup>(tm)</sup>, this time's *S&SMC#19: "Surprise !"*, where an assortment of individual subchallenges are issued, all of them having in common a most unexpected, surprising result, and further they're *graded* according to their difficulty, from the easiest (**F**) to the hardest (**A**), so that all of you may try your hand to at least some of them, if not all.

Three optional variants are suggested to allow you to *upgrade* your mark to a **C+**, **B+**, or **A+**. I'll provide my original solutions plus extensive comments to all graded problems A-F (but not for A+, B+, C+, these are truly left as an exercise for the reader, though I'll provide the final results and some comments as well).

The usual rules do strictly apply, briefly:

- Do **not** *google* for the answers, that's *pathetically lame* and unworthy of you
- Giving just the numeric result is *worthless* as well and gets you *no grade at all*: you *must* supply **code** for your favorite HP handheld (other makes also allowed), which must be a calculator/handheld computer or emulator/simulator, no code for desktop/laptop PC-class machines or PDAs.

I'll post my original solutions within a week of sorts, so you'll have plenty of time to concoct and post your solutions. Enjoy ! :-)

---

## The Graded Challenge

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### Grade F:

---

Write a program to compute (but not output) the  $N^{\text{th}}$  term for the following sequences:

$$\text{Sequence 1: } u_1 = 0, u_2 = 1, u_{n+2} = u_{n+1} + u_n/n$$

$$\text{Sequence 2: } u_1 = 0, u_2 = 1, u_{n+2} = u_n + u_{n+1}/n$$

where the number of terms  $N$  (which can be distinct for each sequence) is either hardcoded or input, your choice. After computing (but not outputting) the  $N^{\text{th}}$  term,  $u_N$ , your program must then compute and output just the following values:



$$\text{Sequence 1: } L = N \cdot 1 / (u_N)$$

$$\text{Sequence 2: } L = N \cdot 2 / (u_N)^2$$

Now use your program to help you *try and predict*, for each sequence, the corresponding theoretical exact limit of  $L$  when the number of terms  $N$  tends to infinity.

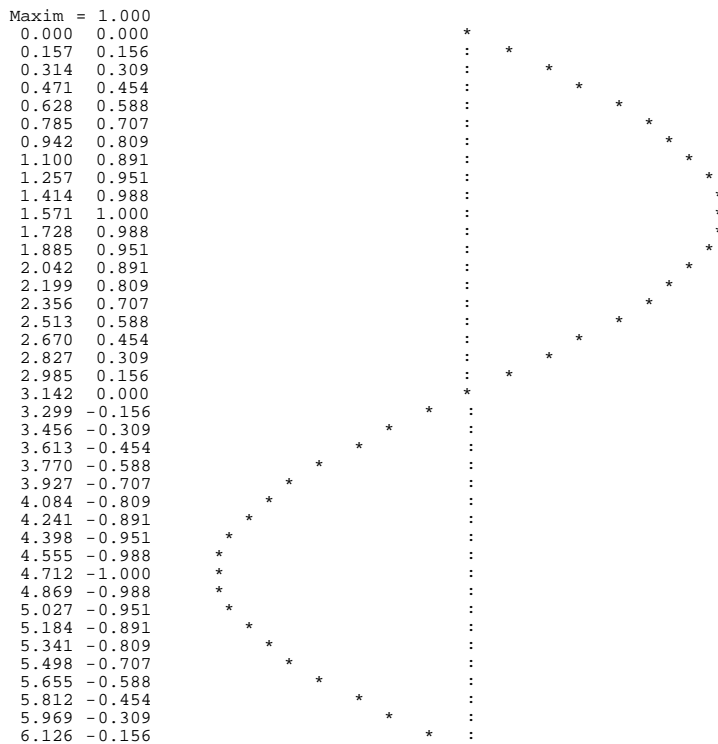
I'll give my solution for the HP-71B which is a *2-line program* which computes and outputs the corresponding values of  $L$  for  $N = 13$  and  $N = 13000$ , respectively.

### Grade D:

Using a model which either has built-in *graphics capabilities* or else can send output to a (perhaps emulated) *printer* (not necessarily graphical, alphanumeric output will do just fine), write a program which, given  $N$ , will autoscale, label, and plot the **ISin(X, N)** function, for arguments  $X$  belonging to the fixed interval  $[0, 2 \cdot \text{Pi}]$  at increments of  $\text{Pi}/40$ , say, where

**ISin(X, N)** is defined as **Sin(Sin(Sin( ... Sin(X) ... )))**

i.e., the iterated Sine of  $X$ , where  $X$  is assumed to be in radians, and  $N$  is a positive integer, which is the number of iterations. For instance, this could be the resulting output in an alphanumeric-only printer for the case of **N=1**:



which, of course, is **ISin(X, 1)** i.e. just **Sin(X)**. Notice the *auto-scaling* so that the plot takes the *whole width* of the output, the *labeled* and properly *rounded*  $X$  and  $Y$  coordinates, and the labeled *Maxim*, which is the maximum absolute value of the  $Y$  coordinate: you need to know it in order to autoscale the plot, so you might as well output it.

Once you've succeeded, run your program for various values of  $N$  such as **10, 100, 1000, ...**, (or **2, 4, 8, ...**), and, just by looking at the plots themselves and the values of *Maxim*, *try and describe what happens for increasing values of  $N$*  and *predict what happens in the limit when  $N$  tends to infinite*.

I'll give my solution for the HP-71B which is an *8-line program* which produces sample output like the above for any N.

### Grade C:

Find and output *all* values of  $N < 10000$  such that  $N$  is *prime* and

$$P(N) = S(N)$$

where  $P(N)$  gives *the number of primes*  $\leq N$  and  $S(N)$  gives *the sum of the factorials of the digits of*  $N$ .

For instance:

$$P(7) = 4, \text{ because there are 4 primes } \leq 7, \text{ namely } 2, 3, 5, 7$$

$$S(1234) = 33, \text{ because } 1! + 2! + 3! + 4! = 33$$

Your program must be *optimized primarily for speed*, then for program size, and it must exhaust the range, not stop altogether upon finding a solution.

I'll give my solution for the HP-71B, which is a simple *6-line program* which delivers the goods very quickly.

**Note: Get a C+ !**

Among the infinity of positive integers  $N \geq 10000$ , there's just *one and only one* additional solution. Find it !

### Grade B:

Given a positive integer  $N$ , write a program to compute and output the value of  $S$ , defined as

$$S = \prod_{n=1}^N \frac{1}{(r_n)^2}$$

where  $r_n$  is the  $n^{\text{th}}$  positive root of  $\tan(x) = x$ , where  $x$  is expressed in radians.

Your program must be *optimized primarily for speed*, then size, and must be efficient enough to allow you to compute  $S$  for *large* values of  $N$  in *reasonable* times. It must also take special care *not to miss* any roots in range or *misidentify* a pole for a root.

Once written, compute the value of  $S$  for  $N = 100, 200, \dots, 1000, 2000, \dots$ , then try and *predict what the exact limit value should be when  $N$  tends to infinite*.

I'll give several very short and fast solutions for the HP-71B, to illustrate some important points. Running on Emu71, they can compute and process up to, say, *1,000,000 roots*, in very reasonable times.

**Note: Get a B+ !**

If you manage to solve the above, you can get a B+ by computing and, most specially, *identifying* the exact sum but this time using

$$(r_n)^2 + 1$$

in the denominators instead of simply  $(r_n)^2$

### Grade A:

As you may know, the limit of the sum of the reciprocals of the natural numbers 1 to  $N$  does *diverge* when  $N$  tends to infinite:

$$S = \sum_{N=1}^{N \rightarrow \infty} \frac{1}{N} \rightarrow \infty$$

However, if we simply leave *out* of the sum just *those terms whose denominators include the digit 9* (such as 199, 34343900132, ...), the infinite sum then nicely *converges* to a finite value.

This said, you must write a program to compute *as accurately as possible* this finite value of the infinite sum. You must optimize your program for *both accuracy and speed*.

I'll give my original solutions for the HP-71B, which are 6- and 10-line programs. Both of them do compute the limit to a full 12-digit accuracy fairly quickly, but the longer one does it *60+ times faster*.

**Note: Get an A+ !**

Compute the limit value of the infinite sum excluding instead those terms which include the digit string '42', as in "HP42S" (i.e: 42, 78042998, 142883213044, etc). Also, see if you can *predict the approximate value* of the infinite sum when excluding terms which do include some given arbitrary non-periodic string of digits (say, 314, or 314159, or your phone number, etc)

That's all. Hoping you'll enjoy this S&SMC and waiting for your clever solutions ...

Best regards from V.

*Edited to correct a typo in the initial conditions of Grade F above, as pointed by Peter P. Thanks a lot, Peter ! :-)*

*Edited to add a C+ exercise for the reader*

*Edited: 20 June 2007, 4:27 a.m. after one or more responses were posted*

### failed at F already

Message #2 Posted by **PeterP** on 18 June 2007, 11:37 p.m.,  
in response to message #1 by Valentin Albillo

Just got home and saw with great delight another S&SMC!

However, not surprisingly I stumble already on the first one. There is some slight hope for me that I don't fully understand the nomenclature of the challenge, but more likely I don't get it. Please give me kind nudge...

You write (replacing brackets for your subscript)

$$u(1) = 0; u(2) = 0; u(n+2) = u(n+1) + u(n)/n$$

Setting  $n = 1$  I interpret this as:  $u(1+2) = u(1+1) + u(1)/1$ . Substituting  $u(1)$  and  $u(2)$  gives me a  $u(3)$  of 0 which then in consequence means  $u(n)$  is zero  $\forall n$

Please someone be so kind and help me see what my mistake is!

Thanks for another challenge Valentin, I know my productivity level for tomorrow already (and thanks to my early stumble I will get some sleep tonight :-))

Cheers

Peter

### My Bad !! :-( Thanks, Peter ! :-)

Message #3 Posted by [Valentin Albillo](#) on 19 June 2007, 1:41 p.m.,  
in response to message #2 by PeterP

Hi, Peter:

Actually, it was a typo on my part: I was very busy keying in all of this rather long stuff late in the dark at 3 AM and despite my best efforts to ensure full correctness, a typo crept in.

I've already edited it out in my main post above, so please resume your efforts with the now corrected initial conditions for both sequences featured in **Grade F** (there were a couple of **0**'s where **1**'s should have been).

Thanks a lot for spotting it out and sorry for the inconvenience.

Best regards from V.

### My first 71b submission!

Message #4 Posted by [PeterP](#) on 19 June 2007, 3:32 p.m.,  
in response to message #3 by Valentin Albillo

Okay, here is my clunky 71b code - the first try for an official SSMC on the 71b for me! (hey, one has to treasure the small pleasures in life, right?) And I readily admit that the recursive capability of the 71b made this one much easier to program on the 71b than a similar attempt on the 41c would have been.

Those two harmless looking sequences do indeed seem to converge to surprising numbers (e and pi).

First sequence:

```
10 Def FNV(n)
20 If n = 0 Then FNV = 0 Else if n = 1 then FNV = 1 Else FNV = FNV(n-1) + FNV(n-2)/(n-2)
30 End Def
40 Input "N=?";n @ Disp n/FNV(n) @ Beep
```

even reasonably low  $n$  (e.g. 13 as suggested by Valentin) lead to fairly accurate representation of  $e$ . for  $N=13$  I get 2.71828182854

Second sequence:

```
10 Def FNV(n)
20 If n = 0 Then FNV = 0 Else if n = 1 then FNV = 1 Else FNV = FNV(n-2) + FNV(n-1)/(n-2)
```

```
30 End Def
40 Input "N=?";n @ Disp 2*n/(FNV(n))^2 @ Beep
```

This sequence seems to converge to pi, but MUCH much slower. I have not installed emu71 yet (I know, I know, sorry guys....) so I will not run it until 13000 in my physical 71b as Valentin seems to suggest, lest I miss my appointment with the end of the universe.

The max I dared was 13 again and that gave me 3.548026... Being this is pretty far from pi, I might go ahead and install emu71... :-)) and so how far we can get...

### Re: My first 71b submission!

Message #5 Posted by [Egan Ford](#) on 19 June 2007, 4:56 p.m.,  
in response to message #4 by PeterP

Quote:

This sequence seems to converge to pi, but MUCH much slower. I have not installed emu71 yet (I know, I know, sorry guys....) so I will not run it until 13000 in my physical 71b as Valentin seems to suggest, lest I miss my appointment with the end of the universe.

Recursion can be a bit slow (even on EMU71). Try something like the following for sequence 2:

```
10 N=13000
20 T=TIME
30 U1=0 @ U2=1
40 FOR I=3 TO N
50 U3=U1+U2/(I-2)
60 U1=U2 @ U2=U3
70 NEXT I
80 DISP 2*N/U3^2;"IN";TIME-T;"SEC"
```

```
EMU71 output: 3.14171348646 IN 1.48 SEC
71B output: 3.14171348646 IN 618.29 SEC
```

### Re: My first 71b submission!

Message #6 Posted by [PeterP](#) on 19 June 2007, 9:34 p.m.,  
in response to message #5 by Egan Ford

Thanks Egan, very nice! Another little trick learned, very much appreciated!

Cheers

Peter

### F is for FORTH

Message #7 Posted by [Egan Ford](#) on 20 June 2007, 11:21 p.m.,  
in response to message #5 by Egan Ford

Quote:

```
EMU71 output: 3.14171348646 IN 1.48 SEC
71B output: 3.14171348646 IN 618.29 SEC
```

For fun I fabricated a fast 71B FORTH follow up. Given that this is a stack-based solution you

could easily use a forty one.

I must say that the 71B + Math ROM + JPCx + 41/FORTH ROM is becoming my favorite calc. RPN/FORTH/BASIC + I/O--very nice.

The code below works like my small basic post above, but ~2x faster.

```
: F1
CLOCK FTOI
0. 1.
13001 3 DO
  FENTER
  Z RCL
  I 2 - ITOF
  F/
  F+
LOOP
13000 ITOF Y RCL F/ F.
." IN "
CLOCK FTOI
SWAP - . ." SEC"
;
```

OUTPUT: 2.71828183554 IN 331 SEC

```
: F2
CLOCK FTOI
0. 1.
13001 3 DO
  FENTER
  I 2 - ITOF
  F/
  Z RCL
  F+
LOOP
FENTER F* 2 13000 * ITOF Y RCL F/ F.
." IN "
CLOCK FTOI
SWAP - . ." SEC"
;
```

OUTPUT: 3.14171348646 IN 324 SEC

## Grade C

*Message #8 Posted by **PeterP** on 19 June 2007, 10:23 p.m.,  
in response to message #4 by PeterP*

Another rather long program, which however works... And it brought me into contact with the JPC-rom...

the answer appears to be 6521, which is a prime number, has 843 as the sum of the factorials and there are 843 prime numbers lower than 6521.

the code below first generates  $p(x)$  up until the maximum relevant number <10000 (which is 6543, see below). It then loops through all possible numbers, calculates  $S$ , checks if  $N$  is prime and if  $s=p(n)$ , taking advantage of a few things.

Generally a digit needs to be 'worth' more than its factorial. So say  $5!$  is 120 yet that 5 occupies the first digit in the number  $n$ . it provides only  $p(5) \leq 5$  number of primes but contributes  $120 > 5$  to the  $S$ , the sum of the factorials. based on this general observation and the the handy function  $nprim(1,n)$  from the JPC-Rom we can quickly say that

a) no digits  $>6$  are allowed, as they 'contribute' too much via  $n!$  to  $S$  than what they can contribute

to N, even if they are the highest digit in N

b) for similar reasons, the second lowest digit can only go until 4 and the third lowest until 5.

c) the lowest digit can only go until 3. However, as N has to be prime we can also eliminate 2 here. this leaves us with  $(0 \rightarrow 6) \cdot (0 \rightarrow 5) \cdot (0 \rightarrow 4) \cdot (1,3) = 7 \cdot 6 \cdot 5 \cdot 4 \cdot 2$  or 1680 test we have to make.

d) given that this is much less than 10000 one could have also replaced the first loop which generates  $p(x)$  with the function  $\text{nprim}(1,N)$  for those 1680 iterations. It turns out that this is slower than generating  $p(x)$  for all 6543 numbers.

anyway, here is the listing

```

10 destroy all
20 dim p(6543) @ c=0
30 for j=1 to 6543
40   if prim(j)=0 then c=c+1
50   p(j)=c
60 next j
70 disp j;c @ beep !just for feedback
80 for b=0 to 6
90   if b>0 then b2=b*10^3 @ b3=fact(b) else b2=0 @ b3=0
100  for c=0 to 5
110   if b+c>0 then c2=c*10^2 @ c3=fact(c) else c2=0 @ c3=0
120   for d=0 to 4
130    if a+b+c+d>0 then d2=d*10 @ d3=fact(d) else d2=0 @ d3=0
140    for e = 1 to 3 step 2
150     n=b2+c2+d2+e @ s=b3+c3+d3+fact(e)
160     if p(n)<>s then 190
170     if prim(n)<>0 then 190
180     disp n;s;p(n)
190    next e
200   next d
210  next c
220 next b
230 destroy all
240 disp "Done!" @ beep 880

```

It runs approximately 5 sec on EMU71 (i got inspired and did install it. What a NICE piece of software!!!) and approximately 5 minutes on my real hp71 (side question: is there a similar speed-hack for the 71b as there is for the 41C?) One interesting side comment: I remember that there sometimes is a debate if 1 is a prime number or not. even the JPC-rom has different opinions here (i think the x-version says no, the e version says yes). If one were to claim 1 as a prime number, the solution would be 13, which has a factorial sum  $s(13)=7$  and 7 prime numbers (1,2,3,5,7,11,13).

This is fun!

Cheers

Peter

*Edited: 20 June 2007, 1:22 p.m. after one or more responses were posted*

## Re: Grade C

Message #9 Posted by [Egan Ford](#) on 19 June 2007, 11:26 p.m.,  
in response to message #8 by PeterP

1 is not a prime number.

<http://primes.utm.edu/notes/faq/one.html>

## Re: Grade C

Message #10 Posted by [Valentin Albillo](#) on 20 June 2007, 4:45 a.m.,  
in response to message #8 by PeterP

Hi, Peter:

Peter wrote:

*"Another rather long program, which however works... And it brought me into contact with the JPC-rom..."*

My, my, you're learning a lot, aren't you ? And having fun while at it ! :-)

*"the answer appears to be 6521, which is a prime number, has 843 as the sum of the factorials and there are 853 prime numbers lower than 6521."*

He, he, my time to correct your typo: you mean "there are 843 prime numbers lower than 6521", not 853.

*"It runs approximately 5 sec on EMU71 (i got inspired and did install it. What a NICE piece of software!!!) and approximately 5 minutes on my real hp71"*

There's something weird about those timings. I've found that a properly installed instance of Emu71 runs 250-350 times faster than a real HP-71B, so if it takes 5 minutes in the physical 71B, it should take approximately just *one second* when running under Emu71, not five, assuming you're using a 2 Ghz CPU or so. Perhaps you should check your installed Emu71 or stop other tasks while timing it, or check different hardware.

*"If one were to claim 1 as a prime number [...]"*

... you could claim as well that 3 is even, i.e., you *can't*. **1** is neither composite nor prime, it's a *unit* and that allows it an special status as regards to primality or compositeness. As such, **1** is *never* counted as a primer number.

*"This is fun!"*

I'm truly glad you're enjoying it. **I've added a C+ variant to the challenge** above, see if you dare to conquer it as well. It's not that easy, you know ... :-)

Best regards from V.

## Re: Grade C

Message #11 Posted by [PeterP](#) on 20 June 2007, 1:24 p.m.,  
in response to message #10 by Valentin Albillo

Thanks Valentin, I corrected my post. Turns out it was even worse, there was a slight typo in the listing as well...

C+ sounds daring, your looong time ago post about how to teach a 71 or 41 large number/high precision arithmetic rears its ugly head...

Cheers

Peter



**Re: Grade C**

Message #12 Posted by **Valentin Albillo** on 20 June 2007, 8:00 p.m.,  
in response to message #11 by PeterP

Hi again, Peter:

Peter wrote:

*"C+ sounds daring, your looong time ago post about how to teach a 71 or 41 large number/high precision arithmetic rears its ugly head..."*

Not so, fortunately. The only other solution is well within the normal range for REAL numbers in the HP-71B and, matter of fact, any other HP calculator ever produced.

A little sleuthing will allow you to easily set an upper limit and useful, time-reducing heuristics for the search.

Best regards from V.

**C+ solved**

Message #13 Posted by **PeterP** on 21 June 2007, 1:14 a.m.,  
in response to message #12 by Valentin Albillo

hmmm...

I new that my original approach to C would not work, so I changed it around. The following code delivers the first solution in ~1sec in EMU71 and a second solution(?) in ~14min.

5,114,903 seems to be another solution. There are 363035 prim numbers until it and the sum of its factorials is also 363035 unless I made a mistake, which is, alas, very likely.

The code below uses fprim from the JPC-rom to move from one prime to the next and then calculates the sum of the factorial using the string-access brackets. Given that for the second solution we knew we had to look for higher numbers it made sense to let the prim numbers lead the way rather than the factorials as in my original solution.

The nice thing is that this code is even shorter. If one were to take out the niceties like giving it a start-number, measuring the time etc it would be down to about 7 lines... (30,40+50,60,70,80,90,150)

```

10 Input "Start=?";S @ P=Nprim(1,S) @ C=0
20 A$=Time$
30 Loop
40 T=Fprim(S+1) @ P=P+1 @ S=T
50 T$=STR$(T) @ L=Len(T$) @ X=0
60 For I=1 to L
70 X=X+Fact(Val(T$[I,I])) @ If X>P Then I=L+1
80 Next I
90 If X=P Then
100 Disp "Found a solution!!
";"Prim=";T;"FactSum=";X;"NumOfPrim=";P
110 Disp "StartTime=";A$;" EndTime=";Time$
120 Disp "Press key to continue...";Keywait$

```

```

130 Endif
140 C=C+1 @ C>500 then C=0 @ Disp "Cur Prim=";T;"P=";P
150 End Loop

```

**Re: C+ solved**

*Message #14 Posted by [Egan Ford](#) on 21 June 2007, 2:11 a.m.,  
in response to message #13 by PeterP*

Quote:

5,114,903 seems to be another solution.

Actually I think its 5224903.

I have a 50g program that works the same way. A quick and dirty that runs slow.

Save this as 'DIGITFACT'

```

\<< 0 \-> X
  \<< DUP
    WHILE 0 >
      REPEAT DUP 10 MOD ! X + 'X' STO 10 / IP DUP
    END DROP X
  \>>
\>>

```

Save and run this:

```

\<< 843 \-> P
  \<< 6521
    DO NEXTPRIME DUP P 1 + 'P' STO DIGITFACT P
  UNTIL ==
  END P
  \>>
\>>

```

*Edited: 21 June 2007, 2:21 a.m.*

**Re: C+ solved**

*Message #15 Posted by [PeterP](#) on 21 June 2007, 9:41 a.m.,  
in response to message #14 by Egan Ford*

yes, sorry, my typo. As you can tell from the time I run it, it was rather late....I even ran it twice and wrote down the result on a notepad here next to my computer. It says in big happy letters 5224903. Did'nt know I am that dyslexic (see the above type in my original solution of 853 instead of 843...) Thanks for pointing it out.

Cheers

Peter

*Edited: 21 June 2007, 9:53 a.m.*

**Re: C+ solved**

*Message #16 Posted by [Arnaud Amiel](#) on 28 June 2007, 7:45 a.m.,  
in response to message #14 by Egan Ford*

I came up with something so similar it is spooky. Just I use STO+ and INCR and my functions are called S and N.

If I have time this weekend I want to put some Assembly and sysRPL in there.

Arnaud

## Grade D

*Message #17 Posted by [PeterP](#) on 20 June 2007, 7:10 p.m.,  
in response to message #4 by PeterP*

Learned some more about string-handling, yet do not have the patience to make it as pretty as VA's plot. However, from running the pgm it would seem that the curve becomes more and more a rectangular step function with n increasing. The question is, if that 'rectangle' will eventually become a flat line. Here is my amateurs guess:  $\sin(x)=x-x^3/3$ . In the limit,  $x^3$  should converge faster to 0 than x so I'd say it stays a rectangle (meaning the integral of  $I\sin(x,n)$  over  $[0,\pi]$  is  $>0$  for  $\lim n \rightarrow \infty$ ). But that's just a guess.

Here is the rather boring and un-elegant code. (Side-comment: as a beginner/novice the 71b is so much easier to program that I see I do significantly less fiddling than when working with the 41. The outcome is that I gets results faster, yet the code is often less elegant or intriguing, more straight forward, yet easier to follow. Unless it is authored by VA, naturally... :-)

```
10 Destroy N,Y,P,D$,I,J,C @ Radians
20 Input "N=?";N @ Dim y(80) @ p=0 @ c=80 @ dim d${80}
30 Def fns(x,n)
40   t=x
50   for j=1 to n @ t=sin(t) @ next j
60   fns=t
70 end def
80 m1=100 @ m2=-100
90 for i=0 to 80
100   y(i) = fns(i*pi()/40,n)
110   m1 = min(m1,y(i)) @ m2 = max(m2,y(i))
120 Next i
130 d=m2-m1 @ s=d/c
140 disp "Min=";m1;'Max=";m2
150 for i=0 to 80
160   d$=space(c)
170   p=int((y(i)-m1)/s+0.5)
180   p=max(0,p) @ p=min(p,80)
190   d${p]="x" @ Disp d$
200   disp keywait$
210 Next i
220 Disp "Done!"
```

## Re: Grade D

*Message #18 Posted by [Dave Shaffer \(Arizona\)](#) on 21 June 2007, 6:48 p.m.,  
in response to message #17 by PeterP*

I, too, think you will approach a square wave (i.e. a line above and below zero, by the same distance). Whether it stays a square wave or goes to zero depends on precision limits on calculating  $\sin(x)$  where x is small. If for x small enough,  $\sin(x)$  exactly returns x, then the square wave amplitude will be the x value at which  $\sin(x)$  no longer gets any smaller.

For example, on my 42S, I find that taking a sine starting at 0.0004 requires some 50 key presses of the sin button until you get an answer that is not 0.0004 but rather 0.000399999 (remember:  $\sin(\epsilon) \sim \epsilon$ , for small epsilon). For larger values of x (i.e. where  $\sin(x)$  was bigger to begin with),  $\sin(x)$  will get smaller more quickly than for those values of x which

gave a smaller value of  $\sin(x)$  to begin with. Hence, the curve will flatten out more quickly where  $x$  was nearer to  $\pi/2$  or  $3\pi/2$ .

## Grade Bish

Message #19 Posted by **PeterP** on 21 June 2007, 1:33 p.m.,  
in response to message #4 by PeterP

### THIS IS A CORRECTED POST

my original post had an error in the if-then clause in Def FN due to a misunderstanding on my part on how the if-then with a followin @ works.

Now things are more 'surprising'. A little nifty free graphic package (its free, super easy and allows all sorts of graphs of functions, integrals, etc. It can be found [here](#) ) helped me see the periodicity in the roots (every  $\pi()$  with the first one after 0 being between  $1.25*\pi$  and  $1.5*\pi$ ) which I used for FNROOT.

The value for B seems to be 1/5th (I get 0.199989... for  $n=100000$ )

The value for B+ comes out to something like 0.194526... and I have no idea about the 'true' value.

Here is the now corrected code. However, WHY those are the correct answers, I could never figure out. I admit to cheating in the end and found the explanation - I would have NEVER found this one out!

```
10 Def FN(x)
20   f= tan(x)-x
30   if abs(f)<=1e-40 then f=0
35   fnf=f
40 end Def
50 Input "N=?";N @ S=0 @ Input "ad to square of root (0 or 1)",a
60 For i=1 to N
70   L=(i+0.25*PI() @ U=L+0.25*PI()
80   Y=FNROOT(L,U,FNF(FVAR)) @ S=S+1/(a+y^2) @ if mod(i,500)=0 then disp i,2*s
90 next i
100 s=s*2 @ Disp "Sum=";s
```

Cheers

Peter

*Edited: 21 June 2007, 7:06 p.m.*

## Re: Grade Bish ... not :-)

Message #20 Posted by **Valentin Albilló** on 22 June 2007, 5:51 a.m.,  
in response to message #19 by PeterP

Hi, Peter:

Peter posted:

*"THIS IS A CORRECTED POST"*

Most unfortunately, the corrections fell short of perfection, there are still a considerable number of errors in your listing. Please take what follows as well-meaning *advice*, not *criticism*, given solely to allow you to improve your skills:

First of all, there are many syntax errors in your listing:

```

10 Def FN(x)
      ^
      |-- It should probably be FNF(x), the F is missing

20   f= tan(x)-x
30   if abs(f)<=1e-40 then f=0
35   fnf=f
40 end Def

```

While correct, this is unnecessarily convoluted, and the simpler and obvious:

```

10 DEF FNF(X)=TAN(X)-X

```

would be both shorter and faster, not being a multi-line user defined function and not needing to use an additional variable, not to mention the gains of suppressing the unnecessary test.

Which is more, you can simply use **TAN(FVAR)-FVAR** directly in FNROOT, thus getting rid of the user-defined function definition, which will again save bytes and be much faster, as invoking user-defined functions is costly in the HP-71B.

```

50 Input "N=?";N @ S=0 @ Input "ad to square of root (0 or^
  1)",a
      ^
      |-- this must be a ";" instead of a ","

70   L=(i+0.25*PI() @ U=L+0.25*PI()
      ^
      |-- this parenthesis is never closed; besides,
      I don't quite get what PI() is intended to be,
      unless it's some ROM- or LEX keyword which
      does require that weird syntax; the built-in
      PI function does *not* admit "()"

80   Y=FNROOT(L,U,FNF(FVAR)) @ S=S+1/(a+y^2) @
      if mod(i,500)=0 then disp i,2*s
      ^
      |-- Whence came this 2 ?
      Also, y*y would be
much faster than y^2

100 s=s*2 @ Disp "Sum=";s
      ^
      |-- ditto, whence came this 2 ? No such 2 does
      appear anywhere in the challenge's infinite sum

```

I think most of these errors are due to you painstakingly typing the listing into the posted message, either from your HP-71B display or from the Emu71 listing. As such, you're prone to typos, uneven casing, etc.

May I suggest that you simply develop your solution in Emu71, then, once it runs fine, simply execute LIST to have the listing appear in Emu71's simulated 80-column display, then *\*copy\** the listing from Emu71's display and *\*paste\** it in your message's text area. That would ensure absolute correction, no typos whatsoever, and would be both much faster and less tiring for you.

Now, I've corrected the above mentioned typos, but nevertheless the corrected listing does not produce the values you mention, far from it. I've traced it and it doesn't seem to properly generate the roots, as it generates and adds to the sum the same roots many times, omits others, and at times generates poles instead of roots.

Perhaps my corrections weren't enough, or perhaps something else is missing from your listing. Please follow my advice on generating and copy/paste-ing listings directly from Emu71, and re-post your routine again. I hope that, in the end, this will be both fun and instructive for you.

Thanks a lot for your interest, and

Best regards from V.

**Re: Grade Bish ... not :-)**

*Message #21 Posted by **PeterP** on 23 June 2007, 1:33 p.m.,  
in response to message #20 by Valentin Albillo*

Valentin,

Thanks for your thoughtful comments and teaching, please know that yours (and all the others) kind advice is very much appreciated by me! I knew that I will open myself up to public failure when I decided to participate in this S&SMC with the 71b, where I can barely manage the 'novice' grade as of now. However, pretty much all in live for me is about learning so I'm just fine with 'failing' on the way.

Please find below some comments with regards to your advice. As you inducted already, there are a good many errors which happen due to me trying to type it in form my 71b. I took me a little while to figure out how to copy from a dos window (haven't used DOS in ages) but towards the end you will find the copy&paste original code from me (which actually does seem to produce the results mentioned). Using your suggestions, however, makes the code not only shorter but also run about twice as fast!!

Quote:

Which is more, you can simply use TAN(FVAR)-FVAR directly in FNROOT, thus getting rid of the user-defined function definition, which will again save bytes and be much faster, as invoking user-defined functions is costly in the HP-71B

This is an awesome trick, thanks a lot! On a general level (you also mention later on that  $y*y$  is faster than  $y^2$ ) is there anywhere a reference which shows the timing for various commands of the 71b and suggestions on how to improve execution speed. We had quite detailed lists for the 41 and knowing them makes a huge difference in final execution speed. Maybe you can point me in the right direction if there were such a list. Also, we could double the speed of the 41c on the hardware side and I wonder if there is a similar hack for the 71b available.

Quote:

I don't quite get what PI() is intended to be, unless it's some ROM- or LEX keyword which does require that weird syntax; the built-in PI function does \*not\* admit "()"

Thanks for pointing this one out. Funnily enough my 71b does not complain at all when I type pi(). When reading Joe Horn's book I misinterpreted the discussion he briefly has about PI and RES that PI is a function and hence needs the brackets. Clearly I was mistaken but

as my 71b (or EMU71) did not complain I was never made aware of my mistake. Until VA came along to the rescue :-)

Quote:

Whence came this 2 ?

I over-read the word "positive" in your challenge. As the code only sums up the right hand (positive) side, I multiplied by 2 to get the total. Clearly, as in first grade, reading the question properly is 50% of the battle to getting the answer right...

Quote:

May I suggest that you simply develop your solution in Emu71, then, once it runs fine, simply execute LIST to have the listing appear in Emu71's simulated 80-column display, then \*copy\* the listing from Emu71's display and \*paste\* it in your message's text area. That would ensure absolute correction, no typos whatsoever, and would be both much faster and less tiring for you.

Oh yes indeed, you may! It is not only buggy (as figura shows) but bloody damn annoying, too! Please find below a copy and paste version of my original code, which runs and brings the mentioned results, but does not include all your other corrections and suggestions.

```
10 REAL Y
20 DEF FNF(X)
30 F=TAN(X)-X
40 IF ABS(F)<=1.E-30 THEN FNF=0 ELSE FNF=F
50 END DEF
60 INPUT "N=?";N @ S=0 @ INPUT "ad to square root of (0 or 1)";A
70 FOR I=1 TO N
80 L=(I+.25)*PI() @ U=L+.25*PI()
90 Y=FNROOT(L,U,FNF(FVAR)) @ S=S+1/(A+Y^2) @ IF MOD(I,500)=0 THEN DISP I;2*S
100 NEXT I
110 DISP "Sum=";2*S
```

This code takes about 1min26sec for N=10000 while a code with your suggestions takes only 46sec! That's an awesome improvement, thanks for sharing it with me. This is especially interesting, as the only reason to do the multiline Def FN was the advice that can be found in the manual for the math-rom when discussing FNROOT. They suggest this if statement to avoid 'overly long' run times. Did you ever find an application where their statements is correct and how does one best decide when to use it and when to ignore?

Again, thanks a lot for your kind advice. Unfortunately I will be out of a computer for the rest of the weekend, but I will see what I can do for A on Monday. And I'm looking forward to more learning :-)

Cheers

Peter

## Re: Short & Sweet Math Challenge #19: Grade C 15C solution.

Message #22 Posted by [Egan Ford](#) on 19 June 2007, 11:55 a.m.,  
in response to message #1 by [Valentin Albillo](#)

Quote:

**Grade C:** Find and output *all* values of  $N < 10000$  such that  $N$  is *prime* and

$$P(N) = S(N)$$

where  $P(N)$  gives the number of primes  $\leq N$  and  $S(N)$  gives the sum of the factorials of the digits of  $N$ .

Answer: 6521

Time to solution: ~15 minutes\*

Time to completion: ~21 minutes\*

UPDATE: Normal speed 15C time to solution: ~9 hours, 40 minutes.

UPDATE: Normal speed 15C time to completion: ~14 hours, 45 minutes.

The program below will count up to 9999 checking for primes along the way. All numbers  $< 10000$  will have prime factors  $< 100$ . If prime and  $< 100$ , then cache the prime number for future checks. A matrix is used for the cache. As primes are discovered  $P(N)$  is incremented and  $S(N)$  calculated and compared to  $P(N)$ . If  $S(N)=P(N)$  and prime then display  $N$ , R/S, repeat, end at 10000.

\*NOTE: Do not input this in your 15C and run it. It will take a very long time. I used Nonpareil after increasing the frequency 4651 times (no, it does not run 4651 times faster, there are other factors). UPDATE: Measured ~38x faster with modified Nonpareil.

```

001 LBL A                ;LBL A
002 CLEAR REG
003 FIX 0
004 CF 0
005 f MATRIX 0
006 2
007 5
008 ENTER
009 1
010 f DIM E
011 f MATRIX 1
012 3
013 STO E
014 5
015 STO 2
016 2
017 STO 3
018 LBL 0                ;LBL 0
019 4
020 10^X
021 RCL 2
022 X>=Y?                ;TEST 9
023 RTN
024 f MATRIX 1
025 LBL 1                ;LBL 1
026 RCL E
027 X=0?
028 GTO 2
029 /
030 FRAC
031 X=0?
032 GTO 3
033 1
034 STO+ 0
035 RCL 2
036 GTO 1
037 LBL 2                ;LBL 2
038 F? 0
039 GTO 6
040 9
041 7
042 RCL 2
043 X=Y?                ;TEST 5
044 SF 0
045 STO E

```



```
046 LBL 6 ;LBL 6
047 1
048 STO+ 3
049 GSB B
050 RCL 3
051 X!=Y? ;TEST 6
052 GTO 3
053 RCL 2
054 R/S
055 LBL 3 ;LBL 3
056 2
057 STO+ 2
058 GTO 0
059 LBL B ;LBL B
060 0
061 STO 5
062 RCL 2
063 LBL 4 ;LBL 4
064 X=0?
065 GTO 5
066 1
067 0
068 /
069 ENTER
070 FRAC
071 1
072 0
073 *
074 x!
075 STO +5
076 X<>Y
077 INT
078 GTO 4
079 LBL 5 ;LBL 5
080 RCL 5
081 RTN
```

*Edited: 20 June 2007, 5:47 p.m. after one or more responses were posted*

**Re: Short & Sweet Math Challenge #19: Grade C 15C solution.**

Message #23 Posted by [Thibaut.be](#) on 19 June 2007, 3:30 p.m.,  
in response to message #22 by Egan Ford

Hi Valentin,

Why not, for the next S&SMC, calculate the ideal rhythmic on orabidoo ?

**Re: Short & Sweet Math Challenge #19: Grade C 15C solution.**

Message #24 Posted by [Valentin Albillo](#) on 20 June 2007, 5:25 a.m.,  
in response to message #23 by Thibaut.be

Hi Thibaut,

Thibaut posted:

*"Why not, for the next S&SMC, calculate the ideal rhythmic on orabidoo ?"*

*... Meaning !?*

Best regards from V.

**Re: Short & Sweet Math Challenge #19: Grade C 15C solution.**

Message #25 Posted by [Thibaut.be](#) on 20 June 2007, 7:26 p.m.,  
in response to message #24 by Valentin Albillo

Quote:

*"Why not, for the next S&SMC, calculate the ideal rhythmic on orabidoo ?"*

... Meaning !?

Best regards from V.

... meaning that it would be nice to make a cross-over between 2 passion. It happens that both of us enjoy HP calcs AND Mike Oldfield... So I'm looking forward to seeing a S&SMC combining maths AND Mike's music.

Any inspiration ?

**Re: Short & Sweet Math Challenge #19: Grade C 15C solution. [OT]**

Message #26 Posted by [Valentin Albillo](#) on 20 June 2007, 7:54 p.m.,  
in response to message #25 by Thibaut.be

[Caveat reader: Off topic]

Hi, Thibaut:

Thibaut posted:

*"It happens that both of us enjoy HP calcs AND Mike Oldfield..."*

That's correct, last time I checked I had 100+ CD/DVD (about 2% of my whole CD/DVD collection) of his music, counting official releases, bootlegs, really really rare 'rarities', fan-made releases, the works !

*"So I'm looking forward to seeing a S&SMC combining maths AND Mike's music. Any inspiration ?"*

Intriguing request ... I think it might be possible, but would require people to also be aware of and pretty knowledgeable about specific works of Mike (say "Amarok", for instance) but the hard fact is he isn't known that well (if at all) in the US or most any other place in the world save Spain, UK, and some European countries, most regrettably.

100+ years from now, when he gets recognition as a true 'classic' genius 'a la Mozart' the situation will improve, hopefully.

Thanks for your appreciation of both my math efforts and most specially Mike's music, and

Best regards from V.

**Re: Short & Sweet Math Challenge #19: Grade C 15C solution.**

Message #27 Posted by [Egan Ford](#) on 19 June 2007, 6:34 p.m.,  
in response to message #22 by Egan Ford

Edited submission, a bit smaller/2x faster/a bit cleaner.

**Re: Short & Sweet Math Challenge #19: Grade C 15C solution.**

Message #28 Posted by [Valentin Albillo](#) on 20 June 2007, 5:20 a.m.,  
in response to message #22 by Egan Ford

Hi, Egan:

Nice effort ! I've added a C+ extension to the challenge above, perhaps you might want to conquer that as well, though it's far more challenging.

Thanks a lot for your interest and very nice solution (for the HP-15C no less), and

Best regards from V.

**Re: Short & Sweet Math Challenge #19: Grade C 15C solution.**

Message #29 Posted by [Egan Ford](#) on 20 June 2007, 12:42 p.m.,  
in response to message #28 by Valentin Albillo

Quote:

Nice effort ! I've added a C+ extension to the challenge above, perhaps you might want to conquer that as well, though it's far more challenging.

Thanks, I'll work it if I have the time. All my spare time (what little I have) is being used for A/A+.

BTW, I updated my entry with a normal speed 15C. 9 hours, 40 minutes.

*Edited: 20 June 2007, 12:46 p.m.*

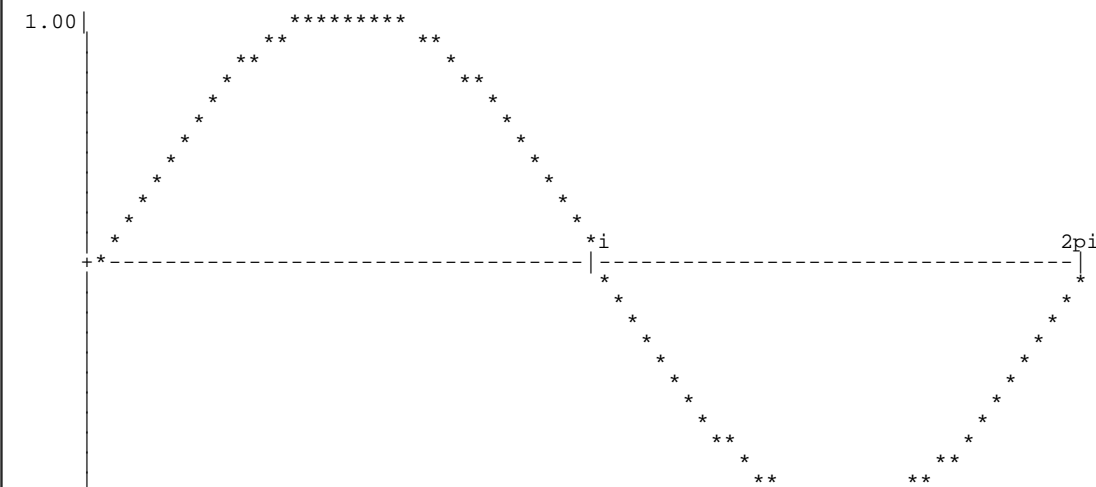
**Re: Short & Sweet Math Challenge #19: Grade D, the movie**

Message #30 Posted by [Egan Ford](#) on 22 June 2007, 7:16 p.m.,  
in response to message #1 by Valentin Albillo

Here is my Grade D 71B BASIC submission. Since you already demonstrated a vertical plot, I opted for a horizontal plot. You'll need EMU71 or an 80 Column HP-IL video adapter.

<http://sense.net/~egan/d.gif>

N=1 :







Hi, Egan:

What can I say !? Awesome idea, this video of yours ! :-)

It nicely demonstrates in a vivid way just what's happening and it would certainly make an excellent material to show to a class.

I do have a similar, video-producing script for Mathematica showing the same ongoing process (only in 3D), but I didn't entertain the idea of doing likewise for Emu71, way to go !

Thanks for your continued interest in my challenges, kudos to your outstandingly clever contributions, and

Best regards from V.

## Re: Short & Sweet Math Challenge #19: A--

Message #32 Posted by **Gerson W. Barbosa** on 22 June 2007, 11:07 p.m.,  
in response to message #1 by Valentin Albillo

Hello Valentin,

This is no solution and actually deserves an F--. It seems to converge indeed, but very slowly. I have tried to compute the summation for decades 2 through 6, that is, for  $N=100$  through  $N=1000000$ . I am not sure this eliminates all occurrences of digit 9. Anyway, this is not the way to go, as the HP-71B limits will be reached before the convergence is found. There has surely to be a clever way, but it is far beyond my very limited skills.

```

10 DESTROY ALL
30 FOR D=2 TO 6
40 N=10^D
50 S=LOG(N)+.577215664902
60 FOR I=1 TO N/10
70 S=S-1/(10*(I-1)+9)
80 NEXT I
90 FOR I=N/10+90 TO 9*N/10 STEP 100
100 FOR J=0 TO 8
110 S=S-1/(I+J)
120 NEXT J
130 NEXT I
140 FOR K=2 TO LGT(N)
150 FOR I=9*10^(K-1) TO 10^K-10 STEP 10
160 FOR J=0 TO 8
170 S=S-1/(I+J)
180 NEXT J
190 NEXT I
200 NEXT K
210 PRINT S
220 NEXT D

```

```

>RUN
4.77685709833
6.59022027355
8.54139178089
10.5158103624
12.4929996836

```

The results above are approximate. For exact results line 50 should be replaced, but this makes the program even slower:

```
50 S=0 @ FOR I=1 TO N @ S=S+1/I @ NEXT I
```

```
4.78184876505
```

6.59072019014  
 8.54144177977  
 10.5158153649

As always, I am looking forward to your and other people's smart solutions.

Best regards,

Gerson.

### Re: Short & Sweet Math Challenge #19: A--

Message #33 Posted by [hugh steers](#) on 23 June 2007, 7:18 a.m.,  
 in response to message #32 by Gerson W. Barbosa

hi gerson, i too have an F- solution :-)

my first step was to write a simple, add up the terms without 9s program to see how it went and get a feel for any convergence. however, it converges very slowly indeed. in fact, it looks like it grows just like the harmonic series, ie slowly but actually. but presumably it does converge. the program below runs on the HP50 using hplua and after 10 million terms it's up to 13.65 and still growing fairly well.

i think i need a more cunning idea to get further.

```
tens = {1,10,100,1000,10000,100000,1000000,10000000,100000000}
nines = {9,90,900,9000,90000,900000,9000000,90000000,900000000}
function inc(n)
  local v
  local i
  local l = #n
  for i = 1,l do
    v = n[i] + tens[i]
    if v != nines[i] then
      n[i] = v
      for i = i + 1,l do
        v = v + n[i]
      end
      return v
    end
    n[i] = 0
  end
  i = l + 1
  v = tens[i]
  n[i] = v
  return v
end
function sum()
  local s = 1
  local n = { 1 }
  for i = 1,100 do
    for j = 1,1000000 do
      s = s + 1/inc(n)
    end
    print(i, s)
  end
end
function go()
  sum()
end
```

### Re: Short & Sweet Math Challenge #19: A--

Message #34 Posted by [Gerson W. Barbosa](#) on 23 June 2007, 9:55 a.m.,  
 in response to message #33 by hugh steers

Hi Hugh,

Looks like there's something wrong with my program. It's correct for N=100 and N=1000 but I am not

sure about the rest. Perhaps some 9s have escaped. For N=10,000,000 I obtained 14.47; 13.65 seems to be more plausible. Since I am unable to find the solution, I thought of at least estimating the value the sum converges to by means of curve fitting:

| x | y     |
|---|-------|
| 2 | 4.78  |
| 3 | 6.59  |
| 7 | 13.65 |

I would need more data, though.

Regards,

Gerson.

### Re: Short & Sweet Math Challenge #19: A--

Message #35 Posted by [hugh steers](#) on 23 June 2007, 11:49 a.m.,  
in response to message #34 by Gerson W. Barbosa

oops, i missed a zero. the 13.65 is for 100 million terms, each main loop of the program is 1 million.

out of interest, here's a listing in 10s of millions of the total compared to the normal harmonic series' sum.

```

1 12.569954 16.695311
2 12.907506 17.388459
3 13.103535 17.793924
4 13.242197 18.081606
5 13.342811 18.304749
6 13.423368 18.487071
7 13.492294 18.641221
8 13.552527 18.774753
9 13.605026 18.892536
10 13.650922 18.997896
11 13.692797 19.093207
12 13.731294 19.180218
13 13.766824 19.260261
14 13.798917 19.334369
15 13.828992 19.403362
16 13.857288 19.467900
17 13.884003 19.528525
18 13.908823 19.585683
19 13.932289 19.639750
20 13.954658 19.691044
21 13.976028 19.739834
22 13.996292 19.786354
23 14.015530 19.830806
24 14.034024 19.873365
25 14.051829 19.914187
26 14.068947 19.953408
27 14.085249 19.991148
28 14.101013 20.027516
29 14.116275 20.062607
30 14.131064 20.096509
31 14.145235 20.129299
32 14.158972 20.161047
33 14.172325 20.191819
34 14.185315 20.221672
35 14.197874 20.250659
36 14.210045 20.278830
37 14.221914 20.306229
38 14.233496 20.332897
39 14.244486 20.358873
40 14.254336 20.384191
41 14.263987 20.408883
42 14.273447 20.432981
43 14.282724 20.456511
44 14.291746 20.479501

```



|     |           |           |
|-----|-----------|-----------|
| 45  | 14.300597 | 20.501974 |
| 46  | 14.309288 | 20.523953 |
| 47  | 14.317823 | 20.545459 |
| 48  | 14.326163 | 20.566512 |
| 49  | 14.334337 | 20.587132 |
| 50  | 14.342373 | 20.607334 |
| 51  | 14.350277 | 20.627137 |
| 52  | 14.358032 | 20.646555 |
| 53  | 14.365625 | 20.665603 |
| 54  | 14.373099 | 20.684295 |
| 55  | 14.380458 | 20.702645 |
| 56  | 14.387703 | 20.720663 |
| 57  | 14.394792 | 20.738363 |
| 58  | 14.401777 | 20.755754 |
| 59  | 14.408661 | 20.772849 |
| 60  | 14.415448 | 20.789656 |
| 61  | 14.422108 | 20.806185 |
| 62  | 14.428664 | 20.822446 |
| 63  | 14.435132 | 20.838446 |
| 64  | 14.441513 | 20.854194 |
| 65  | 14.447794 | 20.869699 |
| 66  | 14.453971 | 20.884966 |
| 67  | 14.460070 | 20.900004 |
| 68  | 14.466091 | 20.914819 |
| 69  | 14.472034 | 20.929418 |
| 70  | 14.477873 | 20.943807 |
| 71  | 14.483642 | 20.957991 |
| 72  | 14.489342 | 20.971977 |
| 73  | 14.494975 | 20.985771 |
| 74  | 14.500518 | 20.999376 |
| 75  | 14.505991 | 21.012799 |
| 76  | 14.511403 | 21.026045 |
| 77  | 14.516754 | 21.039117 |
| 78  | 14.521896 | 21.052020 |
| 79  | 14.526845 | 21.064759 |
| 80  | 14.531743 | 21.077338 |
| 81  | 14.536591 | 21.089760 |
| 82  | 14.541386 | 21.102031 |
| 83  | 14.546116 | 21.114152 |
| 84  | 14.550799 | 21.126128 |
| 85  | 14.555437 | 21.137963 |
| 86  | 14.560031 | 21.149659 |
| 87  | 14.564562 | 21.161219 |
| 88  | 14.569049 | 21.172648 |
| 89  | 14.573494 | 21.183948 |
| 90  | 14.577898 | 21.195121 |
| 91  | 14.582250 | 21.206171 |
| 92  | 14.586556 | 21.217100 |
| 93  | 14.590823 | 21.227911 |
| 94  | 14.595053 | 21.238606 |
| 95  | 14.599240 | 21.249188 |
| 96  | 14.603379 | 21.259660 |
| 97  | 14.607482 | 21.270022 |
| 98  | 14.611551 | 21.280279 |
| 99  | 14.615585 | 21.290431 |
| 100 | 14.619570 | 21.300482 |

**A-ish**

*Message #36 Posted by **PeterP** on 24 June 2007, 12:08 a.m.,  
in response to message #35 by hugh steers*

Hmm, I used a much shorter and much dumber code which takes about 13min for a sum of 10m terms. However it seems to be wrong as it gives a slightly different value than what you have posted. I was wondering though if your  $n=10m$  means a) that you summed up 10m terms or b) summed up all terms that exclude 9 and are  $\leq 10m$ ? Clearly a) would be a larger number than b).

My code is trying to compute b) and gives 12.2061531537 for  $n=10m$  which is slightly smaller than your value. Can you spot the error in my code?

```
10 INPUT "n=?";N @ S=0 @ C=0 @ T$=TIME$
20 FOR X=1 TO N @ IF POS(STR$(X),"9")<>0 THEN 40
30     S=S+1/X
```

```
40 NEXT X
50 DISP "Done! "; "Sum="; S; "X="; X; "Start="; T$; ", End="; TIME$
```

Clearly I have no clue about the final value. One way I was contemplating for a while but would have no chance of finishing without google (and even then it is doubtful) is to first calculate the value of  $1/n$  for all  $n$  (maybe there is a good way to get the value of the rieman function for integers only,  $s=1$  and up to a certain  $n$  in a smart way. There should be something like this around. And - wasn't Euler who originally came up with it in integer space??) and then subtract all values that have a 9 in it. But without a good idea to get  $\text{sum}(1/n)$  that is not very helpful.

The only good thing about my code (if it is correct) is that it can be easily adapted to A+ by changing the string we search for in line 20. So, for example, the value for  $n=10000000$  excluding all numbers that have '42' in them is 16.2113166917. This is, not surprisingly, much closer to the simple  $\text{sum}(1/n)$  than when we exclude all numbers with a 9.

As an adendum and maybe it is useful for others my idea mentioned above came about when I calculated the number of terms one has to exclude from the simple  $1/n$  sum with  $N$  increasing. This percentage is steadily increasing and seems to tend to 100% in the limit so the series does indeed seem to converge. yet to what number, I would not know. The first column is  $N$ . The second column is the 10% exclusion from having a 9 at the second place (e.g. 9000 for  $n=10,000$ ) which excludes 10% of all terms(not necessarily 10% of the value though...) The third column is the discount from the previous max  $N$  times the 90% and the fourth column is the total discount. Maybe in an example I can better explain what I tried to calculate:

```
N1=10. We only ignore 1 number (9) which is 10%
N2=100. We ignore all number from 90-99, which is 10%. From the remaining 90%
we ignore every one with 9 which is 10% (the final number from N1) for a total
of 10% + 90%*10% = 19%
N3=1000. We ignore all numbers from 900-999, which is 10%. from the remaining
90% we exclude 19% (see above from N2) for a total of 10%+90%*19%=27%
and so on and so forth
```

maybe this is helpful to people smarter than me to come up with a clever code idea...

| N      | 9 in 2nd place | prev disc | final disc |
|--------|----------------|-----------|------------|
| 1.E+01 | 0.10           | -         | 0.10       |
| 1.E+02 | 0.10           | 0.09      | 0.19       |
| 1.E+03 | 0.10           | 0.17      | 0.27       |
| 1.E+04 | 0.10           | 0.24      | 0.34       |
| 1.E+05 | 0.10           | 0.31      | 0.41       |
| 1.E+06 | 0.10           | 0.37      | 0.47       |
| 1.E+07 | 0.10           | 0.42      | 0.52       |
| 1.E+08 | 0.10           | 0.47      | 0.57       |
| 1.E+09 | 0.10           | 0.51      | 0.61       |
| 1.E+10 | 0.10           | 0.55      | 0.65       |
| 1.E+11 | 0.10           | 0.59      | 0.69       |
| 1.E+12 | 0.10           | 0.62      | 0.72       |
| 1.E+13 | 0.10           | 0.65      | 0.75       |
| 1.E+14 | 0.10           | 0.67      | 0.77       |
| 1.E+15 | 0.10           | 0.69      | 0.79       |
| 1.E+16 | 0.10           | 0.71      | 0.81       |
| 1.E+17 | 0.10           | 0.73      | 0.83       |
| 1.E+18 | 0.10           | 0.75      | 0.85       |
| 1.E+19 | 0.10           | 0.76      | 0.86       |
| 1.E+20 | 0.10           | 0.78      | 0.88       |

Cheers

Peter

*Edited: 24 June 2007, 12:39 a.m.*

**Re: A-ish**

*Message #37 Posted by [hugh steers](#) on 24 June 2007, 7:37 a.m.,  
in response to message #36 by PeterP*

hi peter,

your code looks good. the discrepancy, as you pointed out, is that my code does, in fact, calculate (a) and yours calculates (b).

yes, i am summing 10M terms of 1/X without 9s and you are summing 1/X for the first 10M integers without 9s :-)

**Re: A-ish**

*Message #38 Posted by [Gerson W. Barbosa](#) on 24 June 2007, 7:03 p.m.,  
in response to message #36 by PeterP*

Hello Peter,

Quote:

-----  
Hmm, I used a much shorter and much dumber code which takes about 13min for a sum of 10m terms.  
-----

13 minutes at what clock? On my jurassic computer your program takes 7 minutes for the first one million terms. But at least your program works and has proved helpful for an estimate of the answer (unlike mine, which was wrong for decades greater than 3).

Quote:

-----  
Clearly I have no clue about the final value.  
-----

Well, we can use data from your program to get an estimate of the result. The idea is getting the sum up to the first decades. I was intending to compute until the eighth decade (100,000,000), but no result past nearly two hours... I use your program to calculate the first six decades sums and used your result for the seventh decade. I put the data on a spread sheet and did an exponential fit of the differences between successive sums. Then I used the fit equation to calculate the differences and from those I calculated the next sums. As you can see, the differences tend to zero as the decades grow and the sum appears to converge to something close to 22.9. The correlation factor is excellent, but some additional data might be necessary to confirm this result. You can noticed I discarded the first two sums to get a better correlation factor.

From the table, it's evident the direct summation would take ages to complete. Even if we went up to  $10^{100}$ , we would get four or five significant figures at most. So, there has to be another way...

Best regards,

Gerson.

-----  
D                      Sn                      Difference

(from Peter's program)

|       |                |                |               |
|-------|----------------|----------------|---------------|
|       | 1              | 2.81785714286  |               |
| x (D) | 2              | 4.78184876505  | 1.96399162219 |
|       | y (Difference) |                |               |
|       | 3              | 6.59072019014  | 1.80887142509 |
| ----- |                |                |               |
|       | 4              | 8.22318440268  | 1.63246421254 |
| 4     |                | 1.63246421254  |               |
|       | 5              | 9.69287779213  | 1.46969338945 |
| 5     |                | 1.46969338945  |               |
|       | 6              | 11.01565186020 | 1.32277406807 |
| 6     |                | 1.32277406807  |               |
|       | 7              | 12.20615315370 | 1.19050129350 |
| 7     |                | 1.19050129350  |               |

| D | Sn | Difference |
|---|----|------------|
|---|----|------------|

(from the exponential fit)

Exponential fit:

|   |    |                |                |
|---|----|----------------|----------------|
|   | 8  | 13.27779798383 | 1.07164483013  |
|   | 9  | 14.24238769904 | 0.96458971522  |
| y = 2.4872351255 * exp(-0.1052471262 * x) | 10 | 15.11061688519 | 0.86822918615  |
|   | 11 | 15.89211176098 | 0.78149487579  |
| r^2 = 0.9999994812                        | 12 | 16.59553690567 | 0.70342514469  |
|   | 13 | 17.22869132486 | 0.63315441918  |
|   | 14 | 17.79859491952 | 0.56990359466  |
|   | 15 | 18.31156631696 | 0.51297139745  |
|   | 16 | 18.77329292663 | 0.46172660966  |
|   | 17 | 19.18889399743 | 0.41560107081  |
|   | 18 | 19.56297737587 | 0.37408337843  |
|   | 19 | 19.89969059402 | 0.33671321815  |
|   | 20 | 20.20276685406 | 0.30307626004  |
|   | 21 | 20.47556641894 | 0.27279956488  |
|   | 22 | 20.72111386825 | 0.24554744931  |
|   | 23 | 20.94213163229 | 0.22101776404  |
|   | 24 | 21.14107017618 | 0.19893854389  |
|   | 25 | 21.32013516861 | 0.17906499243  |
|   | 26 | 21.48131193651 | 0.16117676790  |
|   | 27 | 21.62638747672 | 0.14507554021  |
|   | 28 | 21.75697026878 | 0.13058279206  |
|   | 29 | 21.87450810844 | 0.11753783965  |
|   | 30 | 21.98030415960 | 0.10579605117  |
|   | 31 | 22.07553140281 | 0.09522724320  |
|   | 32 | 22.16124564023 | 0.08571423742  |
|   | 33 | 22.23839720159 | 0.07715156136  |
|   | 34 | 22.30784148061 | 0.06944427902  |
|   | 35 | 22.37034841896 | 0.06250693835  |
|   | 36 | 22.42661104270 | 0.05626262374  |
|   | 37 | 22.47725314602 | 0.05064210332  |
|   | 38 | 22.52283620736 | 0.04558306133  |
|   | 39 | 22.56386561459 | 0.04102940724  |
|   | 40 | 22.60079626842 | 0.03693065383  |
|   | 41 | 22.63403762587 | 0.03324135745  |
|   | 42 | 22.66395824006 | 0.02992061419  |
|   | 43 | 22.69088984642 | 0.02693160636  |
|   | 44 | 22.71513104069 | 0.02424119427  |
|   | 45 | 22.73695058949 | 0.02181954881  |
|   | 46 | 22.75659041024 | 0.01963982075  |
|   | 47 | 22.77426825328 | 0.01767784304  |
|   | 48 | 22.79018011615 | 0.01591186287  |
|   | 49 | 22.80450241664 | 0.01432230049  |
|   | 50 | 22.81739394876 | 0.01289153212  |
|   | 51 | 22.82899764333 | 0.01160369457  |
|   | 52 | 22.83944215268 | 0.01044450934  |
|   | 53 | 22.84884327702 | 0.00940112434  |
|   | 54 | 22.85730524837 | 0.00846197135  |
|   | 55 | 22.86492188618 | 0.007616663781 |
|   | 56 | 22.87177763753 | 0.00685575136  |
|   | 57 | 22.87794851342 | 0.00617087589  |
|   | 58 | 22.88350293150 | 0.00555441808  |
|   | 59 | 22.88850247464 | 0.00499954314  |
|   | 60 | 22.89300257370 | 0.00450009906  |

|     |                |               |
|-----|----------------|---------------|
| 61  | 22.89705312211 | 0.00405054841 |
| 62  | 22.90069902907 | 0.00364590696 |
| 63  | 22.90398071742 | 0.00328168835 |
| 64  | 22.90693457185 | 0.00295385443 |
| 65  | 22.90959334230 | 0.00265877045 |
| 66  | 22.91198650704 | 0.00239316475 |
| 67  | 22.91414059955 | 0.00215409251 |
| 68  | 22.91607950265 | 0.00193890310 |
| 69  | 22.91782471332 | 0.00174521067 |
| 70  | 22.91939558102 | 0.00157086771 |
| 71  | 22.92080952228 | 0.00141394125 |
| 72  | 22.92208221371 | 0.00127269143 |
| 73  | 22.92322776588 | 0.00114555217 |
| 74  | 22.92425887975 | 0.00103111387 |
| 75  | 22.92518698746 | 0.00092810771 |
| 76  | 22.92602237912 | 0.00083539166 |
| 77  | 22.92677431687 | 0.00075193775 |
| 78  | 22.92745113759 | 0.00067682072 |
| 79  | 22.92806034531 | 0.00060920772 |
| 80  | 22.92860869443 | 0.00054834912 |
| 81  | 22.92910226460 | 0.00049357017 |
| 82  | 22.92954652812 | 0.00044426353 |
| 83  | 22.92994641064 | 0.00039988251 |
| 84  | 22.93030634571 | 0.00035993507 |
| 85  | 22.93063032401 | 0.00032397830 |
| 86  | 22.93092193754 | 0.00029161353 |
| 87  | 22.93118441948 | 0.00026248194 |
| 88  | 22.93142068001 | 0.00023626053 |
| 89  | 22.93163333861 | 0.00021265859 |
| 90  | 22.93182475304 | 0.00019141444 |
| 91  | 22.93199704557 | 0.00017229253 |
| 92  | 22.93215212643 | 0.00015508086 |
| 93  | 22.93229171503 | 0.00013958860 |
| 94  | 22.93241735901 | 0.00012564399 |
| 95  | 22.93253045142 | 0.00011309241 |
| 96  | 22.93263224613 | 0.00010179471 |
| 97  | 22.93272387176 | 0.00009162563 |
| 98  | 22.93280634418 | 0.00008247242 |
| 99  | 22.93288057777 | 0.00007423359 |
| 100 | 22.93294739558 | 0.00006681781 |

**Re: S&SMC#19: A-ish**

Message #39 Posted by [Valentin Albillo](#) on 25 June 2007, 4:37 a.m.,  
in response to message #38 by Gerson W. Barbosa

Hi, Gerson:

*"[...] it's evident the direct summation would take ages to complete. Even if we went up to  $10^{100}$ , we would get four or five significant figures at most."*

Yes, it would take geological ages to get a few correct digits, and probably more than the whole life of the Universe to get 12 correct figures, which is what we must expect from 12-digit HP models.

Matter of fact, your last result from the exponential fit, 22.9329+, is about correct to just the four leftmost figures (22.93). Your fit overshoot the mark about  $D=71$ , which was closest to the actual sum even if still a little too high.

*"So, there has to be another way..."*

Indeed, there is. It is very easy to demonstrate that the sum of the harmonic series after taking out those terms including any given digit or sequence of digits, in any numerical base, always converges, if incredibly slowly.

But accurately finding the actual value of the sum to high precision is entirely another matter and the naive approach of simply adding up enough terms is doomed to fail. For this particular series, for instance, adding up all terms up to  $10^{29}$  (which would takes ages even on a very fast computer, if at all possible) still gets short of the final sum by more than 1.

Thanks for your interest in this challenge of mine, and most specially for your hard work, keen ideas, and very worthy results.

Best regards from V.

**Re: S&SMC#19: A-ish**

*Message #40 Posted by **Gerson W. Barbosa** on 25 June 2007, 10:05 a.m.,  
in response to message #39 by Valentin Albillo*

Hi Valentin,

Quote:

Yes, it would take geological ages to get a few correct digits, and probably more than the whole life of the Universe to get 12 correct figures, which is what we must expect from 12-digit HP models.

Yes, it appears we'd have to go as far as  $10^{280}$  to get 12 digits. How long would take this to be done on the HP-71B (or even on Emu71) and how much energy would be required for this task ? :-)

Quote:

For this particular series, for instance, adding up all terms up to  $10^{29}$  (which would takes ages even on a very fast computer, if at all possible) still gets short of the final sum by more than 1.

You're right! And even if we summed every term up to  $10^{50}$  we'd be still one tenth of a unit away from the answer, as we can see in the table.

Thanks for your encouraging words, but I think this was just an engineering approach to get an estimation of the result. I hope someone comes up with a really beautiful mathematical way of tackling the problem before you post the solution.

Best regards,

Gerson.

**Re: S&SMC#19: A-ish**

*Message #41 Posted by **hugh steers** on 25 June 2007, 6:06 p.m.,  
in response to message #40 by Gerson W. Barbosa*

*pathetically lame googlers present.... Fischer's algorithm for the harmonic 9's*

*hplua on the hp50g in 11 seconds, transcript:*

```
hplua -i valentina2.lua
Lua 5.1.2 Copyright (C) 1994-2007 Lua.org, PUC-Rio
HPLua version 0.4
```

```
=harmonic9(23)
> 22.920676661926415034816367
>
```

**listing:**

```
function ncr(n, r)
  -- combinations nCr
  local v = 1
  local rr = 1
  while r > 0 do
    v = v * n
    rr = rr * r
    r = r - 1
    n = n - 1
  end
  return v/rr
end

function nextBeta(bl)
  local n = #bl + 1
  local k;
  local tn = 10^n;
  local t = ((11^n) - tn)*10
  for k = 2,n do
    local a = (tn*(10^(1-k)) - (10^k) + 1)*bl[n-k+1]
    t = t - a * ncr(n,k);
  end
  bl[n] = t / (tn - 9)/n;
  return bl[n];
end

function zetaConstant(n, eps)
  -- riemann zeta function for integers 2...
  local s = 1
  local t = 2;
  local s1;

  if n == 2 then
    t = math.pi;
    s = t*t/6;
  elseif n == 4 then
    t = math.pi;
    s = t*t;
    s = t*t/90;
  elseif n == 3 then
    -- apery's constant
    s = 1.2020569031595942853997382
  else
    repeat
      s1 = s
      s = s + 1/(t^n)
      t = t + 1;
    until (math.abs(s - s1) < eps)
  end
  return s;
end

function harmonic9(n)
  -- method of Fischer
  local v = 10*math.ln(10)
  local bl = {}

  -- b0
  nextBeta(bl)
  for i = 2,n do
    -- try for 20 digits with eps = 10^-22
    v = v - (10^(-i))*nextBeta(bl)*zetaConstant(i,1e-22);
  end
end
```

```
    return v;  
end
```

i would prefer a nice way to calculate Apery's constant. ie zeta(3), but it didnt converge quick enough, so i settled for the ugly constant

### Re: S&SMC#19: A-ish

Message #42 Posted by [Valentin Albillo](#) on 25 June 2007, 8:05 p.m.,  
in response to message #41 by hugh steers

Hi, Hugh:

Hugh posted:

*"pathetically lame googlers present...."*

That's what you say!

*"I would prefer a nice way to calculate Apery's constant. ie zeta(3), but it didnt converge quick enough, so i settled for the ugly constant"*

You can get rid of it by the usual trick of improving convergence by subtracting the slowly-convergent part and applying a exponentially fast-converging series to what's left. Tatoeba, try an RPL-version of this one-liner:

```
10 SUB APERY(A) @ A=7*PI^3/180 @ FOR K=1 TO 3 @  
A=A-2/K^3/(EXP(2*PI*K)-1) @ NEXT K
```

```
>CALL APERY(A) @ PRINT A
```

```
1.20205690316
```

where you can increase the upper limit (3) to achieve whatever numeric precision you want in negligible time. The given value, 3, is enough to get you 12 correct digits in just 3 iterations.

Thanks for you interest and

Best regards from V.

### Re: S&SMC#19: A-ish

Message #43 Posted by [hugh steers](#) on 26 June 2007, 4:13 a.m.,  
in response to message #42 by Valentin Albillo

nice!, 7 seems to be enough,

```
> =apery(7)  
1.202056903159594285399739
```

```
function apery(n)  
  local a = 7*(math.pi^3)/180  
  for k = 1,n do  
    a = a - 2/(k^3)/(math.exp(2*math.pi*k)-1)  
  end  
  return a;  
end
```



**Re: S&SMC#19: A-ish**

*Message #44 Posted by [Egan Ford](#) on 25 June 2007, 8:52 p.m.,  
in response to message #41 by [hugh steers](#)*

Quote:

\_\_\_\_\_

Fischer's algorithm for the harmonic 9's

\_\_\_\_\_

The cat is out of the bag now. I assume you got this from the same paper that I have been using to work on A+.

**Re: S&SMC#19: A-ish**

*Message #45 Posted by [PeterP](#) on 26 June 2007, 2:11 a.m.,  
in response to message #44 by [Egan Ford](#)*

Egan, Gerson et all,

Are you guys talking about [this paper](#)? I was just following your threads (having decided that without google I will not be able to do anything further. And in my little black book I already got further than I could have hoped for my first 71b challenge) when I saw you mentioning the 'fisher paper'. Could not find that one but the paper linked above has a good resemblance with the challenge we were faced, missing '9s', '42' and 314159 and all.

Please let me know if you have identified a better source to understand the challenge. Quite honestly, given the wide area of mathematicians that according to the paper have gnawed at this and only very recently, I did not feel too bad to not have come up with any idea...

The thing that I enjoy the most about this challenges is the tid-bits of mathematics that Valentin and you others allow me to learn. And in such a nice interactive environment. Really cool! Can't wait for Valentin to lift the veil even further for me!

Cheers

Peter

PS:Gerson - thanks for the tip on the Euler constant book - it has already made its way into an Amazon shopping basket :-)

**Re: S&SMC#19: A-ish**

*Message #46 Posted by [Egan Ford](#) on 26 June 2007, 2:27 a.m.,  
in response to message #45 by [PeterP](#)*

Yes.

**Re: S&SMC#19: A-ish**

*Message #47 Posted by [hugh steers](#) on 26 June 2007, 4:07 a.m.,*

*in response to message #46 by Egan Ford*

yes, same here. the Fischer's part was the first and easier bit. i had got stuck on my own.

### **Re: S&SMC#19: A-ish**

*Message #48 Posted by **Gerson W. Barbosa** on 28 June 2007, 9:23 a.m.,  
in response to message #41 by hugh steers*

Hello Hugh,

I tried to port your code to RPL on my HP-28S, just to have an idea of the running time on a vintage calculator, but I got stuck at this part:

```
local b1 = {}
-- b0
nextBeta(b1)
```

Perhaps I ought to learn a little *Lua* first. So far the only thing I know it is the Portuguese word for Moon (Spanish & Italian: *Luna*, French: *Lune*) :-)

As of the apery or zeta3 constant, the algorithm provided by Valentin in fact requires only three terms for 12 digits. But in this case I'd simply type in the constant.

Congratulations for your nice work!

Gerson.

### **Re: S&SMC#19: A-ish**

*Message #49 Posted by **hugh steers** on 28 June 2007, 9:42 a.m.,  
in response to message #48 by Gerson W. Barbosa*

hi gerson,

lua has untyped variables. `foo = {}`, assigns the empty list to `foo`. you have to have a list to start inserting, otherwise `foo` is null.

some examples:

```
-- this is a comment
foo = {}
foo[1] = 12
foo[2] = "hello"
foo[3] = {}
```

```
moo = #foo -- gets length which is 3.
```

```
foo[#foo + 1] = 7 -- add to end, lists expand automatically
```

```
function addSomething(list)
-- lists passed by reference, we can modify it
list[#list + 1] = 42
end
```

```
addSomething(foo)
```

annoyingly lua lists start from 1 not zero. this is my biggest lua pet hate. so much that im thinking of adding a base mode (like 71b basic) for hplua.

so, the following, sets bl to be the empty list and the nextBeta function computes the next beta and adds it to the list.

```
local bl = {} -- b0 nextBeta(bl)
```

hope this helps,

*Edited: 28 June 2007, 9:43 a.m.*

### 71b version

*Message #50 Posted by [hugh steers](#) on 28 June 2007, 9:52 a.m.,  
in response to message #49 by hugh steers*

what i'd suggest for the 71b is to simply have a pre-sized array for the beta values because, for a given precision, you know how many you need.

in 71b basic, i'd just have a global array b[] and nextBeta filled in the next slot using the preceeding values.

### Re: S&SMC#19: A-ish

*Message #51 Posted by [Gerson W. Barbosa](#) on 28 June 2007, 1:20 p.m.,  
in response to message #49 by hugh steers*

Hi Hugh,

Thanks for the tips. I had my HP-28S fixed [here](#). Since I am in the city I took the time to go there again this morning because of a recurring problem in the keyboard. Meanwhile, I will use Power48 on the PalmTX. If I succeed, I will let you know when I return.

### Re: Short & Sweet Math Challenge #19: A--

*Message #52 Posted by [PeterP](#) on 25 June 2007, 6:10 p.m.,  
in response to message #32 by Gerson W. Barbosa*

intrigued by the 0.57... number I went to google to find out what it means. Ahh! (light bulb going off) There is indeed a fast way to calculate/estimate  $s(1/n)$  as I had thought and you have used that way. Thanks for showing me, Gerson!

Cheers

Peter PS: BTW - my laptop is not that powerful - 1.7ghz Pentium M I believe... Not sure why it would run longer on yours...

### Re: Short & Sweet Math Challenge #19: A--

*Message #53 Posted by [Gerson W. Barbosa](#) on 25 June 2007, 10:15 p.m.,  
in response to message #52 by PeterP*

Hi Peter,

Quote:

intrigued by the 0.57... number I went to google to find out what it means.

If you google for *site:hpmuseum.org EulerGamma* you'll find this has been discussed here recently. Just a few months ago I wasn't aware of it either (not that I have become an expert, but at least now I can recognize it when I see it :-)

You might find this book interesting:

[Havil, J. Gamma: Exploring Euler's Constant](#)

I haven't read it yet. The introduction in pdf format is available there. The rest seems to be worth reading.

Quote:

There is indeed a fast way to calculate/estimate  $s(1/n)$  as I had thought and you have used that way.

I guess you hadn't seen Hugh Steer's post (*on 25 June 2007, 6:06 p.m*) when you wrote this :-)

Best regards,

Gerson.

**Re: Short & Sweet Math Challenge #19: A--**

*Message #54 Posted by [Paul Guertin](#) on 26 June 2007, 6:55 a.m.,  
in response to message #53 by Gerson W. Barbosa*

Quote:

You might find this book interesting:

[Havil, J. Gamma: Exploring Euler's Constant](#)

I haven't read it yet. The introduction in pdf format is available there. The rest seems to be worth reading.

Definitely recommended. I read it when it came out, and IMHO it's one of the best college-level pop math books. In the same style, and also worth checking out, is Paul Nahin's *Dr. Euler's Fabulous Formula* about Fourier series and more.

**Re: Short & Sweet Math Challenge #19: A--**

*Message #55 Posted by [Gerson W. Barbosa](#) on 26 June 2007, 7:21 a.m.,  
in response to message #54 by Paul Guertin*

Thanks for the book recommendation, Paul. It's been quite a long time since the last time I ordered something from Amazon. Now that the Brazilian Real to American Dollar exchange

rate is below 2 (1 USD = 1.94 BRL), after having gone as high as 3.3 just a couple of years ago, it's time to go shopping :-)

Peter, for the same reason, I'm going to get a 2GHz+ notebook. They have never been so cheap here. I will only have to choose between HP and Dell. My desktop Pentium III 500Mhz is getting tired of running all those nice emulators and simulators :-)

Gerson.

*Edited: 26 June 2007, 7:27 a.m.*

**Re: Short & Sweet Math Challenge #19: A--**

*Message #56 Posted by **PeterP** on 26 June 2007, 10:56 a.m.,  
in response to message #55 by Gerson W. Barbosa*

Gerson,

IMHO I would avoid Dell. There has been a steady decline in customer support with Dell computers (there was a big blog story recently where a very disappointed customer started blogging his interactions with Dell - it got nicknamed Dell Hell and he became quite famous and Dell under a lot of pressure). I also do not like their keyboards (nothing beats the IBM/Lenovo keyboards for me, but that's just me and keyboard feel is something very personal.

For me, good sources of rankings and research can be found [here at PC World](#) and [here at PC Magazine](#) . My favorite place to buy, but I do not know if they ship to Brazil is [Newegg](#) where you can also find lots of customer reviews.

Thanks for all your tips, I always enjoy reading your posts here.

Cheers

Peter

**Re: Short & Sweet Math Challenge #19: A--**

*Message #57 Posted by **Gerson W. Barbosa** on 28 June 2007, 12:57 p.m.,  
in response to message #56 by PeterP*

Hello Peter,

Thanks for your advice. Because of the Brazilian keyboard (the one with ç - 'c' with a cedilla mark beneath - and the signs ´ ` ~ ^ in the proper position) I will buy locally. I'll take a look at the reviews in the magazines you have suggest though.

Best regards,

Gerson

**Re: Short & Sweet Math Challenge #19: A--**

*Message #58 Posted by **PeterP** on 26 June 2007, 10:58 a.m.,  
in response to message #54 by Paul Guertin*

Thanks Paul, appreciate the info!

Cheers

Peter

**Re: Short & Sweet Math Challenge #19: Surprise ! [Edited with results]**

Message #59 Posted by [Arnaud Amiel](#) on 25 June 2007, 8:24 a.m.,  
in response to message #1 by Valentin Albillo

I didn't have much time as I am just moving into a new flat but I recognised that Grade F could be solved by a hp55. I had been waiting for along time for a SSMC that could be handled by the 55 so here it is:

This program takes the number of iterations as argument:

```

      2
      -
      STO 5
      0
      STO 1
      1
      STO 2
      STO 4
13    RCL 1
      RCL 4
      /
      RCL 2
      STO 1
      +
      STO 2
      RCL 4
      1
      +
      STO 4
      RCL 5
      X=Y 36
      GTO 13
36    2
      +
      RCL 2
      /
      GTO 00

```

For N=13, it takes about 20s to approximate e with a value of 2.944805312.

I knew I could not get N=13000 in a reasonable time so for the other serie I used SysRPL on my hp49g+

```

!NO CODE
!RPL
::
  0LastRomWrd!
  CK1NOLASTWD
  CKREAL
  1LAMBIND
  %0
  %1
  1GETLAM
  COERCE
  #2-
  ONE
  DO
  DUPUNROT
  INDEX@
  UNCOERCE
  %/
  %+
  LOOP
  SWAPDROP
  %SQ_
  1GETABND
  %2
  %X
  SWAP

```

π/  
;

This comes close to Pi (3.14219691996) in about 50s for N=13000. A very similar program gives 2.71849095023 for the first serie (N=13000).

Unfortunately I had no time for the other challenges for now. I will look later.

Arnaud

*Edited: 26 June 2007, 9:33 a.m. after one or more responses were posted*

### Re: Short & Sweet Math Challenge #19: Surprise ! [LONG]

Message #60 Posted by [Valentin Albillo](#) on 25 June 2007, 9:04 a.m.,  
in response to message #59 by Arnaud Amiel

Thanks, Arnaud !

Would you please edit your post to include the actual numbers you got as approximations to Pi and E ?

Best regards from V.

### Re: Short & Sweet Math Challenge #19: A+ for 71B

Message #61 Posted by [Egan Ford](#) on 27 June 2007, 3:07 p.m.,  
in response to message #1 by Valentin Albillo

Quote:

**Note: Get an A+ !**

Compute the limit value of the infinite sum excluding instead those terms which include the digit string '42', as in "HP42S" (i.e: 42, 78042998, 142883213044, etc). Also, see if you can *predict the approximate value* of the infinite sum when excluding terms which do include some given arbitrary non-periodic string of digits (say, 314, or 314159, or your phone number, etc)

Unlike A I do not see a requirement for *full 12-digit accuracy*. I can provide 10/11 digits however for any *given arbitrary non-periodic string of digits*. Well almost any, there is a memory/speed trade off. I.e. more digits = more memory = more speed. Each digit consumes ~1800 bytes of memory. You'll need extra memory in your 71B for strings > 8 digits.

I lost a lot of development time due to issues with DEF FN and scope. After switching to CALL SUB my mystery problems went away. This 164 line/2792 byte program is far from optimal or clean, and it is littered with hacks in the interest of my time.

The algorithm is based solely on <http://users.ox.ac.uk/~ball2009/SchmelzerBaillie.pdf>. Accuracy is approx 2/3 of machine accuracy. I.e. 10 of 15 digits on a 71B.

Accuracy:

| N   | 71B           | Actual        | Difference   | Rel Diff |
|-----|---------------|---------------|--------------|----------|
| 9   | 22.9206766194 | 22.9206766193 | 0.0000000001 | 4.36E-12 |
| 42  | 228.446304138 | 228.446304159 | 0.0000000021 | 9.19E-12 |
| 314 | 2299.82978273 | 2299.82978278 | 0.0000000005 | 2.17E-13 |

```

314159 2302582.33377 2302582.33386 0.0000000009 3.91E-16
phone 23025850932.6 23025850929.6 3.0000000000 1.30E-10

```

If you increase D0 (line 30) the output will be more verbose. Example output with D0=1 (unless specified all output is from EMU71):

DEPLETE: 9

$$T = \begin{array}{c|cccccccccc} & 0 & 1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 \\ \hline 1 & 1 & 1 & 1 & 1 & 1 & 1 & 1 & 1 & 1 & 0 \end{array}$$

Z(9)= 22.9206766194 IN 4.1 SEC USING 1883 BYTES

DEPLETE: 9

$$T = \begin{array}{c|cccccccccc} & 0 & 1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 \\ \hline 1 & 1 & 1 & 1 & 1 & 1 & 1 & 1 & 1 & 1 & 0 \end{array}$$

A = | .9 |

Z(9)= 22.9206766194 IN 1262.74 SEC USING 1886 BYTES (71B, D0=2)

DEPLETE: 42

$$T = \begin{array}{c|cccccccccc} & 0 & 1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 \\ \hline 1 & 1 & 1 & 1 & 1 & 2 & 1 & 1 & 1 & 1 & 1 \\ 2 & 1 & 1 & 0 & 1 & 2 & 1 & 1 & 1 & 1 & 1 \end{array}$$

Z(42)= 228.446304138 IN 11.6 SEC USING 3600 BYTES

DEPLETE: 42

$$T = \begin{array}{c|cccccccccc} & 0 & 1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 \\ \hline 1 & 1 & 1 & 1 & 1 & 2 & 1 & 1 & 1 & 1 & 1 \\ 2 & 1 & 1 & 0 & 1 & 2 & 1 & 1 & 1 & 1 & 1 \end{array}$$

A = | .9 .8 |

Z(42)= 228.446304138 IN 4451.03 SEC USING 3598 BYTES (71B, D0=2)

DEPLETE: 314

$$T = \begin{array}{c|cccccccccc} & 0 & 1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 \\ \hline 1 & 1 & 1 & 1 & 2 & 1 & 1 & 1 & 1 & 1 & 1 \\ 2 & 1 & 3 & 1 & 2 & 1 & 1 & 1 & 1 & 1 & 1 \\ 3 & 1 & 1 & 1 & 2 & 0 & 1 & 1 & 1 & 1 & 1 \end{array}$$

Z(314)= 2299.82978273 IN 27.78 SEC USING 5350 BYTES

DEPLETE: 314159

$$T = \begin{array}{c|cccccccccc} & 0 & 1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 \\ \hline 1 & 1 & 1 & 1 & 2 & 1 & 1 & 1 & 1 & 1 & 1 \\ 2 & 1 & 3 & 1 & 2 & 1 & 1 & 1 & 1 & 1 & 1 \\ 3 & 1 & 1 & 1 & 2 & 4 & 1 & 1 & 1 & 1 & 1 \\ 4 & 1 & 5 & 1 & 2 & 1 & 1 & 1 & 1 & 1 & 1 \\ 5 & 1 & 1 & 1 & 2 & 1 & 6 & 1 & 1 & 1 & 1 \\ 6 & 1 & 1 & 1 & 2 & 1 & 1 & 1 & 1 & 1 & 0 \end{array}$$

A = | .9 .8 .8 .8 .8 .8 |

<= added with D0=2

.1 .1 .1 .1 .1 .1

0 .1 0 0 0 0

0 0 .1 0 0 0

0 0 0 .1 0 0

0 0 0 0 .1 0

Z(314159)= 2302582.33377 IN 222.31 SEC USING 10798 BYTES



DEPLETE: phone

$$T = \begin{array}{c|cccccccccc} & 0 & 1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 \\ \hline 1 & 1 & 1 & 1 & 1 & 1 & 1 & 1 & 1 & 2 & 1 \\ 2 & 3 & 1 & 1 & 1 & 1 & 1 & 1 & 1 & 2 & 1 \\ 3 & 1 & 4 & 1 & 1 & 1 & 1 & 1 & 1 & 2 & 1 \\ 4 & 1 & 1 & 1 & 1 & 1 & 1 & 1 & 1 & 2 & 5 \\ 5 & 1 & 1 & 1 & 1 & 1 & 1 & 1 & 6 & 2 & 1 \\ 6 & 1 & 7 & 1 & 1 & 1 & 1 & 1 & 1 & 2 & 1 \\ 7 & 1 & 1 & 1 & 1 & 1 & 1 & 1 & 1 & 2 & 8 \\ 8 & 1 & 1 & 1 & 1 & 1 & 1 & 1 & 1 & 2 & 9 \\ 9 & 1 & 10 & 1 & 1 & 1 & 1 & 1 & 1 & 2 & 1 \\ \hline 10 & 0 & 1 & 1 & 1 & 1 & 1 & 1 & 1 & 2 & 1 \end{array}$$

Z(phone)= 23025850932.6 IN 729.86 SEC USING 18507 BYTES

## Code (Update):

```

10 DESTROY ALL @ STD @ OPTION BASE 0
20 T0=TIME @ M0=MEM
30 D0=2
40 INPUT "DEPLETE: ";N$
50 B0=10
60 P0=20
70 INTEGER T(LEN(N$)-1,10)
80 REAL A(LEN(N$)-1,LEN(N$)-1)
90 REAL B(LEN(N$)-1,LEN(N$)-1)
100 CALL T(T(,),N$)
110 IF D0>0 THEN DISP @ CALL PT(T(,),N$) @ DISP
120 CALL A(A(,),N$)
130 IF D0>1 THEN CALL PA(A(,),N$) @ DISP
140 CALL B(B(,),A(,),N$)
150 DIM I0$(90*LEN(N$))[8]
160 REAL I0(90*LEN(N$))
170 C0=0
180 FOR I=1 TO P0+1
190 FOR J=1 TO LEN(N$)
200 CALL PSI(I,J,1,N$,T(,),P0,I0(),I0$(),C0,R)
210 Z=Z+R
220 IF D0>2 THEN DISP "R[";I;" ";J;" ,1]=";R
230 IF D0>2 THEN DISP "Z[";I;" ";J;" ,1]=";Z
240 NEXT J @ NEXT I
250 REAL Q(LEN(N$)-1)
260 REAL U(LEN(N$)-1)
270 FOR J=1 TO LEN(N$)
280 CALL PSI(P0+1,J,1,N$,T(,),P0,I0(),I0$(),C0,R)
290 Q(J-1)=R
300 NEXT J
310 MAT U=B*Q
320 Z=Z+CNORM(U)
330 DISP "Z(";N$;" )=";Z;" IN";TIME-T0;" SEC USING";M0-MEM;" BYTES"
340 DISP "L(";N$;" )=";B0^LEN(N$)*LOG(B0);" L(N)=";STR$(B0);" ^LEN(N)*LOG(";STR$(B0);)"
350 END
360 SUB S(I,J,K,T(,),N$,X,A,H)
370 H=0
380 IF I>1 THEN 430
390 FOR D=1 TO 9
400 IF T(0,D)=J THEN H=H+1/(X*D+A)^K
410 NEXT D
420 GOTO 500
430 FOR L1=1 TO LEN(N$)
440 FOR M1=1 TO 10
450 IF T(L1-1,M1-1)<>J THEN 480
460 CALL S(I-1,L1,K,T(,),N$,10*X,M1-1+A,H1)
470 H=H+H1
480 NEXT M1
490 NEXT L1
500 !
510 END SUB
520 SUB PSI(I,J,K,N$,T(,),P0,I0(),I0$(),C0,R)
530 I$=STR$(I)&" "&STR$(J)&" "&STR$(K)
540 FOR J0=0 TO C0
550 IF I0$(J0)=I$ THEN R=I0(J0) @ GOTO 880
560 NEXT J0
570 DEF FNC(K,W)
580 FNC=(-1)^W*(FACT(K+W-1)/(FACT(W)*FACT(K-1)))
590 END DEF
600 DEF FNA(K,W,M)

```

```

610 IF M=0 AND W=0 THEN X=1 ELSE X=M^W
620 FNA=10^(-K-W)*FNC(K,W)*X
630 END DEF
640 DEF FNW(I,K)
650 FNW=MAX(FLOOR((P0+1)/(I-1)+1-K)+1,0)
660 END DEF
670 ! IF I>3 THEN 710
680 IF I>2 THEN 720
690 CALL S(I,J,K,T(,),N$,1,0,H)
700 Z1=H
710 GOTO 830
720 Z1=0
730 FOR W=0 TO FNW(I,K)
740 FOR L=1 TO LEN(N$)
750 CALL PSI(I-1,L,K+W,N$,T(,),P0,I0(),I0$(),C0,Z0)
760 ! DISP Z0
770 FOR M=0 TO 9
780 ! DISP FNA(K,W,M)
790 IF T(L-1,M)=J THEN Z1=Z1+FNA(K,W,M)*Z0
800 NEXT M
810 NEXT L
820 NEXT W
830 R=Z1
840 I0$(C0)=I$
850 I0(C0)=R
860 C0=C0+1
870 ! DISP "[";I;" ";J;" ";K;" "]=";Z1
880 END SUB
890 SUB T(T(,),N$)
900 IF LEN(N$)>1 THEN 960
910 FOR C=0 TO 9
920 T(0,C)=1
930 IF VAL(N$)=C THEN T(0,C)=0
940 NEXT C
950 GOTO 1240
960 ! DO MULTI DIGIT
970 DIM S$(LEN(N$)-1)[80]
980 S$(0)=""
990 FOR I=1 TO LEN(N$)-1
1000 S$(I)=N$[1,I]
1010 NEXT I
1020 FOR R=0 TO LEN(N$)-1
1030 FOR C=0 TO 9
1040 T(R,C)=1
1050 NEXT C
1060 NEXT R
1070 FOR I=0 TO LEN(N$)-1
1080 S2$=S$(I)
1090 FOR J=0 TO 9
1100 A$=S2$&STR$(J)
1110 IF N$=STR$(J) THEN T(I,J)=0 @ GOTO 1220
1120 IF A$=N$ THEN T(I,J)=0 @ GOTO 1220
1130 IF POS(A$,N$)>0 THEN T(I,J)=0 @ GOTO 1220
1140 L=0 @ M=0 @ F=0
1150 FOR K=1 TO LEN(N$)-1
1160 IF LEN(A$)<LEN(S$(K)) THEN 1210
1170 IF A$[LEN(A$)-LEN(S$(K))+1,LEN(A$)]<>S$(K) THEN 1210
1180 F=1
1190 IF LEN(S$(K))>M THEN M=LEN(S$(K)) @ L=K+1
1200 IF F=1 THEN T(I,J)=L
1210 NEXT K
1220 NEXT J
1230 NEXT I
1240 END SUB
1250 SUB PT(T(,),N$)
1260 DIM A$[80]
1270 V$=CHR$(124)
1280 DISP "      . -"
1290 DISP "      "&V$&"      "&V$&" 0 1 2 3 4 5 6 7 8 9 "&V$
1300 DISP "T = "&V$&" ----- "&V$
1310 FOR R=0 TO LEN(N$)-1
1320 IF LEN(STR$(R+1))=1 THEN E$=" " ELSE E$=""
1330 A$="      "&V$&"      "&E$&STR$(R+1)&"      "&V$&" "
1340 FOR C=0 TO 9
1350 IF LEN(STR$(T(R,C)))=1 THEN E$=" " ELSE E$=""
1360 A$=A$&E$&STR$(T(R,C))&" "
1370 NEXT C
1380 DISP A$&CHR$(124)
1390 NEXT R
1400 DISP "      "&CHR$(96)&" -"
1410 END SUB

```

```

1420 SUB A(A( , ),N$)
1430 FOR R=0 TO LEN(N$)-1
1440 FOR C=0 TO LEN(N$)-1
1450 IF R=0 THEN A(R,C)=.8
1460 IF R=1 THEN A(R,C)=.1
1470 IF R=0 AND C=0 THEN A(R,C)=.9
1480 IF R>1 AND C=R-1 THEN A(R,C)=.1
1490 NEXT C
1500 NEXT R
1510 END SUB
1520 SUB PA(A( , ),N$)
1530 DIM A$(80)
1540 FOR R=0 TO LEN(N$)-1
1550 IF R=0 THEN A$="A =" ELSE A$=" "
1560 A$=A$&" "&CHR$(124)&" "
1570 FOR C=0 TO LEN(N$)-1
1580 IF A(R,C)=0 THEN A$=A$&" "
1590 A$=A$&STR$(A(R,C))&" "
1600 NEXT C
1610 A$=A$&CHR$(124)
1620 DISP A$
1630 NEXT R
1640 END SUB
1650 SUB B(B( , ),A( , ),N$)
1660 REAL I(LEN(N$)-1,LEN(N$)-1)
1670 MAT I=IDN
1680 MAT B=I-A
1690 MAT B=INV(B)
1700 MAT B=B-I
1710 END SUB

```

*Edited: 28 June 2007, 11:43 a.m. after one or more responses were posted*

### Re: Short & Sweet Math Challenge #19: A+ for 71B

Message #62 Posted by [Dave Shaffer \(Arizona\)](#) on 27 June 2007, 7:23 p.m.,  
in response to message #61 by Egan Ford

Note that your largest value (23025850929.6 for the phone number) appears to be a power-of-10 multiple of the value of  $\ln(10)$ . My '41CX gives  $\ln(10) = 2.302585093$  and QuattroPro gives 2.302585092994 .

It appears that the longer the sequence of omitted numbers, the closer the sum gets to a multiplied value of  $\ln(10)$ . In fact, it looks like if you omit a sequence of numbers that is  $n$  digits long, the result approaches  $10^n$  times  $\ln(10)$ . Incredibly fascinating, and for which I have NO explanation!

What happens if you try this in a different base number system (such as octal, hexadecimal, ...)?

### Re: Short & Sweet Math Challenge #19: A+ for 71B

Message #63 Posted by [Egan Ford](#) on 27 June 2007, 7:42 p.m.,  
in response to message #62 by Dave Shaffer (Arizona)

Quote:

It appears that the longer the sequence of omitted numbers, the closer the sum gets to a multiplied value of  $\ln(10)$ . In fact, it looks like if you omit a sequence of numbers that is  $n$  digits long, the result approaches  $10^n$  times  $\ln(10)$ . Incredibly fascinating, and for which I have NO explanation!

That's the 2nd part of A+, I forgot to point that out.

Read the PDF link above section 6 for an explanation.

*Edited: 27 June 2007, 8:05 p.m.*

### **Re: Short & Sweet Math Challenge #19: A+ for 71B**

*Message #64 Posted by [Egan Ford](#) on 27 June 2007, 8:02 p.m.,  
in response to message #62 by Dave Shaffer (Arizona)*

Quote:

What happens if you try this in a different base number system (such as octal, hexadecimal, ...)?

Same, e.g.:

$$\begin{aligned} z(123456(\text{base}8)) &= 545107.239019 \\ 8^6 * \ln(8) &= 545113.123502 \end{aligned}$$

$$\begin{aligned} z(123456654321(\text{base}8)) &= 142898134658 \\ 8^{12} * \ln(8) &= 142898134647 \end{aligned}$$

### **Re: Short & Sweet Math Challenge #19: A+ for 71B**

*Message #65 Posted by [hugh steers](#) on 28 June 2007, 6:21 a.m.,  
in response to message #61 by Egan Ford*

Hi Egan,

Excellent stuff! i didnt have the time to go on and implement the full general algorithm, but im impressed with your 71b version.

so valentin, do you claim to also have a version of this for the 71b or do you have a completely different method?

### **Re: Short & Sweet Math Challenge #19: A+ for 71B**

*Message #66 Posted by [Egan Ford](#) on 28 June 2007, 10:52 a.m.,  
in response to message #65 by hugh steers*

Thanks. It took a lot longer than I expected. My BASIC/71B skills are weak, in hindsight I should have used UserRPL or Lua.

I am looking forward to Valentin's solution. I am sure it will be properly structured, efficient, and easier to read.

### **Re: Short & Sweet Math Challenge #19: A+ for 71B**

*Message #67 Posted by [Valentin Albillo](#) on 29 June 2007, 4:26 a.m.,  
in response to message #66 by Egan Ford*

Hi, Egan:

Egan posted:

*"I am looking forward to Valentin's solution. I am sure it will be properly structured, efficient, and easier to read."*

Thanks for your highly flattering confidence in my skills but, self-quoting from my original mail (#1) where I proposed the challenge:

*"I'll provide my original solutions plus extensive comments to all graded problems A-F (but not for A+, B+, C+, these are truly left as an exercise for the reader [...])"*

This thread is already too long as it is (what with a couple of gigantic postings by myself), and I don't think it proper to make it even more so by posting a longish piece of code. In general, all the solutions I post are always 10 lines or less (generally much less), that's why I call it "**Short** and [...]". Longer code is always left as an exercise.

There's also the fact that I wouldn't want to seem cocky by posting a shorter, more polished piece of code. This isn't meant as a competition between me and gentle contributors but as a way to have some fun, exercise our HP calc-programming muscles, and learn some interesting math facts on the way.

Your program works perfectly, you get the A+ grade, and this is perfectly fine as far as I'm concerned; my own implementation is based in exactly the same algorithm as yours and so it doesn't bring any new exciting ideas or techniques, it's just more of the same and it isn't worth posting here for the reasons mentioned above.

Thanks for your interest and

Best regards from V.

### **Re: Short & Sweet Math Challenge #19: A+ for 71B**

*Message #68 Posted by **Gerson W. Barbosa** on 28 June 2007, 9:08 a.m.,  
in response to message #61 by Egan Ford*

Really impressive work, Egan!

I am amazed at your understanding of the paper and your being skillful enough to provide a code for the HP-71B. A++ IMVHO :-)

Best regards,

Gerson.

### **Re: Short & Sweet Math Challenge #19: A+ for 71B**

*Message #69 Posted by **Egan Ford** on 28 June 2007, 11:46 a.m.,  
in response to message #68 by Gerson W. Barbosa*

I just wish I understood 71B/BASIC better. This was the longest BASIC program I have ever done.

*Edited: 28 June 2007, 11:47 a.m.*

### **Re: Short & Sweet Math Challenge #19: A+ for 71B**

*Message #70 Posted by **Egan Ford** on 28 June 2007, 11:40 a.m.,  
in response to message #61 by Egan Ford*

I found a fixed a few minor bugs with digit strings > 10 digits. I also fixed the formatting of T to look better with > 9 digits. Lastly I added  $10^{\text{LEN}(N)} \cdot \text{LOG}(10)$  as a comparison.

New code replaced old code in above post. New output:

DEPLETE: 123456789012

$$T = \begin{array}{c|cccccccccc} & 0 & 1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 \\ \hline 1 & 1 & 2 & 1 & 1 & 1 & 1 & 1 & 1 & 1 & 1 \\ 2 & 1 & 2 & 3 & 1 & 1 & 1 & 1 & 1 & 1 & 1 \\ 3 & 1 & 2 & 1 & 4 & 1 & 1 & 1 & 1 & 1 & 1 \\ 4 & 1 & 2 & 1 & 1 & 5 & 1 & 1 & 1 & 1 & 1 \\ 5 & 1 & 2 & 1 & 1 & 1 & 6 & 1 & 1 & 1 & 1 \\ 6 & 1 & 2 & 1 & 1 & 1 & 1 & 7 & 1 & 1 & 1 \\ 7 & 1 & 2 & 1 & 1 & 1 & 1 & 1 & 8 & 1 & 1 \\ 8 & 1 & 2 & 1 & 1 & 1 & 1 & 1 & 1 & 9 & 1 \\ 9 & 1 & 2 & 1 & 1 & 1 & 1 & 1 & 1 & 1 & 10 \\ 10 & 11 & 2 & 1 & 1 & 1 & 1 & 1 & 1 & 1 & 1 \\ 11 & 1 & 12 & 1 & 1 & 1 & 1 & 1 & 1 & 1 & 1 \\ 12 & 1 & 2 & 0 & 1 & 1 & 1 & 1 & 1 & 1 & 1 \end{array}$$

$$A = \begin{array}{cccccccccccc} .9 & .8 & .8 & .8 & .8 & .8 & .8 & .8 & .8 & .8 & .8 & .8 \\ .1 & .1 & .1 & .1 & .1 & .1 & .1 & .1 & .1 & .1 & .1 & .1 \\ 0 & .1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & .1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & .1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & .1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & .1 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & .1 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & .1 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & .1 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & .1 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & .1 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & .1 \end{array}$$

Z(123456789012)= 2.30258509312E12 IN 1181.09 SEC USING 22560 BYTES  
L(123456789012)= 2.30258509299E12 L(N)=10^LEN(N)\*LOG(10)

## Re: Short & Sweet Math Challenge #19: A+ for 71B

Message #71 Posted by [Egan Ford](#) on 28 June 2007, 2:25 p.m.,  
in response to message #70 by [Egan Ford](#)

Just for fun:

DEPLETE: 12345678900987654321

$$T = \begin{array}{c|cccccccccc} & 0 & 1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 \\ \hline 1 & 1 & 2 & 1 & 1 & 1 & 1 & 1 & 1 & 1 & 1 \\ 2 & 1 & 2 & 3 & 1 & 1 & 1 & 1 & 1 & 1 & 1 \\ 3 & 1 & 2 & 1 & 4 & 1 & 1 & 1 & 1 & 1 & 1 \\ 4 & 1 & 2 & 1 & 1 & 5 & 1 & 1 & 1 & 1 & 1 \\ 5 & 1 & 2 & 1 & 1 & 1 & 6 & 1 & 1 & 1 & 1 \\ 6 & 1 & 2 & 1 & 1 & 1 & 1 & 7 & 1 & 1 & 1 \\ 7 & 1 & 2 & 1 & 1 & 1 & 1 & 1 & 8 & 1 & 1 \\ 8 & 1 & 2 & 1 & 1 & 1 & 1 & 1 & 1 & 9 & 1 \\ 9 & 1 & 2 & 1 & 1 & 1 & 1 & 1 & 1 & 1 & 10 \\ 10 & 11 & 2 & 1 & 1 & 1 & 1 & 1 & 1 & 1 & 1 \\ 11 & 12 & 2 & 1 & 1 & 1 & 1 & 1 & 1 & 1 & 1 \\ 12 & 1 & 2 & 1 & 1 & 1 & 1 & 1 & 1 & 1 & 13 \\ 13 & 1 & 2 & 1 & 1 & 1 & 1 & 1 & 1 & 1 & 14 \\ 14 & 1 & 2 & 1 & 1 & 1 & 1 & 1 & 1 & 15 & 1 \\ 15 & 1 & 2 & 1 & 1 & 1 & 1 & 1 & 1 & 1 & 16 \\ 16 & 1 & 2 & 1 & 1 & 1 & 1 & 1 & 1 & 1 & 17 \\ 17 & 1 & 2 & 1 & 1 & 1 & 1 & 1 & 1 & 1 & 18 \\ 18 & 1 & 2 & 1 & 1 & 1 & 1 & 1 & 1 & 1 & 19 \\ 19 & 1 & 2 & 20 & 1 & 1 & 1 & 1 & 1 & 1 & 1 \\ 20 & 1 & 0 & 1 & 1 & 1 & 1 & 1 & 1 & 1 & 1 \end{array}$$

```

A = | .9 .8 .8 .8 .8 .8 .8 .8 .8 .8 .8 .8 .8 .8 .8 .8 .8 .8 .8 .8
    | .1 .1 .1 .1 .1 .1 .1 .1 .1 .1 .1 .1 .1 .1 .1 .1 .1 .1 .1 .1
    | 0 .1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
    | 0 0 .1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
    | 0 0 0 .1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
    | 0 0 0 0 .1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
    | 0 0 0 0 0 .1 0 0 0 0 0 0 0 0 0 0 0 0 0 0
    | 0 0 0 0 0 0 .1 0 0 0 0 0 0 0 0 0 0 0 0 0
    | 0 0 0 0 0 0 0 .1 0 0 0 0 0 0 0 0 0 0 0 0
    | 0 0 0 0 0 0 0 0 .1 0 0 0 0 0 0 0 0 0 0 0
    | 0 0 0 0 0 0 0 0 0 .1 0 0 0 0 0 0 0 0 0 0
    | 0 0 0 0 0 0 0 0 0 0 .1 0 0 0 0 0 0 0 0 0
    | 0 0 0 0 0 0 0 0 0 0 0 .1 0 0 0 0 0 0 0 0
    | 0 0 0 0 0 0 0 0 0 0 0 0 .1 0 0 0 0 0 0 0
    | 0 0 0 0 0 0 0 0 0 0 0 0 0 .1 0 0 0 0 0 0
    | 0 0 0 0 0 0 0 0 0 0 0 0 0 0 .1 0 0 0 0 0
    | 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 .1 0 0 0 0
    | 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 .1 0 0 0
    | 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 .1 0 0
    | 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 .1 0
    | 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 .1
  
```

```

Z(12345678900987654321)= 2.30258509299E20 IN 8406.35 SEC USING 40012 BYTES
L(12345678900987654321)= 2.30258509299E20 L(N)=10^LEN(N)*LOG(10)
  
```

## S&SMC#19: My Original Solutions & Comments [LONG]

Message #72 Posted by [Valentin Albillo](#) on 28 June 2007, 12:38 p.m.,  
in response to message #1 by Valentin Albillo

Hi all,

Thanks to all of you who were interested in this S&SMC#19, most specially to the ones who worked really hard at the individual Grades and posted solutions. I'll give now my original solutions for the HP-71B (very easy to convert to other similarly capable models), plus additional comments.

### Grade F:

Write a program to compute the  $N^{\text{th}}$  term for the following sequences:

$$\text{Sequence 1: } u_1 = 0, u_2 = 0, u_{n+2} = u_{n+1} + u_n/n$$

$$\text{Sequence 2: } u_1 = 0, u_2 = 0, u_{n+2} = u_{n+1}/n + u_n$$

where the number of terms  $N$  (which can be distinct for each sequence) is either hardcoded or given, your choice. After computing the  $N^{\text{th}}$  term,  $u_N$ , your program must then compute and output the following values:

$$\text{Sequence 1: } L = N \cdot 1 / u_N^1$$

$$\text{Sequence 2: } L = N \cdot 2 / u_N^2$$

Now use your program to help you try and predict, for each sequence, the corresponding theoretical exact limit of  $L$  when the number of terms  $N$  tends to infinity.

My original solution for the HP-71B is the following trivial 3-line (135 byte) program which computes and outputs the corresponding values of  $L$  for  $N = 13$  and  $N = 13000$ , respectively.

```

1 DESTROY ALL @ STD @ K1=13 @ K2=13000
2 U=0 @ V=1 @ FOR N=1 TO K1 @ W=U/N+V @ U=V @ V=W @ NEXT N @ DISP N*1/U^1
3 U=0 @ V=1 @ FOR N=1 TO K2 @ W=V/N+U @ U=V @ V=W @ NEXT N @ DISP N*2/U^2

>RUN

2.71828182845
3.14195515673

```

As you may see, the sequences (very quickly) converge to  $e = 2.71828182846$  and (very slowly) to  $\mathbf{\pi} = 3.14159265359$ , respectively.

The *Surprise !* factor comes from the fact that both sequences are very, very similar (as can be seen both from their definitions and from the program listing above, where lines 2 and 3 are almost a slightly particularized copy-paste version of one another), yet one converges to the *uber*-important constant  $\mathbf{\pi}$ , the other to the no-less-important constant  $e$ , suggesting a certain symmetry, a relationship, a "common origin" for both constants.

Some of you went to also compute 13,000 terms for the first sequence. This does no good, as 13 terms are all that is needed to achieve full 12-digit precision. After that, rounding errors do accumulate and by the time the 13,000-th term is reached, most of the precision is gone.

## Grade D:

*Write a program which, given  $N$ , will autoscale, label, and plot the  $ISin(x, N)$  function, for arguments  $X$  in radians belonging to the fixed interval  $[0, 2*\pi]$  at increments of  $\pi/40$ , say, where*

$$ISin(x, N) = Sin(Sin(Sin( \dots Sin(x) \dots )))$$

*i.e., the iterated Sine of  $X$ , where  $N$ , a positive integer, is the number of iterations*

*Looking at the plot itself and the value of Maxim, try and predict what happens for increasing values of  $N$  and in the limit when  $N$  tends to infinite.*

Given this challenge's nature, I was absolutely expecting that HP graphics models would be put to good use here, much more so than non-graphics ones, so I was utterly surprised that *not a single RPL solution was posted at all*. Go figure ! ...

My original solution for the (non-graphics) HP-71B is the following simple 8-line (268-byte) program:

```

10 DESTROY ALL @ OPTION ANGLE RADIANS @ D=3 @ FIX D @ INPUT "N=";N
20 K=FNS(PI/2,N) @ DISP "Maxim =" ;K @ FOR X=0 TO 2*PI STEP PI/20
30 Y=FNR(FNS(X,N)/K,D) @ U=45 @ V=FNR(Y*25+45,0) @ DISP X;Y;
40 IF V>U THEN DISP TAB(U);":";TAB(V);"*" ELSE DISP TAB(V);"*";
50 IF V<U THEN DISP TAB(U);":" ELSE IF V=U THEN DISP
60 NEXT X
70 DEF FNR(X,N)=INT(X*10^N+.5)/10^N
80 DEF FNS(X,N) @ FOR N=N TO 1 STEP -1 @ X=SIN(X) @ NEXT N @ FNS=X

```

where  $FNS(X, N)$  is a user-defined function that can be used from the program itself or directly from the command line to compute the Iterated Sine of  $X$  with  $N$  iterations, for instance

```

>FNS(1,1)

.841470984808 ( = SIN(1) )

```



```
>FNS(PI/3,5)
```

```
.594535945122 ( = SIN(SIN(SIN(SIN(SIN(PI/3)))))) )
```

and **FNR(X, N)** is a convenience function that returns X rounded to N digits (where N can be *negative* to achieve rounding to the *left* of the decimal point), for instance:

```
>FNR(PI,3)
```

```
3.142
```

```
>FNR(100*PI,-1)
```

```
310
```

Running the program for increasing values of N we get plots like the following for N = 10:

```
Maxim = 0.481
0.000 0.000 *
0.157 0.314 :
0.314 0.565 : *
0.471 0.737 : *
0.628 0.845 : *
0.785 0.911 : *
0.942 0.951 : *
1.100 0.976 : *
1.257 0.990 : *
1.414 0.998 : *
1.571 1.000 : *
1.728 0.998 : *
1.885 0.990 : *
2.042 0.976 : *
2.199 0.951 : *
2.356 0.911 : *
2.513 0.845 : *
2.670 0.737 : *
2.827 0.565 : *
2.985 0.314 : *
3.142 0.000 *
3.299 -0.314 :
3.456 -0.565 :
3.613 -0.737 :
3.770 -0.845 :
3.927 -0.911 :
4.084 -0.951 :
4.241 -0.976 :
4.398 -0.990 :
4.555 -0.998 :
4.712 -1.000 :
4.869 -0.998 :
5.027 -0.990 :
5.184 -0.976 :
5.341 -0.951 :
5.498 -0.911 :
5.655 -0.845 :
5.812 -0.737 :
5.969 -0.565 :
6.126 -0.314 *
```

and for N = 1000:

```
Maxim = 0.055
0.000 0.000 *
0.157 0.946 :
0.314 0.987 : *
0.471 0.995 : *
0.628 0.998 : *
0.785 0.999 : *
0.942 0.999 : *
1.100 1.000 : *
1.257 1.000 : *
1.414 1.000 : *
1.571 1.000 : *
1.728 1.000 : *
1.885 1.000 : *
2.042 1.000 : *
2.199 0.999 : *
2.356 0.999 : *
2.513 0.998 : *
2.670 0.995 : *
2.827 0.987 : *
```

|       |        |   |   |   |
|-------|--------|---|---|---|
| 2.985 | 0.946  |   | : | * |
| 3.142 | 0.000  |   | * |   |
| 3.299 | -0.946 | * | : |   |
| 3.456 | -0.987 | * | : |   |
| 3.613 | -0.995 | * | : |   |
| 3.770 | -0.998 | * | : |   |
| 3.927 | -0.999 | * | : |   |
| 4.084 | -0.999 | * | : |   |
| 4.241 | -1.000 | * | : |   |
| 4.398 | -1.000 | * | : |   |
| 4.555 | -1.000 | * | : |   |
| 4.712 | -1.000 | * | : |   |
| 4.869 | -1.000 | * | : |   |
| 5.027 | -1.000 | * | : |   |
| 5.184 | -1.000 | * | : |   |
| 5.341 | -0.999 | * | : |   |
| 5.498 | -0.999 | * | : |   |
| 5.655 | -0.998 | * | : |   |
| 5.812 | -0.995 | * | : |   |
| 5.969 | -0.987 | * | : |   |
| 6.126 | -0.946 | * | : |   |

and we see that the limiting waveform of nested **SIN** is *identically 0*, but if we keep scaling the function up, we get in the limit *a square wave*. If you've got a copy of *Mathematica* you can see it very clearly by looking at the "animation" created by this one-liner:

```
Do[ Plot[ Nest[Sin, x, n], {x, -2Pi, 2Pi}, PlotRange -> {-1, 1}, PlotLabel -> n ], {n, 1, 50} ]
```

where it's clear that what's happening is that the whole plot slowly *collapses* towards zero but *different parts collapse at different rates*, making the plot get more and more square. This is not difficult to prove by using a well-known theorem from real analysis that states that every bounded monotonic sequence approaches a finite limit.

The convergence to **0** is dreadfully slow, because for small arguments, we have with high accuracy:

$$\sin(x) \Rightarrow x - x^3/6$$

which means that when we replace **x** by **Sin(x)**, the only thing that gets us any closer to **0** is the term  $x^3/6$ , which, if **x** itself is small, it is a *much smaller* decrement indeed.

## Grade C:

*Find and output all values of  $N < 10000$  such that both  $N$  is prime and*

$$P(N) = S(N)$$

*where  $P(N)$  gives the number of primes  $\leq N$  and  $S(N)$  gives the sum of the factorials of the digits of  $N$ .*

*Your program must be optimized primarily for speed, then for program size.*

The following is my original solution for the bare-bones HP-71B, a plain-vanilla 6-line (220 byte) program which doesn't require any ROMs or LEX add-ons and trades RAM usage for speed to deliver the goods rather quickly:

```
10 DESTROY ALL @ OPTION BASE 0 @ M=5000 @ INTEGER P(M) @ P(1)=1
20 FOR N=2 TO (SQR(2*M)+1)/2 @ IF P(N) THEN 40
30 FOR K=2*N*(N-1)+1 TO M STEP 2*N-1 @ P(K)=1 @ NEXT K
40 NEXT N @ T=1 @ FOR N=2 TO M @ IF P(N) THEN 60 ELSE K=2*N-1 @ S=0 @ T=T+1
50 S=S+FACT(MOD(K,10)) @ K=K DIV 10 @ IF K THEN 50 ELSE IF S=T THEN DISP
2*N-1
60 NEXT N @ DISP "OK"
```

```

>RUN
      6521
OK

```

Lines 10-40 perform a fast sieving procedure to flag all odd numbers < 10000 as either prime or composite, recording the results in P, an integer array of adequate dimension.

This allows lines 40-60 to quickly scan the array, skipping all non-prime entries, and computing the Pi(N) function effortlessly by simply updating the prime count each time an element is flagged as a prime. This running value of Pi(N) is compared to the sum of the factorials of the digits of the current N (which is computed in a tight loop at line 50) and any solution found is then immediately output, resuming the search afterwards.

As it happens, **6521** is the only solution < 10,000, but there's just another one (and no more) in the range from 10,000 to infinity which some of you correctly and cleverly located, namely **5224903**.

If composite numbers were also allowed as solutions, there would be 23 solutions in all, starting at **6500** and ending at **11071599**. Among these, I find it interesting that **5854409**, **5854419**, and **5854429** happen to be both consecutive and in arithmetic progression.

This problem can be generalized to numerical bases other than 10, for example **6719<sub>10</sub>** is a solution in base 7 and **5378437<sub>10</sub>** is a solution in base 15.

## Grade B:

Given a positive integer  $N$ , write a program to compute and output the value of  $S$ , defined as

$$S = \sum_{n=1}^N \frac{1}{(r_n)^2}$$

where  $r_n$  is the  $n$ -th positive root of  $\tan(x) = x$ , where  $x$  is expressed in radians, as usual.

Regrettably, this very interesting challenge, which has a truly surprising result, didn't seem to catch the eye of the vast majority of you for whatever reason and was left largely untouched.

PeterP made a brave attempt at dealing with it, but his final version still has a number of fatal flaws (such as the fact that it doesn't properly separate the roots from the poles and mixes them at times while computing the sum, etc), and so the numerical result isn't accurate. As is my policy in these cases, when a challenge gets essentially no acceptable responses I simply forfeit it as well, lest its appeal would be wasted.

The "surprise" factor of this challenge is the extremely unexpected result you get. Having an infinite sum of the roots of a transcendental trigonometric equation with arguments in radians, one would expect to get some weird no-name irrational, possibly transcendental number related to Pi

in some way, say  $\pi/310$  or some such value. But nothing could be further from the truth because what you actually get absolutely defies intuition, and paradoxically enough, it is fairly easy to concoct a purely formal proof "*a la Euler*" to prove that this unexpected result is mathematically exact and correct. The value you get for the B+ variant isn't that big a surprise, but is also most unexpected in its very unique way.

By the way, one of the main difficulties of this challenge lies in the fact that you must compute a lot of roots (possibly thousands), very quickly, and very accurately, in the sense that all roots should be accounted for with no missing entries, in their proper order, and that no poles are mistaken for roots. This requires a very precise separation between poles and roots and, as it happens, they tend to become extremely close for larger values, which enormously increases the difficulty of separating them. Besides, as you know, HP built-in solvers have a very hard time telling apart a pole from a root !

## Grade A:

*The limit of the sum of the reciprocals of the natural numbers 1 to N does diverge when N tends to infinite:*

$$S = \sum_{N=1}^{\infty} \frac{1}{N} \rightarrow \infty$$

*However, if we simply leave out of the sum just those terms whose denominators include the digit 9 (such as 199, 34343900132, ...), the infinite sum then nicely converges to a finite value.*

*You must write a program to compute as accurately as possible this finite value of the infinite sum. You must optimize your program for both accuracy and speed.*

This has been the grade of choice for many of you, with excellent results. This series converges far too slowly for direct summation, as has been extensively commented in the thread, so better algorithms are definitely required.

As some of you pointed out, there's a PDF document titled "SUMMING A CURIOUS, SLOWLY CONVERGENT SERIES" by Schmelzer and Baillie, freely downloadable from various web locations, which discusses the problem at length and gives in sufficient detail a couple of algorithms: the simpler Fischer algorithm, which can give the sum for the original Grade A problem to high accuracy in very fast times (but which can't be used for the A+ variant as it does not generalize to other digits or sequences of digits), and a more convoluted but extremely general algorithm by the authors, which can be used for the generalized sum. See the paper for the details.

I'll give now my two original A solutions, both implementing the Fischer algorithm but one of them optimized mainly for size, the other for speed.

This is my shorter original solution, a 6-line (265-byte) HP-71B program:

```

1 DESTROY ALL @ OPTION BASE 0 @ M=11 @ D=10 @ DIM B(M) @ B(0)=D @ FOR N=2
TO M
2 S=0 @ FOR K=N TO 2 STEP -1 @ S=S+FNC(N,K)*(D^(N-K+1)-D^K+1)*B(N-K) @ NEXT
K
3 B(N-1)=(D*(11^N-D^N)-S)/N/(D^N-9) @ NEXT N @ H=D*LN(D)
```

```

4 FOR K=2 TO M-1 @ H=H-B(K-1)*FNZ(K)/D^K @ NEXT K @ DISP H
5 DEF FNC(N,K)=FACT(N)/FACT(K)/FACT(N-K)
6 DEF FNZ(X)=INTEGRAL(0,100,0,IVAR^(X-1)/(EXP(IVAR)-1))/GAMMA(X)

```

>RUN

22.9206766192 ( 6.83 seconds, Emu71 @ 2.4 Ghz, about 20 min in a real HP-71B )

and this is my longer (but 60+ times faster !) original solution, a 10-line (443-byte) solution for the HP-71B:

```

1 DESTROY ALL @ OPTION BASE 0 @ M=11 @ D=10 @ DIM B(M) @ B(0)=D @ FOR N=2
TO M
2 S=0 @ FOR K=N TO 2 STEP -1 @ S=S+FNC(N,K)*(D^(N-K+1)-D^K+1)*B(N-K) @ NEXT
K
3 B(N-1)=(D*(11^N-D^N)-S)/N/(D^N-9) @ NEXT N @ H=D*LN(D)
4 FOR K=2 TO M-1 @ H=H-B(K-1)*FNZ(K)/D^K @ NEXT K @ DISP H
5 DEF FNC(N,K)=FACT(N)/FACT(K)/FACT(N-K)
6 DEF FNZ(Z) @ IF Z=2 THEN FNZ=PI*PI/6 ELSE IF Z=3 THEN FNZ=1.20205690316
7 IF Z=4 THEN FNZ=PI^4/90 ELSE IF Z=5 THEN FNZ=1.03692775514
8 IF Z=6 THEN FNZ=PI^6/945 ELSE IF Z=7 THEN FNZ=1.00834927738
9 IF Z<8 THEN END ELSE S=1 @ T=0 @ N=2
10 S=S+N^(-Z) @ N=N+1 @ IF S<>T THEN T=S @ GOTO 10 ELSE FNZ=S

```

>RUN

22.9206766192 ( 0.1 seconds, Emu71 @ 2.4 Ghz, about 20 seconds in a real HP-71B )

Both results are identical and correct to 12 digits, but the longer version runs 60+ times faster. The only difference between them lies in the definition of the Riemann Zeta function:

- The shorter version implements it as a user-defined function, FNZ(X), which can compute the Zeta function for real arguments, not only integers, using integration. As such, it does require the Math ROM, and it's somewhat slow. For instance:

```
>FNZ(10), FNZ(PI)
```

```
1.00099457513 1.17624173838
```

- On the other hand, the longer version implements the same user-defined function but only for integer arguments, using theoretical constant values for arguments from 2 to 7 and the power series for integer arguments greater than 7, which converges quickly enough for such arguments. This results in much faster computation times when compared to the integral version and further does not require the Math ROM, a bare bones HP-71B will do nicely.

As for the A+ variant, Egan Ford has worked very hard and very successfully to implement the quite complicated Schmelzer-Baillie's general algorithm, with excellent results, my most sincere congratulations for his outstanding contribution and thanks a lot for his interest in this challenge.

---

That's all. I hope you've enjoyed this S&SMC (and even learned a math thingy and/or programming trick or two), I certainly did enjoy seeing your *truly excellent posts*, as clever and insightful as always, you're the best !

And last but not least, a fond welcome to PeterP, which finally got to try and solve some of the grades like a pro. See, Peter ? It wasn't that difficult, man ! :-)

Best regards from V.

**Re: S&SMC#19: My Original Solutions & Comments [LONG]**

Message #73 Posted by **Thomas Klemm** on 28 June 2007, 7:41 p.m.,  
in response to message #72 by Valentin Albillo

Hi Valentin

Instead of solving  $\tan(x) = x$ , I solved  $x = \arctan(x)$  using a fixed-point iteration which converges faster as  $N$  grows. This avoids the troubles you mentioned concerning the poles at  $\pi(n + 1/2)$ . Instead they are used as starting points.

Here's my HP-11C program:

```
STO I
CLx
STO 0
LBL 1
RCL I
PI
*
STO 1
LSTx
2
/
+
LBL 0
ENTER
ATAN
RCL 1
+
x#y
GTO 0
x^2
1/x
STO + 0
DSE
GTO 1
RCL 0
```

Yet the problem is that this is still running very slowly for large values of  $N$ . I must admit, that I've cheated and written a C-program to calculate values bigger than  $N = 1000$ :

|     |           |     |                        |
|-----|-----------|-----|------------------------|
| N = | 1         | S = | 0.04952768282755720119 |
| N = | 10        | S = | 0.09079018230840834005 |
| N = | 100       | S = | 0.09899682151630028929 |
| N = | 1000      | S = | 0.09989878003791599550 |
| N = | 10000     | S = | 0.09998986889474789056 |
| N = | 100000    | S = | 0.09999898679829559526 |
| N = | 1000000   | S = | 0.09999989867891767874 |
| N = | 10000000  | S = | 0.09999998986788264898 |
| N = | 100000000 | S = | 0.09999999898678817371 |

From this table I assume that the sum converges towards 0.1 which is in fact very astonishing.

Thanks for not letting out the cat from the bag yet.  
I do appreciate your S&SMCs very much.

Kind regards  
Thomas

*Edited: 29 June 2007, 2:38 a.m.*

**Re: S&SMC#19: My Original Solutions & Comments [LONG]**

Message #74 Posted by **Arnaud Amiel** on 29 June 2007, 3:10 a.m.,  
in response to message #73 by Thomas Klemm

I had started a program and for 100 and 1000 it gave me the same answer as you got. I concluded my program is wrong. I will go back to it this weekend then.

Arnaud

## Re: S&SMC#19: My Original Solutions & Comments [LONG]

Message #75 Posted by [Valentin Albillo](#) on 29 June 2007, 6:02 a.m.,  
in response to message #73 by Thomas Klemm

Hi, Thomas:

Thomas posted:

*"From this table I assume that the sum converges towards 0.1 which is in fact very astonishing."*

First of all, thanks for your interest in this particular subchallenge, actually it was my pet one of the lot and it was sad for me to see it go into oblivion.

Your assumption is correct, the exact value of the infinite sum is indeed  $1/10$ . This is most unexpected, to say the least, and just goes to prove even further that math is an inexhaustible source of beauty and amazement.

I guess there are many teachers and math professionals out there who know their trigonometrics and calculus inside out, yet not one of them would guess that an infinite sum of the infinite transcendental roots of a basic transcendental trigonometric equation involving no arbitrary constants and nothing special at all would come up to be *exactly* **0.1**.

Not some weird possibly transcendental value presumably involving Pi, not some irrational surd, but a simple, rational value which happens to be the exact reciprocal of a small number, **10**. No wonder we have 10 fingers and 10 toes and thus our number system is (mostly) based around 10, as 10 is such an important constant that you need to add up an infinite number of quantities ultimately related to Pi in order to beget it. :-)

*"Thanks for not letting out the cat from the bag yet. I do appreciate your S&SMCs very much."*

Don't worry, I'll let the cat in the bag for a little while, just to see what you come up with, and also to see whether other contributors get interested and join us as well.

After that, if there's been enough interest, I'll publish my original program for the HP-71B, plus comments and perhaps even my formal proof of this astonishing fact, in the same style of bold formal manipulations that Euler liked to indulge in. Not rigorous in any way but enlightening nevertheless, easy-to-grasp, and ultimately a lot of fun.

Thank you very much for your appreciation and interesting contribution (for the HP-11C no less ! Way to go !), and

Best regards from V.

## Re: S&SMC#19: My Original Solutions & Comments [LONG]

Message #76 Posted by [Egan Ford](#) on 6 July 2007, 1:28 a.m.,  
in response to message #73 by Thomas Klemm

Quote:

Yet the problem is that this is still running very slowly for large values of N.

I thought I'd try this on my accelerated Nonpareil 15C.

N=1,000,000. ~15 hours later:

<http://sense.net/~egan/1m.jpg>

My alternative solution for B is based on an article by *Sidney Frankel, National Mathematics Magazine, Vol. 11, No. 4. (Jan., 1937), pp. 177-182.*

The following equation is an estimate of the  $n^{\text{th}}$  root of  $\tan(x)=x$ :

$$r_n = [1 + 1/a^2] [n\pi + \tan^{-1}a] - 1/a \text{ where } a = (2n+1)\pi/2.$$

71B output:

```
N =          1      S = 0.04951757574 IN .03 SEC
N =         10      S = 0.09077991548 IN .05 SEC
N =        100      S = 0.09898655469 IN .12 SEC
N =       1000      S = 0.09988851321 IN 1.15 SEC
N =      10000      S = 0.09997960207 IN 11.05 SEC
N =     100000      S = 0.09998871997 IN 108.07 SEC
N =    1000000      S = 0.09998962993 IN 1075.05 SEC
N =   10000000      S = 0.09998967228 IN 10171.28 SEC
```

This does not converge to 1/10, but it's close.

71B code:

```
10 RADIANS
20 DESTROY ALL
30 INPUT "MAX=" ;M
40 FOR I=0 TO M-1
50 X=0
60 T=TIME
70 FOR J=1 TO 10^I
80 A=(2*J+1)*PI/2
90 B=(1+1/(A*A))*(J*PI+ATAN(A))-1/A
100 X=X+1/(B*B)
110 NEXT J
120 STD
130 N$=STR$(10^I)
140 T$=STR$(TIME-T)
145 S$=""
150 FOR K=LEN(N$) TO 9
160 S$=S$&" "
170 NEXT K
180 FIX 12
190 DISP "N = ";S$;N$;"      S = ";X;" IN ";T$;" SEC"
200 NEXT I
```

*Edited: 6 July 2007, 1:44 a.m.*

## Re: S&SMC#19: My Original Solutions & Comments [LONG]

Message #77 Posted by [Thomas Klemm](#) on 6 July 2007, 9:15 a.m.,  
in response to message #73 by [Thomas Klemm](#)

1. Assuming that x is close to one of the poles of  $\tan(x)$  the difference dx can be estimated:

$$x + dx = (k + 1/2) * \pi$$

1

$$1 - \tan(x) * \tan(dx)$$



$$0 = \cot(x + dx) = \frac{1}{\tan(x + dx)} = \frac{1}{\tan(x) + \tan(dx)}$$

$$1 - \tan(x) \tan(dx) = 0$$

$$dx \sim \tan(dx) = \frac{1}{\tan(x)} = \frac{1}{x} \sim \frac{1}{(k + 1/2)*\text{Pi}}; \text{ since } dx \ll 1$$

Instead of using  $q = (k + 1/2)*\text{Pi}$  as initial value for the fixed-point iteration the value  $q - 1/q$  is used. Therefore lines 17-19 have been added to the program. This makes the program running about 20% faster.

(Or use <http://mathworld.wolfram.com/images/equations/TancFunction/equation2.gif> from [Tanc Function](#))

2. To estimate the remainder of the series I used the following formula I found [somewhere](#):

$$\frac{1}{x} \sim \frac{\text{Pi}^2}{6} - \frac{1}{N} + \frac{1}{2N^2} - \frac{1}{6N^3} + \frac{1}{30N^5} - \frac{1}{42N^7} + \frac{1}{30N^9} + \dots$$

k = 1

After a little magic I got:

$$\frac{1}{x} \sim \frac{1}{(2k+1)^2} - \frac{1}{4N} + \frac{1}{6N} - \frac{1}{8N^3} + \frac{1}{30N^5} - \frac{1}{42N^7} + \frac{1}{30N^9} + \dots$$

k = N

That's what lines 32 - 56 in the improved HP-11C program are for:

```

01 STO I      16 +          31 GTO 1      46 +
02 1          17 ENTER    32 RCL 2      47 *
03 +         18 1/x      33 x^2     48 RCL 3
04 1/x      19 -          34 ENTER    49 +
05 STO 2    20 LBL 0     35 ENTER    50 RCL 2
06 CLx      21 ENTER    36 ENTER    51 *
07 STO 0    22 ATAN     37 RCL 7     52 2
08 LBL 1    23 RCL 1    38 *        53 PI
09 RCL I    24 +        39 RCL 6     54 /
10 PI       25 x#y      40 +        55 x^2
11 *        26 GTO 0    41 *        56 *
12 STO 1    27 x^2     42 RCL 5    57 RCL 0
13 LSTx     28 1/x     43 +        58 +
14 2        29 STO + 0  44 *
15 /        30 DSE     45 RCL 4

```

As a prerequisite the registers 3 - 7 must be loaded with the following constants:

```

4 1/x
STO 3
-48 1/x
STO 4
160 1/x
STO 5
-31 ENTER 5376 /
STO 6
127 ENTER 15360 /
STO 7

```

Now I get the following improved values S':

|     |           |                            |                             |
|-----|-----------|----------------------------|-----------------------------|
| N = | 1         | S = 0.04952768282755720119 | S' = 0.09920028974449183939 |
| N = | 10        | S = 0.09079018230840834005 | S' = 0.09999487093737255449 |
| N = | 100       | S = 0.09899682151630028929 | S' = 0.09999999335749214181 |
| N = | 1000      | S = 0.09989878003791599550 | S' = 0.0999999999317650488  |
| N = | 10000     | S = 0.09998986889474789056 | S' = 0.0999999999999315806  |
| N = | 100000    | S = 0.09999898679829559526 | S' = 0.0999999999999999315  |
| N = | 1000000   | S = 0.09999989867891767874 | S' = 0.0999999999999999998  |
| N = | 10000000  | S = 0.0999998986788264898  | S' = 0.10000000000000000000 |
| N = | 100000000 | S = 0.0999999898678817371  | S' = 0.0999999999999999999  |

*Edited: 8 July 2007, 9:28 a.m. after one or more responses were posted*

## Re: S&SMC#19: My Original Solutions & Comments [LONG]

Message #78 Posted by **Egan Ford** on 6 July 2007, 1:09 p.m.,  
in response to message #77 by Thomas Klemm

Brilliant! Accelerated 15C returns 0.1 with N=1000 in 79 sec:

<http://sense.net/~egan/15cbfast.gif>

Normal 15C returns 0.1 with N=1000 in 49 min:

<http://sense.net/~egan/15cbnorm.gif>

EMU71 output of your solution:

|     |       |                   |                    |              |
|-----|-------|-------------------|--------------------|--------------|
| N = | 1     | S = 0.04952768283 | S' = 0.09920028974 | IN .06 SEC   |
| N = | 10    | S = 0.09079018231 | S' = 0.09999487094 | IN .01 SEC   |
| N = | 100   | S = 0.09899682152 | S' = 0.09999999336 | IN .12 SEC   |
| N = | 1000  | S = 0.09989878004 | S' = 0.09999999999 | IN 1.15 SEC  |
| N = | 10000 | S = 0.09998986889 | S' = 0.10000000000 | IN 11.01 SEC |

Physical 71B output:

|     |       |                   |                    |                |
|-----|-------|-------------------|--------------------|----------------|
| N = | 1     | S = 0.04952768283 | S' = 0.09920028974 | IN 1.8 SEC     |
| N = | 10    | S = 0.09079018231 | S' = 0.09999487094 | IN 4.64 SEC    |
| N = | 100   | S = 0.09899682152 | S' = 0.09999999336 | IN 24.61 SEC   |
| N = | 1000  | S = 0.09989878004 | S' = 0.09999999999 | IN 192.97 SEC  |
| N = | 10000 | S = 0.09998986889 | S' = 0.10000000000 | IN 1769.42 SEC |

Code:

```
: SSMC19B ;          ( FORGET SSMC19B TO CLEAN UP )

FVARIABLE MYTMP      ( CREATE SOME REGISTERS )
FVARIABLE MYSUM
FVARIABLE MYPI
FVARIABLE MYTIME
FVARIABLE N
FVARIABLE N2
FVARIABLE MYTMP2

: DOSPRIME
N2 RCL 1. F+ 1/X
2. Y^X MYTMP2 STO
127. 15360. F/
MYTMP2 RCL F*
-31. 5376. F/ F+
MYTMP2 RCL F*
160. 1/X F+
MYTMP2 RCL F*
-48. 1/X F+
MYTMP2 RCL F*
4. 1/X F+
N2 RCL 1. F+ 1/X F*
```

```

2. MYPI RCL F/ 2. Y^X F*
MYSUM RCL F+
;

: TANXROOTS
N RCL N2 STO
0. MYSUM STO          ( 0. -> MYSUM )
3.14159265358979     ( FLOAT STACK: PI )
MYPI STO             ( PI -> MYPI )
CLOCK                ( GET TIME -> X )
MYTIME STO           ( X -> MYTIME )
BEGIN                ( START LOOP N TO 1 )
  N RCL              ( N -> X )
  MYPI RCL           ( FLOAT STACK: N PI )
  F*                 ( N * PI )
  MYTMP STO          ( STO X -> MYTMP )
  LASTX              ( PI )
  2. F/ F+           ( PI/2 + PI*N )
  FENTER 1/X F-      ( 30% SPEED BUMP? )
  BEGIN              ( FIXED-POINT ITERATION START )
    FENTER           ( DUP )
    ATAN              ( ATAN X )
    MYTMP RCL         ( RCL MYTMP TO X )
    F+                ( X Y + )
    X=Y? -1 = UNTIL  ( FIXED-POINT ITERATION END ON X=Y )
    -2. Y^X           ( 1/X^2 )
    MYSUM RCL F+      ( X MYSUM + )
    MYSUM STO         ( X -> MYSUM )
    N RCL 1. F- N STO ( DSE N )
  X=0? -1 = UNTIL
  ." N = "           ( MAKE IT PRETTY )
  N2 RCL LGT 1. F+ IP
  12 FTOI -
  0 DO ." " LOOP
  N2 RCL STD F.
  ." S = "
  MYSUM RCL
  12 FIX F.
  ." S' = "
  DOSPRIME F.
  ." IN "
  CLOCK MYTIME RCL F-
  STD F. ." SEC" CR
;

: RUNIT
RADIANS              ( SET RADIANS )
0 DO
  I ITOF 10^X
  N STO
  TANXROOTS
LOOP
;

```

*Edited: 6 July 2007, 2:30 p.m.*

## Re: S&SMC#19: Grade B [LONG]

*Message #79 Posted by [Valentin Albillo](#) on 10 July 2007, 10:31 a.m.,  
in response to message #78 by Egan Ford*

Hi, Thomas and Egan:

Thank you very much to both of you for your interest in this poor, orphaned part of my challenge, you've both produced superb theory and actual code to try and solve it and your solutions are of course correct and truly excellent. I'm very obliged for your outstanding efforts.

This is my original solution for the HP-71B (7 lines, 271 bytes):

```
10 DESTROY ALL @ OPTION BASE 1 @ RADIANS @ L=100 @
```

```

R=FNROOT(4,5,TAN(FVAR)-FVAR)
20 S=1/(R*R) @ FOR I=2 TO 500 @ K=1/I @ R=FNROOT(R+PI-
K,R+PI+K,TAN(FVAR)-FVAR)
30 GOSUB 60 @ NEXT I @ A=PI/2 @ B=1/PI @ C=2*PI @ D=1/4/PI+2/(3*PI3)
40 L=1000 @ FOR I=501 TO 71000 @ R=PI*I+A-B/I+1/(C*I*I)-D/(I*I*I)
50 GOSUB 60 @ NEXT I @ END
60 S=S+1/(R*R) @ IF NOT MOD(I,L) THEN DISP USING "6D,3X,Z.6D";I,S
70 RETURN

```

This basic transcendental equation (which does find its uses in Engineering) has an infinite number of positive roots. As there's the problem of proper root identification and separation, which gets more difficult as the roots grow larger since they tend to be extremely near the poles, with the subsequent danger of some root being skipped or some pole being mistaken for a root, my routine uses the Solver just for the first 500 roots, which can be properly separated by generating adequate initial guesses for each one.

After that, a simple asymptotic formula for the roots is used, which gives 12 correct decimal digits for each root and much faster than the Solver can. Thus, this formula does produce all remaining roots, from the 501<sup>th</sup> onwards. The crossing index, 500, has been chosen empirically because that's approximately the point where the asymptotic formula is accurate enough to take over the Solver. Were it not for the asymptotic formula, the Solver alone would begin to skip or misidentify roots around the 3,000<sup>th</sup> one given the currently generated initial guesses.

As written, my solution will generate and sum the first 71,000 roots (just edit the 71000 in the listing above if you want to generate and process more roots), like this:

>RUN

```

100 0.098997
200 0.099496
300 0.099663
400 0.099747
500 0.099798
1000 0.099899
2000 0.099949
3000 0.099966
4000 0.099975
5000 0.099980
6000 0.099983
7000 0.099986
65000 0.099998
66000 0.099998
67000 0.099998
68000 0.099999
69000 0.099999
70000 0.099999
71000 0.099999

```

and it does it in just 29 seconds under Emu71, some 2 hours on a physical HP-71B, with the final result being 0.099999 to six decimal figures, in perfect agreement with the theoretical value 1/10.

I'll give now a short & sweet proof I've shamelessly concocted to show that the correct theoretical sum is exactly 1/10. This proof of mine is admittedly in the spirit of some of the most celebrated Euler's ones, i.e., utterly non-rigorous, but it shows the correct solution which, once allegedly known, you can then proceed to rigorously prove either by other means or by strengthening this simple proof. Let's proceed:

1) Let's put the original equation in a more convenient form:

$$\tan(x) = x \quad \rightarrow \quad \sin(x)/\cos(x) = x$$

$$\rightarrow \sin(x) = x \cdot \cos(x)$$

2) Let's substitute  $\sin(x)$  and  $\cos(x)$  by their Taylor series expansions and collect all terms at the left side:

$$x - x^3/3! + x^5/5! - x^7/7! + \dots = x(1 - x^2/2! + x^4/4! - x^6/6! + \dots)$$

$$x^7/6! + \dots = x - x^3/2! + x^5/4! -$$

->

$$(1/2! - 1/3!)x^3 - (1/4! - 1/5!)x^5 + (1/6! - 1/7!)x^7 - \dots = 0$$

3) Let's divide both sides by  $x^3$  to get rid of zero roots:

$$(1/2! - 1/3!) - (1/4! - 1/5!)x^2 + (1/6! - 1/7!)x^4 - \dots = 0$$

4) and now, considering this as an "infinite-degree polynomial equation", we then have that the required sum of the (transformed) roots is, by the Vieta formulas:

$$\text{Sum} = (1/4! - 1/5!)/(1/2! - 1/3!) = 1/10$$

q.e.d

This all depends on the fact of whether the "infinite-degree polynomial equation"'s roots do sufficiently coincide with the appropriate transformation of the ones of the original transcendental equation. We can get some peace of mind by testing for various degrees  $N$ , to get a taste of what happens when  $N$  goes to infinity. The following short program asks for the degree  $N$ , does construct and truncate the above polynomial to the specified degree (only in  $X$  instead of in  $X^2$ ), and finds all its roots and their sum:

```

1 DESTROY ALL @ OPTION BASE 0 @ INPUT "N="; N @ DIM P(N) @ COMPLEX
R(N+1),S
2 FOR I=0 TO N @ P(I)=(-1)^I*(1/FACT(2*I+2)-1/FACT(2*I+3)) @ NEXT I @
MAT R=PROOT(P)
3 S=0 @ FOR I=0 TO N-1 @ S=S+R(I) @ DISP R(I),1/SQR(R(I)) @ NEXT I @
DISP S

```

Let's test with a 40th-degree truncation:

>RUN

N = 40 [ENTER]

...

```

(0.000780, -0.000329)      (33.696792,  6.813122)
(0.001299,  0.000000)    (27.747075, -0.000000)

```

```
(0.001344, 0.000000) (27.273576, -0.000000)
(0.001810, 0.000000) (23.503515, -0.000000)
(0.002410, 0.000000) (20.371987, -0.000000)
(0.003372, 0.000000) (17.220729, -0.000000)
(0.005054, 0.000000) (14.066195, -0.000000)
(0.008410, 0.000000) (10.904122, -0.000000)
(0.016756, 0.000000) ( 7.725252, -0.000000)
(0.049528, -0.000000) ( 4.493409, 0.000000)
```

```
(0.100000, 0.000000)
```

As you can see, all the roots add up to exactly 0.1, and taking the inverse of their square root (as they are the inverse of the squares of the original roots, as needed for the sum), we get a very good approximation of the first roots of the original transcendental equation, namely

```
4.493409, 7.725252, 10.904122, 14.066194, 17.220755, 20.371303,
...
```

so we find it easy to believe that for higher degrees the accuracy improves and in the limit, the result holds and the sum for the roots of the polynomial does coincide with the sum of the roots of the original transcendental equation.

Thanks again and

Best regards from V.

### Re: S&SMC#19: Grade B [LONG]

Message #80 Posted by [Thomas Klemm](#) on 10 July 2007, 2:08 p.m.,  
in response to message #79 by Valentin Albillo

Hi Valentin

Your proof is cool, I like it!

And thanks to Egan for his posts which I read with much interest.  
It was nice to see my program transformed into another language.  
Now I even know some FORTH.

Kind regards  
Thomas

### Re: S&SMC#19: Grade B [LONG]

Message #81 Posted by [Egan Ford](#) on 10 July 2007, 3:32 p.m.,  
in response to message #79 by Valentin Albillo

Do you have any comments on B+ you would like to share? Computing yields 0.0972640247325, but it would take an enormous leap to see that as  $(e^*e - 7)/4$ . The masses without a proof would have to search text books and the web to find the exact answer (as I had [here](#)). I ask for your thoughts because of the teaser on your web site: Boldly Going - Identifying Constants.

Thanks for all the challenges, I enjoy the mental exercise.

### Re: S&SMC#19: Grade B [LONG]

Message #82 Posted by [PeterP](#) on 10 July 2007, 7:31 p.m.,

*in response to message #79 by Valentin Albillo*

was tempted to do this anonymously to hide in light of the much better mathematicians around (it now looks more like heresy that I even participate openly in those challenges next to you guys)

Anyway, great minds think alike - [this short paper](#) has a similar proof as Valentin and then goes on to extend it to a more general class of transcendental equations and gives some examples. Maybe this is interesting to some so I thought I post it. Please forgive it this is 'old news' to all of you already.

Cheers

Peter

### **Re: S&SMC#19: Grade B [LONG]**

*Message #83 Posted by [Egan Ford](#) on 10 July 2007, 8:34 p.m.,  
in response to message #82 by PeterP*

You may also enjoy R. M. Young, A Rayleigh popular problem, *American Mathematical Monthly* 93 (1986) 660-664.

62 solutions were submitted. Two are documented in the article.

*Edited: 10 July 2007, 8:35 p.m.*

### **Re: S&SMC#19: My Original Solutions & Comments [LONG]**

*Message #84 Posted by [PeterP](#) on 29 June 2007, 9:41 p.m.,  
in response to message #72 by Valentin Albillo*

Valentin,

Thanks for all your encouraging and friendly prodding, it was great fun. And indeed, it was not only a lot of fun but was going easier with time and more practice!

As for B, I fully appreciate you'd like to keep things under wraps for a later point in time. Maybe however you can give me offline at my email some tips and pointers. As I mentioned in my post, after I had programmed something and got stuck in trying to explain the result, I ended up finding a paper which explains it and indeed shows that  $1/10$  is the right value. So it seems that my program is wrong yet still delivers a somewhat correct result... Your insight and guidance would be most appreciated!

All the best and thanks for providing me (and us I daresay) with lots of fun and learning!

Cheers

Peter

### **A message from Thomas Schmelzer to all S&SMC#19 A/A+ participants.**

*Message #85 Posted by [Egan Ford](#) on 29 June 2007, 9:45 p.m.,  
in response to message #1 by Valentin Albillo*

Thomas Schmelzer ([SUMMING A CURIOUS, SLOWLY CONVERGENT SERIES](#)) asked me to post this on his behalf:

Quote:

Hoi zame,

I am pleased you have attacked the harmonic series omitting certain digits. To implement this kind of code on an old HP calculator is certainly challenging and geeky! Well done. It seems this problem provided some fun and this was exactly the intention of the paper I wrote with Robert Baillie.

Best wishes,

Thomas

Post your replies here and I will send him the link. Thanks!

*Edited: 29 June 2007, 9:52 p.m.*

**Re: A message from Thomas Schmelzer to all S&SMC#19 A/A+ participants.**

Message #86 Posted by [Valentin Albillo](#) on 29 June 2007, 10:47 p.m.,  
in response to message #85 by Egan Ford

Hi, Egan:

Thanks for posting Mr. Schmelzer's comment. This would be my reply to him:

*"Dear Mr. Schmelzer:*

*Thank you very much for your kind and encouraging words re Mr. Ford's truly excellent implementation of your algorithm in a vintage but superb HP handheld.*

*I was indeed inspired by your very paper when I included this assignment as part of one of my regular 'challenges' to the HP fan community. After reading it, I thought it was a most interesting topic and a superb paper at that, clear and detailed, which prompted me to first implement both algorithms (Fischer's and yours) in HP-71B's code, which proved immensely fun, then issue the challenge to the rest of exceedingly clever programmers who regularly visit this HP forum, for they to share the fun with me, which they certainly did.*

*So please receive my most sincere thanks for your kindness, which I beg you to please extend to Mr. Baillie, and both of you may rest assured that if providing some fun was the exact intention of your paper, you succeeded in spades.*

*Best regards from Valentin Albillo"*

Best regards from V.

*Edited: 29 June 2007, 10:55 p.m.*

**Re: Short & Sweet Math Challenge #19: Surprise ! [LONG] B+ Solution**

Message #87 Posted by [Egan Ford](#) on 6 July 2007, 12:29 a.m.,  
in response to message #1 by Valentin Albillo

Quote:



**Note: Get a B+ !**

If you manage to solve the above, you can get a B+ by computing and, most specially, *identifying* the exact sum but this time using

$$(r_n)^2 + 1$$

in the denominators instead of simply  $(r_n)^2$

Exact sum:

$$S = \sum_{n=1}^{\infty} \frac{1}{(r_n)^2 + 1} = \frac{e^2 - 7}{4}$$

Inspired by Thomas Klemm's amazingly short and sweet 11C program I thought I would do the obvious and add one to the denominator and see what I got:

```
N =          1   S = 0.04719044923 IN .05 SEC
N =         10   S = 0.08805677133 IN .02 SEC
N =        100   S = 0.09626084957 IN .18 SEC
N =       1000   S = 0.09716280477 IN 1.27 SEC
N =      10000   S = 0.09725389363 IN 11.99 SEC
N =     100000   S = 0.09726301153 IN 115.13 SEC
N =    1000000   S = 0.09726392341 IN 969.29 SEC
N =   10000000   S = 0.09726401460 IN 8463.29 SEC
```

The above output was generated by the *Klemm-like* 71B FORTH program at the end of this post. I selected FORTH because it is faster than BASIC (well faster than *my* BASIC) and porting RPN to FORTH is easy.

As you can see each digit of precision takes ~10x longer to run. Extra digits would have cost a day, then 10 days. Another problem is that the larger terms are too close to zero.

Like Thomas I did resort to a small C program (64-bit ints, 128-bit floats) to get a few more digits:

```
N =          1   S = 0.0 4719044922581127794
N =         10   S = 0.0 8805677132930494860
N =        100   S = 0.09 626084957021318412
N =       1000   S = 0.097 16280477399029997
N =      10000   S = 0.0972 5389362741386840
N =     100000   S = 0.09726 301153095815560
N =    1000000   S = 0.09726 392341158023534
N =   10000000   S = 0.0972640 1460054520640
N =  100000000   S = 0.09726402 371945072695
N = 1000000000   S = 0.097264024 63133223744
N = 10000000000  S = 0.097264024 71681260679
```

I have two sources I check when presented with mystery numbers. First, the book *Mathematical Constants*. Second, *Plouffe's Inverter* (<http://pi.lacim.uqam.ca/eng/>). The later scored a hit (several hits actually). The most interesting was:

$$9726402473266255 = (m414) \ 1/\ln(\exp(1))*DuboisR2*\sqrt{5}^2$$

Odd result. You can simplify in your head and get  $DuboisR2*5$ . The same *Inverter* page has a link to the constants.  $DuboisR2$  is the **2<sup>nd</sup> Du Bois Reymond constant**.  $DuboisR2 = (e^2 - 7)/2 = 0.1945280494\dots$ , so  $DuboisR2*5 = 0.97264024\dots$ , therefore  $DuboisR2*5/10$  or  $DuboisR2/2 = 0.097264024\dots$

The **2<sup>nd</sup> Du Bois Reymond constant** is defined in pages 238-239 in the book *Mathematical Constants*. An interesting read (books.google.com if you do not have this book):

Paraphrased - "Let  $r_1, r_2, r_3, \dots$  denote all positive solutions of the equation  $\tan(x) = x$ . Then

$$c_m = 2 * \prod_{j=1}^{\infty} \frac{1}{((r_j)^2 + 1)^{m/2}}$$

"

It is not too hard to see that  $c_2/2$  equals the B+ problem. Since  $c_2 = (e^2 - 7)/2$  then  $c_2/2 =$

$$\frac{e^2 - 7}{4} = 0.097264024\dots$$

The solution to problem B is also mentioned in *Mathematical Constants* (page 239).

Additional **Du Bois Reymond Constants** info:

<http://mathworld.wolfram.com/DuBoisReymondConstants.html>.

71B FORTH code:

```
: SSMC19BP ;           ( FORGET SSMC19BP TO CLEAN UP )

FVARIABLE MYTMP       ( CREATE SOME REGISTERS )
FVARIABLE MYSUM
FVARIABLE MYPI
FVARIABLE MYTIME
FVARIABLE N
FVARIABLE N2

: TANXROOTS
  N RCL N2 STO
  0. MYSUM STO        ( 0. -> MYSUM )
  3.14159265358979   ( FLOAT STACK: PI )
  MYPI STO           ( PI -> MYPI )
  CLOCK              ( GET TIME -> X )
  MYTIME STO         ( X -> MYTIME )
  BEGIN              ( START LOOP N TO 1 )
    N RCL             ( N -> X )
    MYPI RCL          ( FLOAT STACK: N PI )
    F*                ( N * PI )
    MYTMP STO         ( STO X -> MYTMP )
    LASTX             ( PI )
    2. F/ F+          ( PI/2 + PI*N )
    BEGIN             ( FIXED-POINT ITERATION START )
      FENTER          ( DUP )
      ATAN            ( ATAN X )
      MYTMP RCL       ( RCL MYTMP TO X )
      F+              ( X Y + )
      X=Y? -1 = UNTIL ( FIXED-POINT ITERATION END ON X=Y )
      2. Y^X          ( X^2 )
      1. F+           ( B+ )
      1/X             ( 1/[X^2+1] )
      MYSUM RCL F+    ( X MYSUM + )
      MYSUM STO       ( X -> MYSUM )
      N RCL 1. F- N STO ( DSE N )
      X=0? -1 = UNTIL
      ." N = "        ( MAKE IT PRETTY )
      N2 RCL LGT 1. F+ IP
      10 FTOI -
      0 DO ." " LOOP
      N2 RCL
      STD F. ." S = "
      MYSUM RCL
      FIX 12 F.
```

```
. " IN "  
CLOCK MYTIME RCL F-  
STD F. " SEC" CR  
;  
  
: RUNIT  
RADIANS          ( SET RADIANS )  
0 DO  
  I ITOF 10^X  
  N STO  
  TANXROOTS  
LOOP  
;
```

*Edited: 6 July 2007, 2:34 a.m.*

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## HP Forum Archive 17

[ [Return to Index](#) | [Top of Index](#) ]**revised: the 4 banger+**Message #1 Posted by [Paul Dale](#) on 18 June 2007, 7:08 p.m.

I've been fiddling around with the super 4 banger that got mentioned a few weeks back. The items in question are down near the end of the [Sneek Preview: Anniversary Edition](#) thread.

Using my ugly ASCII art approach, the main keyboard I've come up with is:

```

ENTER^   X<>Y   CHS   Clx
7         8         9     /
4         5         6     *
1         2         3     +
0         .       shift  -

```

and the shifted keyspace:

```

LASTx    Rv     EEX    CLREG/CLPRG
n!       sqrt   1/x    PGRM
ln       e^x    y^x    SST
STO     INTG   TEST   GSB
RCL     PI     shift  R/S

```

What I've ditched are the trigometrics and HMS functionality. In their place I've added factorial (gamma?) and integer part functions and some degree of programmability. Basically, I tried to maintain as much of the 12c's non-financial instructions as I could.

Anyway, some details:

- Mathematics are supplied by the decNumber library (IEEE 854, 16 digit decimal arithmetic).
- There are 255 registers. STO and RCL take a three digit argument ranging from 000 through 199. They can optionally be followed by the four arithmetic operators and/or shift (for indirection).
- Program mode supports 1000 steps and each function occupies exactly one step (merged keystrokes).
- GSB doubles as GTO (via the . key) and branches are to step numbers (as per the 12c). GSB and GTO can also operate indirectly using a register for the step number (again by pressing shift before entering all the digits).
- RET is entered as GSB 000
- END is entered as GTO 000
- Subroutine nesting depth is sixty four.
- There are twelve conditional tests supported testing the x register against either 0 or the y register. Enter tests by following the TEST command with a single digit. Enter . to test against y instead of 0.

```

0         x=0?
1         x!=0?
2         x<0?
3         x<=0?
4         x>0?
5         x>=0?

```

I've coded pretty much all of this in C (command line/terminal window). I'm still finding bugs but if you want the code...

One thing I'm yet to code include shortcuts to GSB to the low program addresses via pressing GSB followed by one

of the top row of keys possibly shifted. This will be implemented via a jump table and it will give easy access to eight user defined functions. Which happens to be enough to support trigonometric operations if desired.

Thoughts?

- Pauli

### Re: revisited: the 4 banger+

Message #2 Posted by **Walter B** on 19 June 2007, 2:28 a.m.,  
in response to message #1 by Paul Dale

Paul,

nice exercise! And your ASCII art approach (AAA) is perfectly sufficient to see your intentions. However, as you may have expected, there are some questions. Please take everything as MHO:

- Basically, do we really want to load such a small keyboard with such a big function set, now even including programmability? Remember this thing started as a 4-banger.
- You invented quite some tricky keystroke combinations to overcome the hard key space limits. But cui bono? One more line of keys will be significantly better.
- You need key sequences like **TEST 2**, which I'll have to look up on the calc's back (my bad memory, I know ;-). I expect something similar for **INTG**. Seems outdated for me in the era of soft keys and menus.
- 256 registers! Who shall remember all these locations and their contents?
- There's an SST, but no BST. Even very old HPs featured more.
- Please revert "+" and "-".

Summary: IMHO, you're running in the wrong direction. I'd recommend to ditch programmability for this model. Let it be a cute little scientific gadget. Include trigs on the keyboard. Cut the overhead. 10 or 20 registers are enough by far for quick and dirty applications.

Just my 0,02 Euros :-)

### Re: revisited: the 4 banger+

Message #3 Posted by **DaveJ** on 19 June 2007, 3:06 a.m.,  
in response to message #2 by Walter B

Quote:

Summary: IMHO, you're running in the wrong direction. I'd recommend to ditch programmability for this model. Let it be a cute little scientific gadget. Include trigs on the keyboard. Cut the overhead. 10 or 20 registers are enough by far for quick and dirty applications.

Just my 0,02 Euros :-)

Precisely what I think also. It should just be a nice simple non-programmable scientific.

I'd be happy with just the one memory register on a basic scientific.

Dave.

**Re: revisited: the 4 banger+**

Message #4 Posted by *Klaus* on 19 June 2007, 5:39 a.m.,  
in response to message #2 by Walter B

Yes, a simple keyboard is desirable. My solution: What does a keypress mean? In classic HPs, the keycode has been used as an address in the ROM to execute the function. Nowadays ROM is cheap; you can implement many scientific functions in your simple calc. In contrast to that, keyboard space is scarce.

My approach would be to create overlays (paper or plastic) for your keys. These overlays would include some metal contacts (that work like hardwired jumpers) that select the function of some keys. Now you can keep your keyboard small, while the user can heavily customize her/his calc. You want the basic arithmetic (+-\*/) on the left side? No problem! You need logs & trigs? Just use the right overlay!

[Edited to correct some typos]

*Edited: 19 June 2007, 6:28 a.m.*

**Re: revisited: the 4 banger+**

Message #5 Posted by *Maximilian Hohmann* on 19 June 2007, 7:47 a.m.,  
in response to message #2 by Walter B

Hello!

Quote:

Summary: IMHO, you're running in the wrong direction.

Agreed... Either you build a single-seater sailplane (to use an example from my world), or a 500-passenger supersonic vertical-takeoff transport aeroplane with worldwide range. You can't have both within the same package, I'm afraid.

But of course, one could think of an expandable 4-banger like Mr. Bango here (sorry, my image editing capabilities are somewhat limited):

<http://www.bombie.de/graphics/MrBango.jpg>

(Please note the beautiful luminous display and the ':' time entry key without which this thing is a no-go-item for me :-))

At home or in the office, you connect your little shirt-pocket four banger to its expansion unit, that has gotten as many keys as you wish (scientific, financial, alpha, whatever...), the solar cells for recharging the batteries of the portable unit (a tribute to the soft orange glowing display) and the USB connection for remote storage and/or printing (look at the 'Ti-Connect' software that comes with Ti CAS systems to see, what's possible).

<http://www.bombie.de/graphics/ExpandedBango.jpg>

For people who would rather have a multi-digit display on their desktop, an alternate expansion unit like this one here could be devised:

<http://www.bombie.de/graphics/BangoExpander.jpg>

Just kidding of course ;-)

Greetings, Max

**Re: revisited: the 4 banger+**

*Message #6 Posted by **DaveJ** on 19 June 2007, 8:22 a.m.,  
in response to message #5 by Maximilian Hohmann*

Awesome, truly awesome!

Dave.

**Re: revisited: the 4 banger+**

*Message #7 Posted by **Walter B** on 19 June 2007, 11:25 a.m.,  
in response to message #5 by Maximilian Hohmann*

Really great design! And so customer-oriented! Next to perfection!! :-D

**Re: revisited: the 4 banger+**

*Message #8 Posted by **Paul Dale** on 19 June 2007, 5:06 p.m.,  
in response to message #2 by Walter B*

Good points. There is reason behind my madness...

Quote:

- You invented quite some tricky keystroke combinations to overcome the hard key space limits. But cui bono? One more line of keys will be significantly better.

Fiddling with this from my computer keyboard leads me to believe that the tricky keystroke combinations aren't so bad. My current program gives you feedback on every keystroke, doesn't care about the ordering and most of the modifiers are reversable i.e. it is fairly flexible about entry.

An extra line of keys would be better but that wasn't the point :-)

Quote:

- You need key sequences like **TEST 2**, which I'll have to look up on the calc's back (my bad memory, I know ;-).

Isn't this the same method use by the "almost perfect" 15c for both the test and matrix functions? This is one feature of the 15c user interface that I don't much like but there isn't any other obvious way to get the functionality there or here.

Quote:

- Please revert "+" and "-".

Oops, sorry. Don't know how that got mixed up again :-)

Quote:

Summary: IMHO, you're running in the wrong direction. I'd recommend to ditch

programmability for this model. Let it be a cute little scientific gadget. Include trigs on the keyboard. Cut the overhead. 10 or 20 registers are enough by far for quick and dirty applications.

I actually agree my direction here is somewhat skew, I didn't design this with the intention of seeing it in production (although I will admit that that would be kind of neat). I designed it as a first step towards the realisation of something closer to a traditional scientific programmable.

To this aim, I needed it to be programmable so my emulator could handle that aspect. I needed a few representative functions so I could build the framework for them. I needed some kind of input state machine to handle prefixes etc. I also wanted to keep it relatively simple and still retain some measure of "complete" functionality.

- Pauli

### **Re: revisited: the 4 banger+**

*Message #9 Posted by **Walter B** on 19 June 2007, 5:35 p.m.,  
in response to message #8 by Paul Dale*

OK, after reading your post I don't understand what's your design goal (I am only knowing what's \*not\*), but I don't have to ;-)

Just one point: Maybe just such sequences like **TEST 2** are the reason for the 15C being only "almost" perfect. IMHO the 15C is a very nice little calc with a perfect function set **for its time** 25 years ago. No less, no more. You will find stronger believers in the eternal power of the 15C in this forum. Once upon a time, we had a project with the objective to create a modern calc with about the same outer dimensions. I do not remember anything like **TEST 2** in its function set, but my bad memory, you know ;-)

Best regards, Walter

### **Re: revisited: the 4 banger+**

*Message #10 Posted by **Egan Ford** on 19 June 2007, 11:27 a.m.,  
in response to message #1 by Paul Dale*

Where is the 'on' button? Solar? Always on? How about hold-shift for on/off?

I have to agree with the others, there is no need for INTG or programmability. I think the BANGO-EXPANDER is a bit extreme, but the right idea. My thoughts were that the device have some form of I/O. Many embedded processors have a serial device. It would be easy to add, say, Bluetooth. The "Expander" would be a very nice emulator/debugger for your desktop. All programming and testing would be there, then BT downloaded to the BANGO. This would also enable others to share data/code with other BANGOs. If your mobile phone was BT-enabled, then your BANGO could get code/data online (iRPN, iCode, iCalc?)

Since few want to carry around, yet-another-device, I would suggest that you create Windows Mobile (PDA and Smartphone), Blackberry, Symbian, and Palm versions first.

For a few extra bucks, add a jack, miniSD slot, dot matrix display and play tunes on it.

I'd also like it to float and be water resistance to 1M (like my GPS).

### **Re: revisited: the 4 banger+**



Message #11 Posted by **Maximilian Hohmann** on 19 June 2007, 3:58 p.m.,  
in response to message #10 by Egan Ford

Hi!

Quote:

Where is the 'on' button?

Ooops, I forgot about that one... Here it is (press 'CLX' for more than a second and it wakes up without clearing anything, auto-power off after 5 minutes with no loss of stack contents of course), together with the red status LED that will start flashing when the battery gets low. And the waterproof cast titanium housing :-). The whole thing could also have a simple USB connector so that one could use his existing PC/Macintosh keyboard to access the 'invisible' functions.

<http://www.bombie.de/graphics/MrBangoMod.jpg>

Greetings, Max

NB: On Apples support pages a software called 'Dashcode' can be downloaded for free that allows the development of little applications for the iPhone that will soon be released. The ideal platform for testing little hp-lookalikes!

## Re: revised: the 4 banger+

Message #12 Posted by **Paul Guertin** on 23 June 2007, 1:47 a.m.,  
in response to message #1 by Paul Dale

Quote:

I've been fiddling around with the super 4 banger that got mentioned a few weeks back.

Here is my interpretation of a "super 4 banger", meaning (for me) a basic, non-programmable scientific calculator.

I tried to keep it as simple as possible while including most common functions (common for me). I limited myself to a 20-key pad, since physical size was an important constraint.

Some notes:

1. There is no on/off key. To turn it on, push any key. To turn it off, hold SHIFT down for a couple seconds (or wait 10 minutes).
2. Note the INV function (on the 4 key), applicable to SIN, COS, TAN, LN, LOG, R->P, ->DMS, D->R and SQRT to compute the inverse function. It can also be applied to  $y^x$  to compute  $y^{(1/x)}$  (saving one keystroke). There is of course no need to use the shift key again after INV. E.g., push SHIFT then 4 then 1 to compute the arcsine.
3. There is only one memory. STO and RCL do not take an argument.
4. Fractional numbers can be input in 32S-like syntax (e.g., 3.1.2 for 3 and a half, or 9..7 for nine sevenths), but they are immediately converted to floating point. There is no FDISP equivalent.
5. I like the idea of having a 2-line display, but I'd rather have a sharper, numbers-only display instead of the

42S bitmapped display pictured here.

6. The DISP key is used to set the display mode (normal/scientific, number of digits displayed) and also the angular mode (degrees/radians).

7. Designing keyboards for imaginary calculators is a great way to waste time!

<http://img502.imageshack.us/img502/8323/hp4syp1.jpg>

**Re: revisted: the 4 banger+**

Message #13 Posted by **Walter B** on 23 June 2007, 11:35 a.m.,  
in response to message #12 by Paul Guertin

Nice model! Three remarks only:

Quote:

3. There is only one memory. STO and RCL do not take an argument.

Why not more? I'd like to have 10 registers. And with your keyboard, e.g. **SHIFT STO + 0** is easily accomplished.

Quote:

4. Fractional numbers can be input in 32S-like syntax (e.g., 3.1.2 for 3 and a half, or 9..7 for nine sevenths)

Hope they use **.9.7** to enter nine seventh. Else I need an extra push in logics.

Quote:

7. Designing keyboards for imaginary calculators is a great way to waste time!

Great indeed! :-))

**Re: revisted: the 4 banger+**

Message #14 Posted by **Paul Guertin** on 23 June 2007, 12:13 p.m.,  
in response to message #13 by Walter B

Quote:

I'd like to have 10 registers. And with your keyboard, e.g. SHIFT STO + 0 is easily accomplished.

I hesitated between the ease of use of one register and the power of ten. In the end, simplicity won, mostly because I rarely use more than one register. This can of course be changed without any modification to the keyboard if you prefer more registers and register arithmetic.

Quote:

Hope they use **.9.7** to enter nine seventh. Else I need an extra push in logics.

The input formats are a.b.c to enter a + b/c, or a..b to enter a/b. So both .9.7 and 9..7 can be used to enter 9/7.

**Re: revised: the 4 banger+**

Message #15 Posted by [DaveJ](#) on 24 June 2007, 3:09 a.m.,  
in response to message #14 by Paul Guertin

Quote:

I hesitated between the ease of use of one register and the power of ten. In the end, simplicity won, mostly because I rarely use more than one register. This can of course be changed without any modification to the keyboard if you prefer more registers and register arithmetic.

I think one register is enough on a calc like this. I rarely use more than one myself. Having to select the register number every time would be a bit annoying for me.

I really like this calc, and I think it has more merit than any other "theoretical" calc proposed on here that I've seen. Compared with all those Voyager and HP35S variations etc, I'd buy this one instead!

Dave.

**Re: revised: the 4 banger+**

Message #16 Posted by [DaveJ](#) on 23 June 2007, 8:31 p.m.,  
in response to message #12 by Paul Guertin

Excellent! I would make a few changes:

I would have had the exponent key unshifted in place of the X-Y key.

I would also swap the SHIFT and X-Y keys.

R-P but no P-R?, or is that a typo with D-R?

I would remove the INV shift function on the 4 key and rely on a double press of SHIFT to enable the inverse functions.

An ENG and <ENG function would be really nice!, drop the factorial or D.MS keys if needed.

Yes, a super 4-banger would of course use a more readable segmented LCD instead of dot matrix.

I would so want one of these!

Dave.

**Re: revised: the 4 banger+**

Message #17 Posted by [Paul Guertin](#) on 24 June 2007, 12:07 a.m.,  
in response to message #16 by DaveJ

Thank you for your insightful comments.

Quote:

I would have had the exponent key unshifted in place of the X-Y key.

I probably use scientific notation less often than most potential users of this calculator. Your suggestion has a lot of merit. What do others think? If you had to choose only one, which would you make unshifted:  $x \langle \rangle y$  or EEX?

Quote:

I would also swap the SHIFT and X-Y keys.

I'm confused because as per your suggestion above, there would not be an  $X \langle \rangle Y$  key. Do you mean put the new EEX key at the bottom?

With the SHIFT key at the bottom, it is close to often-used functions such as SQRT and RCL. Keeping it there seems to minimize finger travel.

Quote:

R-P but no P-R?

INV R-P gives P-R. The other two conversions can also be inverted.

Quote:

I would remove the INV shift function on the 4 key and rely on a double press of SHIFT to enable the inverse functions.

It's like you were reading my mind. I had the same idea this morning, and already modified my picture with it. This allowed me to free the 4 key and use it for a pet function which I had to leave out in the first version: area under the normal curve (and its inverse).

Quote:

An ENG and  $\langle$ ENG function would be really nice!,

An ENG display mode could be set up using the DISP key. What is  $\langle$ ENG?

## Re: revisted: the 4 banger+

Message #18 Posted by [DaveJ](#) on 24 June 2007, 2:50 a.m.,  
in response to message #17 by Paul Guertin

Quote:

Thank you for your insightful comments.

Quote: I would have had the exponent key unshifted in place of the X-Y key.

I probably use scientific notation less often than most potential users of this calculator. Your suggestion has a lot of merit. What do others think? If you had to choose only

one, which would you make unshifted:  $x \leftrightarrow y$  or EEX?

---

Yep, just my preference. As an electronics engineer, most calculations I do involve the EXP key.

Quote:

---

Quote: I would also swap the SHIFT and X-Y keys.

I'm confused because as per your suggestion above, there would not be an  $X \leftrightarrow Y$  key. Do you mean put the new EEX key at the bottom?

---

Yes, sorry for the confusion. I just prefer it in that position, just like they have on the Casio's, I think it's a more sensible location. Kinda makes the key more important and prominate in that location.

Quote:

---

With the SHIFT key at the bottom, it is close to often-used functions such as SQRT and RCL. Keeping it there seems to minimize finger travel.

---

You'll never be able to suit everyone with this! For me the EXP key would be more frequently used than the shift key functions.

Quote:

---

Quote: R-P but no P-R?

INV R-P gives P-R. The other two conversions can also be inverted.

---

Of course. \*embarrassed look\*

Quote:

---

Quote: An ENG and  $\langle$ ENG function would be really nice!,

An ENG display mode could be set up using the DISP key. What is  $\langle$ ENG?

---

No, I'm not talking about an ENG display mode, I'm talking about an ENG display "function" that operates like the Casio calcs. i.e. scientific display is the normal "mode", but if you press ENG you convert that display into engineering notation. Press it again and the display shifts an extra 3 digits. Next operation causes the display to revert back to the usual display mode.  $\langle$ ENG is ENG in the other direction. I discussed this in one of the recent HP35S threads, the new HP35S has ENG and  $\langle$ ENG. I could live without  $\langle$ ENG, but ENG is essential on any calc IMHO.

BTW, the calc would of course not be as tall as the pictured unit, it would stop just at the top of the display.

Dave.

**Re: revisited: the 4 banger+**

*Message #19 Posted by **Paul Dale** on 24 June 2007, 5:21 p.m.,  
in response to message #17 by Paul Guertin*

Quote:

I probably use scientific notation less often than most potential users of this calculator. Your suggestion has a lot of merit. What do others think? If you had to choose only one, which would you make unshifted:  $x\langle\rangle y$  or EEX?

Keep the  $x\langle\rangle y$  unshifted. I use this significantly more than EEX (which I do use fairly often).

- Pauli

### **Re: revisted: the 4 banger+**

*Message #20 Posted by **Paul Dale** on 24 June 2007, 5:24 p.m.,  
in response to message #17 by Paul Guertin*

Quote:

This allowed me to free the 4 key and use it for a pet function which I had to leave out in the first version: area under the normal curve (and its inverse).

Putting HYP in this unused slot would also be possible and in line with more normal scientific calculators. Not that I've ever used a hyperbolic function (excepting for a few of the challenges on this site). I do use normal curves from time to time and used them heaps when I was studying.

- Pauli

### **Re: revisted: the 4 banger+**

*Message #21 Posted by **Paul Dale** on 24 June 2007, 8:15 p.m.,  
in response to message #16 by DaveJ*

Quote:

I would remove the INV shift function on the 4 key and rely on a double press of SHIFT to enable the inverse functions.

This opens a realm of new possibilities. Not only freeing up the 4 key position by removing the need for INV, but we'd also gain roll up (shift shift  $X\langle\rangle Y$ ) and we can free up one of the shifted - or + keys since STO is the inverse of RCL :-)

- Pauli

### **Re: revisted: the 4 banger+**

*Message #22 Posted by **Paul Guertin** on 25 June 2007, 12:25 a.m.,  
in response to message #12 by Paul Guertin*

Here's a new version.

<http://img514.imageshack.us/img514/7901/hp4siixj0.jpg>

## Changes (hopefully improvements) from the 4S:

1. Smaller size. Still need to work on the display, though.
2. INV is now shift-shift instead of shift-4. So to compute an arcsine, push shift TWICE, then 1. Pushing shift three times cancels shifting. An indicator on the LCD shows the shift status.
3. EEX is now a primary function; I reordered +/-, EEX and CLX to conform to other models.
4. There is still only one memory register, but two memory operations have been added. As before, shift-sto and shift-rcl store and recall from the memory register. In addition, shift-shift-sto adds X to the memory register, and shift-shift-rcl swaps X and the memory register.
5. The Q function on 4 computes the area under the normal curve from -infinity to x.
6. Use and abuse of the INV (shift-shift) function:
  - INV is applicable to the following functions and computes the obvious inverse: SIN, COS, TAN, Q, LN, LOG, r->p, ->dms, d->r, SQRT, Rdown.
  - INV  $y^x$  computes  $y^{(1/x)}$ , the xth root of y.
  - INV  $x!$  computes (y choose x), the binomial coefficient.
  - INV / computes  $y \bmod x$ , the remainder.
  - INV +/- returns pi. Strange place to put it, I know, but space is tight. An alternative would be to put it on . (double-shifted) but then we'd lose  $x^2$ , and sometimes it's nice to do  $x^2$  without losing T.

Another idea I've seen on another calculator is to overload the EEX key with pi. If typed at the beginning of entry, the key means pi. Otherwise it means EEX. That would mean that powers of ten such as 1000 would have to be entered as 1 EEX 3 and not EEX 3. It would also mean that we'd need to do 2 ENTER Pi \* to compute  $2\pi$ , instead of just 2 Pi \* (but this would actually save one keystroke, since Pi would be primary instead of double-shifted). What do y'all think?

## 7. ENG display function

Similar to the Casio and the upcoming HP-35S, there is no ENG display mode, but shift-ENG displays x in engineering notation, and multiple presses add 3 to the exponent. Double-shifted, it does <ENG.

## 8. Use of the DISP function (which is now double-shifted ENTER):

- DISP followed by + toggles between degrees and radian mode
- DISP followed by . toggles between . and , for decimal separator
- DISP followed by 0 to 9 sets FIX 0 to FIX 9
- DISP followed by EEX 0 to EEX 9 sets SCI 0 to SCI 9
- DISP followed by ENTER shows the whole mantissa while held down

## IAQ (Infrequently asked questions)

1.  $x \leftrightarrow y$  or EEX as a primary?

That's probably the most difficult choice I had to make. Good arguments can be made for either.

$x \leftrightarrow y$  as a primary means all the functions necessary for a basic 4-banger are accessible without SHIFT. EEX as a primary makes life easier for engineers. I guess the question boils down to: Is the 4S a 4-banger with some scientific functions, or a basic scientific calculator? It started life as a "4-banger plus", but the more I play with it, the more I tend to think of it as a scientific.

2. Why not HYP / HYP<sup>-1</sup> instead of Q / Q<sup>-1</sup>?

I don't have anything against hyperbolic functions but I like Q, and I feel it is unjustly discriminated against in modern scientific calculators, so Q stays. Anyway, computing hyperbolics is easy once you have  $e^x$  and  $\ln$ , which are already provided.

3. Why not STO as INV RCL?

I don't want STO to be buried too far, it's a useful function. Also, by doing it this way, SHIFT SHIFT STO for STO+ and SHIFT SHIFT RCL for  $x \leftrightarrow m$  really improve the usefulness of the memory.

4. I want one.

That's not a question.

**Re: revisted: the 4 banger+**

Message #23 Posted by [DaveJ](#) on 25 June 2007, 7:15 a.m.,  
in response to message #22 by Paul Guertin

Quote:

---

Here's a new version.

<http://img514.imageshack.us/img514/7901/hp4siixj0.jpg>

- $x \leftrightarrow y$  or EEX as a primary?

That's probably the most difficult choice I had to make. Good arguments can be made for either.  $x \leftrightarrow y$  as a primary means all the functions necessary for a basic 4-banger are accessible without SHIFT. EEX as a primary makes life easier for engineers. I guess the question boils down to: Is the 4S a 4-banger with some scientific functions, or a basic scientific calculator? It started life as a "4-banger plus", but the more I play with it, the more I tend to think of it as a scientific.

---

It has indeed transitioned into a proper scientific, and as such should have EEX as a primary key.

The latest model is beautiful, just beautiful...

Dave.

**Re: revisted: the 4 banger+**

Message #24 Posted by [Dave Shaffer \(Arizona\)](#) on 25 June 2007, 6:35 p.m.,  
in response to message #22 by Paul Guertin

I like the looks and size, but ...



All those key combinations go against the idea of a "simple" 4-banger. If this is supposed to be simple, the average idiot (who is smart enough to know RPN!) should be able to pick it up and use it to its fullest without having to read the manual or ask somebody "what key do I press to get arcsin?" I don't find the concept of "The Q function" particularly simple/necessary, either. I've done a lot of scientific analysis and I never felt the urge to have normal curve integrals available on my calculator.

### Re: revised: the 4 banger+

Message #25 Posted by [Paul Dale](#) on 25 June 2007, 10:22 p.m.,  
in response to message #22 by Paul Guertin

Quote:

- Use of the DISP function (which is now double-shifted ENTER):
  - DISP followed by 0 to 9 sets FIX 0 to FIX 9
  - DISP followed by EEX 0 to EEX 9 sets SCI 0 to SCI 9

No provision for ALL display mode like the 42s here. This is the mode I use by far the most.

- Pauli

### Re: revised: the 4 banger+

Message #26 Posted by [Walter B](#) on 26 June 2007, 1:56 a.m.,  
in response to message #22 by Paul Guertin

The longer I look at it the more it reminds me of the Sinclair Scientific: cute package design, extraordinary small, extensive use of SHIFT and INV. IMHO such a user interface will limit this model to a conspiratorial community of enlightened monks, who will press **SHIFT SHIFT . SHIFT SHIFT +/- \* SHIFT SHIFT ENTER EEX 4** humming happily to calculate the area of a circle with 4 decimals. Ommmmmmh ;-)

*Edited: 26 June 2007, 1:58 a.m.*

### MoHPC == CCEM

Message #27 Posted by [Paul Brogger](#) on 26 June 2007, 10:48 a.m.,  
in response to message #26 by Walter B

. . . or,

Quote:

conspiratorial community of enlightened monks

Not far off the mark!

### Re: revised: the 4 banger+

Message #28 Posted by [Paul Dale](#) on 26 June 2007, 4:50 a.m.,  
in response to message #22 by Paul Guertin

What about exchanging  $\ln$  &  $e^x$  and  $\log$  &  $10^x$  then we've got  $e^x$ ,  $10^x$  &  $y^x$  next to each other and the inverse  $\ln$ ,  $\log$  &  $\log$ -base- $y$  next to each other too.  $y^{(1/x)}$  isn't the inverse of  $y^x$  after all.

I'm tending to agree with Walter on the complexity of entry...

Still, I might look into implementing it :-)

- Pauli

---

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## HP Forum Archive 17

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**Brightness display HP65**

Message #1 Posted by [Ronald P](#) on 18 June 2007, 3:33 p.m.

Hello,

I have a HP65 in repair this moment. There was one element in the Led burned out so I had to replace that led unit. It works 100% now for all digits. But now the brightness is different between the units.

I know HP did match the brightness at production for the 3 units, but unfortunately I had only on spare unit, so no option to match brightness.

Is there a way to make a unit less bright, can I put a (small) resister somewhere, or lower the value of the inductors affecting only one unit ?

Thanks

Ronald

*Edited: 18 June 2007, 3:34 p.m.*

**Re: Brightness display HP65**

Message #2 Posted by [Dan W](#) on 18 June 2007, 7:20 p.m.,  
in response to message #1 by [Ronald P](#)

The cathodes of each digit are all tied together, so there are 5 cathode lines. You would need 5 resistors. Theoretically it could be done if you can find room to attach them.

The anodes for each segment are tied together too, but they are also tied to the anodes of the segments in the other chips. A resister in the anode line would dim the segments in all of the chips.

Good luck! if you get it done, let us know. Also I've heard replacing the LED chip is quite difficult. If you have some tips from your experience, please post them!

-- Dan

**Re: Brightness display HP65**

Message #3 Posted by [Ronald](#) on 19 June 2007, 4:01 p.m.,  
in response to message #2 by [Dan W](#)

Hello Dan,

Thank you for the the tip.

Removing the led unit was actually not that difficult. I used desolder litze (is that the correct word, a lot of twisted thin copper wires). This literally sucked out 95% of the solder for each joint. After that I used an L

shaped tweezer which I put between the board and Led unit and applied a little bit of careful force to pry it out. After that you touch with iron the joints that did not came clean completely and its done. 5 minutes max.

I will let you know on the resistors.

Br

Ronald

---

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## HP Forum Archive 17

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### HP-29C Quick Reference Guide

Message #1 Posted by [Larry Fox](#) on 18 June 2007, 12:53 p.m.

I need a QRG for my HP-29C and notice that none is listed at hpmuseum.org or on their DVD. Is there anyone who would be interested in scanning their HP-29C Quick Reference Guide in color and passing it along in JPEG, PDF, or MS Word DOC format? Sincerely, L. Fox

### Re: HP-29C Quick Reference Guide

Message #2 Posted by [Katie Wasserman](#) on 18 June 2007, 1:51 p.m.,  
in response to message #1 by Larry Fox

I've done that and Dave has it to put on the next DVD release which (I think) might be out soon.

[Version 6 QRG](#).

-Katie

### Thanks! .... New edition for Numerical Recipes Book

Message #3 Posted by [Namir](#) on 18 June 2007, 4:11 p.m.,  
in response to message #2 by Katie Wasserman

Thanks for the Version 6 link. I went ahead and pre-ordered the DVD v6.

And speaking of pre-orders, there is a new edition of Numerical Recipes (Cambridge Press) coming out in early August. If I am allowed one Numerical Analysis book, this is the one I choose. You can order it online (Amazon and the like). The new version also uses C++ source code but the code is more object-oriented than the one in the currently sold edition. The publisher is also making available an electronic version of the book (for pay). There is also a CD with all the source code of the various editions that will be offered. To find out more [click here](#).

Namir

*Edited: 18 June 2007, 4:18 p.m.*

### Re: Thanks! .... New edition for Numerical Recipes Book

Message #4 Posted by [Egan Ford](#) on 18 June 2007, 6:00 p.m.,  
in response to message #3 by Namir

I have the 2ed C and F77 books. They have been invaluable. It is worth noting that the 2ed C, F77, and F90 are freely available as PDFs from nr.com. Having the PDFs are useful for searches.

### Re: Thanks! .... New edition for Numerical Recipes Book

Message #5 Posted by [Namir](#) on 18 June 2007, 9:04 p.m.,

*in response to message #4 by Egan Ford*

I think the publisher has realized how popular the PDF files are, and thus has decided to sell subscriptions for them. Those who buy the book can buy lifetime subscriptions.

Namir

**Re: Thanks! .... New edition for Numerical Recipes Book**

*Message #6 Posted by [Les Wright](#) on 22 June 2007, 4:52 p.m.,  
in response to message #5 by Namir*

Most of my recent UserRPL and SysRPL programming efforts have been grateful adaptations of NR code. Indeed, I must admit that the structure of RPL is indeed well suited for such translation. Even though it is tougher at first to learn vs. RPN keystroke programming, I am glad I have taken the time. Right now, my 49G+ is my most used calculator. A few months ago, I barely touched it.

Les

---

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## HP Forum Archive 17

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### **42S - Won't turn on**

Message #1 Posted by [cnholmes](#) on 18 June 2007, 12:49 a.m.

I have had the same 42S since 1994 and the other day it wouldn't turn on. I replaced the battery and it still doesn't work.

I'm just looking for some advice...

- 1) Should I send it out somewhere to have it examined and possibly fixed? If so, where would you recommend?
- 2) Should I just purchase a used one? If so, is there anywhere other than ebay to find them, and is \$300 too much to pay? It seems like it to me, but I'm guessing these are collectors items or something by now.

Thank you for your time.

---

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## HP Forum Archive 17

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**HP 41 Keyboard Overlay**

Message #1 Posted by [Doctor Bubu](#) on 17 June 2007, 4:47 p.m.

Hallo!

I want to create my own Overlay so i have a Question.

Did someone have the exact measurment of the HP 41 Keboard Overlay?

Or did someone has Corel Draw file?

Or an adress or link to download?

Thank you

**Re: HP 41 Keyboard Overlay**

Message #2 Posted by [Larry Fox](#) on 18 June 2007, 4:01 p.m.,  
in response to message #1 by [Doctor Bubu](#)

Or you could buy a stainless steel one from Hudendai on eBay and use it as a template with an Xacto knife.  
Here's the [eBay listing](#).

**Re: HP 41 Keyboard Overlay**

Message #3 Posted by [Richard Ottosen](#) on 19 June 2007, 2:02 p.m.,  
in response to message #1 by [Doctor Bubu](#)

Quote:

\_\_\_\_\_

Did someone have the exact measurment of the HP 41 Keboard Overlay?

\_\_\_\_\_

This is tricky since the overlay does not have straight sides.

But, here are my measurements:

67mm wide at the top. 64.8mm wide at the bottom. 67.4mm at the widest point.

102.2mm tall without the tab and 104.2 with the tab.

Quote:

\_\_\_\_\_

Or did someone has Corel Draw file?

\_\_\_\_\_

I have a PDF of a scan of the original HP41C overlays and a CorelDraw file. I don't know how to post them here.



-- Richard

---

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## HP Forum Archive 17

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**rpn stack drop**

Message #1 Posted by [K. Stefan Jansson \(IL, USA\)](#) on 17 June 2007, 12:28 p.m.

I am relatively new to rpn, but after having used the hp48, I wonder why such calculators as the 15c or 32s don't do stack drop when you perform a clx.

**Re: rpn stack drop**

Message #2 Posted by [allen](#) on 17 June 2007, 1:40 p.m.,  
in response to message #1 by [K. Stefan Jansson \(IL, USA\)](#)

I believe the consensus you will find here is that the 3rd Generation Calculators (28s, 48g, 50g) are not pure RPN, rather RPL. See this [recent thread](#) for more discussion. This is one of many in recent months. Hope this helps.

**Re: rpn stack drop**

Message #3 Posted by [Howard Owen](#) on 17 June 2007, 1:49 p.m.,  
in response to message #1 by [K. Stefan Jansson \(IL, USA\)](#)

The short answer is that CLX is not DROP. On the RPN models, the X register (level 1 in RPL-speak) is where digits are entered. When data entry is begun, the X register is normally pushed on the stack, but see below for exceptions. On RPN machines, if you are entering digits (or alpha data on the 41/42), the back arrow key deletes your last character and backspaces. If you are not entering digits, then CLX (for CLear X) is executed. If CLX has just been entered, then stack lift is disabled. So I can delete the X register value and key a new one without pushing the T register (level 4 in RPL) into the bit bucket. On the RPL models, there is an entry line separate from the stack. The back arrow works the same way when entering data. But on all RPL models except the 28C and 28S, back arrow executes DROP when not in data entry mode.

Why the differences? I think its probably more useful to ask why RPL changed the preexisting RPN conventions. If you think about the mechanics of RPL, most operations take operands from the stack and consume them, i.e. they remove the operands from the stack as they are used. The idea seems to be that all operations with the stack are explicit and consistent. So one function that doesn't drop the stack is DUP, which is what the enter key does when not in RPN mode, or a true enter when in data entry mode. In both cases, there is no implicit manipulation of the stack. But RPN models don't have an extra data entry register. Data goes implicitly into level one, or the X register. The inconsistent stack lift behavior is dictated by the four level stack; you don't want to lose T if you don't have to. The RPL stack can grow arbitrarily, so there is no need for this stack conserving behavior. Also, the RPL stack is far more central than the RPN stack. The former can hold any object, so behavior with respect to the stack needs to be more consistent. The mechanics of the RPN stack are dictated by limited memory and conventions developed for the HP9100 and the HP35.

So the answer to your question is CLX is not DROP, and CLX came first.

Regards,  
Howard

(Edited to remove trailing stuff I didn't intend to post)

*Edited: 17 June 2007, 1:53 p.m.*

### **Re: rpn stack drop**

*Message #4 Posted by [K. Stefan Jansson \(IL, USA\)](#) on 17 June 2007, 4:49 p.m.,  
in response to message #3 by Howard Owen*

I understand that rpn and rpl don't work the same way.

But stack drop on clx is useful. It seems stupid to just put a zero instead of dropping the stack.

Let's say you enter two numbers "2" and "3". You then decide that you don't need 3, so you clx. If the stack drops, then you can do single argument functions on 2 like sine, or sqrt. If instead you want to enter another number, "4" instead of performing a function on "2", then the stack lifts.

So dropping the stack with clx is more functional, and makes more sense. To me it seems pretty annoying to have to do a rolld or  $x \langle \rangle y$  after doing a clx.

It just seems like a silly oversight on otherwise refined machines.

*Edited: 17 June 2007, 4:50 p.m.*

### **Re: rpn stack drop**

*Message #5 Posted by [Namir](#) on 17 June 2007, 4:58 p.m.,  
in response to message #4 by K. Stefan Jansson (IL, USA)*

Keep in mind that RPN stacks are fixed four-register stacks that **always** contain values. By contract, RPL stacks are dynamic. They can contain zero (that is, they are empty) or more values. So Clx with an RPN stack replace the old contents of X with 0 and sets the entry mode flag, since the RPN stack is fixed. This means that when you key in a number right after Clx, your input **replace** the 0 created by the Clx. If you perform an operation right after Clx, the calculator uses the 0 as the argument for the function.

Namir

### **Re: rpn stack drop**

*Message #6 Posted by [K. Stefan Jansson \(IL, USA\)](#) on 17 June 2007, 5:11 p.m.,  
in response to message #5 by Namir*

yes, but instead, they can simply drop the stack, but instead of replacing the value, then it can simply push the stack.

Like

t: 0 z: 0 y: 2 x: 3 then a clx leaves: t: 0 z: 0 y: 0 x: 2

at which point you can do sine cos sqrt etc. on the 2. But if you want to enter another number, then the following will occur:

t: 0 z: 0 y: 2 x: 4

instead, the 15c does this after a clx:

t: 0 z: 0 y: 2 x: 0 How does this help? To do a function on 2, you must either rdn or x<>y.

But I reiterate, in order to make the clx stack drop effective, though, you also have to make the stack push when you enter another number, as opposed to doing a function, which will operate on the 2.

### Re: rpn stack drop

Message #7 Posted by [Howard Owen](#) on 17 June 2007, 5:18 p.m.,  
in response to message #6 by K. Stefan Jansson (IL, USA)

I guess the assumption is that if you have cleared the last value in X, you intend to replace it with another. That's why stack lift is disabled after CLX. (And *not* otherwise. i.e. RDN<key numbr> doesn't overwrite the X value, but pushes it back to Y) If I want a new operand in X, I just key it in. If I **do** want to operate on Y, and assuming X isn't bogus, I will X<>Y, do the operation and X<>Y again.

This is all pretty silly. The calculators do what they do, and no amount of discussion on our part will change that. Plus it's a matter of taste which you prefer. Why argue about it?

Regards  
Howard

*Edited: 17 June 2007, 5:21 p.m.*

### Re: rpn stack drop

Message #8 Posted by [K. Stefan Jansson \(IL, USA\)](#) on 17 June 2007, 5:24 p.m.,  
in response to message #7 by Howard Owen

I don't want to argue, I just want to be understood.

The whole idea is that with stack drop/stack push, you CAN enter a new value, because it PUSHES the stack, but does not overwrite the former y.

But the convenient things is that you can ALSO perform a function on the former y register contents because it dropped into the x. Because only when you enter a new number does the stack push.

### Re: rpn stack drop

Message #9 Posted by [Howard Owen](#) on 17 June 2007, 5:10 p.m.,  
in response to message #4 by K. Stefan Jansson (IL, USA)

Quote:

\_\_\_\_\_

But stack drop on clx is useful. It seems stupid to just put a zero instead of dropping the stack.

\_\_\_\_\_

I think which you prefer has a lot to do with which you learned first. A lot of us here cut our teeth on the old machines. To me, the CLX behavior is the natural one. But, to each his own.

Quote:

\_\_\_\_\_

To me it seems pretty annoying to have to do a rolld or x<>y after doing a clx.

---

It just doesn't bother me, since that's what I expect. If it's too annoying for you, then I suggest you stick to the RPL machines.

Quote:

---

It just seems like a silly oversight on otherwise refined machines.

---

Yeah, too bad they didn't think of that in 1972.

Regards,  
Howard

### Re: rpn stack drop

*Message #10 Posted by [DaveJ](#) on 17 June 2007, 5:35 p.m.,  
in response to message #4 by K. Stefan Jansson (IL, USA)*

Quote:

---

I understand that rpn and rpl don't work the same way.

But stack drop on clx is useful. It seems stupid to just put a zero instead of dropping the stack.

Let's say you enter two numbers "2" and "3". You then decide that you don't need 3, so you clx. If the stack drops, then you can do single argument functions on 2 like sine, or sqrt. If instead you want to enter another number, "4" instead of performing a function on "2", then the stack lifts.

So dropping the stack with clx is more functional, and makes more sense. To me it seems pretty annoying to have to do a rolld or x<>y after doing a clx.

It just seems like a silly oversight on otherwise refined machines.

---

My new RPN calc project has (I think) the best of both worlds here. CLR<sub>x</sub> clears the currently entered number in the Xreg and prevents stack lift when you next enter the digit. But if you press CLR<sub>x</sub> a second time (when Xreg is 0) then the stack gets dropped.

I think it's a very sensible way to do it so that's how I implemented it in my design.

Dave.

### Re: rpn stack drop

*Message #11 Posted by [K. Stefan Jansson \(IL, USA\)](#) on 17 June 2007, 6:21 p.m.,  
in response to message #10 by [DaveJ](#)*

Why not just drop stack the first time?

### Re: rpn stack drop

Message #12 Posted by **DaveJ** on 17 June 2007, 8:55 p.m.,  
in response to message #11 by K. Stefan Jansson (IL, USA)

I initially found it distracting on the two line screen to constantly have everything move up and down the stack every time. Seemed much neater to simply clear the Xreg, after all, you started entering a number for a reason. I figured that you would more often want to simply clear an incorrect keystroke or number than clear the operation by dropping the stack.

But it's all subject to change, after I use it for some time I might find it better to simply drop the stack, or even have it as a user definable option.

Dave.

## Re: rpn stack drop

Message #13 Posted by **Karl Schneider** on 17 June 2007, 5:37 p.m.,  
in response to message #4 by K. Stefan Jansson (IL, USA)

Stefan --

Quote:

Let's say you enter two numbers "2" and "3". You then decide that you don't need 3, so you clx. If the stack drops, then you can do single argument functions on 2 like sine, or sqrt. If instead you want to enter another number, "4" instead of performing a function on "2", then the stack lifts.

So dropping the stack with clx is more functional, and makes more sense. To me it seems pretty annoying to have to do a rolld or x<>y after doing a clx.

As Namir explained, the stack has a fixed depth of four elements, so a "dropped" value would be replaced by *something*, one way or another.

If "you then decide that you don't need (*the*) 3", and don't want to replace it with something else, the best thing to do is roll down (RDN), which will place the unwanted value on the top of the stack (t-register) and drop the 2 to the x-register, so that operations can be performed. Stack-lift will remain enabled for entry of a new value to the stack -- which would push the unwanted value off the top of the stack.

If the 3 is simply to be replaced by a different value in the x-register, then CLx or DROP followed by the new value work equally well because CLx disables stack-lift: The new value, whether entered from the keyboard or recalled from memory, overwrites the place-holding zero in the x-register.

Quote:

(*From your subsequent post*): I don't want to argue, I just want to be understood.

A "words of wisdom" wall poster I've seen has the following statement:

*"Seek first to understand, then to be understood."*

: -)

Trust us -- these things were "thoroughly thought through" when implemented on the original HP-35 in

1972, and were slightly refined for successor RPN-based models.

-- KS

*Edited: 18 June 2007, 1:48 a.m. after one or more responses were posted*

### Re: rpn stack drop

Message #14 Posted by [K. Stefan Jansson \(IL, USA\)](#) on 17 June 2007, 6:18 p.m.,  
in response to message #13 by Karl Schneider

Quote:

\_\_\_\_\_

If "you then decide that you don't need (the) 3", and don't want to replace it with something else, the best thing to do is roll down (RDN), which will place the unwanted value on the top of the stack (t-register) and drop the 2 to the x-register, so that operations can be performed. Stack-lift will remain enabled for entry of a new value to the stack -- which would push the unwanted value off the top of the stack.

\_\_\_\_\_

That's what I mean. They should do an automatic rdn, instead of the user having to do it.

I guess my saying that in the first place could have avoided confusion.

*Edited: 17 June 2007, 6:35 p.m.*

### Re: rpn stack drop

Message #15 Posted by [Wayne Brown](#) on 17 June 2007, 8:40 p.m.,  
in response to message #14 by K. Stefan Jansson (IL, USA)

Quote:

\_\_\_\_\_

They should do an automatic rdn, instead of the user having to do it.

\_\_\_\_\_

Leaving the stack unchanged after **CLX** makes perfect sense to me. Dropping the stack would change the contents of the **Y** and **Z** registers. The purpose of **CLX** is to clear the **X** register (hence the name), so why should it affect other registers? The way the HP48 does it has always seemed a little strange to me, but at least the key is labeled **DROP** to indicate what it does. If I want the stack to drop on a genuine RPN machine, I'll use **RDN** to do it; there's no need for the calculator to do it for me, and I'd prefer that it leave the choice up to me rather than trying to guess what I want.

### Re: rpn stack drop

Message #16 Posted by [K. Stefan Jansson \(IL, USA\)](#) on 17 June 2007, 9:09 p.m.,  
in response to message #15 by Wayne Brown

But stack drop with stack push does not affect the user in any way except to give more options, that is, to give the user the option of performing functions on the previous contents of the y register instead of leaving a useless zero.

Bill Wickes wrote an article called "hp41 to hp48 transitions" where he talks about this exact issue. He said clx leaves a zero because of a psychological issue:

"many people, especially if they're used to algebraic calculators (which typically require you to press the clear key to start new calculations), like the sense of a "clean slate" suggested by a zero."

Personally I don't think a psychological reason is good enough. Functionality needs to take precedence. And for me it's not a psychological reason, because I don't like it that way. Nor do I like algebraic syntax.

Here's an analogy: If you're going to use psychological reasons to design a calculator, you might as well get rid of rpn, because there are plenty of people who prefer algebraic entry to RPN out of ignorance. By ignorance, I mean, they've simply never tried using RPN.

*Edited: 17 June 2007, 9:30 p.m. after one or more responses were posted*

### **Re: rpn stack drop**

*Message #17 Posted by [Paul Dale](#) on 17 June 2007, 9:19 p.m.,  
in response to message #16 by K. Stefan Jansson (IL, USA)*

On programmable models, using CLx to get a zero in the X register is very common. So it isn't completely useless...

- Pauli

### **Re: rpn stack drop**

*Message #18 Posted by [K. Stefan Jansson \(IL, USA\)](#) on 17 June 2007, 9:22 p.m.,  
in response to message #17 by Paul Dale*

If all you want is a zero, then it's just as easy to press the zero key.

### **Re: rpn stack drop**

*Message #19 Posted by [Karl Schneider](#) on 17 June 2007, 10:12 p.m.,  
in response to message #18 by K. Stefan Jansson (IL, USA)*

Stefan --

Quote:

*I guess my saying that in the first place could have avoided confusion.*

Carefully reasoning your statements is conducive to being understood.

Quote:

*They should do an automatic rdn, instead of the user having to do it.*

I generally oppose the idea of software/firmware doing things that I neither requested nor wanted. It's one of the primary complaints against Microsoft products.

Quote:



*But stack drop with stack push does not affect the user in any way except to give more options.*

---

The RPN stack is of fixed depth. What would fill behind a "dropped" element? If CLx always performed a "clear x-register" followed by RDN, then a zero would be placed in the t-register.

The previous t-register may have been wanted, because RPN will retain the t-register contents for operations that produce one result from two inputs (e.g., arithmetic "+"):

| reg | before | "+" | after |
|-----|--------|-----|-------|
| t   | 1.00   |     | 1.00  |
| z   | 2.00   |     | 1.00  |
| y   | 3.00   |     | 2.00  |
| x   | 4.00   |     | 7.00  |

This feature is handy for constant arithmetic, or evaluation of polynomials by Horner's Method (described in the manuals for the RPN HP-15C and HP-34C), as an endless supply of a value can be automatically produced if desired.

Quote:

---

*If all you want is a zero, then it's just as easy to press the zero key (instead of using CLx).*

---

Ah, but that will push the stack, leaving the unwanted value between the zero and the previous "stack y" value.

Also, as Howard said: RPN and its "CLx" are what they are, and they preceded (by 14 years) RPL and its "DROP", which are different but not necessarily better in the opinions of many.

Please take that wall-poster saying to heart. You seem wont to debate and express your own positions, instead of investigating and examining the explanations of others who made the efforts.

-- KS

*Edited: 17 June 2007, 10:19 p.m.*

## **Re: rpn stack drop**

*Message #20 Posted by [K. Stefan Jansson \(IL, USA\)](#) on 17 June 2007, 10:47 p.m.,  
in response to message #19 by Karl Schneider*

My point in quoting William Wickes is that I have done research, and the designer of the HP 48 knows the origins of the clx better than you do, I'm willing to bet.

He says that the absence of stack drop with a clx comes from a psychological hang up of algebraic calc users.

And as far as the stack thing goes, stack drop would do the same thing as addition as far as the t register goes, so the duplication of the t would occur. I

was mistaken, when I said its the same as rdn.

You said:

"I generally oppose the idea of software/firmware doing things that I neither requested nor wanted. It's one of the primary complaints against Microsoft products. "

Well the T register duplicates when the stack is full without you asking it to do that and the calc reallocates matrix memory and registers when you have not asked it to do so. The 15c does many useful things that you don't ask it to do. Doing a stack drop when you clx would be another usefull thing.

*Edited: 17 June 2007, 10:49 p.m.*

### **Re: rpn stack drop**

*Message #21 Posted by [James M. Prange \(Michigan\)](#) on 18 June 2007, 12:13 a.m.,  
in response to message #20 by K. Stefan Jansson (IL, USA)*

For what it's worth, I prefer RPL to Classic RPN, and CLx just clearing register x without dropping the stack makes sense to even me.

Okay, maybe also including a DROP command on a Classic RPN model might've been useful, but the designers chose not to do so.

Regards,  
James

*Edited: 18 June 2007, 12:16 a.m.*

### **Re: rpn stack drop**

*Message #22 Posted by [Walter B](#) on 18 June 2007, 12:22 a.m.,  
in response to message #20 by K. Stefan Jansson (IL, USA)*

Stefan,

RPN is a language used in pocket calcs for 35 years now, and it stayed consistent. RPL is *\*another\** language, though similar in many aspects. You are free to like or dislike one of them or any other. However, IMHO your personal preference will not change RPN no matter how long you will argue. There may be good reasons for this.

Found the messages of James and Howard just after posting. So, these 3 posts were written in parallel, 2 of them by very experienced members of this forum. Think!

*Edited: 18 June 2007, 12:30 a.m.*

### **Re: rpn stack drop**

*Message #23 Posted by [Thor Lansen](#) on 18 June 2007, 12:50 a.m.,  
in response to message #22 by Walter B*

*Consistent but wrong.... where have I heard that before?*

---

---

**Re: rpn stack drop**

Message #24 Posted by **Walter B** on 18 June 2007, 7:56 a.m.,  
in response to message #23 by Thor Lansen

OK Thor, one point for you! But with such a pass ...

What I did mean was: RPN started the scientific pocket calc and got a lot of competition in the following years. So if there had been anything wrong with CLx, it would have been corrected in the early years for sure. See  $x^y$  for example.

---

---

**Re: rpn stack drop**

Message #25 Posted by **Karl Schneider** on 18 June 2007, 2:52 a.m.,  
in response to message #20 by K. Stefan Jansson (IL, USA)

Quote:

---

My point in quoting William Wickes is that I have done research, and the designer of the HP 48 knows the origins of the clx better than you do, I'm willing to bet.

---

Huh? That's a *non sequitur*, but as Howard and others have already responded, I'll let it pass...

Quote:

---

He says that the absence of stack drop with a clx comes from a psychological hang up of algebraic calc users.

---

I say that CLx "zeroes out" the x-register and leaves others unmodified is that the stack depth is fixed at four elements, requiring that some placeholder fill in for a "deleted" element. What better than zero -- blanks?

Quote:

---

Well the T register duplicates when the stack is full without you asking it to do that

---

No, the t-register generally retains its stored value, until some stack-lifting operation replaces that value with the previous contents of the z-register, or RDN replaces the value with the contents of the x-register.

One exception to that is the numerical-integration function ("INTEG") offered on the HP-34C, HP-15C, HP-32S/SII, and HP-33S. On the HP-34C and HP-15C, INTEG (and SOLVE) as a convenience will automatically load the stack with the latest input value of the variable of integration or rootfinding, prior to each execution of the program defining the user's function. This is OK, because these special functions are designed to "process" only one variable. Other necessary inputs to the

user's function can be retrieved from storage registers.

Upon completion of INTEG, each of these models will return four values to the stack:

```
t    lower limit (restored from input)
z    upper limit (restored from input)
y    estimate of maximum error
x    estimate of integral
```

This also is OK, because the original stack contents when INTEG was invoked had been repeatedly overwritten anyway...

Quote:

---

and the calc reallocates matrix memory and registers when you have not asked it to do so.

---

I don't quite understand that statement. It's not true of the HP-15C, which has only manual memory allocation. The HP-15C will utilize free registers from the "pool" as necessary to store a matrix result, but that is perfectly acceptable.

The HP-11C and HP-34C -- which lack matrix functionality -- will automatically delete data registers as necessary to accommodate more programming instructions entered by the user, but I don't consider that a desirable attribute.

Quote:

---

The 15c does many useful things that you don't ask it to do.

---

I do agree with that statement. Those are *thoughtful features* which never cause the user consternation, as opposed to irritating distractions.

Please see above for an example.

Quote:

---

Doing a stack drop when you clx would be another usefull thing.

---

I vehemently disagree with that, and if you don't understand why, you weren't earnestly *reading* the responses from me and others. Why do you keep hammering away at this issue, which was certainly significant to product design, but is rather trivial in the grand scheme of things? Is it because you enjoy the argument and seek to be understood before all else?

-- KS

## Re: rpn stack drop

Message #26 Posted by [DaveJ](#) on 17 June 2007, 11:23 p.m.,  
in response to message #16 by K. Stefan Jansson (IL, USA)

Quote:

---

But stack drop with stack push does not affect the user in any way except to give more options, that is, to give the user the option of performing functions on the previous contents of the y register instead of leaving a useless zero.

Bill Wickes wrote an article called "hp41 to hp48 transitions" where he talks about this exact issue. He said clx leaves a zero because of a psychological issue:

"many people, especially if they're used to algebraic calculators (which typically require you to press the clear key to start new calculations), like the sense of a "clean slate" suggested by a zero."

---

And what is wrong with that? There is actually some logic in that. Remember, a *\*human\** is operating the calculator, not a machine. If the CLRX key helps the person with their thinking when doing calculations then CLRX can become a *\*good\** design feature.

Quote:

---

Personally I don't think a psychological reason is good enough. Functionality needs to take precedence. And for me it's not a psychological reason, because I don't like it that way. Nor do I like algebraic syntax.

Here's an analogy: If you're going to use psychological reasons to design a calculator, you might as well get rid of rpn, because there are plenty of people who prefer algebraic entry to RPN out of ignorance. By ignorance, I mean, they've simply never tried using RPN.

---

Not so. I know many people who have (seriously) tried RPN and simply don't like it. Likewise I also know people who grew up with RPN but have switched to Algebraic. Just as there are Algebraic users who try RPN and then make the switch.

It *\*always\** comes down to an individual's preference which is a "psychological" matter. Any argument of RPN vs Algebraic, or RPN vs RPL, or *\*insert whatever you like here\** will always be a moot point.

Calculators are used by humans, and humans are psychological in nature. Ignoring that in the design of any product is not always the right way to go.

Dave.

## **Re: rpn stack drop**

*Message #27 Posted by [Howard Owen](#) on 18 June 2007, 12:17 a.m., in response to message #16 by K. Stefan Jansson (IL, USA)*

Quote:

---

Bill Wickes wrote an article called "hp41 to hp48 transitions"

---

If you read that book, then you know that William Wickes *designed* RPL. Of *course* he's going to prefer the way RPL does it. He wrote it! Plus, meaning no disrespect for Dr. Wickes, he wasn't speaking with the authority of someone who had been around in 1972 when the design of the RPN stack was created. He rose to prominence in the late 1970's, as one of the folks most responsible for synthetic programming on the HP41. He was the first to put together a complete description of SP. I learned SP from his book in 1984. I don't believe he was working for HP even then. He was hired as a leading light in the HP calculator community to design the next generation of calculators. So that was probably in 1985 or so.

Anyhow, your statement below that Doctor Wickes "knows the origins of the clx better than you do, I'm willing to bet," is factually dubious and *rude*. We have a nice, collegial atmosphere here. We have vigorous debate, but without personal statements like "better than you do." I recommend you look into some of the archives to see how those are handled.

Howard

### Re: rpn stack drop

Message #28 Posted by **Wayne Brown** on 18 June 2007, 12:40 a.m.,  
in response to message #16 by K. Stefan Jansson (IL, USA)

Quote:

---

But stack drop with stack push does not affect the user in any way except to give more options, that is, to give the user the option of performing functions on the previous contents of the y register instead of leaving a useless zero.

---

Yes, it certainly does affect the user in other ways. For instance, if I write a program that depends on certain things being in certain registers, and issue a **CLX**, then I can count on everything in the registers other than **X** remaining exactly as they were. Under your plan, I'd need to take extra steps to put things back like they were before the **CLX** was executed, which is silly for a command whose only purpose is to alter one specific register. Even when I'm just entering things manually from the keyboard, I have to keep a mental picture of the stack and where everything is. The less often things move around, the easier it will be to keep track of where they are.

Quote:

---

Bill Wickes wrote an article called "hp41 to hp48 transitions" where he talks about this exact issue.

---

I have a great deal of respect for Bill Wickes; however, I'd have even more respect for him if he had stuck to extending and improving RPN rather than transforming it into RPL. As much as I love my 48GX, I'd like it a lot more if it worked more like my even more beloved 41CX.

### Re: rpn stack drop

Message #29 Posted by [James M. Prange \(Michigan\)](#) on 18 June 2007, 6:14 p.m.,  
in response to message #16 by K. Stefan Jansson (IL, USA)

Actually, Bill Wickes wrote a **book** named *HP 41/HP 48 Transitions*. A scanned .PDF copy of it is available on the current HP Museum CD-ROM set / DVD-ROM.

Although I certainly have a great deal of respect for Bill Wickes, I'm surprised at that statement from him. I suppose that "starting with a clean slate" might be a reason for some to use the CLX key, but I'd be surprised if that were a common practice for most Classic RPN users. Certainly this "use" of CLX had never occurred to me. After all, pressing CLX as the start of a new problem simply means that a zero in register X will be replaced (without changing anything else) instead of whatever already happens to be in register X being replaced (discarding the contents of T and lifting the contents of the previous X, Y, and Z to Y, Z, and T). Certainly if the user cares about the contents of Y, Z, or T, then he's going to take care of that. Why waste the extra CLX keystroke?

If one really wants to "start with a clean slate", then CLST (on a 41) would seem to me a more reasonable choice, as it loads zeros into all stack registers, possibly saving the user the trouble of pushing zeros into all of them. Of course, depending on the model and what the user intends to do next, there may be other areas (such as statistics data) that the user may want to clear for a "clean slate".

Using CLX seems to me analogous to using the CE key instead of the C key on an algebraic entry model. Certainly using CE doesn't prevent such "features" as "constants operations" on an algebraic model; if you want the "clean slate", then you use the C key.

It seems to me that a much more reasonable primary reason for using CLX would be for when the user realized that he's entered the wrong value, and wants to replace it with the correct value without disturbing anything else, much like using a CE key on an algebraic input model.

Bill Wickes also mentions CLX in various other places in *Transitions*; notably, "CLX is primarily intended for replacing the contents of X with a new value. By disabling stack lift, the zero CLX enters can be overwritten by a following entry."

On an RPL model, a CLX key would seem rather silly. First off, a stack level can point to any type of object, so replacing the contents of level 1 with the real number zero wouldn't be such an obvious choice. More importantly, on an RPL model, one never writes directly into level 1, so to replace a "zeroed-out" level one, one would have to edit the level 1 object in the command line editor and enter the edited contents. It's easier to simply remove level 1 with a DROP, key in a new value (which automatically activates the command line editor), and enter the new value. Of course, if one wants to abandon the command line editor (discarding any contents), then the CANCEL (or ATTN) key is pressed.

Regards,  
James

*Edited: 19 June 2007, 3:09 a.m.*

## Re: rpn stack drop = CLx +

Message #30 Posted by [Antonio Maschio \(Italy\)](#) on 18 June 2007, 3:16 a.m.,  
in response to message #1 by K. Stefan Jansson (IL, USA)

in RPN:

DROP = CLx +

-- Antonio

*Edited: 18 June 2007, 3:42 a.m.*

**Re: rpn stack drop = CLx +**

*Message #31 Posted by [Howard Owen](#) on 18 June 2007, 4:09 a.m.,  
in response to message #30 by Antonio Maschio (Italy)*

That is brilliant. Thanks Antonio!

Regards,  
Howard

**Re: rpn stack drop = CLx +**

*Message #32 Posted by [Bram](#) on 18 June 2007, 4:15 a.m.,  
in response to message #30 by Antonio Maschio (Italy)*

Quote:

\_\_\_\_\_

DROP = CLx +

\_\_\_\_\_

hmmm.... not considering the LastX, that is.

**Re: rpn stack drop = CLx +**

*Message #33 Posted by [Karl Schneider](#) on 18 June 2007, 11:22 a.m.,  
in response to message #30 by Antonio Maschio (Italy)*

Hi, Antonio --

DROP = [CLx][+] or [CLx][-]

Indeed, I belatedly thought of this last night after I'd logged out as a solution to the functionality that Stefan seemed to favor. Your post would have beaten mine even had I gotten back to it.

I've used this sequence to "purge" a value from the x-register while preserving the t-register for replication. However, CLx should not perform in that manner for reasons already stated.

-- KS

**Re: rpn stack drop = CLx +**

*Message #34 Posted by [Howard Owen](#) on 18 June 2007, 10:35 p.m.,  
in response to message #33 by Karl Schneider*

Quote:

\_\_\_\_\_

DROP = [CLx][+] or [CLx][-]

\_\_\_\_\_



More or less.

8)

Regards,  
Howard

## Re: rpn stack drop

Message #35 Posted by [Valentin Albilló](#) on 18 June 2007, 6:29 a.m.,  
in response to message #1 by K. Stefan Jansson (IL, USA)

Hi, K. Stefan Jansson:

K. Stefan Jansson posted:

*"I wonder why such calculators as the 15c or 32s don't do stack drop when you perform a clx."*

In the HP-15C, CLX is used to allow you to independently modify/clear the real and/or imaginary parts of a complex value in the X register without disturbing the rest of the stack. By using it, you can: conveniently alter one without altering the other, clearing just the real part or just the imaginary part, enter or modify a complex number in the X-register without disturbing the rest of the stack (not possible in the HP42S, for instance), and recall a complex number from storage registers into X without disturbing the rest of the stack:

These useful operations wouldn't be possible if CLX did a stack drop (or would be much more convoluted), and would thus require some other specific functionalities instead in order to be able to achieve the aforementioned purposes.

All of this is thoroughly discussed in pages 125-130 (six pages nos less !) of the HP-15C Owner's Handbook.

Best regards from V.

*Edited: 18 June 2007, 6:46 a.m.*

## RPN stack drop: HP17BII and HP19BII

Message #36 Posted by [Vieira, Luiz C. \(Brazil\)](#) on 18 June 2007, 7:02 a.m.,  
in response to message #1 by K. Stefan Jansson (IL, USA)

Hi, Stefan;

The HP17BII and the HP19BII are two examples of calculators with variable size RPN stack (in RPN mode, in this case). They actually have as many stack levels as arguments you enter, in a maximum of four. If you clear the stack, only the X-register exists. For example, if you enter 2 and 3, either [Rv] (roll-down) or [x<>y] (X-exchange-Y) cause exactly the same effect, showing 2 or 3 each time they are pressed. In any case, CLX will actually replace the X-register contents for 0 (zero), but will not cause the stack to 'drop it out'.

I am not sure if there are other RPN calculators that do so. Maybe the HP17BII+, could not test.

Cheers.

Luiz (Brazil)

*Edited: 18 June 2007, 7:05 a.m.*

## **Re: RPN stack drop: HP17BII and HP19BII**

*Message #37 Posted by [bill platt](#) on 18 June 2007, 12:58 p.m.,  
in response to message #36 by Vieira, Luiz C. (Brazil)*

Good point Luiz.

To further clarify:

on the 17bii, if you [shift] [clear data] the stack empties and grows to suit your needs as Luiz stated above.

Hoever, note that stack lift and drop are considered: so that if you do:

```
4
[ENTER]
5
x
```

the resulting stack will be:

```
t {not exist}
z {not exist}
y {not exist}
x 20
```

During the operation, you used the y-register, but it dropped back to the X-register.

Similiarly, if you do

```
3
[enter]
2
[enter]
1
+
X
```

you will get 9, and no stack.

You can tell that the stack is non-existent because roll-down does not bring any zeroes or other numbers.

However, once you actually use the t-register, then the stack becomes a standard 4-register stack--it will not collapse, and all further operations will function as a 4-level stack as usual.

*Edited: 18 June 2007, 1:11 p.m. after one or more responses were posted*

## **Re: RPN stack drop: HP17BII and HP19BII**

*Message #38 Posted by [Bob Wang](#) on 18 June 2007, 1:11 p.m.,  
in response to message #37 by bill platt*

Bill:

I think you mean:

```
3 [enter] 2 [enter] 1 + X
```

Bob

**Re: RPN stack drop: HP17BII and HP19BII**

*Message #39 Posted by **Bob Wang** on 18 June 2007, 1:09 p.m.,  
in response to message #36 by Vieira, Luiz C. (Brazil)*

>>>I am not sure if there are other RPN calculators that do so. Maybe the HP17BII+, could not test.<<<

Luis:

My 17BII+ S/N: CN333015xx behaves like my 19BII.

Bob

---

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## HP Forum Archive 17

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### HP Calculator Video

Message #1 Posted by [Kevin Kitts](#) on 16 June 2007, 11:54 p.m.

Is this old news to everyone - nice video from HP about calculators including an appearance by the HP Museum curator himself... ;-)

[http://h20331.www2.hp.com/Hpsub/downloads/HP\\_35\\_years.wmv](http://h20331.www2.hp.com/Hpsub/downloads/HP_35_years.wmv)

### Re: HP Calculator Video

Message #2 Posted by [Walter B](#) on 17 June 2007, 1:25 a.m.,  
in response to message #1 by Kevin Kitts

Kevin,

Thanks for the link. It was new for me at least. - The video contains some clear commitments of today's HP. Let us wait and see what real objects come out of them.

Dave,

you are looking much younger than I imagined :-)) So the future of your (and our) museum looks brighter now than I feared. And my hope for a more complete coverage of the Pioneers and 48g rose ;-)

Best regards,

Walter

*Edited: 17 June 2007, 4:20 a.m.*

### Re: HP Calculator Video

Message #3 Posted by [Karl Schneider](#) on 17 June 2007, 3:04 a.m.,  
in response to message #1 by Kevin Kitts

Kevin --

Thanks for the link. It was new to me, and I enjoyed watching the video.

I had some problems downloading the video directly at the URL you provided, but the following procedure worked:

Go to [http://h20331.www2.hp.com/Hpsub/cache/457246-0-0-225-121.html?jumpid=ex\\_r2845\\_go/35celebration/calculators](http://h20331.www2.hp.com/Hpsub/cache/457246-0-0-225-121.html?jumpid=ex_r2845_go/35celebration/calculators)

and then do "save target as" on the text "35th Anniversary Video" or the photo above it.

Notes:

1. The 7-minute, 35-second \*.wmv (Windows Metafile Video) is 27.8 MB, not 8.6 MB as indicated.
2. There is no mention of the excellent HP-15C, unfortunately.

-- KS

### **Re: HP Calculator Video**

*Message #4 Posted by **Massimo Gnerucci (Italy)** on 17 June 2007, 6:00 a.m.,  
in response to message #3 by Karl Schneider*

There are also wallpapers and a screensaver.

If you try this one when comes the turn of the 41C you have a background image of an astronaut with a 65 in his hand while the didascallic picture is still a 35...

So we can all complain about our favourite! ;-)

Anybody found a way to save the FLV video you can find [here?](#)

Greetings,  
Massimo

---

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## HP Forum Archive 17

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### 80 col video interface to PC LCD Monitor

Message #1 Posted by [PeterP](#) on 16 June 2007, 1:56 a.m.

Hi,

I recently acquired the 80 col mountainview/HP video interface hoping there will be a way to connect it to a standard PC LCD monitor. I searched in the archives yet the best idea I was able to find was to get a TV-tuner card, most of which have a video composite in plug and use that to display on the PC.

Unfortunately I have one of those mini-PC from Shuttle (I live in NYC and my shoebox aka apartment does not allow for those fullsize beige boxes...) and I do not have an extra slot. And my graphics card does not have a composite video in.

I also googled a lot and tried to find an adapter yet with no real luck. So I now come to the place where I should have gone maybe first and ask if anyone knows of a good solution to this problem?

Thanks a lot in advance!

Cheers

Peter

### Re: 80 col video interface to PC LCD Monitor

Message #2 Posted by [Egan Ford](#) on 16 June 2007, 3:30 a.m.,  
in response to message #1 by [PeterP](#)

What is the output? Composite? If so Google for: "composite to vga converter"

E.g. <http://www.ramelectronics.net/html/video-vga-gvm-2000.html>

### Re: 80 col video interface to PC LCD Monitor

Message #3 Posted by [PeterP](#) on 16 June 2007, 12:34 p.m.,  
in response to message #2 by [Egan Ford](#)

Thanks Egan, that is very helpful. I guess that was part of my problem. From studying the old posts it was not quite clear to me if it is the same as today's composite. It is a yellow cinch out plug which points in that direction. However Diego Diaz mentioned something about the synchronization frequency that might be different (I'm not that familiar with video signals). Would you guess that the composite signal from the 80s is the same as the one today?

Thanks so much for your help!

Cheers

Peter

---

**Re: 80 col video interface to PC LCD Monitor**

*Message #4 Posted by [Diego Diaz](#) on 16 June 2007, 3:02 p.m.,  
in response to message #3 by PeterP*

Hi Peter,

How are you doing?

Must confess I don't recall when did I wrote about sync signals but it doesn't come to the point whatsoever... :-)

So you've got a means to produce video signals (composite) from your HP-80... lucky guy!!

Display options: a) your TV (easiest) and b) your PC (not so easy)

Let us know if your TV has a composite video input (or which inputs does it have). Also which video inputs (if any) does your PC have.

Depending on that you may set your connection up in defferent ways.

More likely your new Mountain 80 col. box is supplying composite video signal according to NTCS standards. This will show up on any U.S. TV set (as well as most modern TV's worldwide, even if they're not NTSC... -say PAL-) provided it has a composite video input (usually an RCA -yellow-connector).

To send that video signal into your PC will require a more complicated (not much though) work around.

Let's know of your progress.

Best wishes.

Diego

---

**Re: 80 col video interface to PC LCD Monitor**

*Message #5 Posted by [PeterP](#) on 17 June 2007, 12:30 a.m.,  
in response to message #4 by Diego Diaz*

Diego, good to hear from you.

Yes I got lucky with that Mountainview 80 col display :-)

My TV would not help me, it is hanging on the wall with its connectors rather hidden and difficult to reach. So it will have to be my PC Monitor... My Graphics Card is a NVIDAI 7900 GTX which has two DVI(?) connectors and no composite ones. So I guess it would be hard to go through the PC (getting a e.g. All-In-One Wonder card with TV-tuner was one of the suggestions in the forum archive...)

I just want to find a way to connect the mountainview to my LCD monitor. Well, I guess the devil lies in the word 'just' ;-)

Thanks for any help you can offer!

Cheers

Peter

**Re: 80 col video interface to PC LCD Monitor**

*Message #6 Posted by [Diego Diaz](#) on 19 June 2007, 5:39 p.m.,  
in response to message #5 by PeterP*

Hi,

In order to use your PC monitor as an HP-41 display, I also think that video capture board is the best approach (as stated above).

Just make sure you get one with analog composite input (RCA connector) and you'll have it into a window. Synchronism timing shouldn't be a problem.

Enjoy your toys!! ;-))

Diego.

**Re: 80 col video interface to PC LCD Monitor Found a Solution!**

*Message #7 Posted by [PeterP](#) on 19 June 2007, 11:38 p.m.,  
in response to message #6 by Diego Diaz*

Diego et al,

thanks for all your guys help. In the end I got very lucky - on uBid someone sold a car-video solution to show VHS videos on a 5" LCD monitor. And the input was via composite! And the price - 1 USD...

Needless to say, that I bought that and now use it as a small and even portable monitor (not that the Mountainview thing is portable...) ONLY thing, due to the small size, I can only use 40x25 if I want to be able to read it easily. But it was a cheap and easy solution!

Thanks again for all the help

Cheers

Peter

---

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## HP Forum Archive 17

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### **Barcode printing for HP41CX on HP2671G thermal printer**

Message #1 Posted by [Prabhu Bhooplapur](#) on 16 June 2007, 1:22 a.m.

Does anyone have a program for HP41CX/CV that will print barcodes of the programs on the HP2671G thermal printer? This thermal printer comes with HPIB interface and can be connected to HP41CX via the HPIB-HPIL interface. Thanks.

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**HP41CV Dead**

Message #1 Posted by [colhind](#) on 15 June 2007, 11:52 p.m.

I have an HP41CV that was stored for about four years with battery left in it. I recently decided to resurrect it but find that I cannot breath any life into it. It was working when stored but is now as dead as an Auk.

I also have another 41 that works fine so I tried swapping bits back and forth to determine which part is faulty. It turns out that everything in it works except the keyboard/display unit.

In other words the problem isn't related to any of the usual things like crook battery contacts, poor contact between the printed circuit boards, etc. It would appear that something on the display/keyboard unit has died in its sleep. Either that or there is something that needs to be reset.

Any ideas will be greatly appreciated.

Cheers, Ron

**Re: HP41CV Dead**

Message #2 Posted by [Ralph](#) on 16 June 2007, 8:12 p.m.,  
in response to message #1 by [colhind](#)

I had a 41C expire many years ago. I didn't store it with batteries but I did store it in a hand made leather case my Uncle made for it. The leather dyes and chemicals and the humidity in the pouch destroyed the flimsy interface gizmo between the boards. For a while I had it running with a crude solder job but the wires were too big and stiff for the task at hand. Check the board interface for clean contacts and that the coil assembly is not damaged. I can't recall the proper name for the little thing.

also check the mount posts to see that they are not broken. Then the boards won't make contact either.

**Re: HP41CV Dead**

Message #3 Posted by [colhind](#) on 20 June 2007, 2:42 a.m.,  
in response to message #2 by [Ralph](#)

Thanks for the tip.

Sadly, deterioration of the conductive strip connecting the two boards isn't the problem. I wish it was for I would rapidly solve it with my trusty soldering iron and a few strands of enamelled wire. No; by a process of elimination I have found that whatever the problem is, it is related to the keyboard/display printed circuit board.

I set out to try to awaken it by means of operating the card reader but alas I cannot try that until I fix the confounded drive wheel which I now find has turned to mush. Now where did I put those little O rings?

Anyroad I am still hoping for suggestions.

Cheers, Ron

**Re: HP41CV Dead**

*Message #4 Posted by [Marco Schriek](#) on 4 July 2007, 4:36 p.m.,  
in response to message #3 by colhind*

Maybe a stupid question but how do you open a HP41CV? My 2-key is playing tricks with me and I want to clean the calculator on the inside. My HP41CV is about 26 years old and still working pretty good until some month ago. The problem is getting worse. Any suggestions.

**Re: HP41CV Dead**

*Message #5 Posted by [Randy](#) on 4 July 2007, 7:01 p.m.,  
in response to message #4 by Marco Schriek*

Remove the four rubber feet. Be careful when peeling them off, they have two layers. Make sure you get both layers together or they will not stick again. Remove the four phillips screws that appeared under the feet. Lift off the rear cover. On Fullnuts, lift off the logic board and then the battery shield.

Another specific Fullnut issue: Later units have two 0.015" white teflon washers on the lower posts. If your unit has them, don't loose them! They go on top of the logic board.

**[Cleaning intermittent 41 keys](#)**

If you remove the battery/port connection block from the case bottom, be sure to remove the four port covers or modules first. Removing the block with covers in place can tear the thin conductive foil.

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### HP50G

Message #1 Posted by [Marcus Neville](#) on 15 June 2007, 2:40 p.m.

It's a great calculator. How about hpmuseum devote some space to it?

### Re: HP50G

Message #2 Posted by [Gene](#) on 15 June 2007, 2:55 p.m.,  
in response to message #1 by Marcus Neville

Usually, the museum only looks at calculators once they are discontinued and old enough. That's why it is a museum. :-)

The HP50g has been out about a year. Doesn't fit either category, so it's not in the museum proper.

Some people here discuss the 50g and RPL, but others don't like to do so for the reasons given above.

You can always try the usenet newsgroup comp.sys.hp48 for discussions about the 50g.

### Re: HP50G

Message #3 Posted by [Walter B](#) on 15 June 2007, 3:53 p.m.,  
in response to message #1 by Marcus Neville

The museum doesn't even devote some space to the 48gx, though production was discontinued some years ago already. Look at [this place in the museum](#) and you'll find many calcs of the last 2 decades treated quite shortly. So I guess the 50g will have to queue there for years at least ;-)

### Commemorating the Pioneer series

Message #4 Posted by [Karl Schneider](#) on 16 June 2007, 2:20 a.m.,  
in response to message #3 by Walter B

Hi, Walter (and Dave!) --

I'd say that a new, dedicated section for the Pioneer series is the foremost "missing content" that the MoHPC ought to have. However, one should remember that only volunteer labor is employed in the MoHPC. I'd be willing to prepare a few sections if guidelines and templates are provided. I also own at least one of every Pioneer-series model.

-- KS

### Re: Commemorating the Pioneer series

Message #5 Posted by [Walter B](#) on 16 June 2007, 5:38 a.m.,  
in response to message #4 by Karl Schneider

Quote:

---

I'd be willing to prepare a few sections if guidelines and templates are provided. I also own at least one of every Pioneer-series model.

---

So do I (for scientific models only, strictly no business).

---

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## HP Forum Archive 17

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### Comparing data sheets - 33s and 35s

Message #1 Posted by [Hans de Moor](#) on 15 June 2007, 1:40 p.m.

Comparing the 33s data sheet with the prematurely released (and maybe not even right) 35s data sheet shows that these calculators are very close siblings:

1. The processor (SPLB31A), memory (31k), and batteries (2 x CR2032) are the same. The display is the basically the same (2 lines x 14 char) but it may have some annunciator differences.
2. The 33s has 48 keys while the 35s has 43.
3. The firmware is obviously different because the 35s has 800+ registers vs 27, imaginary numbers are handled differently, and the 35s has 42 constants while the 33s has 40.

The 35s data sheet also says it is the only scientific calculator available that can do algebraic and RPN entry. This implies the 33s will be taken off the market.

My only gripe with the 33s has been the keyboard form and cluttered layout, so I am very happy to see a revised version that actually looks and hopefully feels like a traditional HP calculator. I'll probably buy three. One for the office, one for home, and one that will remain unopened until one of the other two fails after 2027. If I only bought three HP-11c's in 1987 for the same purpose ...

### Re: Comparing data sheets - 33s and 35s

Message #2 Posted by [Gerson W. Barbosa](#) on 15 June 2007, 2:29 p.m.,  
in response to message #1 by Hans de Moor

Quote:

\_\_\_\_\_

If I only bought three HP-11c's in 1987 for the same purpose ...

\_\_\_\_\_

In 1983 I bought one HP-15C for myself and one HP-11C for one of my brothers. Both still work nicely. If I had bought another 15C as a spare, it would be still in its package. But who would have thought of this back then? Firstly, they were supposed to last a lifetime; secondly, they were too pricey!

The HP-11C appears to be particularly appreciated by some scientists, as we can see here:

<http://muller.lbl.gov/pages/nemch1.htm>

Scroll down the page and take a look at the second to last paragraph. Will there ever be a touching mention of the HP-35S in a scientific paper? :-)

### Re: Comparing data sheets - 33s and 35s

Message #3 Posted by [DaveJ](#) on 15 June 2007, 7:42 p.m.,  
in response to message #2 by Gerson W. Barbosa

Quote:

<http://muller.lbl.gov/pages/nemch1.htm>

Scroll down the page and take a look at the second to last paragraph. Will there ever be a touching mention of the HP-35S in a scientific paper? :-)

"Nemesis the Death Star" by Richard Muller is an excellent read, I'd highly recommend it. Anyone remotely into science will enjoy it.

Dave.

### [OT] Nemesis Star

*Message #4 Posted by **Gerson W. Barbosa** on 15 June 2007, 10:32 p.m.,  
in response to message #3 by DaveJ*

Quote:

Anyone remotely into science will enjoy it.

I think this comprises almost everyone here. The excerpt in the previous link appears in the book *The World Treasury of Physics, Astronomy and Mathematics* (ISBN 0-316-28129-8), pages 261-267. The missing mass extinction chart can be found here:

<http://muller.lbl.gov/pages/lbl-nem.htm>

Gerson.

### Re: [OT] Nemesis Star

*Message #5 Posted by **DaveJ** on 16 June 2007, 10:38 a.m.,  
in response to message #4 by Gerson W. Barbosa*

Quote:

I think this comprises almost everyone here. The excerpt in the previous link appears in the book *The World Treasury of Physics, Astronomy and Mathematics* (ISBN 0-316-28129-8), pages 261-267. The missing mass extinction chart can be found here:

<http://muller.lbl.gov/pages/lbl-nem.htm> Gerson.

And of course it is the first chapter in the Nemesis book. The rest of the book in the same style, and it really gives a great insight into how scientists go about investigating and coming up with major discoveries like this.

ISBN for the copy of Nemesis I have is 0-343-48161-0 but it seems to go under many others.

Dave.

### Re: [OT] Nemesis Star

*Message #6 Posted by **John Noble** on 16 June 2007, 7:17 p.m.,*

*in response to message #4 by Gerson W. Barbosa*

Quote:

---

I think this comprises almost everyone here. The excerpt in the previous link appears in the book *The World Treasury of Physics, Astronomy and Mathematics* (ISBN 0-316-28129-8), pages 261-267. The missing mass extinction chart can be found here:

<http://muller.lbl.gov/pages/lbl-nem.htm>

Gerson.

---

Awesome book: all the greatest hits are there in one volume. Try *How a Supernova Explodes* by Hans Bethe and Gerald Brown -- it's a mind-blower.

Yeah, we're all dorks. That's why we get the chicks.

---

### **Re: [OT] Nemesis Star**

*Message #7 Posted by **Gerson W. Barbosa** on 16 June 2007, 9:21 p.m.,  
in response to message #6 by John Noble*

Quote:

---

Awesome book: all the greatest hits are there in one volume. Try *How a Supernova Explodes* by Hans Bethe and Gerald Brown -- it's a mind-blower.

---

Indeed! I got mine from BOMC some years ago but so far I have read only a few articles, including the one you recommend. For those of you interested, the complete table of contents and another excerpt can be found here:

[http://www.amazon.com/gp/reader/0316281336/ref=sib\\_dp\\_pop\\_toc/102-6071978-0724915?ie=UTF8&p=S006#reader-link](http://www.amazon.com/gp/reader/0316281336/ref=sib_dp_pop_toc/102-6071978-0724915?ie=UTF8&p=S006#reader-link)

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## HP Forum Archive 17

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**HP 48 GX**

Message #1 Posted by [Emily Lane](#) on 14 June 2007, 10:41 p.m.

I need help in cleaning the key pad, does anyone know how to take the calculator apart? Do I need specific tools? where can I get the tools? Emily

**Re: HP 48 GX**

Message #2 Posted by [allen](#) on 15 June 2007, 7:29 a.m.,  
in response to message #1 by Emily Lane

Odds are 100 to 1 you'll do more damage than you are trying to fix, and in the process ruin and scar an otherwise dirty (but functional) calculator. I've opened several, and the kindest method is still very destructive.

**Re: HP 48 GX**

Message #3 Posted by [Patrick R](#) on 15 June 2007, 8:29 a.m.,  
in response to message #1 by Emily Lane

Two years ago, I opened a definitely broken 48 GX just to see how it looks inside. The calculator can indeed not be opened without damage. On hpcalc.org there are several instructions with photos available, but I would definitely not do that to a working calculator with minor flaws.

**Re: HP 48 GX**

Message #4 Posted by [Bob](#) on 15 June 2007, 8:54 a.m.,  
in response to message #1 by Emily Lane

Just what symptoms is your keypad displaying? ...sticky keys, null keys, wobbly keys, etc?

It might help folks here to come up with a faster, less damaging way of correcting your problem.

**Re: HP 48 GX**

Message #5 Posted by [Ron](#) on 15 June 2007, 9:27 a.m.,  
in response to message #1 by Emily Lane

Yes, you can take it apart; but for a sticky keypad, a good cleaning in distilled water is probably what it really needs.

With batteries removed, submerge it in DISTILLED water, in a GLASS dish. Push each key several times. Let it soak a while, then take it out. With the calc face down, press all the keys several times to get rid of the now dirty water. Repeat the whole process with a new bowl of distilled water. Then, let it dry THOROUGHLY before installing batteries. I let mine dry about three days in a warm dry place. Over my heater vent in winter was a good place.

I've done this, as have several other people here. If this doesn't work, then you can take it apart. After you get

it apart, it seems like the keypad is heatstaked to the frame; I can't remember, but someone else here will.

**Re: HP 48 SX**

*Message #6 Posted by [kenedy mondesir](#) on 15 June 2007, 10:53 a.m.,  
in response to message #1 by Emily Lane*

I an HP 48 SX I am looking to find a user manual for it wher i can find one or what web site i can download it from. Please send advise and web pages.

thank

kenedy

**Re: HP 48 SX**

*Message #7 Posted by [Giancarlo \(Italy\)](#) on 15 June 2007, 12:10 p.m.,  
in response to message #6 by kenedy mondesir*

Hi.

Please have a look on this very same site:

[Museum CD/DVD Set](#)

I strongly suggest you get a CD/DVD set following this link:

<https://ssl15.pair.com/cgi-sys/cgiwrap/hpmuseum/orderform.cgi>

Those discs are full of great stuff (including your manuals, of course ;-)

Hope this helps.

Best regards.

Giancarlo

*Edited: 15 June 2007, 12:11 p.m.*

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## HP Forum Archive 17

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### HP-41CX at HP Virtual Museum

Message #1 Posted by [Gerson W. Barbosa](#) on 14 June 2007, 9:48 p.m.

Do you remember this thread started by Gileno?

[HP 41 in the site of HP !!!!](#)

It appears HP hasn't found a better HP-41CX to date...

I can hand them one unused unit (2819S) for a photo session provided they send it back to me with a couple of HP-35S as a token of gratitude :-)

### Re: HP-41CX at HP Virtual Museum

Message #2 Posted by [Gerson W. Barbosa](#) on 14 June 2007, 9:54 p.m.,  
in response to message #1 by [Gerson W. Barbosa](#)

Quote:

\_\_\_\_\_

one unused unit (2819S)

\_\_\_\_\_

Oh, I see. They would need one with a serial number starting with 23...

Anyone?

### Re: HP-41CX at HP Virtual Museum

Message #3 Posted by [Jan](#) on 15 June 2007, 9:00 a.m.,  
in response to message #1 by [Gerson W. Barbosa](#)

I am both curious and worried about the new 35S. I like what I have seen until now, but a picture on an official HP-website like the one addressed in this thread gives me unpleasant feelings about HP's attention for product quality nowadays. Especially the earlier thread you referred to is quite disturbing.

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## HP Forum Archive 17

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### HP 67 Emulator

Message #1 Posted by **Chuck** on 14 June 2007, 5:27 p.m.

I'm not sure if this has been mentioned before (I can't find it using search), but I was exploring the Apple website and came across this emulator for the HP67. I can't comment on it because I'm stuck with Winders (However, the new Safari browser for windows is slick, so far).

[HP 67 Emulator](#)

Edited: 14 June 2007, 10:04 p.m.

### Re: HP 67 Emulator

Message #2 Posted by **Chuck** on 14 June 2007, 11:59 p.m.,  
in response to message #1 by Chuck

The download was at 3000 four hours ago...now it's over 11,000. There's quite a few HP fans out there. I think HP will do okay when they release their newest surprises.

### LXVII is a simulator

Message #3 Posted by **Mike (Stgt)** on 15 June 2007, 5:52 a.m.,  
in response to message #1 by Chuck

:quote.A faithful simulator of the original hp-67 calculator [...] compatibility with the hp-67 in button layout and programmability ....:equote.

If you have access to Windoze only try **Nonpareil**. BTW, there exist emulators to run Mac OS on Win-XYZ. Some specialists made Mac OS X work on none-Apple-machines without an emulator. Don't give up to soon. (And Safari is \*not\* beta, just a better alpha. In addition, IMHO the compass-logo is a misdeed: it's background shows the coastline of Nort- and South-America, but for "safari" you go to Africa.)

Ciao.....Mike

Well, an other misdeed was to call this continent America and not Columbia, respecting the discoverer Columbus. It was the error of a cartographer from the very south of Germany... <VBG>

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## HP Forum Archive 17

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### Remember When....

Message #1 Posted by **Chuck** on 14 June 2007, 12:37 p.m.

...HP was tops in education? I was cleaning up my garage office and came across these publications from 1989. Forgot I had them.

Cover with 22s

<http://home.wavecable.com/~stevensc/photos/22s.jpg>

Cover with 32s

<http://home.wavecable.com/~stevensc/photos/32s.jpg>

and an advert inside for the 28s overhead...

<http://home.wavecable.com/~stevensc/photos/28s.jpg>

A 1990 edition had an advert for the TI81. How things quickly changed after that. :(

*Edited: 14 June 2007, 10:05 p.m. after one or more responses were posted*

### Re: Remember When....

Message #2 Posted by **Jerry** on 14 June 2007, 7:08 p.m.,  
in response to message #1 by Chuck

Sure things changed. They always do. But remember that TI is just out to make the \$\$\$\$. HP still make the best calcs. If they could get their marketing on track, they could clean up. Nice scans :)

### 28S Overhead Adapter??

Message #3 Posted by **Howard Owen** on 14 June 2007, 8:38 p.m.,  
in response to message #1 by Chuck

That projector must be a great rarity. I've never seen it on eBay. In fact, I've never even heard of it. (It's not mentioned in the [Museum's 28C/S page](#) or it's [associated feature list](#).) The ribbon cable in the picture appears to terminate in the LCD display area. In a normal clamshell of course, there's no easy way to remove the LCD. I suppose the connector on the LCD end could contain a CCD camera. The flat ribbon cable is consistent with that idea. But more likely it's a specially modified 28S. At the price they were charging, that would have been feasible. does anyone know more about this setup? Did you ever see one?

Regards,  
Howard

### Re: 28S Overhead Adapter??

Message #4 Posted by **Chuck** on 14 June 2007, 9:03 p.m.,  
in response to message #3 by Howard Owen

You're right Howard. The calculator and overhead are a single unit. I tried getting one of these in 1990 when I started teaching, but the \$500 was a little steep for the department. I haven't seen one around ever either.

Chuck

### **Re: 28S Overhead Adapter??**

*Message #5 Posted by **Eric** on 14 June 2007, 9:37 p.m.,  
in response to message #4 by Chuck*

I've seen a HP 28S on Ebay with pin connectors where the LCD should have been. It was discussed some time ago in these forums. I don't believe we ever deduced what the anomaly was- I think this solves it.

No other overhead display was sold with it- only the apparently HP modified calculator.

### **Re: 28S Overhead Adapter??**

*Message #6 Posted by **Frank Boehm** on 15 June 2007, 3:00 a.m.,  
in response to message #5 by Eric*

I'm the current owner of this one. My understanding was, that it has been used to test different kind of LCDs, the connector would exactly match the picture though. It looks like the "real" 28 is inside the box and only the keyboard is in the 28 housing.

I'll try to put up a picture later today...

### **Re: 28S Overhead Adapter??**

*Message #7 Posted by **Frank Boehm** on 15 June 2007, 11:10 a.m.,  
in response to message #6 by Frank Boehm*

<http://www.elektron.net/hp28.jpg>

### **Re: 28S Overhead Adapter??**

*Message #8 Posted by **Howard Owen** on 15 June 2007, 12:10 p.m.,  
in response to message #6 by Frank Boehm*

That does indeed look like an engineering prototype. But you can see that they probably had to do exactly zero engineering on the calculator itself in order to implement the overhead adapter. They already had the external display adapter as part of the prototypes.

I'll bet the overhead thingy is quite rare, but I'll bet your prototype is rarer still.

Regards.  
Howard

### **Re: 28S Overhead Adapter??**

*Message #9 Posted by **Palmer O. Hanson, Jr.** on 15 June 2007, 9:31 a.m.,  
in response to message #4 by Chuck*

Quote:

---

... I tried getting one of these in 1990 when I started teaching, but the \$500 was a little steep for the department. ...

---

More than "a little steep" for most departments. Predatory pricing is exactly why HP didn't survive in the education market.

### **Re: 28S Overhead Adapter??**

Message #10 Posted by [bink](#) on 16 June 2007, 1:41 a.m.,  
in response to message #9 by Palmer O. Hanson, Jr.

Quote:

---

More than "a little steep" for most departments. Predatory pricing is exactly why HP didn't survive in the education market.

---

Palmer, if HP priced in a predatory way it would now rule the education market! Predatory pricing refers to low prices that undercut competitors and drive them out of business. Maybe you meant to say "Premium pricing"?

*Edited: 16 June 2007, 1:41 a.m.*

### **HP and High Prices**

Message #11 Posted by [Howard Owen](#) on 16 June 2007, 2:36 a.m.,  
in response to message #10 by [bink](#)

How about "not very smart and quite ineffective pricing?" 8)

I think they must have been used to ruling the market and charging high prices for everything. That they would get undercut by TI, with machines that were clearly inferior technically and quality-wise must have seemed unlikely to them.

Back in the day, all their stuff was expensive, from instruments to calculators to computers. It must have been a hard transition for them to make competing in commodity businesses. They finally got it, to judge by the printers and PCs - the two major businesses they retained in the transition from the old HP to the new. But I can't help thinking that the old quality approach and the steep prices were different aspects of the same phenomenon.

Regards,  
Howard

### **Re: HP and High Prices**

Message #12 Posted by [Steve Borowsky](#) on 16 June 2007, 4:35 a.m.,  
in response to message #11 by [Howard Owen](#)

They probably priced it based on expected sales: "We'll probably sell about 1000 units, so the price will have to be \$500.00 per unit."

"How do you figure we'll only sell 1000 units?"

"Well, at \$500.00 a unit, that's all we can realistically expect to sell."

### **Re: HP and High Prices**

Message #13 Posted by [Walter B](#) on 16 June 2007, 5:42 a.m.,  
in response to message #12 by Steve Borowsky

:-D Marketing at its best! ;-)

### **Re: 28S Overhead Adapter??**

Message #14 Posted by [DaveJ](#) on 14 June 2007, 10:07 p.m.,  
in response to message #3 by Howard Owen

Quote:

That projector must be a great rarity. I've never seen it on eBay. In fact, I've never even heard of it. (It's not mentioned in the [Museum's 28C/S page](#) or its [associated feature list](#).) The ribbon cable in the picture appears to terminate in the LCD display area. In a normal clamshell of course, there's no easy way to remove the LCD. I suppose the connector on the LCD end could contain a CCD camera. The flat ribbon cable is consistent with that idea. But more likely it's a specially modified 28S. At the price they were charging, that would have been feasible. does anyone know more about this setup? Did you ever see one?

Regards,  
Howard

There was a HP28S with the overhead adapter on eBay some time ago and someone asked on this forum what it was for.

Dave.

### **Re: 28S Overhead Adapter??**

Message #15 Posted by [Eric Smith](#) on 15 June 2007, 1:42 a.m.,  
in response to message #3 by Howard Owen

Yes, I've seen one, and there was a cable where the LCD would normally be. No camera.

### **Re: Remember When.... [HP edu materials]**

Message #16 Posted by [Karl Schneider](#) on 15 June 2007, 12:19 a.m.,  
in response to message #1 by Chuck

Chuck --

Nice scans; thanks! I never knew of these publications.

As for the overhead-projecting HP-28S, though, I'd say that using those tools to teach calculus would have been a waste of effort and money. It takes valuable instructional time to learn how to enter symbolic equations on the HP-28 or any other device. Because of the small screen and no Equation Writer, the entered expression doesn't match what is on the board or in the textbook. The wrapped-around single-line results obtained on the calculator are hard to read, with nested parentheses and lack of sub- and superscripting.

I suppose the point is to be able to check one's answers after doing the symbolic calculus by hand, but, well...



And the price! Assuming no educational discount, 30 x \$235 = \$7050 in 1989 dollars was the minimum "entry fee" for getting the special projecting unit at no additional charge. Hope that none of those pricey calculators disappeared or got broken.

One of the HP-28C's I won on eBay several years ago was in mint condition with the original packaging. The price tag on the box showed \$220 or so. I suppose that the hapless buyer expected a modernized HP-41, and found it to be something completely different that (s)he had no idea how to use.

-- KS

*Edited: 15 June 2007, 1:13 a.m.*

**Re: Remember When.... [HP edu materials]**

*Message #17 Posted by [Chuck](#) on 15 June 2007, 9:22 p.m.,  
in response to message #16 by Karl Schneider*

Quote:

\_\_\_\_\_  
Nice scans; thanks! I never knew of these publications.  
\_\_\_\_\_

Thanks Karl. I found out the publication is still active. Here's the link to their home page: [MACE](#)

CHUCK

**Re: Remember When....**

*Message #18 Posted by [bink](#) on 16 June 2007, 1:44 a.m.,  
in response to message #1 by Chuck*

Chuck,

Do you know if the content of these publications is available anywhere? If not, is there any chance of you scanning and posting the contents at some point? I'm sure it would be much appreciated by all.

Thanks,

Bink

**Re: Remember When....**

*Message #19 Posted by [Chuck](#) on 16 June 2007, 12:53 p.m.,  
in response to message #18 by bink*

Hi Bink. I could scan the three that I have, but I'd need to contact MACE for permission and copyright concerns.

Chuck

---

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## HP Forum Archive 17

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### Help! Need PDF for new 35s!

Message #1 Posted by [Sam Guyer](#) on 14 June 2007, 3:48 a.m.

Hi, could someone please send PDF for new 35s?

samuel\_guyer at hotmail dot com

Thank you so much!

### Re: Help! Need PDF for new 35s!

Message #2 Posted by [Roberto](#) on 14 June 2007, 4:31 a.m.,  
in response to message #1 by Sam Guyer

The HP 35s was only one study and is not for the time being produced :-)

### Re: Help! Need PDF for new 35s!

Message #3 Posted by [Giancarlo \(Italy\)](#) on 14 June 2007, 4:48 a.m.,  
in response to message #2 by Roberto

Hi Roberto.

Maybe it's an exercise, but it seems to have already a place in HP stocks - see:

<http://groups.google.com/group/comp.sys.hp48/msg/99ccf9d2e1058bc2?dmode=source>

Best regards.

Giancarlo

### Re: Help! Need PDF for new 35s!

Message #4 Posted by [Walter B](#) on 14 June 2007, 5:26 a.m.,  
in response to message #3 by Giancarlo (Italy)

This topic was covered in this forum here already. Please see [this post](#) and the following ones.

### Re: Help! Need PDF for new 35s!

Message #5 Posted by [Frank Boehm](#) on 14 June 2007, 10:29 a.m.,  
in response to message #3 by Giancarlo (Italy)

works with F2214A (10S), F2213A (8S) as well 8)

### Re: Help! Need PDF for new 35s!

Message #6 Posted by [Sam Guyer](#) on 14 June 2007, 3:06 p.m.,  
in response to message #2 by Roberto

Well, here's to hoping it will come over the summer! Thanks to those who sent the PDF!

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## HP Forum Archive 17

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**HP 41C premature turn off**

Message #1 Posted by **Ron** on 13 June 2007, 11:47 p.m.

G'day,

I have an HP 41CV that has developed the nasty habit of automatically turning off prematurely. Instead of waiting 10mins it turns off at any random time between 10 seconds and 10 minutes.

On the assumption that the problem might lie with a leaky capacitor I have swapped the electrolytic capacitors with new ones and even tried tantalum caps but to no avail. Does anyone have a solution for this irritating behaviour?

Also on the PCB there is a device resembling an electrolytic capacitor encapsulated in unlabeled grey heatshrink. The device appears to be slightly waisted as might be the case if you applied heatshrink to a bobbin. It is about 10 mm long and about 6 mm Dia excluding the leads. It has two leads extending from one end. Does anyone know what this device is?

Cheers, Ron

**Re: HP 41C premature turn off**

Message #2 Posted by **Diego Diaz** on 14 June 2007, 3:28 a.m.,  
in response to message #1 by Ron

Hi Ron,

Please check this previous thread in this forum, it may help. ;-))

<http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv017.cgi?read=113311#113311>

Cheers.

Diego.

**Re: HP 41C premature turn off**

Message #3 Posted by **Randy** on 14 June 2007, 10:06 a.m.,  
in response to message #1 by Ron

Quote:

\_\_\_\_\_

Does anyone know what this device is?

\_\_\_\_\_

That would be an inductor in the PSU. Nothing at all to do with your turn off problem.

Thoroughly clean both sides of the logic PCB sides with isopropyl alcohol. Let it dry well before reinstalling. Various cooties and flux are the main cause of premature turn-off.

**Re: HP 41C premature turn off**

*Message #4 Posted by [colhind](#) on 15 June 2007, 11:43 p.m.,  
in response to message #1 by Ron*

Thanks everyone. Problem solved. It was due to poor contact between the printed circuit boards and the conductive rubber sandwich strip.

Should have guessed this as I have had trouble with similar devices that make the connection between LCDs and PCBs.

Yes I also think it is an inductor of some description but I was afraid of damaging the coil so didn't opt for removing the heatshrink.

Cheers, Ron

---

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## HP Forum Archive 17

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### 11C Serial Number 2900A

Message #1 Posted by [Ron](#) on 13 June 2007, 6:09 p.m.

The 11C was last produced in 1989. The first two characters indicate the year, so the 29 indicates 1989 production. The second two characters indicate roughly the week of the year. Would 2900 indicate it was made before the production crew came back from the New Year holiday? ;^)

Has anyone else seen an SN like this (XX00A)?

### Re: 11C Serial Number 2900A

Message #2 Posted by [Egan Ford](#) on 13 June 2007, 6:27 p.m.,  
in response to message #1 by Ron

I see two options.

1. Week one could start with 0. Not uncommon to see arrays start with 0.
2. Model from Santa's workshop. You must have been a very good boy.

---

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## HP Forum Archive 17

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### **More brochures on the HHC2007 website!**

Message #1 Posted by **Gene** on 13 June 2007, 4:53 p.m.

More to come too.

Click on the small HP35 at the top of the page to access these "hidden" features. New brochures include some scans from the "dark side" (just kidding Palmer!) :-)

Registration is already well over 40 attendees. Looks to be the best attended conference in a LONG time.

Why not consider registering and attending the conference the last weekend of September 2007 in San Diego? Hear a great group of talks. Have a chance to ask HP YOUR favorite question. Meet me! (just kidding there too).

<http://www.holyjoe.net/hhc2007>

Keep an eye open for updates!

### **Re: More brochures on the HHC2007 website!**

Message #2 Posted by **Doctor Bubu** on 14 June 2007, 12:39 a.m.,  
in response to message #1 by Gene

Hi Gene!

Dread putstuff. But i wonder if it is possible to find some old Material from old Europe (f.e. Germany) out of the seventies?

Did you have some of these and can you place it on the side?

To see them would make me feel 30 Years younger :-)

Thank you Juergen

### **Re: More brochures on the HHC2007 website!**

Message #3 Posted by **Gene** on 14 June 2007, 12:43 a.m.,  
in response to message #2 by Doctor Bubu

I have what I have. Some of the TI brochures are from Europe, but I don't have any HP brochures from Europe. If someone does and scans them...

### **Re: More brochures on the HHC2007 website!**

Message #4 Posted by **Walter B** on 14 June 2007, 1:09 a.m.,  
in response to message #3 by Gene

I've got a few old brochures in German, starting with one for a 25c. Most of them are 2-page. When

you tell me an address, I'll be willing to scan them and mail them to you.

**Re: More brochures on the HHC2007 website!**

*Message #5 Posted by **gene** on 14 June 2007, 10:09 a.m.,  
in response to message #4 by Walter B*

Send them to the "Contact us" link at the HHC2007 site.

<http://www.holyjoe.net/hhc2007/>

**Re: More brochures on the HHC2007 website!**

*Message #6 Posted by **Doctor Bubu** on 15 June 2007, 3:05 a.m.,  
in response to message #4 by Walter B*

Hallo Walter!

Pleeeeeease also to mail@diewilde13.de!

Would you????? ;-)

Thanks Jürgen

Bitte,Bitte,Bitte,Bitte,Bitte,Bitte,Bitte,Bitte,Bitte,Bitte,

**Re: More brochures on the HHC2007 website!**

*Message #7 Posted by **Walter B** on 16 June 2007, 4:19 p.m.,  
in response to message #6 by Doctor Bubu*

Gene & Jürgen,

You've got mail (15MB).

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## HP Forum Archive 17

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### Seeking Some RPL Tutelage

Message #1 Posted by [Les Wright](#) on 13 June 2007, 12:26 p.m.

I have an interesting request for the Forum, which I know is somewhat OT given the mandate here, but I think it is still a well-posed question for this setting.

I find I learn the basics of a new language from examples, and indeed at first this is often more helpful than plowing through exhaustive treatises on syntax and whatnot in quest for my specific solution.

To this end, I was seeking some specific help with SysRPL. I was hoping that someone could offer an example of a simple UserRPL program and its SysRPL version. I am seeking to translate some of my UserRPL math programs to SysRPL, so program examples that use local variables, DO...UNTIL loops, and IF...THEN...ELSE branching with less-than, greater-than, or equality conditional tests are particularly relevant. Translation of UserRPL that uses stack manipulation (PICK, ROLL, OVER, etc.) is interesting to me, but I must admit that I find that style of UserRPL programming tougher to master so programs that track intermediate results in local variables rather than on the stack are more accessible to me. At this point I am not interested in funky graphics or symbolic manipulation or nifty input forms and windows. I am simply interested in routines that take numeric arguments (which can be complex) from the stack, work their magic on them in the SysRPL or UserRPL code, and return a numeric result (which again can be complex). Dealing with vectors, arrays and lists is the next step once I get a grasp of this.

I am hoping that someone has done this sort of work in the past and has some relevant examples they could share without a major investment of time, though if anyone wants to view this a sort of fun project that is great.

Please keep in mind that I am requesting this to supplement my personal efforts in review the copious didactic material out there on SysRPL programming, not merely replace or totally shortcut it. So calls to RTFM are not needed here. Don't worry, I am doing that too. I have learned how to access the MASD on the HP49G+ and the need for an extable (after discovering that a sample program wouldn't compile without one!), so I can readily compile the code I am presented with without needing much coaching on that.

many thx in advance,

Les

*Edited: 13 June 2007, 3:28 p.m. after one or more responses were posted*

### Re: Seeking Some RPL Tutelage

Message #2 Posted by [Giancarlo \(Italy\)](#) on 13 June 2007, 12:46 p.m.,  
in response to message #1 by [Les Wright](#)

Hi Les.

Unfortunately I'm not entitled to give you any tutelage...

But have you already seen this:

[James M. Prange's comparison](#)

I found it extremely interesting (as always JMP's posts are).

Moreover, on the good ol' hpcalc.org you can find:

[SysRPL Programming Examples](#)

that is:

Quote:

---

Example programs from the second edition of the free on-line book "Programming in System RPL", a 640-page tutorial and reference for System RPL programmers. These examples are ready to be loaded onto your calculator. By Eduardo M. Kalinowski and Carsten Dominik

---

I do hope this helps a bit - but I'll be eagerly reading any further feedback on this topic.

Best regards.

Giancarlo

### **(deleted post)**

Message #3 Posted by *deleted* on 13 June 2007, 12:47 p.m.,  
in response to message #1 by Les Wright

This Message was deleted. This empty message preserves the threading when a post with followup(s) is deleted. If all followups have been removed, the original poster may delete this post again to make this placeholder disappear.

### **Re: Seeking Some RPL Tutelage**

Message #4 Posted by *Les Wright* on 13 June 2007, 1:33 p.m.,  
in response to message #3 by deleted

Thanks. James's comparative example should be more informative once I get it on the calculator and see what it actually does.

I have downloaded the Kalinowski/Dominik examples and will experiment with them. I have also begun to crack the Kalinowski/Dominik book, and so far I have one criticism--the practicalities of compiling a program on the calculator are relegated to an appendix, and it took some wading through lots of info before I appreciated the need for extables and different versions of SysRPL code. I was trying to compile the example first.s from the Kalinowski example and got no where until I stumbled across the stuff about extables. This basic stuff would've been helpful right at the front of the book.

Here is an interesting point--Kalinowski/Dominik claim that Libraries 256 and 257 are not attached by default. In both my 49G+ and in a fresh instance of Emu48, I find that indeed they are--I get to see proper softkey menus via 256 MENU and 257 MENU without having to explicitly attach the libraries first via 256 ATTACH and 257 ATTACH. Perhaps calling the menus attaches the libraries automatically? At any rate, I was tickled to find the compiler right where the manual said it was.

Les

*Edited: 13 June 2007, 1:34 p.m.*

### **Re: Seeking Some RPL Tutelage**

Message #5 Posted by *Giancarlo (Italy)* on 13 June 2007, 5:56 p.m.,  
in response to message #4 by Les Wright

Les,

I myself am trying to do just the same - i.e. going through that forrest of information that is Dominik&Kalinowski's book.

Indeed, it would deserve much more effort, time and continuity than those I'm able to get in my little spare time :-(  
However, I resound with you when you point out that some "basics" were not placed in the right "light" and in the right "place" according to their importance...  
As far as I can recall, libs 256 and 257 are auto-attached with the latest ROM version(s) for the 49G+/50G.  
I do hope that some more knowledgeable people here around will have the patience and good-will for sharing some insights.  
All the best.  
Giancarlo

## Re: Seeking Some RPL Tutelage

Message #6 Posted by **James M. Prange (Michigan)** on 13 June 2007, 6:25 p.m.,  
in response to message #4 by Les Wright

Quote:

James's comparative example should be more informative once I get it on the calculator and see what it actually does.

Something that I think will be useful for anyone who writes UserRPL source code in his favourite text editor.

For those who don't want to mess around with compiling the SysRPL version, remember that the UserRPL version accomplishes the same thing.

But it's pretty simple step-by-step stuff. No tests or conditional execution, only one loop, a little stack manipulation, but no variables.

I'm definitely not an expert at either SysRPL or Saturn assembly language. Yes, I can use them, but I usually can't just sit down and write a program in them without some reference material at hand. Often I just want to check the spelling or which order the arguments should be in, but then I notice another command that might be better....

Quote:

I have downloaded the Kalinowski/Dominik examples and will experiment with them. I have also begun to crack the Kalinowski/Dominik book,

I take it that you mean *Programming in System RPL, Second Edition*, by Eduardo M Kalinowski and Carsten Dominik? I don't think that anything better than that for learning SysRPL is available.

Also see RPLMan (it should be available from [hpcalc.org](http://hpcalc.org)). It was written when the 48SX was the current model, so it's a bit out of date, but other than adding some new object types and commands and the entry points changing, the RPL language hasn't changed all that much. What's in there still applies, although of course it doesn't cover the newer additions.

For the development library (including compiler features and syntax), see "Masd Documentation".

Note that a lot of the additions in the 49 series (including the development library) came from the "Meta Kernel" (or "MetaKernel" or "MK"), originally developed for the 48 series, so any documentation for it might be helpful.

Debug4x may be useful to you, although other than the included emulators being very useful, I've never much cared for it. But many others think that it's great.

Also install the OT49Plus library (available from [Wolfgang's site](#)) on your 49g+ (or 50g); I think that it makes some of the development library tools easier to use. Wolfgang is another SysRPL expert; it's as if he could write excellent programs in his dreams. A criticism is that in his programs, almost everything else, other than actually working as intended, has a much lower priority than program size. Wolfgang has taken a break from his RPL programming hobby to work on his other interests, but his tools for the 49g+ should work on the 50g as well.

Look at and try to understand SysRPL programs that others have written. Okay, very often the source code, let alone any commenting, isn't published, but you can decompile an RPL program with the `\->S2` command (or OT49's `Sys~` command).

The Nosy library is a very useful tool. It lets you see the programs that make up the built-in commands and follow the logic of how the ROM is written (what calls what and under which condition). You might notice some cases where the ROM code could be "improved" (made faster or smaller) easily enough, but changing something might inadvertently move an entry point (thus breaking anything that uses it), and "don't fix what ain't broken" isn't such a bad policy.

For that matter, Nosy can also be used for investigating any other program.

Browse and search the `comp.sys.hp48` usenet group. One problem is that some of the discussions are among experts, so beginners may well be baffled by those. But there are plenty of "beginner questions" (and answers) too.

Try setting flag `-85`. This lets you see the stack (well, however much of it is visible) decompiled to SysRPL syntax. Note that to make much sense of a lot of it, `extable` will have to be installed. That said, if you use anything else to view an object, you'll see it in UserRPL syntax.

Quote:

---

and so far I have one criticism--the practicalities of compiling a program on the calculator are relegated to an appendix, and it took some wading through lots of info before I appreciated the need for extables and different versions of SysRPL code. I was trying to compile the example `first.s` from the Kalinowski example and got no where until I stumbled across the stuff about extables. This basic stuff would've been helpful right at the front of the book.

---

I think that part of the problem is that the authors are real experts in SysRPL, and may find it rather difficult to remember that beginners don't necessarily know all of the essential "basic stuff".

First scan through the document quickly to get an idea of how it's organized and what information is available, then read it more thoroughly, but just scanning through the command and built-in ROM objects references, and finally use it as a reference for particular topics.

A problem with trying to explain SysRPL is that there are so very many commands, often combining what would typically be thought of as two or more commands into one, many of which accomplish **almost** the same thing. Basically, it seems that if the system developers found something to be useful for developing the operating systems, then they built it into the ROM, and if they thought it to be particularly useful to 3rd-party developers, then they made it a "supported" entry point. Sometimes a SysRPL command is poorly named, but once a name is assigned, it tends to stick; hey, it doesn't have to make sense to ordinary users, as long as the developers know what it does. Anyway, there are usually several perfectly good ways to accomplish something, and what's "best" is very subjective.

"Unsupported" entry points may well change with any ROM revision, so are best avoided. But Jean-Yves mentioned some ranges of entry points that won't move, and these are the "unsupported but stable" entry points that are **probably** okay to use. He isn't employed by HP any more, but they haven't moved yet. But if HP releases another series of RPL models, even the "supported" entry points may move.

There are also certain RAM locations that, although perhaps not "supported", still have the same purpose in the 50g as in the 48SX. I've found some of these useful for external I/O. By the way, I had to look at things written with the 48SX in mind to find out about some of these in the 49 series.

In trying to explain something to a real beginner, the difficult question is "where to start"; what basic stuff that "everybody knows" does he really need to know first? For trying to explain something to someone who seems basically competent in the subject, the questions become "what essential knowledge is he lacking for this topic", along with "what does he already know and doesn't need to be told".

You may have to slowly and painfully accumulate knowledge until it reaches a "critical mass" for you and the learning curve suddenly starts to level off and it becomes much easier to learn more.

Quote:

---

Here is an interesting point--Kalinowski/Dominik claim that Libraries 256 and 257 are not attached by default. In both my 49G+ and in a fresh instance of Emu48, I find that indeed they are--I get to see proper softkey menus via 256 MENU and 257 MENU without having to explicitly attach the libraries first via 256 ATTACH and 257 ATTACH. Perhaps calling the menus attaches the libraries automatically? At any rate, I was tickled to find the compiler right where the manual said it was.

---

That's a good point. These built-in ROM libraries aren't attached by default, and executing 256 MENU and 257 MENU doesn't attach them, but you can use the menu keys for operations even if the libraries aren't attached; to use them for commands, the libraries have to be attached. That is, if, with them detached, you press a menu key, it works just fine, but if you use it to get the source code into a program, you'll find that it's compiled as a name instead of as a command. But if you compile a program with the commands (with the libraries attached), the program still works even with the libraries detached (as long as the program isn't decompiled and recompiled from source code). To experiment with this difference, just use 256 DETACH and 256 ATTACH.

But my guess is that you installed an extable library (which happens to be a self-attaching library), which automatically attaches libraries 256 and 257 as well. The same holds true for OT49 and perhaps some others. If you find "Development Library" in the list when you press the APPS key, then it's attached.

By the way, the library 257 commands are called by the library 256 commands. The usual recommendation is that you use the library 256 commands instead of using the library 257 commands directly.

Regards,  
James

*Edited: 13 June 2007, 6:37 p.m.*

**Re: Seeking Some RPL Tutelage**

*Message #7 Posted by [Giancarlo \(Italy\)](#) on 13 June 2007, 6:52 p.m.,  
in response to message #6 by James M. Prange (Michigan)*

Hi James.

Thanks for your attitude towards the beginners :-)

Besides all the references you mention, I also had a look to some of the many patents that concern(ed) the HP calculators logic and architecture

(they can be found at: [Eric Smith's HP Patents Repository](#)

I found especially interesting the no. 4868745 (1.1 Mb .pdf file):

Quote:

\_\_\_\_\_

Data processing system and method for the direct and indirect execution of uniformly structured object types

\_\_\_\_\_

Of course that was not intended with knowledge dissemination in mind - it's a strictly technical paper

but it may help to grasp some logic behind SysRPL mechanisms (for example: environment stacking or inner loop).

Or, maybe, I just chose another original way of self-punishment ;-)

Best regards.

Giancarlo

## **Re: Seeking Some RPL Tutelage**

*Message #8 Posted by [James M. Prange \(Michigan\)](#) on 13 June 2007, 10:32 p.m.,  
in response to message #7 by Giancarlo (Italy)*

Thanks, that is indeed a "good pointer". I think that I'll have to print the patent out to fully grasp it (and perhaps not even then), but it does explain the basic structure of RPL objects, why they're structured the way they are, and how they're executed.

As a "companion piece" for it, I suggest RPLMan, say, oh, 2.2 through 2.5.

I don't think that the patent information is really "must know" information for an RPL programmer, but it is very basic to RPL, and I like to understand some of the "magic" that the system is doing behind its "smoke and mirrors".

But it seems to me that sooner or later a serious SysRPL programmer is probably going to want to embed some assembly language code within a SysRPL program, and this information seems very relevant for assembly language programming on the RPL models.

Quoting Section 2. of RPLMan:

### 2. RPL Principles

(The following material was excerpted from "RPL: A Mathematical Control Language", by W. C. Wickes, published in "Programming Environments", Institute for Applied Forth Research, Inc., 1988)

That's a document that I'd really like to read.

Regards,  
James

## Re: Seeking Some RPL Tutelage

Message #9 Posted by [Giancarlo \(Italy\)](#) on 14 June 2007, 2:22 a.m.,  
in response to message #8 by James M. Prange (Michigan)

James,  
quoting your quote:

Quote:

Quoting Section 2. of RPLMan: 2. RPL Principles

(The following material was excerpted from "RPL: A Mathematical Control Language", by W. C. Wickes, published in "Programming Environments", Institute for Applied Forth Research, Inc., 1988)

That's a document that I'd really like to read.

I also was very curious about that document and googled a lot, but with no luck :-(  
Maybe somebody can provide a good pointer to that...

Best regards.

Giancarlo

## Re: Seeking Some RPL Tutelage

Message #10 Posted by [Les Wright](#) on 14 June 2007, 10:37 p.m.,  
in response to message #6 by James M. Prange (Michigan)

Thanks, James, as always for a rich and informative reply.

I am learning that one can "decompile" a UserRPL program object to a string in SysRPL syntax, where all of the UserRPL commands and symbols are prefixed by x to indicate that a UserRPL command is being invoked. I believe that as I learn more about SysRPL commands and syntax it will be a matter of converting as many of these "x" commands to their native SysRPL equivalents, where they exist, as well as converting the rest of the code to proper SysRPL syntax throughout so it recompiles not as a UserRPL object but a SysRPL object.

I am learning that there are some commands I need that don't seem to have SysRPL versions so I am obliged to use the x version. For example, the UserRPL sequence '**del**' **STO**\* would be rendered in SysRPL as '**LAM del xSTO**\*'. Similarly, if I want to call the MTH menu special function Psi, which I use, I have to invoke it with xPsi--there seems to be no SysRPL specific alternative.

But here is a question I have--does using these "x" commands slow things down? Does a program that uses them effectively become a UserRPL program anyway? Would I be better off writing my first example as **LAM del %\*** '**LAM del STO**'?

Apart from these curiosities, I think it should be feasible for me to write SysRPL versions of some of my little programs. I will let you know how I do.

Les

## Re: Seeking Some RPL Tutelage

Message #11 Posted by **James M. Prange (Michigan)** on 15 June 2007, 1:39 a.m.,  
in response to message #10 by Les Wright

Quote:

---

Thanks, James, as always for a rich and informative reply.

---

You're welcome.

Quote:

---

I am learning that one can "decompile" a UserRPL program object to a string in SysRPL syntax, where all of the UserRPL commands and symbols are prefixed by x to indicate that a UserRPL command is being invoked. I believe that as I learn more about SysRPL commands and syntax it will be a matter of converting as many of these "x" commands to their native SysRPL equivalents, where they exist, as well as converting the rest of the code to proper SysRPL syntax throughout so it recompiles not as a UserRPL object but a SysRPL object.

---

Yes, as I've mentioned before, the UserRPL commands are "special cases" of SysRPL commands. The UserRPL command programs have built-in names for use by the UserRPL compiler, "mark" the stack for the sake of error handling, check for the required arguments, and "dispatch" to the entry point appropriate for the arguments (or cause an error if acceptable arguments aren't on the stack). In SysRPL source code, the UserRPL command names always start with "x", but I've noticed a few non-UserRPL commands that also start with "x"; I'm not sure, but I think that the beginning "x" may mean that the command has the argument checking and so on built-in.

Quote:

---

I am learning that there are some commands I need that don't seem to have SysRPL versions so I am obliged to use the x version. For example, the UserRPL sequence '**del**' **STO\*** would be rendered in SysRPL as '**LAM del xSTO\***'.

---

The **LAM del** indicates that 'del' is a local name (from LAMbda variable). If 'del' were a global name, then it would decompile to **ID del**.

Yes, the UserRPL command **STO\*** doesn't seem to have any SysRPL equivalent without the "check and dispatch" code built-in. Using Nosy, I find that **STO\*** requires two arguments and, depending on the argument types, dispatches (on my 49g+) to the routine PTR 2F2AF, PTR 2F2B0, PTR 2F30C, PTR 2F2B4, or PTR 2F30D. Now, since the entry points show up as pointers instead of SysRPL command names, they aren't in my extable library (I think Carsten's extable2), so are "unsupported" entry points. You could use a tool like Nosy to find the entry points in your ROM and use whichever one is appropriate for your arguments, but if it's unsupported, then there's a risk that it could be different in a different ROM revision.

Quote:

---

Similarly, if I want to call the MTH menu special function Psi, which I use, I have to invoke it with xPsi--there seems to be no SysRPL specific alternative.

---



Using Nosy, this seems to be a case similar to STO\*, except using one argument and dispatching to FPTR 7 133, FPTR 7 135, or FPTR 7 11F. However, searching progsysrpl.pdf for "Psi", I also find ^SYMPsi, ^SYMPsin, and ^%%Psi. I see that Psi is a digamma function, and searching for "digamma" finds these same three entries, one of which might be appropriate for your use.

Starting the name with "^" is a convention indicating that the entry is a "flashpointer", and to use it, you have to prefix the name with FPTR2, for example, FPTR2 ^SYMPsin. Another convention is that "rompointer" entries start with "~", and to use one you have to prefix it with ROMPTR.

Quote:

But here is a question I have--does using these "x" commands slow things down?

Yes, using them means that for each such "x" command, its "check and dispatch" code will be used, which does take a little time.

Quote:

Does a program that uses them effectively become a UserRPL program anyway?

Yes, if your SysRPL program uses only these "x" commands. In most cases, decompiling them to the command line editor will show the UserRPL command names.

Quote:

Would I be better off writing my first example as **LAM del %\* ' LAM del STO?**

Maybe; that would increase the program size, but it might run a little faster, which may be important if, for example, it were within a loop or a frequently used subroutine. I suggest trying it both ways to find out whether one method has any significant advantage.

Quote:

Apart from these curiosities, I think it should be feasible for me to write SysRPL versions of some of my little programs. I will let you know how I do.

I wish you the best of luck with this.

Regards,  
James

*Edited: 15 June 2007, 2:08 a.m.*

## **Re: Seeking Some RPL Tutelage**

*Message #12 Posted by [Les Wright](#) on 15 June 2007, 3:39 a.m.,  
in response to message #11 by James M. Prange (Michigan)*

Thanks James.

I really want to do some work in SysRPL with the extended real type so that when my

results are converted back to the real type and returned to the stack they are more likely to be fully accurate since the guard digits absorbed rounding error.

But I think I will have to approach the question of convergence differently. In my UserRPL numeric programs, I can cavalierly specify exact equality of a final and penultimate result as a stopping criterion, since results are rounded from 15 to 12 digits when returned to the stack BEFORE comparison so rounding error and "wobble" in the least significant digits occurs internally in the guard digits. But if I work with extended reals internally, I think that could be an unrealistic goal--the 15 digits you work with are IT. I am guessing that 5E-15 a good epsilon to work with for the extended real type. Does anyone have much programming working with the extended real type within SysRPL programs?

Les

### **I did it!**

*Message #13 Posted by [Les Wright](#) on 15 June 2007, 4:45 a.m.,  
in response to message #11 by James M. Prange (Michigan)*

Quote:

\_\_\_\_\_

I wish you the best of luck with this.

\_\_\_\_\_

I have an admittedly not complex routine that computed the incomplete gamma function using the modified Lentz algorithm on the continued fraction. Indeed, the UserRPL routine is ported straight out of the Numerical Recipes in C version.

I managed to port the entire thing to SysRPL, using just a few key concepts--LAM local variables, a BEGIN..UNTIL loop, and a couple of IT conditional tests. I conducted all of the internal math in extended reals, which probably slows things a tiny bit. But, it works fine, and in comparison a few results with Maple, all 12 digits always seems to match, while the original UserRPL version is often off one or two ULP. And it seems perceptibly faster too, though this is hard to tell since the UserRPL version isn't so slow.

My next tasks are to go over it to see if I can make it more concise (user RPL has quite a few compound commands that I could capitalize on), and to add input checking in case I try to run it on anything that will make the calc crash.

But so far, when it comes to using SysRPL to write quick accurate numerical algorithms on the 49G+/50G, I think I have become a believer. Good for me!

Les

*Edited: 15 June 2007, 4:46 a.m.*

### **Re: I did it!**

*Message #14 Posted by [Les Wright](#) on 15 June 2007, 10:36 a.m.,  
in response to message #13 by Les Wright*

Quote:

\_\_\_\_\_

My next tasks are to go over it to see if I can make it more concise (user RPL has quite a few compound commands that I could capitalize on), and to

add input checking in case I try to run it on anything that will make the calc crash.

---

In particular, if the calc is not in Approx mode, both arguments need to be entered as approximate numbers (including a decimal point even if integers) otherwise the thing just hangs! I am sure there is a SysRPL command to check for that...

So much to learn, but I am positively tickled that I have written a working SysRPL program that is perceptibly superior to its UserRPL equivalent. Being able to tap into the extended reals is a great find for me--I am interested more in numerical work than symbolic work, so getting full 12-digit accuracy in the final results is very exciting indeed.

If anyone is interested in this sort of math programming, I can post what I have turned out once I reformat the source code file to make it more readable.

Les

*Edited: 15 June 2007, 10:39 a.m.*

### **Re: I did it!**

*Message #15 Posted by [James M. Prange \(Michigan\)](#) on 16 June 2007, 8:21 p.m., in response to message #14 by Les Wright*

Congratulations! I'm glad to read that.

Quote:

---

In my UserRPL numeric programs, I can cavalierly specify exact equality of a final and penultimate result as a stopping criterion, since results are rounded from 15 to 12 digits when returned to the stack BEFORE comparison so rounding error and "wiggle" in the least significant digits occurs internally in the guard digits. But if I work with extended reals internally, I think that could be an unrealistic goal--the 15 digits you work with are IT.

---

Even in UserRPL, equality wouldn't be such a good stopping criterion, because changing the input may well result in a larger change in the result, so the smallest possible input change may result in a change of sign in the result with a difference of zero not being achievable.

To get really fussy about it, several consecutive numbers may result in a difference of zero, so perhaps if a zero is achieved, one could check on both sides of the input value for the smallest and largest inputs that results in zero, and average them.

Quote:

---

I am guessing that 5E-15 a good epsilon to work with for the extended real type.

---

Ah, determining an appropriate epsilon (what's "close enough") is a very interesting question.

It seems to me that epsilon ought to be related to the magnitude of the value.

If you're converting the result from an extended real to a real, then I'd base epsilon on the real.

Maybe (for a real) make epsilon 10 to the power of (exponent-11)? I'm referring to the exponent of the smaller of two successive values. UserRPL has the built-in EXPN command (%EXPONENT in SysRPL). There doesn't seem to be any RPL command for getting the exponent of an extended real though.

I'll think about this, and perhaps post more on it later.

Quote:

---

I conducted all of the internal math in extended reals, which probably slows things a tiny bit.

---

I don't know for certain, but I'd expect operations with extended reals to be slower because they use two Saturn registers instead of only one, so it may take more cycles to process them. Other than that, the body of a real is 16 nibbles (the size of a register), but the body of an extended real is 21 nibbles, and of course I/O between memory and the processor is one nibble at a time (the bus is 4 bits wide), so it makes sense that the 5 extra nibbles would take more time. Of course the 3 extra digits in the mantissa and 2 extra digits in the exponent result in a finer resolution and increased range, so may well be worth it.

Quote:

---

And it seems perceptibly faster too, though this is hard to tell since the UserRPL version isn't so slow.

---

For comparing the execution time of different programs, on the 49 series, you can use the UserRPL command TEVAL (Timed EVALuation). Note that if you execute an object by name, the time to find and retrieve the variable will be included in the timing, so I recommend putting the object itself on the stack and then running the timing command.

In earlier ROMs, TEVAL had a bug in that it used the current wordsize, which, if too small, caused an erroneous result, but that's been fixed in the current ROM. Strangely enough, TEVAL now temporarily forces a wordsize of 60. I don't know how this particular value was chosen; the system time is 52 bits, so a wordsize of 52 would've been large enough, and going all the way to the maximum wordsize of 64 would've worked just as well, but 60 does work.

TEVAL still has a relatively minor flaw in that it doesn't compensate for the time required to get the system times or the time to store the initial system time, so it slightly overestimates the execution time of the object, but that doesn't affect finding the difference in execution time of different objects.

For a UserRPL timing program that uses a compensation time (but you have to determine it for the particular calculator yourself and edit it into the program), see my [EVAL TIMER package](#), which also works on the 48 series, and includes versions for the 28 series.

Bill Wickes's timing program in *Insights*, which was the original basis of my programs, checks the type of an argument, and if it's a name, then recalls the object to the stack before starting the timing, thus eliminating the time to resolve the name and recall the object to the stack. The way I see it, one might want to include that time, so I eliminated that code for my program; I can always put the object on the stack myself.

Repeated timings usually show very slightly different results, so you may want to repeat the timing a few times and average the results.

Quote:

---

My next tasks are to go over it to see if I can make it more concise (user RPL has quite a few compound commands that I could capitalize on),

---

Yes, programs can often be optimized. The usual goals are some combination of smaller size and faster execution, which often (but don't always) go hand-in-hand. This often makes a program more difficult to read and understand though; you may well want to save the source code with comments as a PC file, while it's still fresh in your mind (if you didn't write it on the PC in the first place).

Quote:

---

and to add input checking in case I try to run it on anything that will make the calc crash.

---

Yes, unless you're certain that you'll never run a SysRPL program without the proper arguments, using the "check and dispatch" code at the beginning of the program is essential

Quote:

---

In particular, if the calc is not in Approx mode, both arguments need to be entered as approximate numbers (including a decimal point even if integers) otherwise the thing just hangs! I am sure there is a SysRPL command to check for that...

---

I'm sure that there is, or to convert an exact to a real, for that matter, but this can be taken care of in the check and dispatch code. CK&DISPATCH0 looks for argument permutations and causes an error if valid arguments aren't available, but with CK&DISPATCH1, if valid arguments aren't found, then it strips all tags from the arguments and converts exact to reals, and then checks again.

Quote:

---

Being able to tap into the extended reals is a great find for me--I am interested more in numerical work than symbolic work, so getting full 12-digit accuracy in the final results is very exciting indeed.

---

Good point! I usually neglect to mention this, but the extended reals (and extended complex numbers) are indeed an important advantage to writing your own SysRPL programs.

If you really want to, you can leave the result on the stack as an extended real, and set flag -85 to read it.

Regards,  
James

**Re: I did it!**

*Message #16 Posted by [Les Wright](#) on 17 June 2007, 12:22 a.m.,  
in response to message #15 by James M. Prange (Michigan)*

Quote:

\_\_\_\_\_  
(and extended complex numbers)  
\_\_\_\_\_

Funny you should mention this!

I have been chagrined to learn that in HP49 SysRPL there seem to be no commands to do basic complex arithmetic on extended complex numbers. Indeed, there don't seem to be ones to do basic arithmetic on even regular complex numbers! I have checked both the 2nd edition of Kalinowski and Dominik and the most recent version of the HP49G Entry Reference. No luck.

In a recent thread in comp.sys.hp48 I have raised this very issue. Raymond del Tondo replied to indicate that there are indeed such commands (C% $C+C$ , C%% $C/C$ , C%% $*C$ , C% $C-$ , etc.) for HP48 SysRPL. They are listed in the first edition of Kalinowski and Dominik as unsupported entry points, but I can find no mention of them in any stuff on HP49 SysRPL.

So I am at a loss at how to do basic arithmetic with regular complex numbers, never mind extended ones! For regular complex numbers, I guess one resorts to the UserRPL arithmetic functions  $x+$ ,  $x*$ ,  $x-$ ,  $x/$ , but as for extended complex numbers--well, I guess I just have to write code that adds or subtracts the real and imaginary parts separately and performs multiplication, division, and exponents and the like on the polar versions of my numbers.

There must be a better way! How do other people program extended complex numbers in HP49 SysRPL?

Les

**Re: I did it!**

*Message #17 Posted by [James M. Prange \(Michigan\)](#) on 18 June 2007, 8:24 p.m.,  
in response to message #16 by Les Wright*

Quote:

\_\_\_\_\_  
Quote:  
\_\_\_\_\_

(and extended complex numbers)  
\_\_\_\_\_

Funny you should mention this!

I have been chagrined to learn that in HP49 SysRPL there seem to be no commands to do basic complex arithmetic on extended complex numbers. Indeed, there don't seem to be ones to do basic arithmetic on even regular complex numbers! I have checked both the 2nd edition of Kalinowski and Dominik and the most recent version of the HP49G Entry Reference. No luck.

---

It seems that I should've checked on what's actually available before posting!

Okay, also try searching for "C%" or "C%" in progsysrpl.pdf (2nd edition), and in Carsten's entry points table for the 49 series.

There seem to be very few commands for extended complex numbers, and even some that would seem rather basic for complex numbers don't seem to be available (for complex numbers only).

Note that the extable libraries also provide the GETNAMES and GETNEAR library commands, but GETNEAR will also find "POPC%" and "PUSHC%", which are routines intended for use in Saturn assembly language, not for use in SysRPL.

As I mentioned before, the use of some SysRPL commands may be an exercise for the student, possibly including experimentation. Of course, this may result in memory corruption, so having a recent back-up is essential.

Try to remember that much of the documentation of SysRPL, particularly for the 49 series, is due to the efforts of unpaid volunteers. Of course, if they didn't have much knowledge of a particular topic, then they didn't provide much information about it.

Quote:

---

In a recent thread in comp.sys.hp48 I have raised this very issue. Raymond del Tondo replied to indicate that there are indeed such commands (C% $C+C$ , C% $C/C$ , C% $*C$ , C% $C-$ , etc.) for HP48 SysRPL. They are listed in the first edition of Kalinowski and Dominik as unsupported entry points, but I can find no mention of them in any stuff on HP49 SysRPL.

---

Well, Raymond seems to be sticking to the 48 series, so probably assumed that SysRPL commands available in the 48 series are still available in the 49 series. Actually, I expect that these unsupported 48 series entry points still have (perhaps moved) unsupported entry points in the 49 series, but no one has bothered to publish names for them.

Of course, the 48 series has been discontinued, so we can be confident that even "unsupported" entry points aren't going to change in some future 48 series ROM version (although they may have moved in existing ROM versions), but for the 49 series, even if an unsupported entry point hasn't already moved, it may indeed change in any future 49 series ROM revision.

Quote:

---

So I am at a loss at how to do basic arithmetic with regular complex numbers, never mind extended ones! For regular complex numbers, I guess one resorts to the UserRPL arithmetic functions  $x+$ ,  $x^*$ ,  $x-$ ,  $x/$ ,

---

If one wants the program to be portable to other ROM revisions, that indeed seems the best method. The disadvantage is that for these UserRPL entry points, at least part of their check and dispatch code will be executed, taking some time.

Other than that, you can use Nosy to see what these commands dispatch to for a pair of complex numbers (probably an unsupported entry point) and use that, but it may not work with a different ROM revision.

Quote:

---

but as for extended complex numbers--well, I guess I just have to write code that adds or subtracts the real and imaginary parts separately and performs multiplication, division, and exponents and the like on the polar versions of my numbers.

---

Although you might be able to use Nosy to find commands that convert complex numbers to extended complex numbers and then find entry points that use the extended complex numbers, I guess that converting to extended reals and dealing with the real and imaginary parts separately would probably be the best method.

Quote:

---

There must be a better way! How do other people program extended complex numbers in HP49 SysRPL?

---

I don't know; most of the programs that I've seen don't use complex numbers at all, and I don't think that I've ever seen one that uses extended complex numbers. My guess is by converting them to pairs of extended real numbers.

Try to remember the purposes of SysRPL. First and foremost, to make it easier for HP's own developers to write firmware for new calculator models without writing in assembly or machine language so much. Second (and seemingly as an after-thought), for 3rd-party developers to write relatively small and fast external applications for RPL-based calculators. With the 49 series, HP advertises the (more or less) built-in SysRPL and assembly language capabilities of these models, but note that these are really intended for "advanced users" ("developers"), HP doesn't provide much (if any) documentation for them, and (as you've found) using them isn't always easy.

Regards,  
James

*Edited: 19 June 2007, 3:24 p.m.*

**Re: I did it!**



*Message #18 Posted by **Les Wright** on 19 June 2007, 10:21 p.m.,  
in response to message #17 by James M. Prange (Michigan)*

Quote:

---

I don't know; most of the programs that I've seen don't use complex numbers at all, and I don't think that I've ever seen one that uses extended complex numbers. My guess is by converting them to pairs of extended real numbers.

---

Well, looks like I have myself a fun little project then!

JM Baillard's HP41 code for cosine and sine integrals by complex continued fraction moves back and forth between rectangular and polar mode, since complex numbers are readily added in rectangular form but multiplied, divided, and raised to powers in polar form.

I love math. Could be fun.

Les

P.S. I am getting better at optimizing my little SysRPL programs. Right now in some code I have gotten rid of named local variables and have used NULLLAMs--the speed gain is remarkable. My next step is to rely even less on local variables and try to keep what I need on the stack as much as possible. The most artful UserRPL programs I have seen don't use local variables at all, and I would gather their SysRPL translations are quite fast.

### **Re: I did it!**

*Message #19 Posted by **Les Wright** on 21 June 2007, 1:37 a.m.,  
in response to message #18 by Les Wright*

Quote:

---

JM Baillard's HP41 code for cosine and sine integrals by complex continued fraction moves back and forth between rectangular and polar mode, since complex numbers are readily added in rectangular form but multiplied, divided, and raised to powers in polar form.

---

This turns out to be fairly easily implemented in SysRPL after all.

At first I thought I would need to also produce from scratch an extended precision way of computing the arctangent function, which of course is required in computing the argument of the polar form of the complex argument from its cartesian form. There are no extended precision versions of the inverse trig functions in HP49 SysRPL, at least not that I can find.

BUT, even better, there ARE extended precision polar-rectangular

conversions! %%R>P and %%P>R are there, and in testing some simple inputs the functions seem to work quite well. (Of course, this means that there is indeed an extended arctan function present, but only indirectly. arctan(x) is simply the second piece of the output of R>P acting on rectangular coordinates (1,x) or some multiple of these.)

So this is going to be not so hard after all. When adding two full precision complex numbers, I simply add the real and imaginary parts. When multiplying (or dividing) them, I do the conversion to polar form via %%R>P, carry out the binary operation using the usual rules (multiply moduli together and add the arguments) and convert back to rectangular form as required via %R>P. Powers, square roots and inverses can all be handled by De Moivre's rule acting on the polar form.

So it can be done, and not so onerously at that. May not be perfectly swift, but at least it is feasible, and the innards are not so horrid to contemplate after all, especially with those extended precision rectangular polar conversions. And even though extended precision inverse trigs are not there, %%SIN and %%COS, which I need, are very much alive and well and living at stable addresses in the HP49.

I will let you know how far I get. If programming basic arithmetic on extended precision complex numbers is not commonplace for the 48 or 49 series, this could be a new little adventure!

Les

*Edited: 21 June 2007, 7:52 p.m. after one or more responses were posted*

### **Re: I did it!**

*Message #20 Posted by [James M. Prange \(Michigan\)](#) on 21 June 2007, 7:08 p.m.,  
in response to message #19 by Les Wright*

Quote:

Right now in some code I have gotten rid of named local variables and have used NULLLAMs

I expect that Les has already discovered at least most of this, so the following is mostly for the benefit of anyone else who's curious.

Of course all local variables do have names (otherwise they wouldn't be variables), but they can have the "null local name".

A lam (local name) object consists of the 5-nibble prologue address, followed by a 2-nibble character count, followed by 2 nibbles for each character in the name, thus a lam's size (in bytes) is 3.5 plus the number of characters in the name.

We can have a valid lam with a character count of zero (and no nibbles following), which would take 3.5 bytes, and such an object is already built in to ROM, and the built-in object can be accessed by a 2.5 byte pointer.

An interesting point is that we can have as many local variables with the same name (even in the same local environment) as we choose, however, if we use a name to access a local variable, then we can access only the most recently created local variable with that particular name.

So how can we access other local variables with the same name? Well, in SysRPL, several commands for binding null lams to objects (thus creating null-named local variables) and for accessing local variable by position are provided, with the most recently bound having the position 1.

Quote:

---

--the speed gain is remarkable.

---

And the (compiled) code size is reduced too. Of course the disadvantage is that the programmer has to keep track of the current positions of his local variables, similar to the chore of keeping track of stack levels.

Quote:

---

My next step is to rely even less on local variables and try to keep what I need on the stack as much as possible. The most artful UserRPL programs I have seen don't use local variables at all, and I would gather their SysRPL translations are quite fast.

---

In general, keeping objects on the stack is faster than using ordinary named local variables (assuming efficient stack manipulation), but I expect that this is largely due to the time required to handle the names, particularly searching local environments for particular names. I don't know how much (if at all) faster using the stack instead of null-named local variables would be; maybe try it and compare execution times.

Note that the built-in commands use them quite often, so it seems that the HP developers didn't think that they were too bad.

Quote:

---

This turns out to be fairly easily implemented in SysRPL after all.

---

Well, I'm glad that you found some extended real functions that are very useful for your purposes. Maybe searching the documentation for "%%" would find more?

Just speculating, but maybe their existence helps explain why the developers apparently didn't feel a pressing need to include very many supported extended complex functions?

Of course, you may find it useful to make sub-routines for frequently used sequences.

Quote:

---

At first I thought I would need to also produce from scratch an extended precision way of computing the arctangent function, which of course is required in computing the argument of the polar form of the complex argument from its cartesian form. There are no extended precision versions of the inverse trig functions in HP49 SysRPL, at least not that I can find.

BUT, even better, there ARE extended precision polar-rectangular conversions! %%R>P and %%P>R are there, and in testing some simple inputs the functions seem to work quite well. (Of course, this means that there is indeed an extended arctan function present, but only indirectly. arctan(x) is simple the second piece of the output of R>P acting on rectangular coordinates (1,x) or some multiple of these.)

---

Hmm, using Nosy on "%%R>P", I find:

```
::
PTR 10594
3UNROLL
%%ANGLE
;
```

Following PTR 10594, I find:

```
::
2DUP
PTR 0FF94
%%SQRT
;
```

Following PTR 0FF94, I find:

```
::
DUP
%%*SWAP
DUP
%%*
%%+
;
```

Of course, following %%\*SWAP, I find:

```
::
%%*
SWAP
;
```

So, in 100% supported SysRPL, %%R>P could be replaced by:  
[pre]  
::

```

::
  2DUP
  ::
    DUP
    ::
      %%*
      SWAP
    ;
    DUP
    %%*
    %%+
  ;
  %%SQRT
;
3UNROLL
%%ANGLE
;

```

Of course there's no need for nesting the secondaries in the above, so we could use:

```

::
  2DUP           (copy both arguments)
  DUP           (square copy of 2nd argument)
  %%*
  SWAP         (move copy of 1st argument down)
  DUP         (square copy of 1st argument)
  %%*
  %%+         (add the squares)
  %%SQRT      (square root of sum of squares)
  3UNROLL     (move original argument pair down)
  %%ANGLE     (ATAN of level 1 divided by level 2?)
;

```

Does that make sense? I'm guessing that the arguments are  $x$  on level 2 and  $y$  on level 1, but perhaps they're reversed from that. Anyway, I think that %%ANGLE (but taking 2 arguments as the denominator and numerator of a rational number) is the substitute for the desired %%ATAN (taking 1 argument as a decimal rational number).

But what does the result of %%ANGLE represent? An angle, but in radians, degrees, or grads? Of course you can (and should) experiment, but I also see %%ANGLERAD and %%ANGLEDEG, and my guess is that maybe it represents the angle in the current mode.

Quote:

---

I will let you know how far I get.

---

When you get programs that you're proud of, please consider submitting them to [hpcalc.org](http://hpcalc.org). Preferably include the source code, and even better, commented source code.

Quote:

---

If programming basic arithmetic on extended precision complex numbers is not commonplace for the 48 or 49 series, this could be a new little adventure!

---

I really don't know how commonplace it is; maybe search at [hpcalc.org](http://hpcalc.org).

Regards,  
James

*Edited: 21 June 2007, 7:37 p.m.*

**Re: I did it!**

*Message #21 Posted by [Les Wright](#) on 21 June 2007, 7:49 p.m.,  
in response to message #20 by James M. Prange (Michigan)*

James, it will take me a little time to fully digest your post, but I did stumble across %%ANGLE and, indeed, its existence really does make redundant need for an extended precision %%ATAN. As you have intuited, if x is on level 2 and y is on level 1, %%ANGLE returns arctan(y/x) in the angle mode of the calculator. For example, the code :: 2%>%% %%ANGLE ; when compiled and acting on input 3 ENTER 4, will return %% 9.27295218001615E-1 radian, which is almost exactly the correct 15-digit result for arctan (4/3) (the last digit should be a 2). In normal precision computing on the actual calculator, 4 ENTER 3 / IShift ATAN returns .927295218, whereas the proper 12-digit answer should be .927295218002. I haven't experimented yet with %%ANGLEDEG and %%ANGLERAD, but I gather they force the specified mode in the output irrespective of the calculator's angular mode.

Using null lams in non-nested code is pretty straightforward. In nested code, keeping track of the numbering when binding new null lams without unbinding old ones can be tricky. If I have to go this route I will make sure that internal subroutines that use null lams close with ABND where possible to ensure there isn't numbering conflict with the main code.

I didn't search hpcalc.org too closely for SysRPL routines that compute with extended precision complex numbers. I guess I was really looking to do the programming myself.

Thanks as always for your detailed and astute contributions.

Les

*Edited: 21 June 2007, 7:50 p.m.*

**Re: I did it!**

*Message #22 Posted by [Paul Dale](#) on 21 June 2007, 8:28 p.m.,  
in response to message #21 by Les Wright*

Not complex and not hpcalc.org but I did do a little with extended precision reals (log to any base and harmonic mean from memory) back on comp.sys.handhelds probably fifteen years ago.

- Pauli

### Re: I did it!

Message #23 Posted by [Les Wright](#) on 21 June 2007, 9:42 p.m.,  
in response to message #21 by Les Wright

Quote:

In normal precision computing on the actual calculator, 4 ENTER 3 / IShift ATAN returns .927295218, whereas the proper 12-digit answer should be .927295218002.

I should emphasize of course that this is NOT a bug in the calculator. .927295218000 radian is indeed the correct 12 digit approximation to the arctangent of 1.33333333333, which of course is not exactly 4/3. Alas, applying ->NUM in exact mode to ATAN(4/3) seems to reduce 4/3 to the 12 digit decimal approximation first, then takes the arctangent, so you get the arctangent of the approximation, not the original exact fraction. To get the exact arctan of 4/3 without a SysRPL program, (3,4) ARG returns the correct 12 digit result. Indeed, in situations where high accuracy is desired, this is probably the way to do it.

I have long been interested in maximizing accuracy in floating point calculation on calculators, even though this is not necessary in the real world usually. Free42 Decimal, with its 25-digit internal digits always accessible to the user, has been one way to do this. Now, extended reals in SysRPL is another, only this time on a "real" calculator and not a simulator. Neat....

Les

### Re: I did it!

Message #24 Posted by [James M. Prange \(Michigan\)](#) on 21 June 2007, 8:19 p.m.,  
in response to message #20 by James M. Prange (Michigan)

PS:

Progsysrpl.pdf gives us some stack diagrams, for example:

```
30767 %%ANGLERAD ( %% -> %%' )
3073A %%ANGLE ( %%x %%y -> %%ang )
30757 %%ANGLEDEG ( %%x %%y -> %%deg )
30E83 %%R>P ( %%x %%y -> %%radius %%angle )
30EB0 %%P>R ( %%r %%ang -> %%x %%y )
30693 %%TANRAD ( %%rad -> %%tan )
```

It isn't obvious to me what %%ANGLERAD and %%TANRAD are for.

Regards,  
James

**Re: I did it!**

Message #25 Posted by **James M. Prange (Michigan)** on  
21 June 2007, 8:30 p.m.,  
in response to message #24 by James M. Prange (Michigan)

PPS:

Given an angle in radians (regardless of the current mode)  
as an extended real, %%TANRAD seems to return the  
tangent of that angle as an extended real.

Regards,  
James

*Edited: 21 June 2007, 8:32 p.m.*

**Re: I did it!**

Message #26 Posted by **James M. Prange (Michigan)**  
on 21 June 2007, 8:42 p.m.,  
in response to message #25 by James M. Prange (Michigan)

PPPS:

And it seems that regardless of the current mode,  
%%ANGLERAD converts the value of an angle in  
degrees to its value in radians. Both as extended reals,  
of course.

Wow, as I use my calculators for trigonometry a lot, I  
suppose that I should've known all of this already. But  
the UserRPL results are usually plenty close enough for  
my purposes.

Regards,  
James

*Edited: 21 June 2007, 8:46 p.m.*

**Re: I did it!**

Message #27 Posted by **Les Wright** on 21 June  
2007, 9:45 p.m.,  
in response to message #26 by James M. Prange (Michigan)

Quote:

\_\_\_\_\_

PPPS:

And it seems that regardless of the  
current mode, %%ANGLERAD



converts the value of an angle in degrees to its value in radians. Both as extended reals, of course.

Wow, as I use my calculators for trigonometry a lot, I suppose that I should've known all of this already. But the UserRPL results are usually plenty close enough for my purposes.

Regards,  
James

---

James, the Kalinowski and Dominik opus, along with its companion listing of HP49 Entry Points, provides only scanty info on the use of so many functions. One has to often infer it from the stack diagrams. As you have seen, this most of the time seems not to be too abstruse. Les

### **Re: Seeking Some RPL Tutelage**

*Message #28 Posted by [James M. Prange \(Michigan\)](#) on 19 June 2007, 9:04 p.m., in response to message #11 by James M. Prange (Michigan)*

I wrote:

Quote:

---

Carsten's extable2

---

A correction: Thomas Rast should get the credit for extable2.

Regards,  
James

### **Re: Seeking Some RPL Tutelage**

*Message #29 Posted by [James M. Prange \(Michigan\)](#) on 19 June 2007, 8:58 p.m., in response to message #6 by James M. Prange (Michigan)*

I wrote:

Quote:

---

"Unsupported" entry points may well change with any ROM revision, so are best avoided. But Jean-Yves mentioned some ranges of entry points that won't move, and these are the "unsupported but stable" entry points that are probably okay to use. He isn't employed by HP any more, but they haven't moved yet. But if HP releases another series of RPL models, even the "supported" entry points may move.

---

Reviewing the [comp.sys.hp48 post](#), I find that his wording wasn't so strong as "won't move", but I believe that those ranges are what the "unsupported but stable" entry points for the 49 series are

based on.

Of course there may turn out to be other unsupported entry points that always stay at the same address (stable), but even if they haven't moved yet, there's no guarantee that they won't in some future ROM revision.

Regards,  
James

### **Re: Seeking Some RPL Tutelage**

*Message #30 Posted by [Kiyoshi Akima](#) on 14 June 2007, 1:13 p.m.,  
in response to message #1 by Les Wright*

You can find some of my attempts at SysRPL at

<http://kiyoshiakima.tripod.com/funprogs/index.html>

One of those (bifurcation diagrams) starts with a UserRPL program and then develops six different SysRPL programs, adding (mis)features.

Note corrected link. My bad...

*Edited: 15 June 2007, 1:10 p.m. after one or more responses were posted*

### **Re: Seeking Some RPL Tutelage**

*Message #31 Posted by [Giancarlo \(Italy\)](#) on 14 June 2007, 4:00 p.m.,  
in response to message #30 by Kiyoshi Akima*

Hi Kiyoshi.

Would you please be so kind to check the link you provided, as it seems unreachable....

Thanks in advance.

Best regards.

Giancarlo

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## HP Forum Archive 17

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### HP-32Sii purchased from Ebay not working

Message #1 Posted by [Mike Barry](#) on 12 June 2007, 10:38 a.m.

I know, I know, caveat emptor. I just assumed that if one is going to list a calculator, it would be pretty obvious to state that it doesn't work, if in fact it doesn't work! The box that I received the calculator in was in good shape and I don't hear any loose parts rattling around inside the calculator. That being said, I tried powering it up with good batteries, tried pressing "C" and "LN" to reset, tried pressing "C" and square root and e to the x to clear memory, tried shorting the terminals to drain the caps... All with no luck in powering it up. Any suggestions? I emailed the seller yesterday and haven't yet got a response. What is the best way to go about getting this resolved? Any suggestions from experienced Ebay folks would be appreciated.

Best regards, Mike

### Re: HP-32Sii purchased from Ebay not working

Message #2 Posted by [Ron](#) on 12 June 2007, 1:25 p.m.,  
in response to message #1 by Mike Barry

Did you pay with PayPal? I don't know if it matters, or not. The eBay Standard Purchase Protection Program went inactive in January, and has been replaced with PayPal "protection" (didn't work for me). See item "c" below:

13.11 Significantly Not As Described. To the extent that we provide reimbursement for losses for items that are Significantly Not as Described when received by the buyer ... Here are some of the reasons that an item may be considered Significantly Not as Described: . . .

(c)The item is unusable and was not disclosed as such. For example, if there are missing major parts or components, will not function or turn on or is spoiled or past a relevant date. This applies to the item in its received state, no matter what the condition when it was shipped. . . .

Here's the page: [PayPal](#)

### Re: HP-32Sii purchased from Ebay not working

Message #3 Posted by [Rav](#) on 12 June 2007, 4:59 p.m.,  
in response to message #1 by Mike Barry

Did you have it pay for it or have it delivered through USPS? If so there may also be some protection that way.

Make sure that you keep copies of everything that you send. Also if you don't receive a response in a week or so send a letter with tracking through the USPS.

Settle down and expect this to be a long haul. I had something similar happen and it took nearly four months to sort out.

Good luck,

Rav.

**Re: HP-32Sii purchased from Ebay not working**

*Message #4 Posted by [Steve Borowsky](#) on 12 June 2007, 5:14 p.m.,  
in response to message #1 by Mike Barry*

Did the seller state that it was working, or show an active display? Maybe a link to the auction would help determine if you have any recourse.

**Re: HP-32Sii purchased from Ebay not working**

*Message #5 Posted by [Gene](#) on 12 June 2007, 6:08 p.m.,  
in response to message #4 by Steve Borowsky*

IMO, unless the seller stated that it was in "working condition" or showed a picture where the display was on and working, you probably have no recourse.

Saying that something is "in good condition" does not imply anything about whether it works or not, unfortunately.

If you buy something on ebay and the seller does not specifically say "this works! See the picture?" then you're taking your chances, as Steve says.

Sometimes you get lucky. Sometimes not.

Now, whether paypal will help you is hard to tell. Sellers have had their money taken from them by paypal when a bidder claims to have received a brick instead of the advertised good. Since the seller cannot prove what the buyer actually received, sellers can often be at a loss, since you cannot prove a negative. No matter what pictures you have, documentation you have, you cannot prove before the box was sealed that you did not put a brick into it rather than that never opened red-dot HP 35.

Search the web and you find many people who have been ripped off by buyers this way. Sure, it may not have happened to anyone here. Doesn't mean it hasn't happened to more people than you might think.

Primary reason I don't take paypal. Avoid the risk, even if it means lower sale prices. Oh well.

Good luck!

**Re: HP-32Sii purchased from Ebay not working**

*Message #6 Posted by [Tom UK](#) on 13 June 2007, 9:53 a.m.,  
in response to message #5 by Gene*

Well if you describe something as a 'calculator' it should calculate something, otherwise it is not as described - if it doesn't work it is really a collection of plastic and metal in the shape of a calculator and should be sold as "spares or repairs". Need to see the ebay listing to see the details.

Best of luck with resolving the issue.

In the UK if you sell a 'car' it must do things a car is expected to do unless you expressly say it will not.

**Re: HP-32Sii purchased from Ebay not working**

*Message #7 Posted by [Mike Barry](#) on 13 June 2007, 10:37 a.m.,  
in response to message #5 by Gene*

Hello all, Thanks for all of the good suggestions. Gene is correct and I should have been more careful. Unfortunately, the seller never explicitly stated that the calculator works. I have yet to hear from the seller, so I think my only recourse is through PayPal. Yikes! I did try the other suggestions regarding the contrast and jump starting the calculator - with no luck. I have a very nice looking electronic brick.

Thanks again, Mike

**Re: HP-32Sii purchased from Ebay not working**

*Message #8 Posted by [Gene](#) on 13 June 2007, 12:25 p.m.,  
in response to message #7 by Mike Barry*

Sorry about that. I have bought things before that didn't say one way or the other whether they worked ... just took my chances. Sometimes you win, sometimes you don't.

Gene

**Re: HP-32Sii purchased from Ebay not working**

*Message #9 Posted by [Ron](#) on 13 June 2007, 2:23 p.m.,  
in response to message #7 by Mike Barry*

13.11 Here are some of the reasons that an item may be considered Significantly Not as Described:

(c)The item is unusable and was not disclosed as such.

**Re: HP-32Sii purchased from Ebay not working**

*Message #10 Posted by [JB](#) on 14 June 2007, 12:02 a.m.,  
in response to message #7 by Mike Barry*

I've purchased a few 32Sii's like this but have worked after squeezing the front and back halves together, just below the screen. The pressure required varied on each but in my cases it seems the contacts to the display had lightly disconnected. My 'permanent' fix was to split the cases and add some filler to hold the connection tighter. Still working today, as always though your mileage may vary.

**Next step: Contrast and troubleshooting.**

*Message #11 Posted by [allen](#) on 12 June 2007, 6:52 p.m.,  
in response to message #1 by Mike Barry*

On some 32sii models, the contrast is dynamic enough to make the calculator appear OFF when at the lowest setting. Don't forget to press the [ON] key and [+] several times to be sure it is not a contrast issue. You could also measure the current while you believe the unit is working. The current spikes on key-press will indicate that the CPU and keys are working (at least marginally). The easiest way to do this in situ is to put [Copper Tape](#) on [both sides](#) of a small piece of index card. Isolate the two sides of tape, Then connect/solder the tape ends to your two ammeter leads. Stick the small card-stock or business card anywhere in the battery train to break the circuit with the ammeter lines. You should get around 100 uA in [standby](#) and around 2.5 mA during [Key Press](#).

*Edited: 12 June 2007, 7:15 p.m.*

**Re: HP-32Sii purchased from Ebay not working**

*Message #12 Posted by [Stefan Katletz](#) on 13 June 2007, 4:56 a.m.,  
in response to message #1 by Mike Barry*

Mine was also not working on arrival, after pressing resets etc. and removing the batteries for some time my only solution was to insert them in reverse (only for a second) - and voila, it is still working till today. I know this is risky and I wouldn't recommend it, but if you have tried everything and you think you have a brick already, what do you loose? (Mine was sold as "in working condition", so something happened to it during sending, and it was not insured...)

stefan

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## HP Forum Archive 17

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**data sheets for Sunplus microcontrollers?**

Message #1 Posted by [Eric Smith](#) on 12 June 2007, 4:19 a.m.

Does anyone know where datasheets on the various Sunplus 6502-based microcontrollers (e.g., SPLB20D2, SPLB22A, SPLB30A, SPLB31A, as used in some HP calculators) can be found? They used to be on the Sunplus web site.

Sunplus seems to have fissioned into several companies, none of which seem to claim to offer those parts.

**Re: data sheets for Sunplus microcontrollers?**

Message #2 Posted by [J-F Garnier](#) on 12 June 2007, 6:29 a.m.,  
in response to message #1 by Eric Smith

I found this from Generalplus company: [GPLB31A](#) (pdf file).

J-F

**Re: data sheets for Sunplus microcontrollers?**

Message #3 Posted by [DaveJ](#) on 12 June 2007, 8:26 a.m.,  
in response to message #2 by J-F Garnier

It is a most puzzling choice indeed by HP. It's not the worlds greatest micro, scalability to different products is limited, and it's an obscure brand so presumably 3rd party tools would not be nearly as mature, and supply longevity would have to be questionable. Although if it is truly 6502 compatible then that would solve the tool issue.

Perhaps the choice came down to price?

Anyone know if HP would code their calculators in C or assembler?

Dave.

**Re: data sheets for Sunplus microcontrollers?**

Message #4 Posted by [Eric Smith](#) on 12 June 2007, 1:51 p.m.,  
in response to message #3 by DaveJ

Yes, price. And Kinpo was already using it for that reason.

They write the software in C. The 6502 isn't a great choice for C code (or most compiled languages), so the object code size is fairly large.

**Re: data sheets for Sunplus microcontrollers?**

Message #5 Posted by [Bill Wiese](#) on 13 June 2007, 2:18 p.m.,

*in response to message #3 by DaveJ*

Quote:

---

It is a most puzzling choice indeed by HP.

---

That statement astounds me. Surely you know HP did not make the choice of CPU??

They went out and looked for calculator mfgs with certain competencies and volume and pricing, and said, "we want a calc that looks like <this> and does <that>". Part of <that> would include power consumption/battery life considerations, and some measure of operational speed (PRGM mode instructions per second, max times for some of the more complex functions, etc.)

If Kinpo decided to use a (mythical) ultrafast 4-bitter HP wouldn't care. If, say, Kinpo decided that a VAX emulation layer was appropriate, fine - just as long as cost & power considerations are met. These level details are left to ODMs/OEMs now; HP buys a 'package'. High-level price/power/operational targets are all that matter between the 'name brand' and the ODM vendor. Most of the design in fact was done by Kinpo, with the 'styling'/arrangement/packaging 'feel' done by HP in cooperation with a product design house like IDEO or Frog-something or SmartDesign. (They do this for their inkjet printers, which they make a helluva lot more money from...)

Quote:

---

It's not the worlds greatest micro,

---

Again, who cares? Absolutely irrelevant.

BTW, in terms of volume shipped, 6502 derivatives are way up there. \*Tons\* of modems, tons of toys, etc. have 'em. Mitsubishi has their MELPS 37000/57000 8 and 16 bit versions (their 16 bitter is roughly like the 65C816 that was in the Apple IIc) that ran Nissan engine control computers in the mid thru very late 90s (and probably beyond) vehicles. Many many VCRs and TV sets and some microwave ove

Many chip selections are made not for architecture, but simply for pricing, availability, power consumption, I/O driving or even package choice - even if the chosen register/instruction set makes a programming task more difficult.

Quote:

---

scalability to different products is limited,

---

Again irrelevant? This is not an academic school project with grade based on how ultraportable code, etc. It's about getting the job done at minimum cost.

Many of these type of designs are treated as one-shot products with no intention of code reuse, update, etc. As it is, the coding for the calc is most likely in C so that's "portable enough". Any portability concern is more toward doing the same product on a new chip if there are supply concerns, than reusing the code base for a new, different product. As it stands, they could do an initial re-port over to an 8051 or 6805 or H8 design in a few days max.

Quote:

---

and it's an obscure brand so presumably 3rd party tools would not be nearly as mature, and



supply longevity would have to be questionable.

Obscure? The fact you haven't heard of them doesn't mean they don't ship in volume. I imagine there's could be 100 - 500 million shipped products with various Sunplus chips in them, and that could be on the low side. Calculators, translators, alarm clocks, talking & automated toys, cheaper appliances, etc. all use Sunplus CPUs.

Supply longevity to get thru a sequence of production runs is good enough. No one cares about 2 years from now.

Quote:

Although if it is truly 6502 compatible then that would solve the tool issue. [/quite]

Again irrelevant. Any CPU vendor will supply tools to a volume customer. They either create the tools themselves or have a relationship with a tool provider (like HiTech, who makes C compilers for various micros) It's almost a given - C compiler, assembler, linker and (maybe) some sort of debugger or monitor. Otherwise you can't sell your chip. [Maybe JTAG support added on bigger chips.]

[quote]Perhaps the choice came down to price?

Dude, it ALWAYS comes down to price - sometimes prior working relationships help, as Kinpo and Sunplus (or Sunplus') successor have had an ongoing relationship for some years.

Quote:

Anyone know if HP would code their calculators in C or assembler?

HP doesn't code anything anymore for this kinda product. Kinpo would be doing the work. 99% chance it would mostly be in C - some startup code in assembly, maybe some optimized I/O driver stuff, although I know it could readily be done all in C. A 1MHz 65C02 can reliably even 100% \*emulate\* an HP41C calc at full speed or more. Perhaps there some optimized BCD math routines in assembler, but there's probably not that much reason for it.

Having just about everything in standard C (plus or minus a few compiler+architecture dependent features) pretty much means architectural considerations are moot.

Bill Wiese  
San Jose, CA

### **Re: data sheets for Sunplus microcontrollers?**

*Message #6 Posted by [DaveJ](#) on 13 June 2007, 5:58 p.m.,  
in response to message #5 by Bill Wiese*

Ok, that's a different ball game entirely then, I thought Kinpo only manufactured the product, but all design engineering and coding was done by HP. I was obviously wrong.

Thanks. Dave.

### **Re: data sheets for Sunplus microcontrollers?**

*Message #7 Posted by **Eric Smith** on 12 June 2007, 2:00 p.m.,  
in response to message #2 by J-F Garnier*

Thanks, that explains the mystery. That portion of Sunplus is now Generalplus, and the datasheets are available on their [web page](#).

I'd still like to get the datasheet for the SPLB20D2, which appears to have been obsoleted by the GPLB20D3.

### **Re: data sheets for Sunplus microcontrollers?**

*Message #8 Posted by **Bill Wiese** on 13 June 2007, 2:41 a.m.,  
in response to message #7 by Eric Smith*

Eric,

Various Sunplus controllers are 'nominally' 6502 compatible. It's been awhile, I'm betting there may be some but not all 65C02 instructions on board.

The lesser-capability Sunplus CPUs used in things like KBs and mice may lose a register (I think the .Y register) and associated instructions.

Bill Wiese  
San Jose, CA

### **Re: data sheets for Sunplus microcontrollers?**

*Message #9 Posted by **Eric Smith** on 13 June 2007, 11:47 p.m.,  
in response to message #8 by Bill Wiese*

Unfortunately it turns out that the Generalplus data sheets basically only have a block diagram and electrical specs. They apparently have Programmer's Guides and User Guides, but they don't make them available online. Sigh.

### **ACT chip(was Re: data sheets for Sunplus microcontrollers?)**

*Message #10 Posted by **Nelson M. Sicuro (Brazil)** on 12 June 2007, 5:15 p.m.,  
in response to message #1 by Eric Smith*

Speaking of CPUs, does anyone have specifications of the ACT chip from HP-97? Signal traces, cycles, states... My 97's ACT is dead (?), I'm thinking of a replacement using CPLD or a new microcontroller...

Thanks!

Nelson

### **Re: data sheets for Sunplus microcontrollers?**

*Message #11 Posted by **Jeff** on 18 June 2007, 10:06 a.m.,  
in response to message #1 by Eric Smith*

Does anyone know what CPU is used in the 12C Platinum 25th Anniversary edition?

Thanks.

## **Re: data sheets for Sunplus microcontrollers?**

*Message #12 Posted by [Eric Smith](#) on 19 June 2007, 2:23 a.m.,  
in response to message #11 by Jeff*

I think it is a Generalplus GPLB31A, but I haven't seen anything definitive.

The 12C Platinum was originally claimed to use the Sunplus SPLB20D2, but they had to increase the ROM size when they upgraded the 12C Platinum to new firmware based on the 17BII+ code base. They did not revise the data sheet.

The 12C Platinum Anniversary Edition and the 12C Prestige are believed to share the same electronics and firmware with the revised 12C Platinum.

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## HP Forum Archive 17

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### What to start a collection with

Message #1 Posted by [Vince Horvath](#) on 11 June 2007, 5:47 p.m.

I currently don't own any HP calculators, but I have often really liked them and the HP quality. I have played with a few and I think I understand the RPN nature.

My question is, what are some good models to start a collection with? Should I go with some of the really early models first, or should I go with something that is newer (10C series).

Any help would be appreciated.

Vince

### Re: What to start a collection with

Message #2 Posted by [db \(martinez, ca.\)](#) on 11 June 2007, 5:50 p.m.,  
in response to message #1 by Vince Horvath

buy one you will use.

### Re: What to start a collection with

Message #3 Posted by [Hal Bitton](#) on 11 June 2007, 5:58 p.m.,  
in response to message #1 by Vince Horvath

Hi Vince...

I would start with an HP67. In the latter seventies, this was the definitive machine from HP. With it's card reader it's way cool and much fun to play with. This will enable you to collect the software (pre-recorded cards) for this machine as well.

Best regards, Hal

### Re: What to start a collection with

Message #4 Posted by [Gerson W. Barbosa](#) on 11 June 2007, 6:05 p.m.,  
in response to message #1 by Vince Horvath

Perhaps you'd like to hear some advice from the curator himself:

<http://www.hpmuseum.org/collect.htm#limit>

Regards,

Gerson.

### Re: What to start a collection with

Message #5 Posted by [Alex L](#) on 11 June 2007, 6:46 p.m.,

*in response to message #1 by Vince Horvath*

If you're on a budget, start with what you can find. Look around. Ask around. You may get lucky. I know I did!

Good luck!

-A

## **Re: What to start a collection with**

*Message #6 Posted by **Egan Ford** on 11 June 2007, 6:47 p.m.,  
in response to message #1 by Vince Horvath*

Get a few emulators to start with. Figure out what you like.

Windows (all free):

1. Debug4x will give you 48GX, 48GII, 49, 49G+, and 50g. Start with the 50g since you can buy them new today.
2. Free42 is a very cool HP 42S simulator.
3. V41 is a very complete HP 41CX emulator.
4. Nonpareil emulates about 20 older HPs including LED models. Run the original HP 35.
5. EMU71 and EMU41 are CLI-based 71B and 41CX emulators. For 41CX I prefer Nonpareil and V41. For 71B EMU71 rocks.

Linux (all free):

1. Debug4x. You'll need to setup WINE (assuming x86 or x86\_64 box)
2. x48 is a 48GX/SX emulator.
3. Free42.
4. Nonpareil.
5. EMU71 and EMU41. Install DOSEMU (x86/x86\_64 only) or DOSBox (any arch).

Mac (all free):

1. Debug4x. You'll need to setup Parallels, WINE or something similar.
2. There is an older EMU48 around. No 49G+ or 50g support.
3. x48.
4. Free42.
5. Nonpareil.
6. EMU71 and EMU41. Install DOSBox.

50g: (Just too cool, but if you get the 50g and want to spend some \$ check out <http://www.hrastprogrammer.com/>)

1. 71X: 71B emulator.
2. 41X: 41C emulator.
3. 42X: 42S emulator.
4. 11E: 11C emulator.
5. 12E: 12C emulator.
6. 15E: 15C emulator.
7. 16E: 16C emulator.

I am more of a user than a collector. IMHO as a user you cannot go wrong with a 15C or any programmable

RPN/RPL for that matter.

On eBay the 15C, 42S, 41CX, 71B, 67 are usually the most in demand (expensive).

Think twice about the 41CX and 71B. They are expandable with many options. More so if you go the HP-IL route. Be prepared to quickly get addicted and spend a lot of cash.

Lastly I only started collecting in 2006 when I couldn't get a decent RPN calculator. I still had my original 15C and 48GX, and I realized they would be hard to replace. But with the 50g and now the new 35S, there may be little need to collect (if you are a user).

*Edited: 11 June 2007, 6:53 p.m.*

## **Re: What to start a collection with**

*Message #7 Posted by [Kevin](#) on 11 June 2007, 8:15 p.m.,  
in response to message #6 by Egan Ford*

I've tried a bunch of emulators on PC, Linux and Palm and one of my favorites is the P41CX emulator that runs on the Palm OS. If you happen to have a Palm (especially if you have one that will do 320x480 resolution) then P41CX is just great. It emulates the HP-41CX - and it also comes with a free emulation of the HP-41CX add-on module called the "Advantage" roms, which has a bunch of very useful programs. P41CX also emulates a printer that can be attached to an HP-41CX - results of printouts from the calculator go to the Palm OS "Memo" application where you can review them. Some of the HP-41CX modules make use of a printer - to do things like amortizations of a mortgage - it is very neat to run these in the emulator. You can find out more about P41CX here:

[Palmgear P41CX](#)

The version you pay for includes access to a multitude of other add-on module emulations and only costs \$11.00.

In any event, I highly recommend running a bunch of the emulators and reviewing documentation on this site to get an idea of how the calculators work before you decide which real calculators you'd like to buy.

Good Luck,

Kevin

## **Re: What to start a collection with**

*Message #8 Posted by [Karl Schneider](#) on 13 June 2007, 12:26 a.m.,  
in response to message #6 by Egan Ford*

Many sound suggestions were given in this thread. One statement by Egan compels a follow-up:

Quote:

On eBay the 15C, 42S, 41CX, 71B, 67 are usually the most in demand (expensive).

There's a good reason for that: These are among the most impressive models ever made by HP.

My list of "best" models (for one reason or another): HP-67/97, HP-41CX, HP-15C, HP-71B, HP-42S, HP-17BII, HP-32SII, HP-48GX

My list of "most distinctive" models (for one reason or another): HP-34C, HP-16C, HP-27S, HP-28S

Most of the above are somewhat expensive (US\$150+) on eBay, but a few (e.g., HP-17BII, HP-28S) are more affordable.

-- KS

### **Re: What to start a collection with**

*Message #9 Posted by [bill platt](#) on 11 June 2007, 7:06 p.m.,  
in response to message #1 by Vince Horvath*

But one that you are curious about, but unless you want to start with a rebuild project, be careful to buy something that works.

### **Re: What to start a collection with**

*Message #10 Posted by [Dave Johnson](#) on 11 June 2007, 7:40 p.m.,  
in response to message #1 by Vince Horvath*

Yeah, decisions, decisions.... We all can only relate to our own background and experiences... When I began my collection I was mainly focused on what I could use and I saw a real desire for a desktop scientific and there were none outside of the old classics. I was focused on getting a 97 to sit on my desk and be a collector's item and also useful... I began to study this site, EBay, etc. for prices and quality etc. At the time I did not look forward to sending \$\$\$\$ and getting a broken POS... I found a posting on this site for an HP-45 for \$100 and sent the money and waited... What I received was wrapped in a brown paper bag from a supermarket .. the HP-45, case, and battery, no box, or protective padding outside of the case. On opening it turned out to be absolutely mint condition, as if it had never been used (both case and calculator). This hooked me big time into my collection that has all but the Hp-70. I never got a calculator in as good a condition as the first HP-45 (though close)... I was in high school when the Hp-35 came out so I have memories of all the pocket calculators during the early models. I think the LED models provide the best memories of the early development. Certainly the HP-41 was the peak of performance and capabilities before they became commodities and computational power drove to PC dominance (the market for calculators was then driven by the educational market)

Good Luck and happy shopping, hope you are lucky!

### **Re: What to start a collection with**

*Message #11 Posted by [Dan W](#) on 11 June 2007, 11:24 p.m.,  
in response to message #10 by Dave Johnson*

I agree. The 67 and 97 is a great combo. I use the 97 at home and the 67 at the office. I use the mag cards to trade data and programs. The display is much easier on over 40 eyeballs. And the printer is great for documenting programs or debugging in trace mode.

I was too young to afford any of the Classic series; but I was envious of those who could. The 11c was my first HP. Now I collect Classics. I think they are more interesting historically. And the card readers are great. Plus my other hobby is electronics, and repairing the Classics is relatively easy.

### **Re: What to start a collection with**

*Message #12 Posted by [Eric Smith](#) on 11 June 2007, 9:55 p.m.,  
in response to message #1 by Vince Horvath*

Start with what you can get without spending a small fortune. Older HP calculators sometimes show up at thrift stores (though that's becoming less common), garage sales, estate sales, etc.

### **Re: What to start a collection with**

*Message #13 Posted by [Maximilian Hohmann](#) on 12 June 2007, 4:00 a.m.,  
in response to message #1 by Vince Horvath*

Hello!

My advice: Be patient, first of all! (Unless, of course, you have access to unlimited funds :-))  
As others already said, good HP calculators do not necessarily need to be expensive. Even on eBay, bargains can be found from time to time. With patience, of course...

But one model that is a must for every collector, whatever his interest may be!, is certainly the hp-35!

Greetings, Max

### **Re: What to start a collection with**

*Message #14 Posted by [Howard Owen](#) on 12 June 2007, 4:20 a.m.,  
in response to message #13 by Maximilian Hohmann*

The HP-35 is the first scientific hand held calculator. It's cool to have one, but I did without for quite awhile. I didn't take the plunge until this year, it being the 35th anniversary of the HP-35. The reason I held off is that the 35 is no great shakes as a calculator. It's not programmable, and has just a basic set of functions. To be sure, those were revolutionary in the package HP delivered in 1972. But I'm an enthusiast (what Egan calls "a user") first, and a collector second. I like to *do* stuff with my calculators. I also like to buy machines I used when I was starting out. For me, that meant the 41CX first.

Egan has given you a very nice survey of what's available. His tastes match mine pretty closely, I've noticed. So for me, an expandable, programmable system has an edge. The 41CX matches this description, and so does the 71B. The 50G has PC connectivity, and SD card memory expansion. It is also the absolute geekiest of HP calculators, in terms of programming, and mathematical diversity. That also means that is the most challenging machine to use effectively. That's a plus for me, since I do that sort of thing for entertainment.

One other machine captured my heart. That was the HP-97. I just love the look of that machine, and its ease of use. It sits on my desk, and gets almost daily use.

My best advice is follow your heart, but don't leave your head out of the conversation. That's been my approach, and it has served me well.

Regards,  
Howard

### **Re: What to start a collection with**

*Message #15 Posted by [Maximilian Hohmann](#) on 12 June 2007, 4:47 a.m.,  
in response to message #14 by Howard Owen*

Hello!

Quote:

---



One other machine captured my heart. That was the HP-97. I just love the look of that machine, and its ease of use. it sits on my desk, and gets almost daily use.

I agree 100 percent with this statement :-) The '97 was the first hp calculator in my collection and is still one of my favourites (beside the '25 and the 71B, the only LCD calculator that I really like to use). Many years back, I even used an hp-97 at work, but that wasn't mine then.

In my daily business, I have not much use for a pocket calculator, but for playing around, I prefer either a Curta or the almighty Ti Voyage 200, that beats everything that hp has ever made in every respect. Sad but true...

Greetings, Max

*Edited: 12 June 2007, 4:49 a.m.*

### **Re: What to start a collection with**

*Message #16 Posted by **Vince Horvath** on 12 June 2007, 10:59 a.m.,  
in response to message #1 by Vince Horvath*

Thanks everyone for your comments. I have seen the HP-97 and it is really cool looking. That may be a bit much for me though to start out with.

I guess the one thing I kept seeing in the posts is be patient. Sounds like what my folks used to always say about not buying the first car you see, or marry the first girl you meet.

My Dad does have a HP 15C I think (either that or the 11C.. one of those). I also do like the 41C series, but those look like they are quite expensive. I remember a friend of mine having one in college and I fell in love with it and wanted one badly, but just could never part with that type of money.

Tell me a little more about the programing (sorry, I know that is a loaded question). What exactly can it do? Is it easy to understand? I have looked at my dad's book that came with his, and it seem's kinda tough to understand as it does not resemble C or any of those languages. Yes, it has subroutines, but it just seems a bit odd. Do the larger machines like the HP97 program more like a computer or is it sort of the same?

Thanks again!

Vince

### **Re: What to start a collection with**

*Message #17 Posted by **Egan Ford** on 12 June 2007, 11:21 a.m.,  
in response to message #16 by Vince Horvath*

Most models are RPN. RPN is keystroke programming. Start here:

<http://www.hpmuseum.org/rpn.htm>

The 28/48/49/50 series introduced UserRPL. Some models support SysRPL and C. UserRPL meets most needs. UserRPL is somewhat keystroke somewhat structured (think FORTH/LISP).

<http://www.hpmuseum.org/rpl.htm>

The 71B has BASIC with optional RPN and FORTH. Assembly is also a possibility.

Some examples below:

Savage Benchmark in BASIC, RPN, FORTH, RPL:

**BASIC (71B):**

```
10 DESTROY ALL @ STD @ RADIANS
20 S=TIME
30 A=1
40 FOR I=1 TO 2499
50 A=TAN(ATAN(EXP(LN(SQRT(A*A)))))+1
60 NEXT I
70 DISP A;"IN";TIME-S;"SEC"
```

**RPN (41CX, 71B):**

```
01 LBL "S"
02 RAD
03 FIX 9
04 TIME
05 HR
06 STO 01
07 2499
08 STO 00
09 1
10 LBL A
11 X^2
12 SQRT
13 LN
14 E^X
15 ATAN
16 TAN
17 1
18 +
19 DSE 00
20 GTO A
21 TIME
22 HR
23 RCL 01
24 -
25 3600
26 *
27 X<>Y
```

**FORTH (71B):**

```
: SAVAGEF
  RADIANS STD
  CLOCK
  1.
  2499 0 DO
    X^2 SQRT
    LN E^X ATAN TAN
  1. F+
  LOOP
  F. ." IN "
  X<>Y CLOCK X<>Y F-
  F. ." SEC"
;
```

**RPL (48/49/50 series):**

```
<<
  TICKS
  1
  1 2499 FOR I
    SQ SQRT LN EXP ATAN TAN 1 +
  NEXT
  SWAP
  TICKS SWAP - B->R 8192 /
>>
```

IMHO, you'll be most productive with the 50g--it's my everyday calculator. Multiply studies correlate

screen size with productivity. I find the 71B + 41 Translator ROM (gives you RPN and FORTH) the most fun. But, almost nothing compares to the joy of getting the 15C with its limited memory and speed to solve very difficult problems (probably true for any pre-15C model).

P.S.

I forgot to add. Lua is available for the 50g. If you want a C++/Java like interpreted language check out HPLua. HPLua example:

```
a=1
for i=1,2499 do
  a=math.tan(math.atan(math.exp(math.log(math.sqrt(a*a)))))+1
end
print(a)
```

*Edited: 12 June 2007, 12:06 p.m.*

### **Re: What to start a collection with**

*Message #18 Posted by [Vince Horvath](#) on 12 June 2007, 1:01 p.m.,  
in response to message #17 by Egan Ford*

Okay... really dumb question, but why do they have these different languages? Were they seen as improvements over time. Also, what does the benchmark program do, and what does RPL stand for? Reverse Polish Language? Can anyone also give me the highlights of what is the difference with RPL and RPN and what may or may not be the advantages to both.

Sorry for all the dumb questions gang.

Vince

### **Re: What to start a collection with**

*Message #19 Posted by [Dia C. Tran](#) on 12 June 2007, 1:37 p.m.,  
in response to message #18 by Vince Horvath*

May be you can just start with the 35s when it's available.

### **Re: What to start a collection with**

*Message #20 Posted by [John V Nelson](#) on 12 June 2007, 1:57 p.m.,  
in response to message #19 by Dia C. Tran*

I second that Dia!

Egan... don't you think the 50G is a bit of overkill? I mean, I have the 48GX, and it is a very fine machine, but I think for the most part it is just overkill and very complicated to use.

For pure scientific, I love my 15C, and for pure business, I love my 17BII. These were great simple to use calcs (well, more simple than the 48gx). I think outside the classroom or academic area the 50G might be just too robust.

Just my thoughts.

- John

## **Re: What to start a collection with**

*Message #21 Posted by **Egan Ford** on 12 June 2007, 2:18 p.m.,  
in response to message #20 by John V Nelson*

Quote:

Egan... don't you think the 50G is a bit of overkill? I mean, I have the 48GX, and it is a very fine machine, but I think for the most part it is just overkill and very complicated to use.

I was recommending it because it is the best scientific HP you can buy today new. I would never recommend the 33S. As for the 35S. Yes, I'd start there too when it releases. It will be cheaper and easier to program. For my needs I require the 50g (but I also carry my 15C). Too bad the 35S does not have a size advantage, its not much smaller than the 50g.

*Edited: 12 June 2007, 2:20 p.m.*

## **Re: What to start a collection with**

*Message #22 Posted by **Egan Ford** on 12 June 2007, 1:53 p.m.,  
in response to message #18 by Vince Horvath*

Read the links I provided above on RPN and RPL.

BASIC was getting popular in the late 70s, early 80s. BASIC was my first language. I learned it on my first computer--the Apple II+. Sharp and Tandy also released 71B-like machines in 1982 (HP had the 75 in 1982).

FORTH is a popular fast embedded platform (more popular in the 70s/80s). Not a bad fit for the 71B with I/O capabilities. FORTH is still used today (Got a PPC Mac? You got FORTH in the BIOS).

C is obvious. Speed. C became very popular in the 80s and is very popular today.

Lua. Well, its small and fast like FORTH, but is structured like C++/Java (both popular now). FORTH is more like RPN/RPL/Postscript, i.e. stack oriented. Most nubee programmers fear the stack.

Use the right tool for the right job. No single tool will solve all problems efficiency. IANS, there are no universal concepts.

As for the benchmark, read: [http://www.technicalc.org/tiplist/en/files/pdf/tips/tip6\\_50.pdf](http://www.technicalc.org/tiplist/en/files/pdf/tips/tip6_50.pdf)

## **Re: What to start a collection with**

*Message #23 Posted by **Howard Owen** on 12 June 2007, 3:38 p.m.,  
in response to message #18 by Vince Horvath*

Quote:

.. why do they have these different languages?

The early programmable models all ran some variant of RPN, or else ran BASIC. RPN programming isn't monolithic either. There is a great deal of variation in what different models of

calculator can do, although they all bear a close resemblance to one another in terms of programming structure. I think this is because HP invented pocket calculator programming, and was continuing to refine that, and the calculators themselves over time. By the time they released the 41C, they had started to give some thought to backward compatibility. If you bought the card reader for the 41, you could load 67/97 programs - the previous generation - right into the 41. The calculator would translate some instructions into ordinary HP-41C code, and some into special compatibility instructions that the card reader brought along with it.

The principle benefit of RPN programming is that is as close as possible to just entering the keystrokes you would use to solve a problem manually. This "keystroke programming" model is preserved today in the HP-33S, although in a flawed manner. (Search this site with Google to find out more.) The as yet unannounced HP-35S appears to be based on the 33S, but with at least one of the two major flaws of the 33S corrected. It allows "more than 800" data registers, which gives you something to do with the 32K of RAM. Whether it also allows more than 26 labels isn't known at this time We probably won't know for sure until the machine is released. That's rumored to be August 1.

As far as BASIC goes, there were two small machines that ran variants of BASIC. These are the HP-75 and HP-71B. BASIC was an obvious choice for small computers back then. Most would support a BASIC variant and assembler. The 71B had those, plus Forth, the ultimate "postfix" language. As Egan mentioned, the later addition of the 41C translator added RPN to the programming repertoire, although you couldn't do keystroke programming. (You had to create your program in an editor and then convert that into something the emulator could run.)

The RPL calculators were the result of a major change in HP's calculator software. This became visible to HP's customers in 1986 with the release of the HP-28C. Egan's links point you to the excellent treatment of this subject here at the museum. There was no provision for backward compatibility in these machines. But that was the standard approach in the industry in the 1980s.

Quote:

\_\_\_\_\_

.. and what does RPL stand for? Reverse Polish Language?

\_\_\_\_\_

Very close. It's "Reverse Polish Lisp."

Quote:

\_\_\_\_\_

Can anyone also give me the highlights of what is the difference with RPL and RPN and what may or may not be the advantages to both.

\_\_\_\_\_

This is a very deep subject, on which members of this forum have divergent views, to say the least. Superficially, RPN is about keystroke programming and RPL is about structure. they bear a spiritual relationship to one another in that a leading exponent of RPN, Dr. William Wickes, led the development of RPL. His book about RPN to RPL transition is enlightening in this regard. It's available on the Museum DVD. There is something close to a consensus that RPL is more difficult to learn, though a leading RPL expert who hangs out here disagrees. I love RPL because it has great depth and expressive power. But I had to pay several weeks of effort to learn it. I'm a systems engineer, with dozens of languages under my belt. But I'm also a guy that learned HP41 RPN as my very first programming language. Those facts are relevant to the time I took to learn RPL. I also wanted to learn RPL in some depth, which you may not have to do if you just need the calculator as a tool.

Quote:

\_\_\_\_\_

Sorry for all the dumb questions gang. Vince

Nonsense. As you should be able to tell from the responses, we love questions of this sort. We get to rehash our opinions yet one more time for the benefit of someone that hasn't heard them 30 times already. 8)

Regards,  
Howard

**Re: What to start a collection with**

*Message #24 Posted by [Josh](#) on 12 June 2007, 5:51 p.m.,  
in response to message #23 by Howard Owen*

Is there a good book that explains RPL?

**Re: What to start a collection with**

*Message #25 Posted by [Howard Owen](#) on 12 June 2007, 11:36 p.m.,  
in response to message #24 by Josh*

The [HP49+ and HP48gII Advanced Users Reference](#) contains a good tutorial on User RPL. [This document on hpcalc.org](#) is a PDF from 2000 that covers user RPL with examples. I haven't read it through, but it looks pretty good at a glance.

There are books available for programming RPL, mostly on the HP48. But the 50g is close enough - nearly identical in RPL syntax and structure - so that the books are still useful with today's high end calculators. [Samson Cables](#) still carries many of these books. You can sometimes find the same titles on eBay for less, but the supply is spotty. I have [Graphics on the HP48G/GX](#) and [An Easy Course in Programming the HP48G/GX](#)

I like the former more than the latter, but that may be because I knew most of what the second book had to offer by the time I got my hands on it, whereas I was ignorant of 48G graphics. The User RPL graphics are nearly identical to the implementation on the 50g, allowing for the larger screen on the newer machine.

Regards,  
Howard

**Re: What to start a collection with**

*Message #26 Posted by [Maximilian Hohmann](#) on 12 June 2007, 4:22 p.m.,  
in response to message #18 by Vince Horvath*

Hello!

Quote:

Can anyone also give me the highlights of what is the difference with RPL and RPN and what may or may not be the advantages to both.

If you ask me, both have no real highlights, at least compared to programming languages that you might be familiar with from "real" computers (like Basic, Fortran, C or Java - some of them with user-friendly intuitive interfaces like MS Visual Basic, full-screen colour-coded editors and

debuggers).

RPN is very similar to machine-code programming. You need paper and pencil to keep track of your register and memory contents and program flow. Debugging is nearly impossible without a printer and in most cases, it is quicker and easier to type in your program again than to hunt the bug.

About RPL I cannot say much, I'm afraid, because this "programming language" - or whatever one might call it - completely escapes me. My way of thinking (which was good enough to gain me a ph.d. in aerospace engineering) is totally incompatible with this thing. Not, that I did not try, but after working my way through the first 100 pages of the 500(!) pages of the hp-48 programming guide, I threw in the towel. No way am I ever going to write a single line of RPL code, and especially since I have little miracle-gadgets like a Ti Voyage 200 that I can easily program without having to look in the manual once.

Greetings, Max

### **Re: What to start a collection with**

*Message #27 Posted by [Howard Owen](#) on 13 June 2007, 12:18 a.m.,  
in response to message #26 by Maximilian Hohmann*

Quote:

My way of thinking (which was good enough to gain me a ph.d. in aerospace engineering) is totally incompatible with this thing.

It's true that neither of these languages are remotely similar to standard 3rd, 4th Web 1.0 or Web 2.0 generation programming languages. But others find they can wrap their minds around one, the other or both programming systems. I admit, I had a lot of difficulty in learning RPL. (I've had extended discussions about this on this forum. Search with Google if you are interested.) But I finally cracked that nut. But my education and career experience is in computer systems and networking, though nowhere near at the PHD level. I think this background helped a lot with my struggles with RPL.

On the RPN side, it sounds to me like you were trying to program one of the non-printing LED models and/or a 10, 12, 11, or 15C. Those have no alphanumeric capability, and you have to decode numeric representations of the keystrokes in order to read the "source code." The coding used keystroke "coordinates." On the HP-67 for example, the STO key is in the third row and the third column, so its coordinate is 3,3. Decoding those numbers is feasible, but difficult, so I can understand your frustration at trying to program in that environment.

But I first learned RPN keystroke programming on the HP41C. This calculator was the first to include nearly full alphanumeric capability. (Not all the lower case letters were available, at first.) This allowed program listings to be viewed one line at a time in the calculator's display, and the commands had names instead of keystroke coordinates. This made it more feasible, but still not ideal, to debug a program on the calculator. And yes, I frequently resorted to paper and pencil to grasp what was going on with my code, or someone else's. But you know, some allowance has to be made for the fact that those calculators embody 1970s and 1980s technology. The comparison that makes sense for the 41C is with Applesoft BASIC, not Java or Visual BASIC. (Gods of computing, please forgive me for mentioning VB and Java in the same sentence. Aak! I did it again!)

RPL strikes me as obtuse. But there are those on this forum and elsewhere who swear that they find RPN hard and RPL easy. I think its not a matter of intelligence but of style. You see this

sort of divide all over Computer Science. In the world of Unix/Linux scripting for example, the folks that like tidy code in a clean object oriented style go for Python. Those who want a tool that can adapt to their personal style, no matter how quirky or cluttered choose Perl. (That's a gross oversimplification, of course.) Then there is the famous vi vs. emacs split. Examples abound, and I think we are faced with another one here. For RPL, it helps immensely if you are used to *and like* Forth, which to this day is widely used in embedded systems. The stack oriented, postfix style of Forth is very similar in style to RPL. I would say that RPL is actually more readable than Forth! RPL can still be tough to write and especially, to read. Using the stack for arbitrary object means you can have all these anonymous globs of data hanging out there. It's your job to keep track of which is what and so forth. (Ouch! Forth is worse in this regard, you can have arbitrary *numbers* of stacks in Forth.) Some folks don't mind the mental gymnastics required to keep track of the stack, but it gives me a headache. You don't have to code this way in RPL, as a matter of fact. You can use named local variables to improve readability at a slight cost in performance.

Anyhow, I hope you take this in the spirit of mutual understanding that it is offered in. Two equally smart people can disagree about what is difficult and what is easy in a programming language, or indeed, on a whole host of other issues.

Regards,  
Howard

## UserRPL Savage benchmarks

Message #28 Posted by [James M. Prange \(Michigan\)](#) on 13 June 2007, 1:18 p.m.,  
in response to message #17 by Egan Ford

Quote:

RPL (48/49/50 series):

```
<<
  TICKS
  1
  1 2499 FOR I
    SQ SQRT LN EXP ATAN TAN 1 +
  NEXT
  SWAP
  TICKS SWAP - B->R 8192 /
>>
```

Certain things about the above caught my eye, and I decided to "improve" on it.

- In RPL, the square root command has the symbol for its name; SQRT would be compiled as a global name, not as the square root command.
- A FOR...NEXT loop is used, but its index variable is never used, so it would be better to use a START...NEXT loop.
- The stack manipulation for the initial system time is handled a bit clumsily, using two moves where only one move is needed.
- The result is very likely to differ depending on whether the angular mode is RAD, DEG, or GRAD, so this should be forced.

When I force a mode, I usually prefer to restore the original mode.

- For the 49 series, operations with "real numbers" are generally faster than operations with "exact integers", so let's use real numbers only.



For an integer value -9 through 9, the compilation of either a real number or an exact integer is to the address of a ROM object, so 2.5 bytes. Otherwise, real number objects are 10.5 bytes, and exact integer objects are 5.5 bytes plus 0.5 byte per digit.

- Binary integers are truncated to the current wordsize when you do a mathematical operation on them, so a sufficiently large wordsize should be forced.
- Substituting DUP \* for SQ saves a tiny bit of execution time, although it uses 5 bytes instead of 2.5 bytes. In this case of a loop that repeats 2499 times, I'd prefer to sacrifice the 2.5 bytes and save a little execution time.
- A tiny bit of execution time can be saved by disabling last arguments.
- We want to see the result in full precision, so let's force STD display mode and leave it in STD even after the program ends.
- Regarding the timing, first off, the resolution on an RPL model is 1 "tick" (1/8192, or about 0.000122, second).

The TICKS command itself takes some time, so the apparent execution time of operations between two TICKS commands is an overestimation by the time that it takes to perform one TICKS operation. This varies among the models, and in any case, timings vary among units of the same model and even among repetitions of the same program, and I choose to neglect this minor inaccuracy.

If you want to correct the inaccuracy, then run the program

```
\<< TICKS TICKS SWAP - B\->R \>>
```

a few times, average the result, and edit my program to subtract this average from the result of the B\->R command.

Depending on free memory, a "garbage collection" may be needed, so for timings, a garbage collection is usually forced first. Of course, this doesn't guarantee that garbage collection won't be needed anyway, but it often makes the timings more repeatable.

To free up more memory, last stack (UNDO) and last command lines saves can be disabled, but remember to restore them to your default modes when finished. These operations of disabling/enabling these two modes are not programmable.

- Some other modes, particularly those which affect the CAS on the 49 series, might have an effect.

The following program can be copied and pasted to a file to be downloaded to any 48 or 49 series, but in case you prefer to key it in, "\<<" and "\>>" represent the UserRPL program delimiters, "\v/" represents the symbol for the square root command, and "\->" represents the right arrow character. Don't bother keying in the trailing "decimal points", but for the 49 series, enter this program in "approximate" mode. Anything starting with an "@" character through the next "@" character or the end of the line, whichever comes first, is a comment; don't bother keying in any comments.

```
%HP: T(3)F(.);
@ "Savage benchmark" for 48 and 49 series.
@ 48 series checksum: # ECAh
@ 48 series size:      159
@ 49 series checksum: # B0C9h
@ 49 series size:      159.
\<<      @
STD      @ Force standard display mode.
RCLF     @ Get original flags.
-55. SF  @ Force last arguments disabled.
64. STWS @ Force wordsize.
RAD      @ Force radians mode.
MEM DROP @ Force a GC.
TICKS    @ Initial system time.
1.       @ Initial value.
1. 2499. @ Loop start/stop values.
```

```

START          @
  DUP *        @ Square.
  \v/         @ Square root command.
  LN          @
  EXP         @
  ATAN        @
  TAN         @
  1. +        @
NEXT          @
TICKS         @ Ending system time.
ROT          @ Move initial time to level 1.
-            @ Elapsed time.
B\->R        @ Convert binary to real.
"Ticks"      @
\->TAG       @
DUP          @
8192. /      @ Convert ticks to seconds.
3. RND       @ Round to 3 decimal places.
"Seconds"    @
\->TAG       @
4. ROLL STOF @ Restore original flags.
\>>         @

```

The 28 series doesn't have a built-in TICKS commands, any tagged object capability, its RND command works differently, and the system flags differ from the 48/49 series, so the above program won't work on them.

Depending on the ROM version, one of the following can be used as a substitute for the TICKS command:

The 28C must be in HEX binary display mode for these SYSEVAL addresses, and that's a good idea for the 28S as well. Double-check that the address is correct before executing SYSEVAL; a wrong address may very well clear the calculator's memory.

```

Model 28C ROM version 1BB: #123E SYSEVAL
Model 28C ROM version 1CC: #1266 SYSEVAL
Model 28S ROM version 2BB: #11CAh SYSEVAL

```

As far as I know, these were the only ROM versions ever released for the 28 series.

To find the ROM version of a 28C, with the calculator's binary display mode HEX, use #A SYSEVAL, or for a 28S, #Ah SYSEVAL also works.

I'll use a character string to "tag" the timing values. The ":" character isn't easily keyed in on a 28 series (unless you already have that string stored), so I'll use "=" instead of ":".

Instead of 3 RND, I'll use 3 FIX RND.

Last arguments disabling is forced by 31 CF.

Of course you can't transfer anything to a 28 series, but I choose to use the same character translations as for the 48/49 series, and what I wrote about comments also applies to the 28 series.

```

@ "Savage benchmark" for 28 series.
@ A 28C must be in HEX mode when this program is entered to ensure
@ that the correct address is supplied to SYSEVAL!
\<<          @
  STD        @
  RCLF       @ Get original flags.
  31 CF      @ Force last arguments disabled.
  64 STWS    @ Force wordsize.
  RAD        @ Force radians mode.
  MEM DROP   @ Force a GC.

@ Uncomment the binary integer in one of the following 3 lines.
@ #123E @      @ For 28C ROM version 1BB.
@ #1266 @      @ For 28C ROM version 1CC.
@ #11CAh @     @ For 28S ROM version 2BB.

```

```

SYSEVAL      @ Initial system time.
1            @ Initial value.
1 2499      @ Loop start/stop values.
START       @
  DUP *     @ Square.
  \v/      @ Square root command.
  LN       @
  EXP      @
  ATAN     @
  TAN      @
  1 +      @
NEXT       @

@ Uncomment the binary integer in one of the following 3 lines.
@ #123E @   @ For 28C ROM version 1BB.
@ #1266 @   @ For 28C ROM version 1CC.
@ #11CAh @  @ For 28S ROM version 2BB.

SYSEVAL      @ Ending system time.
ROT          @ Move initial time to level 1.
-           @ Elapsed time.
B\->R       @ Convert binary to real.
DUP         @
\->STR      @ Convert real to character string.
"Ticks="    @
SWAP +      @
SWAP        @
8192 /      @ Convert ticks to seconds.
3 FIX RND   @ Round to 3 decimal places.
\->STR      @ Convert real to character string.
"Seconds="  @
SWAP +      @
4 ROLL STOF @ Restore original flags.
\>>       @

```

All of the RPL models always return the value 2499.99948647 for the above programs.

My timings, with 10 trials for each model, and with last stack and last command lines disabled:

```

28C ROM version 1BB:
3262515 ticks, about 398.3 seconds
3262691 ticks, about 398.3 seconds
3262709 ticks, about 398.3 seconds
3262844 ticks, about 398.3 seconds
3263670 ticks, about 398.4 seconds
3263995 ticks, about 398.4 seconds
3263320 ticks, about 398.4 seconds
3263287 ticks, about 398.4 seconds
3263403 ticks, about 398.4 seconds
3263472 ticks, about 398.4 seconds
Average: 3263190.6 ticks, about 398.3 seconds
Range: 957 ticks, about 0.1168 second

```

```

28S ROM version 2BB:
2059531 ticks, about 251.4 seconds
2059943 ticks, about 251.5 seconds
2059854 ticks, about 251.4 seconds
2059888 ticks, about 251.5 seconds
2060079 ticks, about 251.5 seconds
2059892 ticks, about 251.5 seconds
2059946 ticks, about 251.5 seconds
2059652 ticks, about 251.4 seconds
2059838 ticks, about 251.4 seconds
2059848 ticks, about 251.4 seconds
Average: 2059847.1 ticks, about 251.4 seconds
Range: 548 ticks, about 0.06689 second

```

```

48SX ROM version E:
1585355 ticks, about 193.5 seconds
1585471 ticks, about 193.5 seconds
1585443 ticks, about 193.5 seconds
1585356 ticks, about 193.5 seconds
1585231 ticks, about 193.5 seconds

```

1585243 ticks, about 193.5 seconds  
1585301 ticks, about 193.5 seconds  
1585304 ticks, about 193.5 seconds  
1585069 ticks, about 193.5 seconds  
1585327 ticks, about 193.5 seconds  
Average: 1585310 ticks, about 193.5 seconds  
Range: 402 ticks, about 0.04907 second

48GX ROM version R:

968311 ticks, about 118.2 seconds  
969964 ticks, about 118.4 seconds  
970312 ticks, about 118.4 seconds  
970479 ticks, about 118.5 seconds  
970334 ticks, about 118.4 seconds  
970284 ticks, about 118.4 seconds  
969569 ticks, about 118.4 seconds  
969730 ticks, about 118.4 seconds  
968488 ticks, about 118.2 seconds  
967720 ticks, about 118.1 seconds  
Average: 969519.1 ticks, about 118.3 seconds  
Range: 2759 ticks, about 0.3368 second

49G ROM Version G Revision 2.10-7:

915388 ticks, about 111.7 seconds  
915136 ticks, about 111.7 seconds  
915163 ticks, about 111.7 seconds  
915501 ticks, about 111.8 seconds  
915477 ticks, about 111.8 seconds  
915516 ticks, about 111.8 seconds  
915231 ticks, about 111.7 seconds  
915535 ticks, about 111.8 seconds  
915502 ticks, about 111.8 seconds  
915490 ticks, about 111.8 seconds  
Average: 915393.9 ticks, about 111.7 seconds  
Range: 399 ticks, about 0.04871 second

49g+ ROM Version G Revision 2.10-7:

523531 ticks, about 63.91 seconds  
523570 ticks, about 63.91 seconds  
523624 ticks, about 63.92 seconds  
523580 ticks, about 63.91 seconds  
523575 ticks, about 63.91 seconds  
523546 ticks, about 63.91 seconds  
523545 ticks, about 63.91 seconds  
523564 ticks, about 63.91 seconds  
523539 ticks, about 63.91 seconds  
523511 ticks, about 63.91 seconds  
Average: 523558.5 ticks, about 63.91 seconds  
Range: 113 ticks, about 0.01379 second

50g ROM Version G Revision 2.10-7:

526730 ticks, about 64.30 seconds  
526688 ticks, about 64.30 seconds  
526721 ticks, about 64.30 seconds  
526714 ticks, about 64.30 seconds  
526572 ticks, about 64.28 seconds  
526757 ticks, about 64.30 seconds  
526696 ticks, about 64.29 seconds  
526681 ticks, about 64.29 seconds  
526806 ticks, about 64.31 seconds  
526698 ticks, about 64.29 seconds  
Average: 526706.3 ticks, about 64.30 seconds  
Range: 234 ticks, about 0.02856 second

Regards,  
James

**Re: UserRPL Savage benchmarks**

*Message #29 Posted by **Egan Ford** on 13 June 2007, 2:08 p.m.,  
in response to message #28 by James M. Prange (Michigan)*

Quote:

Certain things about the above caught my eye, and I decided to "improve" on it.

Yes, they could all be improved. Completeness and thoroughness should not be overlook.

### **Re: What to start a collection with**

Message #30 Posted by [Hal Bitton](#) on 12 June 2007, 8:00 p.m.,  
in response to message #16 by Vince Horvath

Quote:

Do the larger machines like the HP97 program more like a computer or is it sort of the same?

The 97 (and all the classics) are keystroke programmable. Essentially, if you can run the calculator well enough manually to solve your problem, you can do keystroke programming. There is no language or syntax to worry about. To record a program, you just use the same keystrokes you would use to solve the problem manually, and the calculator just records them into program memory.

Augmenting this simple programming logic was conditional branching, which allowed the calculator to make comparisons and jump to different program steps based on the results of those comparisons. The classics had eight conditional branch tests: greater than, less than, equal to, not equal to, which could be used to compare the x register to the y register, or the x register to zero. This of course increased the programming power dramatically, allowing iterative loops to be implemented.

Since you can take right off writing programs, keystroke programming quite a lot of fun, and you can write some pretty capable subroutines. This forum is frequented by some wizards in keystroke programming, so I'm sure I'm not alone in my affinity for it.

Best Regards, Hal

### **Re: What to start a collection with**

Message #31 Posted by [Ren](#) on 13 June 2007, 10:45 a.m.,  
in response to message #1 by Vince Horvath

with...

- A. Lots of money
- B. Lots of Luck
- C. Lots of Patience
- D. Lots of help from this folks in this forum
- E. Understanding spouse
- F. All of the above

Ren

dona nobis pacem

### **Re: What to start a collection with**

*Message #32 Posted by [Giancarlo \(Italy\)](#) on 13 June 2007, 12:07 p.m.,  
in response to message #31 by Ren*

Hi Ren.

Quote:

\_\_\_\_\_

E. Understanding spouse

\_\_\_\_\_

Yes, you got the real point o' mine... :-)

Best regards.

Giancarlo

**Re: What to start a collection with**

*Message #33 Posted by [Massimo Gnerucci \(Italy\)](#) on 13 June 2007, 1:25 p.m.,  
in response to message #32 by Giancarlo (Italy)*

Of course you're not alone, Giancarlo...  
;)

Greetings,  
Massimo

**Re: What to start a collection with**

*Message #34 Posted by [Les Wright](#) on 13 June 2007, 1:53 p.m.,  
in response to message #1 by Vince Horvath*

I recommend the 9825 with the hard-to-find optional belt clip.

Les

**Re: What to start a collection with**

*Message #35 Posted by [Dave Shaffer](#) on 13 June 2007, 3:10 p.m.,  
in response to message #34 by Les Wright*

"I recommend the 9825 with the hard-to-find optional belt clip."

You must have been one of those guys in college who wore his 20" slide rule on his belt, too!?!?

**Re: What to start a collection with**

*Message #36 Posted by [Dia C. Tran](#) on 13 June 2007, 3:40 p.m.,  
in response to message #35 by Dave Shaffer*

I used to have 9825B but without the "Hard to find belt clip" nor that I have a belt that can handle such a monster.

## HP Forum Archive 17

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### Integration function on the 50g?

Message #1 Posted by [Hal Bitton](#) on 11 June 2007, 5:44 p.m.

Hi everybody. I'm having trouble figuring out to symbolically evaluate and display the integral of a function on my 50G.

Consider the very simple expression:  $F(x)=x^2$ .

On my 48gx I simply choose "integrate" from the symbolic menu, which brings up a wonderful (and simple) form where I can enter my function (in this case  $x^2$ ) and the upper and lower limits of evaluation. I am also presented with the option of choosing a symbolic or numeric answer. If I choose the symbolic option and run the integration, I get the symbolic solution in level 1 of the stack. Within this solution, the integral of my function (in this case  $x^{(2+1)/(2+1)}$ ) is clearly visible.

After pouring through the 50G users guide, I can find no such functionality on the 50G. I can get a numeric result by keying the integral into the equation writer, and then evaluating it, but a symbolic solution continues to elude me. I have "step by step" checked in the CAS options.

So in short my question is this: On the 50G how can I integrate the function  $x^2$ , and see somewhere in the solution the symbolic integral of this function, namely  $x^{(2+1)/(2+1)}$  ?

Any help from you 49/50 series experts out there would be much appreciated.

Thanks and best regards, Hal

### Re: Integration function on the 50g?

Message #2 Posted by [Gene](#) on 11 June 2007, 5:57 p.m.,  
in response to message #1 by Hal Bitton

Check the learning modules for the 50g on the 50g webpage.

You can do this in the Equationwriter application for instance.

Key  $X^2$ , then select it.

Choosing INTVX will integrate it to  $X^3/3$ .

You can do this in the stack the same way, depending somewhat on your flag settings.

Look here:

[http://h20331.www2.hp.com/Hpsub/downloads/50gSymbolic\\_integration\\_of\\_polynomials.pdf](http://h20331.www2.hp.com/Hpsub/downloads/50gSymbolic_integration_of_polynomials.pdf)

Good luck, Gene

### Re: Integration function on the 50g?

Message #3 Posted by [Hal Bitton](#) on 11 June 2007, 6:18 p.m.,  
in response to message #2 by Gene

Thanks for your response, Gene.

When I key  $x^2$  into the equation writer and then choose INTVX, I get INTVX( $x^2$ ) displayed in the equation writer. Any attempts to evaluate it (whether in the equation writer or on the stack) gives me the goofy result:

$x^2$   
rational fraction  
 $x^2$

displayed in the equation writer. I have no idea how to interpret this.  
What do you suppose I'm doing wrong?  
Thanks again, Hal

### Re: Integration function on the 50g?

Message #4 Posted by [Massimo A. Santin](#) on 11 June 2007, 6:07 p.m.,  
in response to message #1 by Hal Bitton

Quote:

So in short my question is this: On the 50G how can I integrate the function  $x^2$ , and see somewhere in the solution the symbolic integral of this function, namely  $x^{(2+1)/(2+1)}$  ?

Using INTVX (not in approx mode). Using RPN mode

' $x^2$ ' ENTER INTVX ENTER

or using algebraic mode

INTVX( $x^2$ )

INTVX is in CALC/DERIV & INTEG. menu but you can use SYMB, CALCULUS, INTVX.

### Re: Integration function on the 50g?

Message #5 Posted by [Hal Bitton](#) on 11 June 2007, 6:33 p.m.,  
in response to message #4 by Massimo A. Santin

Thanks very much, Massimo.

That worked. It seems I was stopping one (ENTER) keystroke too soon. Still the intermediary result " $x^2$  rational fraction  $x^2$ " puzzles me, but at last now I can get the predicted and correct end result.

While I've got you one more question if I may...the user's guide speaks of the function INT, which will let me evaluate an integral for any variable, not just the default CAS variable. I can't seem to find this function, however. Is it called something else in the softkey labels?

Best regards, Hal

### Re: 50g Integration



Message #6 Posted by **Happy HP User** on 12 June 2007, 12:18 a.m.,  
in response to message #5 by Hal Bitton

To symbolically integrate with regards to variables other than X, such as s,t,x... use the RISCH command, which uses a partial implementation of the Risch algorithm, example:

2: COS(t)

1: 't'

RISCH

1: SIN(t)

### Re: 50g Integration

Message #7 Posted by **Hal Bitton** on 12 June 2007, 2:29 a.m.,  
in response to message #6 by Happy HP User

Worked like a charm.  
Once again, thanks very much.  
Hal

### Re: 50g Integration

Message #8 Posted by **Norris** on 12 June 2007, 6:54 p.m.,  
in response to message #7 by Hal Bitton

Quote:

Still the intermediary result "x^2 rational fraction x^2" puzzles me

If you uncheck the "Step/Step" option in MODE CAS, then

'X^2'  
ENTER  
INTVX

should return:

1/3 x X^3

immediately, without the message.

RISCH works like INTVX, except that you have to specify the independent variable; it doesn't look for one in VX, e.g.

'Y^2'  
ENTER  
'Y'  
ENTER  
RISCH

### Re: 50g Integration

*Message #9 Posted by **Ron Allen (Fairhope)** on 12 June 2007, 11:58 p.m.,  
in response to message #8 by Norris*

The "rational fraction" method is the method used for integrating  $x^2 dx$ . try integrating  $1/\cos(x)$  using the free x with CAS. keep the step-by-step on and watch the messages for those interim solutions, like "trig substitution  $u = \sin(x)$ ," etc. For this solution with notice of steps, i.e., full info, do the following.

I call this the "Show your work, student" method turn on the EQW to write the equation, use back cursor arrow to select and highlight the entire equation, press left shift (white), then CALC (under the 4), press 6 to highlight INTVX AND OK. CUE on the menu line looing for the ok isolated bottom left of the screen and press ok when it presents itself, alternately press EVAL when ok is crowded out of the menu. When there remains no further improvement, ENTER and the stack will hold all of the steps it recorded in process, assuming that's what you want. If the final answer is all you want, follow the other's instructions. By pressing the one line clear you can read off the evolution of the process in reverse.

$1/\cos(x)$  integrated has at least three solutions with the same final result. There are ways to get the symbolic results with or without the notes, even the old 48gx way setting the parameters of integration to 0 through x which forces the symbolic solution.

The notes of various methods include trig substitution with " $u = \text{something}$ ", too bad they don't give you  $du$  and  $f(u)$  modified after the  $u$  is extracted, but I guess you can't have it all, rational fractions, partial fractions, integration by parts, even plain old antiderivatives, etc. The point is, you can use this powerful feature to give up or hide all or none of the work and present you what you want, even numericals. I have yet to fail to integrate an equation, which doesn't mean there aren't any, I just haven't run across one in the normal course.

Keep trying,

Ron

### **Re: 50g Integration (errata)**

*Message #10 Posted by **Ron Allen (Fairhope)** on 13 June 2007, 1:31 p.m.,  
in response to message #9 by Ron Allen (Fairhope)*

Sorry for the inconvenience, but the system won't allow the editing of the previous message, so this errata.

In the original I refer to the "ok" at the bottom left of screen - should be right instead of left.

In the original I refer to the extraction of " $u$ " meant " $du$ "

apologies,

Ron

---

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## HP Forum Archive 17

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### **How will the 35S affect the value of your collection?**

Message #1 Posted by [Jim Creybohm](#) on 11 June 2007, 3:49 p.m.

First, I am anxiously awaiting the 35's release. Buy one? Absolutely! Probably two or three if the keyboard is any good. (crosses fingers, toes and eyes)

However, if the 35 is of the great quality that one might hope for, what happens to the value of HP's on the unmentionable auction (Ebay) site? By and large the value of my collection is based upon the value to me; that is as a sentimental favourite, but also based upon the fact that I can't replace it easily for work - I simply can't stand the 33. Would you purchase a used 10/11/12/15/39/48 if the 35 were available?

So, how will the release of a new high quality HP affect the value of used RPN's? Will there be a softening of the price on the unmentionable auction (Ebay) site as buyers find the 35? Or, will the market go up as new kids come onto the 35 product and discover the HP world?

### **Re: How will the 35S affect the value of your collection?**

Message #2 Posted by [Eric Smith](#) on 11 June 2007, 3:54 p.m.,  
in response to message #1 by Jim Creybohm

Yes.

### **Re: How will the 35S affect the value of your collection?**

Message #3 Posted by [Frank Rottgardt](#) on 11 June 2007, 4:35 p.m.,  
in response to message #1 by Jim Creybohm

The first time I really got in contact with HP and RPN was when I freshman, will say when I was in my twenties. So its never to late. I hope that todays students will learn to love RPN and its advantages. But I guess its still the professional sector which counts. Engineering courses and the like. The educational sector is hopeless lost to TI. And its hard to crack the AOS-front. Not even a good (knock on wood) HP-35s will change that. Most of todays youngsters don't even know what RPN is! So why should the buy such a strange machine, with a rather weak AOS implementation? Sad...do the know what they gonna miss?

The old HP-calculators are gone for good. The HP-33s is not that bad. The HP-35s maybe even better, but certainly still miles away from what it could be. Today I use a 33s für daily work. For a week or so I pulled out my old 28s and made some calculations. It took me only 2-3 key strokes and I was sold again! After 15 year the keyboard sensitivity and the tactile feedback is still superior compared with the fairly rockhard and only 6 month old 33s keyboard.

The 35s seems to be OK, far better than the 33s. But will it effect the value of old HP classics? - Never! You will see 42s and 15c getting even more expensive with time.

### **Re: How will the 35S affect the value of your collection?**

Message #4 Posted by [Bob](#) on 11 June 2007, 5:37 p.m.,  
in response to message #3 by Frank Rottgardt

Quote:

But will it effect the value of old HP classics? - Never! You will see 42s and 15c getting even more expensive with time.

Although I am not a collector, per se, and do not plan on selling any calcs, I tend to agree. They still feel better than anything out there. They were just built differently in a different time with different priorities by a different culture. They represent the high water mark in calculator technology to many folks.

Did classic car values go down in value when the cruiser knockoffs came out?

Besides, they aren't making any more and, as just about anyone who has several of these around the house can tell you, there is an emotional element to owning/using one of these high quality classic machines as well.

### **Re: How will the 35S affect the value of your collection?**

Message #5 Posted by [bill platt](#) on 11 June 2007, 5:44 p.m.,  
in response to message #1 by Jim Creybohm

It will certainly depress the vale of the 32sii.

### **Re: How will the 35S affect the value of your collection?**

Message #6 Posted by [John](#) on 11 June 2007, 5:59 p.m.,  
in response to message #5 by bill platt

Yes, the 32SII prices should drop. A few others might as well. I often think the 50g has depressed 48gx prices a bit.

### **Re: How will the 35S affect the value of your collection?**

Message #7 Posted by [Walter B](#) on 11 June 2007, 6:48 p.m.,  
in response to message #5 by bill platt

... which isn't a fault anyway IMO.

### **Re: How will the 35S affect the value of your collection?**

Message #8 Posted by [Katie Wasserman](#) on 11 June 2007, 10:47 p.m.,  
in response to message #5 by bill platt

The 32SII prices may drop but maybe not. I think that they went up some when the 33S first came out as a reaction to the terrible quality of their new release.

### **Who Cares?**

Message #9 Posted by [db \(martinez, ca.\)](#) on 11 June 2007, 5:55 p.m.,  
in response to message #1 by Jim Creybohm

i didn't buy them to sell them.

### **Re: Who Cares?**

*Message #10 Posted by [bill platt](#) on 11 June 2007, 7:09 p.m.,  
in response to message #9 by db (martinez, ca.)*

I only got into collecting when I, on instinct, went to buy a back-up 32sii, fearing they might be discontinued soon, only to discover that they had been discontinued only months before. One thing led to another and now here I am, a smitten collector!

### **Collectors!(N.T.)**

*Message #11 Posted by [Not a Collector](#). on 12 June 2007, 6:18 a.m.,  
in response to message #9 by db (martinez, ca.)*

### **Re: How will the 35S affect the value of your collection?**

*Message #12 Posted by [Seth Morabito](#) on 13 June 2007, 9:08 p.m.,  
in response to message #1 by Jim Creybohm*

Personally, I collect HP calculators because I love them. I don't care about the price, in fact I wish they were cheaper and more plentiful, so more people could enjoy them! But that doesn't answer your question.

With luck, some prices will go down a bit, but I don't see any kind of price plunge. Maybe the 32SII will see a slight price drop, but all in all I think things will be pretty constant.

### **Re: How will the 35S affect the value of your collection?**

*Message #13 Posted by [John Ioannidis](#) on 18 June 2007, 2:52 p.m.,  
in response to message #1 by Jim Creybohm*

That's like saying that every time the post office prints a new stamp, older stamps lose their value.

### **Re: How will the 35S affect the value of your collection?**

*Message #14 Posted by [db \(martinez, ca.\)](#) on 19 June 2007, 12:54 a.m.,  
in response to message #13 by John Ioannidis*

John; no kidding.

i have about 45,000 bucks worth of instrument and (garbage) carlson alegro banging around the truck, plus all the computational power in the office and on this thing i am typing on. on saturday i needed to figure grades on twentysome points for this morning. i grabbed my 41. it needed to be done right.

it's like last year. the only time the screaming midget i used to work for would shut his face hole was when he needed me to figure something he wasn't sure he could do. i couldn't do it either but my 41 could.

i'll buy the 35s and put it in my vest because i like new toys, but the cx stays in it's qsack on my belt in case i need to think.

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### HP-10S on sale already?

Message #1 Posted by [DaveJ](#) on 11 June 2007, 6:54 a.m.

[http://www.rms-ltd.co.uk/fileadmin/user\\_upload/files/HP\\_10s\\_Scientific\\_Calculator.pdf](http://www.rms-ltd.co.uk/fileadmin/user_upload/files/HP_10s_Scientific_Calculator.pdf)

It's advertised on their main page:

<http://www.rms-ltd.co.uk/home1.html>

Dave.

Edited: 11 June 2007, 6:55 a.m.

### Re: HP-10S on sale already?

Message #2 Posted by [DaveJ](#) on 11 June 2007, 7:14 a.m.,  
in response to message #1 by [DaveJ](#)

Silly me, just saw the text on the main page. "Available 6th August, taking orders now."

Also, a supplier has leaked the release date of the 35S as being August 1st.

Dave.

### From the ad:

Message #3 Posted by [Ron](#) on 11 June 2007, 8:48 a.m.,  
in response to message #1 by [DaveJ](#)

"Exactly the same specification as the Casio FX-85MS"

### Re: HP-10S on sale already?

Message #4 Posted by [Eric Smith](#) on 11 June 2007, 2:14 p.m.,  
in response to message #1 by [DaveJ](#)

I still wonder why the HP 8s wasn't introduced worldwide. It seems like a decent enough calculator for an inexpensive non-RPN scientific. I was only able to get one by winning it as a door prize at a conference.

### Why can't we buy a beginners RPN calculator

Message #5 Posted by [Sam Levy](#) on 11 June 2007, 6:33 p.m.,  
in response to message #1 by [DaveJ](#)

HP had something unique, why would they abandon it? Does the world need another Algebraic calculator?

### Re: Why can't we buy a beginners RPN calculator

Message #6 Posted by [bill platt](#) on 11 June 2007, 7:10 p.m.,  
in response to message #5 by [Sam Levy](#)

Market share.

And there is a beginners RPN: the 33s and soon the 35s, and you could say a used 12c.

There is even a beginner's RPL: a used 28c or 48S.

**Re: Why can't we buy a beginners RPN calculator**

*Message #7 Posted by [John V Nelson](#) on 11 June 2007, 8:45 p.m.,  
in response to message #6 by bill platt*

I think what Sam ment is why can't people buy a beginners RPN at the same price point as the one he mentions. The ones you mention are all fine calculators, but the price point is higher.

I think it would really be nice for HP just to come out with a simple, but not overly complicated RPN at the \$10 -\$15 range. No real fancy functions, no R/S mode, just a simple calculator that can do what most basic calculators could do.

I'm sure there may be some people who would not buy them because they are a glorified 4 banger, but then I think some would because they are a less complicated RPN. I know my wife likes RPN, but she feels intimidated with all the other buttons. Anyone else know of anyone out there like that? I'm curious.

- John

**Re: Why can't we buy a beginners RPN calculator**

*Message #8 Posted by [Wayne Brown](#) on 11 June 2007, 9:58 p.m.,  
in response to message #7 by John V Nelson*

Quote:

\_\_\_\_\_

I'm sure there may be some people who would not buy them because they are a glorified 4 banger, but then I think some would because they are a less complicated RPN.

\_\_\_\_\_

I'd buy a few to give away, just to introduce people to RPN. HP really missed the boat by not making an extremely inexpensive RPN model and giving away tens or hundreds of thousands of them to schools.

**Re: Why can't we buy a beginners RPN calculator**

*Message #9 Posted by [DaveJ](#) on 11 June 2007, 10:20 p.m.,  
in response to message #6 by bill platt*

Quote:

\_\_\_\_\_

Market share.

And there is a beginners RPN: the 33s and soon the 35s, and you could say a used 12c.

\_\_\_\_\_

No way are the 33s or 35s "beginners" RPN calcs. They are much too complex.

A "beginners" or "general use" calc has basic scientific functionality and that's it. No programming capability, lots of dedicated keys, and an uncluttered key overlay.

A 4-banger would be almost useless, but a basic scientific with a "familiar look" to the average person would be terrific.

Dave.

**Re: Why can't we buy a beginners RPN calculator**

Message #10 Posted by [Sam Levy](#) on 11 June 2007, 11:50 p.m.,  
in response to message #9 by [DaveJ](#)

[http://www.casio.com/products/Calculators\\_%26\\_Dictionaries/Scientific\\_%26\\_Financial/FX-300MSPlus/](http://www.casio.com/products/Calculators_%26_Dictionaries/Scientific_%26_Financial/FX-300MSPlus/)  
Does this lookk like a 4 banger?

**Re: Why can't we buy a beginners RPN calculator**

Message #11 Posted by [DaveJ](#) on 12 June 2007, 1:23 a.m.,  
in response to message #10 by [Sam Levy](#)

Quote:

[http://www.casio.com/products/Calculators\\_%26\\_Dictionaries/Scientific\\_%26\\_Financial/FX-300MSPlus/](http://www.casio.com/products/Calculators_%26_Dictionaries/Scientific_%26_Financial/FX-300MSPlus/) Does this lookk like a 4 banger?

No, of course it is not a 4-banger.

Sorry, I don't get your point??

Dave.

**Re: Why can't we buy a beginners RPN calculator**

Message #12 Posted by [Don](#) on 12 June 2007, 12:18 a.m.,  
in response to message #5 by [Sam Levy](#)

The Aurora fn1000 is still available for about \$25, though it is officially a discontinued item. I have been carrying one for 8 months now in my shirt pocket and have dropped it numerous times on a hard surface and it keeps on ticking. It hit hard enough to knock the clamshell cover off several times. It is a 12C clone and has very mushy keys, but I am impressed with the ruggedness and functionality.

Don

**Re: Why can't we buy a beginners RPN calculator**

Message #13 Posted by [Alan](#) on 12 June 2007, 1:33 a.m.,  
in response to message #12 by [Don](#)

I wonder when hp is making these clones (hp 8s, hp 10s), do they need to obtain permission from Casio or anything

**Re: Why can't we buy a beginners RPN calculator**

Message #14 Posted by [Antonio Maschio \(Italy\)](#) on 12 June 2007, 2:38 a.m.,  
in response to message #13 by [Alan](#)

In [this](#) thread we discussed visually about a 4-ops RPN calculator. Just a few days before the HP-35S news came out, we thought that it would be a good 35th anniversary product, because it could have been widely sold and easy-to-use. I myself did some to enhance Chuck's starting idea.

Look at it and tell us what you all think.

-- Antonio

**Re: Why can't we buy a beginners RPN calculator**



*Message #15 Posted by [asdf](#) on 13 June 2007, 9:18 p.m.,  
in response to message #13 by Alan*

Casio, like hp, no longer makes their own calculators, but instead relies on an OEM. I don't remember which one, but I'm sure hp could also get similar calculators made by the same OEM (or possibly duplicated by another).

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### HP 35S site withdrawn

Message #1 Posted by [Sam Levy](#) on 10 June 2007, 2:21 p.m.

Did HP pull the site over criticism? Would they revise it? If someone has the original PDF spec page would they post it in this forum? Hoping, Sam

### Re: HP 35S site withdrawn

Message #2 Posted by [Karl Schneider](#) on 10 June 2007, 4:00 p.m.,  
in response to message #1 by Sam Levy

Quote:

Did HP pull the site over criticism? Would they revise it?

Maybe you didn't follow the [earlier discussions](#). The material about the HP-35s was posted by a *foreign-distribution partner* (not HP), which likely "jumped the gun" by announcing a product that wasn't to be available until sometime in summer. I don't know how "final" the specs and image were. The distributor's site is still up.

The material was removed at the initiative of either the distributor or HP, likely due to the chatter and inquiries resulting from the leak, which certainly rejuvenated discussion in MoHPC Forum.

Quote:

If someone has the original PDF spec page would they post it in this forum?

From the [Terms of Use](#):

Quote:

*You agree not to post any copyrighted material unless the copyright is owned by you or by this forum.*

-- KS

*Edited: 10 June 2007, 4:12 p.m.*

### Re: HP 35S site withdrawn

Message #3 Posted by [DaveJ](#) on 11 June 2007, 8:18 p.m.,  
in response to message #2 by Karl Schneider

I noticed that the HP35S and HP10S PDFs on the HPCC site have now gone as well. Perhaps HP had a quiet word to them too?

Dave.

### **FnnnnA model numbers of 35s and 10s?**

*Message #4 Posted by [Eric Smith](#) on 11 June 2007, 9:58 p.m.,  
in response to message #3 by DaveJ*

Seems likely.

Did the data sheets have the FnnnnA model numbers?

### **Re: FnnnnA model numbers of 35s and 10s?**

*Message #5 Posted by [Katie Wasserman](#) on 11 June 2007, 10:27 p.m.,  
in response to message #4 by Eric Smith*

Eric,

hp35s = F2215A

So far I can't find any more about them on the internet. Interestingly, you can find a place holder on HP's site for when they are ready to post the repair/replacement parts.

go here: [hp parts](#) and search for "f2215".

I suppose that all of us will be regularly checking this link :)

-Katie

*Edited: 11 June 2007, 10:34 p.m.*

### **Re: FnnnnA model numbers of 35s and 10s?**

*Message #6 Posted by [Walter B](#) on 12 June 2007, 1:38 a.m.,  
in response to message #5 by Katie Wasserman*

Katie,

Interesting! They even state "Part is in stock" there :)

### **Re: FnnnnA model numbers of 35s and 10s?**

*Message #7 Posted by [Thomas Radtke](#) on 12 June 2007, 5:05 p.m.,  
in response to message #6 by Walter B*

I think that belongs just to the icon legend. The red cross to the right of the part number indicates -surprise- it is not available ;-).

### **Re: FnnnnA model numbers of 35s and 10s?**

*Message #8 Posted by [Ron](#) on 12 June 2007, 9:33 a.m.,  
in response to message #5 by Katie Wasserman*

"No search results were found that match f2215."

**Re: FnnnnA model numbers of 35s and 10s?**

*Message #9 Posted by **Walter B** on 12 June 2007, 4:05 p.m.,  
in response to message #8 by Ron*

Ron,

please go [there](#) and key in **f2215** for the parts number. Then press the >> to the right of the parts number window. This works even in Germany ;-)

**Re: FnnnnA model numbers of 35s and 10s?**

*Message #10 Posted by **Ron** on 12 June 2007, 5:29 p.m.,  
in response to message #9 by Walter B*

Yes, it worked that time; thanks. Tried it several times previously. Oh, well.

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## HP Forum Archive 17

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### HP 35c "Classic" Red Dot Anniversary Edition

Message #1 Posted by [Jason](#) on 10 June 2007, 10:21 a.m.

The HP 35c "Classic" Red Dot Anniversary Edition - possible design. This is probably what most of us expected. With this feature set it would be priced below that of the HP-9s so everyone would be able to afford to buy one:-

[HP 35c Classic Red Dot Anniversary Edition](#)

Cheers Jason

### Re: HP 35c "Classic" Red Dot Anniversary Edition

Message #2 Posted by [Egan Ford](#) on 10 June 2007, 11:11 a.m.,  
in response to message #1 by Jason

Very nice. I'd like the dimensions to be very small. History in your pocket (or on your key chain).

### Re: HP 35c "Classic" Red Dot Anniversary Edition

Message #3 Posted by [Dave Johnson](#) on 10 June 2007, 4:28 p.m.,  
in response to message #1 by Jason

But it really should have the  $x^y$  key for inverse log...

### Re: HP 35c "Classic" Red Dot Anniversary Edition

Message #4 Posted by [Raymond Del Tondo](#) on 10 June 2007, 5:03 p.m.,  
in response to message #1 by Jason

Nice one.

But the design of the keys does not reflect the design of the original HP-35, as the original HP-35 did not have slanted keys, and so the surface could be flat, and the imprints full-sized.

However, as I see the photos of the modified 35s again, I still don't like the arrangement of the modified cursor keys. If I had to choose between these and the 'original' cursor key arrangement and form factor as hp indicated, I'd choose the hp 'diamond shape' version, since the arrangement is much more natural (like a cursor cross) .

Raymond

### Re: HP 35c "Classic" Red Dot Anniversary Edition

Message #5 Posted by [Walter B](#) on 10 June 2007, 6:03 p.m.,

*in response to message #4 by Raymond Del Tondo*

Raymond,

Quote:

as I see the photos of the modified 35s again, I still don't like the arrangement of the modified cursor keys. If I had to choose between these and the 'original' cursor key arrangement and form factor as hp indicated, I'd choose the hp 'diamond shape' version, since the arrangement is much more natural (like a cursor cross) .

You should vote for it in the respective thread.

### **Re: HP 35c "Classic" Red Dot Anniversary Edition**

*Message #6 Posted by [DaveJ](#) on 10 June 2007, 6:57 p.m.,  
in response to message #1 by Jason*

Nice, but calculators and their features have progressed somewhat since the original 35S.

A few extra features would not only make it look better (i.e. more "technical") but make it a much more valuable calc for everyday use. I know the point is to make it look like the original, but give me at least some progress over nostalgia any day.

Dave.

### **Re: HP 35c "Classic" Red Dot Anniversary Edition**

*Message #7 Posted by [Kalevipoeq](#) on 11 June 2007, 8:56 a.m.,  
in response to message #1 by Jason*

I really like this idea. The HP-35 Anniversary Edition should be non-programmable, traditional design and RPN only. But I think it will not be.

### **Re: HP 35c "Classic" Red Dot Anniversary Edition**

*Message #8 Posted by [Maximilian Hohmann](#) on 11 June 2007, 9:38 a.m.,  
in response to message #7 by Kalevipoeq*

Hello!

Quote:

I really like this idea. The HP-35 Anniversary Edition should be non-programmable, traditional design and RPN only. But I think it will not be.

Ohhh yes :-)

And the whole thing built into a cast-titanium housing (about as technologically challenging as a scientific pocket calculator in 1972) with a large dot-matrix (O)LED display. Powered by an advanced polymer battery with near-infinite cycles, that gets charged by invisible solar cells behind the translucent keyboard, which in turn is automatically backlit in low-light environments... (mind you, this is not sci-fi, but there are watches that work that way!)

I at least would be ready to pay the same amount in today's Euros/Dollars for such a calculator as was required to buy the original thing in 1972. But I'm afraid I'll have to wait for the 50th anniversary for it to happen...

Greetings, Max

### **Re: HP 35c "Classic" Red Dot Anniversary Edition**

*Message #9 Posted by [John](#) on 11 June 2007, 10:21 a.m.,  
in response to message #8 by Maximilian Hohmann*

Of course, HP would only sell a few thousand of these. Probably not enough to warrant attention diverted from other projects they have. Probably not enough to ever recover the costs involved.

Hey, just wait for OpenRPN. Oh, we are waiting, aren't we?

### **Re: HP 35c "Classic" Red Dot Anniversary Edition**

*Message #10 Posted by [Maximilian Hohmann](#) on 11 June 2007, 10:32 a.m.,  
in response to message #9 by John*

Hello!

Quote:

Of course, HP would only sell a few thousand of these.

They only sell a few hundred vector network analyzers, and still they develop, manufacture and market them (or at least used to, now this kind of stuff is made by Agilent)! Many (expensive) luxury gadgets are only sold in small numbers and still the manufactureres make a fortune with them.

Quote:

Hey, just wait for OpenRPN. Oh, we are waiting, aren't we?

Oh yes, we are! Patiently :-)

Greetings, max

### **Re: HP 35c "Classic" Red Dot Anniversary Edition**

*Message #11 Posted by [DaveJ](#) on 11 June 2007, 5:45 p.m.,  
in response to message #10 by Maximilian Hohmann*

Quote:

They only sell a few hundred vector network analyzers, and still they develop, manufacture and market them (or at least used to, now this kind of stuff is made by Agilent)! Many (expensive) luxury gadgets are only sold in small numbers and still the manufactureres make a fortune with them.

Have you seen how much top-of-the-line very low volume HP/Agilent test equipment sells for?

You often don't get any change out of 6 figures, with nothing being under 5 digits. Would you pay a few thousand dollars for a calculator? Developing a calculator like this in a big company like HP costs millions of dollars, and if you only sell a thousand, well, do the math with regards to break-even after profit margin etc...

Dave.

## Re: HP 35c "Classic" Red Dot Anniversary Edition

Message #12 Posted by **John Keith** on 11 June 2007, 9:48 p.m.,  
in response to message #8 by Maximilian Hohmann

Hello, Max-

Quote:

---

And the whole thing built into a cast-titanium housing (about as technologically challenging as a scientific pocket calculator in 1972) with a large dot-matrix (O)LED display. Powered by an advanced polymer battery with near-infinite cycles, that gets charged by invisible solar cells behind the translucent keyboard, which in turn is automatically backlit in low-light environments... (mind you, this is not sci-fi, but there are watches that work that way!)

I at least would be ready to pay the same amount in today's Euros/Dollars for such a calculator as was required to buy the original thing in 1972.

---

The closest thing to what you described would be a 15" Macbook Pro running the latest version of Mathematica. The newest Macbook has many of the features you described, and the cost would be very close in constant money to that of the HP-65 or 67 (Which had state-of-the-art I/O) back then.

A bit bulkier than the HP-35, of course, but the point is that the HP-35 in 1972 was a cutting-edge technological product which filled an unmet need for working scientists and engineers. Any new machine will have to do that or it will not be profitable, and it will not be made.

John

## Re: HP 35c "Classic" Red Dot Anniversary Edition

Message #13 Posted by **Maximilian Hohmann** on 12 June 2007, 5:53 a.m.,  
in response to message #12 by John Keith

Hello John,

Quote:

---

The closest thing to what you described would be a 15" Macbook Pro running the latest version of Mathematica. The newest Macbook has many of the features you described, and the cost would be very close in constant money to that of the HP-65 or 67 (Which had state-of-the-art I/O) back then.

---



No, no, not really. I was rather thinking of a calculator equivalent to a classic Leica-rangefinder-camera ([http://www.leica-camera.co.uk/photography/special\\_editions/leica\\_m7\\_titanium/](http://www.leica-camera.co.uk/photography/special_editions/leica_m7_titanium/)): These things have a very basic functionality, but are made from the best materials using state-of-the-art craftsmanship and are designed to last a lifetime - or even longer. Where far-east products are made from plastic, are full of bells-and-whistles and sell by millions at ridiculously cheap prices, Leicas are manufactured by thousands at best, are awfully expensive and yet the company has its faithful customers since three or four generations.

So that's what I'm dreaming of: An anniversary edition calculator that I can use every day for the rest of my lifetime and about which my grandchildren (should I ever have some...) will start a fight in case I forget to explicitly mention it in my last will :-)

Waterproof, solid titanium housing, eternal power supply (Citizen guarantees that their "eco-drive" watches last for a minimum of 20 years, so HP, take up the challenge!), unbreakable keys and display, basic functionality (for programming and fancy extras everybody has a personal computer anyway). All inside a beautiful soft-leather pouch designed by Prada and I bet that I will not be the only one who would spend in excess of 1000 Euros for it. "The last calculator you'll ever need to buy" would be the appropriate sales slogan!

Greetings, Max

*Edited: 12 June 2007, 6:00 a.m.*

### **Re: HP 35c "Classic" Red Dot Anniversary Edition**

*Message #14 Posted by [Patrick Colbeck](#) on 18 June 2007, 9:00 a.m.,  
in response to message #13 by Maximilian Hohmann*

I know the original LED display ate batteries like they were going out of fashion but would it be possible using modern technology to get something that looked like a LED display but that gave reasonable battery life ? I just really like red or green LED displays and it would be cool on an anniversary edition.

### **Re: HP 35c "Classic" Red Dot Anniversary Edition**

*Message #15 Posted by [Maximilian Hohmann](#) on 18 June 2007, 9:25 a.m.,  
in response to message #14 by Patrick Colbeck*

Hello!

Quote:

I know the original LED display ate batteries like they were going out of fashion but would it be possible using modern technology to get something that looked like a LED display but that gave reasonable battery life ? I just really like red or green LED displays and it would be cool on an anniversary edition.

This could be either OLED (organic LED) displays, that give excellent brightness and contrast at reasonable levels of power consumption or LED backlit inverse (white-on-black) liquid crystal displays. Both kinds of display are fairly common now with mobile phones, mp3 players, car radios, digital cameras and similar battery-powered portable devices. Proven technology, so to say...

Greetings, Max

**Re: HP 35c "Classic" Red Dot Anniversary Edition**

*Message #16 Posted by [John Keith](#) on 18 June 2007, 10:41 p.m.,  
in response to message #15 by Maximilian Hohmann*

I second the vote for OLED displays. They are not quite "proven Technology" yet but they are constantly improving. You could have a nice sharp color display for graphics, or switch to all red for that Classic look.

John

**Re: HP 35c "Classic" Red Dot Anniversary Edition**

*Message #17 Posted by [DaveJ](#) on 18 June 2007, 5:56 p.m.,  
in response to message #14 by Patrick Colbeck*

Quote:

I know the original LED display ate batteries like they were going out of fashion but would it be possible using modern technology to get something that looked like a LED display but that gave reasonable battery life ? I just really like red or green LED displays and it would be cool on an anniversary edition.

Yes it would be possible with todays high efficiency LEDs, but depends on your definition of "reasonable". You can get decent brightness these days on sub-1mA per LED, so for say a 12 digit display that would be under 100mA worst case total for direct drive (which you wouldn't use anyway). On a set of AA's that would equate to roughly 30hours use worst case.

PWM and multiplexing techniques could of course substantially improve on this. It would be possible to get <10mA draw for the entire display, giving you roughly 300 hours continuous use worst case. That's almost a years use at 1hr/day on AA's. I think that's pretty reasonable.

The OpenRPN project could offer an LED display as an option perhaps?

Dave.

**Re: HP 35c "Classic" Red Dot Anniversary Edition**

*Message #18 Posted by [Patrick Colbeck](#) on 18 June 2007, 6:34 p.m.,  
in response to message #17 by DaveJ*

300 hours seems entirely reasonable to me. Sign me up for one now :)

**Re: HP 35c "Classic" Red Dot Anniversary Edition**

*Message #19 Posted by [DaveJ](#) on 19 June 2007, 1:23 a.m.,  
in response to message #18 by Patrick Colbeck*

Quote:

300 hours seems entirely reasonable to me. Sign me up for one now :)

That's worst case I recon, I'm pretty sure I could do 1000 hours with a bit of work.

Would you like that in Red, Green, Orange, Yellow or Blue Sir?

Dave.

**Re: HP 35c "Classic" Red Dot Anniversary Edition**

*Message #20 Posted by [Steve Borowsky](#) on 19 June 2007, 1:17 a.m.,  
in response to message #14 by Patrick Colbeck*

Quote:

---

I know the original LED display ate batteries like they were going out of fashion but would it be possible using modern technology to get something that looked like a LED display but that gave reasonable battery life ? I just really like red or green LED displays and it would be cool on an anniversary edition.

---

I collect LED watches and i'm always on the lookout for a modern watch with a modern display that looks like an LED watch. There is one. It's an LCD display that has red numerals on a black background. It doesn't look exactly the same of course because it isn't self-luminous but it's the closest i've seen, and I don't think it uses any more power than a traditional LCD. It's the one on the left in the picture.  
<http://img402.imageshack.us/img402/7549/p1010303hb3.jpg>

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## HP Forum Archive 17

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### Pr Error HP-34C

Message #1 Posted by [MikeG](#) on 9 June 2007, 3:11 p.m.

After spending some time and rummaging three HP-37E's I finally got my HP-34C working (somewhat). The unit passes the self-test, RAM is functioning and program storage works fine, though I had to implement a make-shift battery clip since the best battery terminal I had still had a missing terminal due to corrosion.

What's happening now though is that every time I shut the unit off and wait more than a minute generally, the unit will power back on with the PR Error displayed. Is this a failed cap?

Thanks in advance.

### Re: Pr Error HP-34C

Message #2 Posted by [Les Wright](#) on 9 June 2007, 3:24 p.m.,  
in response to message #1 by MikeG

I use a 34C with normal AA NiMH cells with the circuit completed on the right side of the compartment with a thin strip of aluminum foil. I found the old battery clip was too snug with regular AA cells and this works fine. It also makes it easy for me to pop out the cells and charge them in an NiMH quick charger. The Spice power adapter was intended for NiCads and will work with the NiMHs but takes forever to charge fully.

I was erasing my memory occasionally when removing batteries and it took time for me to realize that if I wasn't careful the foil strip would zip across the compartment and touch the contacts and discharge memory that way.

So I am wondering if your homemade clip could be the issue? Is the circuit being closed someplace it shouldn't be?

If your clip indeed is not the problem and the batteries are fine then I fear it could be the electronic innards and I hope someone here can guide you!

Les

### Re: Pr Error HP-34C

Message #3 Posted by [MikeG](#) on 9 June 2007, 4:27 p.m.,  
in response to message #2 by Les Wright

Thanks for the response. The battery I'm using is the standard HP rechargeable for the spice units, in good condition. The make shift terminal is the - clip on the ribbon terminal.

I did make sure that the clip isn't shorting out anything and yet I still get the error. Again, this error is produced if the unit is left off for > 30sec

### Re: Pr Error HP-34C

*Message #4 Posted by [MikeG](#) on 9 June 2007, 5:58 p.m.,  
in response to message #2 by Les Wright*

OK, I think I may know why the error is being generated. Question is the PSU board for the 37E the same as the 34C? for this is the replacement I used.

**Re: Pr Error HP-34C**

*Message #5 Posted by [Eric Smith](#) on 9 June 2007, 8:41 p.m.,  
in response to message #4 by MikeG*

No. The "C" models use a different PSU to provide standby power to one of the three 8-pin chips (the one closest to the display).

If you have the wrong PSU, or hae the 8-pin chips in the wrong order, you don't get continuous memory.

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## HP Forum Archive 17

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### 50G--the accumulated experience to date?

Message #1 Posted by [Les Wright](#) on 9 June 2007, 2:44 p.m.

I believe the 50g has been out the better part of year. I haven't got one, since my 49G+ has been until recently underused and still works fine, but I would be interested on the collective experience of the 50g.

I get the impression that 50g is basically the 49G+ with some extended I/O and powering capabilities. It is considered by most to be more visually appealing. And I also get the impression is is mechanically more sound--indeed, I haven't read here over the past few months any complaints of keyboard failures of the type that have plagued some lots of the 49G+.

I ask this not because I want a 50g at this time. Rather, I am hoping the improved quality of 50g will be reflected in the much anticipated 35s. Also, have the manufacturing improvements transfered to newer production for the 12c, 12cp, or 17bii+? I get the impression that my recently made 17bii+, although lightly used, is really better made than reports here would lead me to expect. Yet my 12cp is a bit older and has a mildly fussy keypad.

Les

### Re: 50G--the accumulated experience to date?

Message #2 Posted by [Howard Owen](#) on 9 June 2007, 8:22 p.m.,  
in response to message #1 by Les Wright

I can report that my 50g, an early production model (SN CNA 61807135) has held up great under moderate use. With about the same amount of use, my 49g+ was showing the strain, with some keys going "mushy" and others having the legends partially rubbed off. None of those symptoms have appeared on my 50g. Its keys are all still "snappy" and the key legends appear completely unaffected by being repeatedly pressed by my grimy fingers for a year. Also, the annoying debounce problems of the 49g+ are completely absent on my 50g.

I just replaced my first set of batteries in this machine. The four alkaline AAA cells lasted quite a bit longer than the three AAA cells of the 49g+. That's what you would expect, of course, but I think that the USB power feature also played a role. I spent lots of time with the calculator tethered to the PC as I did programming.

Regards,  
Howard

### Re: 50G--the accumulated experience to date?

Message #3 Posted by [Les Wright](#) on 11 June 2007, 5:49 p.m.,  
in response to message #2 by Howard Owen

Quote:

my 49g+ was showing the strain, with some keys going "mushy" and others having the legends partially rubbed off.

In my first year of ownership my 49G+ got little use since I found it to be a battery hog and I found UserRPL to be a little inscrutable.

Since getting good rechargeable batteries and a quick charger, plus developing an interest in UserRPL, I have spend a lot of time with the 49G+ over the past few weeks. No key failures yet, but the gold paint, which frankly I thought was an attractive look even though it was not the most popular colour scheme here, is beginning to wear and pit around the edges. Legends remain intact, but the gold paint is becoming irregular around them.

Plus, I have some dust and a single cat hair stuck under the display plastic. A bit distracting, but I have no idea how to safely pry the plastic up to blow the lint out.

I really have grown to like the 49G+ and when it dies, which I am led to believe it will, I look forward to replacing it with a 50g.

Les

**Re: 50G--the accumulated experience to date?**

*Message #4 Posted by [James M. Prange \(Michigan\)](#) on 11 June 2007, 11:18 p.m.,  
in response to message #3 by Les Wright*

Quote:

Plus, I have some dust and a single cat hair stuck under the display plastic. A bit distracting, but I have no idea how to safely pry the plastic up to blow the lint out.

See [this thread](#) and [this other thread](#).

Regards,  
James

**Re: 50G--the accumulated experience to date?**

*Message #5 Posted by [Les Wright](#) on 12 June 2007, 12:00 p.m.,  
in response to message #4 by James M. Prange (Michigan)*

Quote:

See [this thread](#) and [this other thread](#).

Regards,  
James

Thanks! The suction cup trick is exactly what I need. I believe my partner has some around the house sticking cut decorations on windows, etc.

Since I have your attention, where would you recommend I go for discussion about HPGCC programming? is the hp48 newsgroup a good place to start?

Les

**Re: 50G--the accumulated experience to date?**

Message #6 Posted by **Giancarlo (Italy)** on 12 June 2007, 1:33 p.m.,  
in response to message #5 by Les Wright

Hi Les.

I think that

<http://groups.google.com/group/comp.sys.hp48/topics>

and

<http://hpgcc.org:8080/pebble>

might be a pair of good places to discuss about HPGCC.

Hope this helps.

Best regards.

Giancarlo

*Edited: 12 June 2007, 1:34 p.m.*

**Re: 50G--the accumulated experience to date?**

Message #7 Posted by **Bob** on 9 June 2007, 8:35 p.m.,  
in response to message #1 by Les Wright

As with most new machines, I usually wait for a significant length of time to let the bugs get worked out of the system and uncover weaknesses. That is why I have asked for a new 50G for Father's Day. That is about enough time, I imagine.

A new machine may still have manufacturing issues. Even an identical process, installed and started up next to the old one can have problems, much less a new design on a new production line with new people. There are many potential reasons why this can be so.

**Re: 50G--the accumulated experience to date?**

Message #8 Posted by **John Keith** on 9 June 2007, 9:13 p.m.,  
in response to message #1 by Les Wright

I have had a 50g since January, and use it daily (though sometimes only to play Tetris ;-). The keyboard and the aesthetics are definitely much improved and I am quite happy with it.

My only complaint is that they keep changing the color of the @#%! shift keys! I am hoping that the next version they will go back to good ol' blue & gold and stick with them.

**Re: 50G--the accumulated experience to date?**

Message #9 Posted by **brianh** on 10 June 2007, 6:59 a.m.,  
in response to message #8 by John Keith

Quote:

My only complaint is that they keep changing the color of the @#%! shift keys! I am hoping that the next version they will go back to good ol' blue & gold and stick with them.

NOOOOOOOOOO! I don't know if it is just me (I'm strongly red/green color blind) but I find it almost impossible to distinguish between the shift key colors on my 48gx and my new 33s. I love the color layout on the 50g. Easy for my old broken eyes to distinguish. Can we keep it, please? Please?

*Edited: 10 June 2007, 6:59 a.m.*



**Re: 50G--the accumulated experience to date?**

*Message #10 Posted by [John Keith](#) on 10 June 2007, 11:33 p.m.,  
in response to message #9 by brianh*

Actually, the 48GX and the 33S use purple and green for the shift keys, which is even worse. Especially on the 33S, the purple is so dark, it is hard to distinguish it from the black background. The 50g is definitely better in that respect, I just wish they would be more consistent.

John

**Re: 50G--the accumulated experience to date?**

*Message #11 Posted by [Walter B](#) on 11 June 2007, 12:32 a.m.,  
in response to message #9 by brianh*

Brian, please look at [the picture in this post](#). Can you see everything I talked about there? Any advise from your point of view (sic!) for improvement?

**Re: 50G--the accumulated experience to date?**

*Message #12 Posted by [brian haren](#) on 11 June 2007, 9:54 p.m.,  
in response to message #11 by Walter B*

Walter,

The color choices look good, easy to differentiate. I also feel the arrows on the color keys are a source of confusion. If you use well differentiated colors you don't need directional arrows. Always seemed kind of goofy to me.

As for the function selection and layout, I'll have to defer to wiser folks. Whatever the layout, I'll be buying at least one...

Brian

**Re: 50G--the accumulated experience to date?**

*Message #13 Posted by [Walter B](#) on 12 June 2007, 1:41 a.m.,  
in response to message #12 by brian haren*

Brian,

Thanks for your feedback. You can find the results in said other thread.

**Re: 50G--the accumulated experience to date?**

*Message #14 Posted by [Ron Allen](#) on 10 June 2007, 1:40 a.m.,  
in response to message #1 by Les Wright*

My 50g is at build 92 which I believe is the current supported version.

There was a bug in the previous version with LINSOLVE() as it is illustrated on page 11-41 in the "User Guide." This still doesn't work at build 92. I never tested the bug extensively because of other active people involved, so I'm now sure about the symptoms, but it does feel a little different from my limited exposure to the earlier version. If there's been one, I missed the announcement about anyone dealing with this bug.

I thought I had a bug with symbolic calculus, but I had set the flag on in the configuration I had setup. The settings of flag 117 on created a situation during the step-by-step process which gave me one or more extra steps over the normal in some integration. The problem was that it changed access through the sequence causing opportunities to crash before getting started. The welcome extra steps in some of the patterns helped in the analysis since the integrator likes using rational or partial fractions when it can. When there are other approaches available I like to see them.

For example, try integrating the secant of x several ways. I start with the reciprocal of cosine(x). I say x which works best with the calculator.  $\int(1/\cos(x))dx$  is solved in at least three different ways by pencil and paper, and one each by the 50g and by Mathcad 13. FYI, the 50g usually gives the easiest response to follow of the three and it is fast enough to compete with the other two, a real advantage in the field when you are competing for the assignment.

I have had trouble with the memory manager and linkage via the devices offered (conn4x, etc. I am afraid the common denominator is me rather than the 50g. I am very happy to see the luck everyone is having with the SD card! There's a lot of opportunities for improvement there like the ability for multiple directories, etc.

The keys are definitely superior in quality over the original 49g. Enough said there. Also, I keep two sets of batteries charged for the unit. May seem like overkill, but mine have never run down.

I have not run benchmarks with the interpreter level, but will trade any "slowness" for a calculator that supports customized everything like your own input forms design capability. With that one gig SD card or 2 gig, you can have several differnt custom calculators in one little package including mass storage.

\*\*\*\*\*

Now, I would like some information from those of you who are currently informed in other areas. I am not familiar with the total programming picture here, but assume that there are at least 3 ways to use the 50g: the RPN interpreter as it comes in the box, a medium compiler, probably using p=code on a virtual machine with some added features over the basic interpreter and a machine level language limited compiler. In addition there are probably ways to use C++ for very efficient customerization.

How do I get my hands on the next level above RPN, suppose that would be like RPL? Can RPL run under emulation for developing custom routines - on a PC? Are most RPL routines able to run on either? Will RPN routines all run on the basic system?

Thanks for everything you do,

Ron

### **Re: 50G--the accumulated experience to date?**

*Message #15 Posted by [bill platt](#) on 10 June 2007, 10:07 a.m.,  
in response to message #14 by Ron Allen*

The 48g, 49g, 49g+ and 50G (as well as the earlier 48s) are all RPL machines. They are not RPN. They behave almost like RPN with direct calculations, yet they are slightly different. There is an infinite stack, there is an input buffer in addition to the first stack level (which would be "x" in an RPN machine) and most importantly, there are multiple datatypes.

RPL machines behave more like a line interpreter--the user is free to put an infinite number and combination of invalid information into the input buffer. In RPN machines, invalid input is finite, as the selection of inputs is limited, and you don't have a separate input buffer--you write directly to the x register.

An example of the difference in behavior is easily demonstrated with taking the square of a number using the stack:

| ----- RPN ----- | ----- -----        | -----RPL-----                           |
|-----------------|--------------------|---|
| INPUT           | STACK<br>(x,y,z,t) | STACK<br>(1,2,3,4...)                   |
| 4               | 4,_,_,_            | _,_,_,_... {sitting in input buffer}    |
| enter           | 4,4,_,_            | 4,_,_,_...                              |
| X               | 16,_,_,_           | 4,_,_,_... "* Error: Too Few Arguments" |

To square a number in RPL, you have to enter *\*twice\** in order to push the input into both the 1st and 2nd levels of the stack.

User RPL programming is directly accessible from the keyboard simply by typing the << >> characters, which have the programming delimiters. There is no separate programming space as in RPN. Programs can be recalled to the stack, edited etc. You EVAL a program to execute it, or you save it into a variable, and simply select the variable from the softkey to execute it.

System RPL is a larger set of instructions which is also directly accessible to the user, but the coding is more machinelike. It is the underlying language that USER RPL is built from. The hazard of SYSRPL is that the inexperienced user can easily freeze the machine and dump all memory, as SYS RPL does not check for valid data, as USER RPL does. USER RPL is robust for an end-user programmer.

When the 49G+ came out, the SATURN processor was emulated by a newer chip, and in doing so, that opened up the possibility of hacking into the base level of that machine code, which was successfully carried out less than a year after the 49G+ was released. In addition, there have been a number of people working on C programming for it but I don't know the details.

The 49G+ and the 50G are the same in their basic architecture and language and processor--just the 50G addressed a number of issues in the hardware especially.

*Edited: 10 June 2007, 10:07 a.m.*

## Re: 50G--the accumulated experience to date?

Message #16 Posted by [Howard Owen](#) on 10 June 2007, 11:22 a.m.,  
in response to message #14 by Ron Allen

To add to what Bill has written, the C language system is HP-GCC ([Linux](#) and [Windows](#) versions, [project home page](#)). This consists of a translator from the elf format produced by the GCC arm code generator, a shim to enable loading and running the results on the calculator, and libraries for accessing the features of the machine from C code. If you want native 75Mhz ARM speed on the 50g, this is the way to go.

Regards,  
Howard

## Re: 50G--the accumulated experience to date?

Message #17 Posted by [Ron Allen](#) on 11 June 2007, 2:24 a.m.,  
in response to message #16 by Howard Owen

Thanks, Bill and Howard for clarifying the RPN/RPL thing. I suppose those benchmarks on speed are for 50g and others recorded under RPL. Would that be "User RPL" or native interpreter?

I plan to write up the photography questions for DEPTH OF FIELD and others using multiple equations. I believe they will be ideal for INPUT FORMS similar to the financial screen.

I take it that the development software is available through HPCALC'

Thanks again

## RPL (long)

*Message #18 Posted by **James M. Prange (Michigan)** on 11 June 2007, 2:11 a.m.,  
in response to message #14 by Ron Allen*

Certainly UserRPL isn't "Classic RPN" as implemented in other HP RPN models, but with the exception of program structures, UserRPL is quite consistent in following the RPN (Reverse Polish Notation) model, that is, any arguments first, followed by the operator; it's a strictly postfix notation. I'd say that UserRPL is an implementation of RPN, although not the same as Classic RPN.

As a logical/mathematical notation, RPN doesn't impose any inherent limit on the number of arguments waiting to be operated on. Classic RPN has the limitation of 4 stack registers, plus other registers which can be copied to or from the stack. For the UserRPL models, the only limit to the number of stack levels is the amount of available memory, so in this respect, I'd say that RPL comes closer to being truly RPN than Classic RPN does.

For the RPL models, assuming that vectored ENTER isn't in effect, when ENTER (or a key that invokes an implicit ENTER) is pressed, source code keyed into the command line editor is parsed, and, assuming valid syntax, compiled and combined into a secondary (SysRPL program), which is placed on the stack and executed. For source code "quoted" between UserRPL program delimiters, the evaluation of the delimiters and their contents is to a program object.

The contents of the command line amount to the source code for the contents of a program waiting to be parsed, compiled, and executed, and the contents of a UserRPL program could be considered the compiled unevaluated equivalent of a valid command line.

Note that an ENTER operation always compiles the command line's (or other editor's) source code to some type of RPL object. The "stack" is really a stack of pointers to objects elsewhere in memory, and the "objects" that you see on the stack are really decompiled character string versions of the objects pointed to. For the stack display, this decompilation and the display update takes place only just before the system is ready to accept keyboard input, not while a program is running.

Similarly, editing, the \->STR command, transferring in "ASCII" ("Text") mode, or printing decompiles the object to a character string (source code) equivalent, and in the case of transfers or printing "via wire", optionally with non-ASCII codes "translated" to pure ASCII sequences.

This compiling explains why all formatting ("white space" and line-breaks) and commenting is lost as soon as you press ENTER. If you want to preserve your formatting and comments, then either write your source code within a character string or else write it on your PC and transfer it to the calculator.

Note that for the RPL models, when in the "standard stack display" (no command line or other "special environment" active), pressing the ENTER key does **not** invoke an ENTER operation; it's simply a "keyboard shortcut" that invokes a DUP command.

The UserRPL commands are actually special cases of named SysRPL programs that include argument checking intended to prevent the user from doing anything that would corrupt user memory. SysRPL commands are unnamed on the calculator itself (unless a special library is installed), and SysRPL commands are actually SysRPL (or in some cases, machine language) programs that, in most cases, contain other SysRPL commands and often have embedded machine language code. Of course, ultimately, it's machine language code that ends up being executed. If you want to investigate, then I recommend a library

named "Nosy", available from [hpcalc.org](http://hpcalc.org).

For all RPL models, the ordinary user does have access to SysRPL objects numerically by the use of the UserRPL commands SYSEVAL, LIBEVAL (48G and newer only), and FLASHEVAL (49G and newer only). Care must indeed be used with these commands. For example, SYSEVAL does check that it has a user binary integer for its argument, but other than that, it doesn't do any argument checking; it simply causes execution to jump to that address, whether it makes any sense to do so or not, and misuse of these commands may very well cause memory corruption. Also note that "unsupported" entry points may well change with different ROM revisions, and even "supported" entry points often change with a different series of models (48S, 48G, or 49). If you want to use one of these operations frequently, then I'd suggest that you write a small named program that first checks for the required arguments, followed by the numeric argument and the SYSEVAL, LIBEVAL, or FLASHEVAL command, and then execute the program by name. If you want to embed one of these commands within a UserRPL program, then make sure that the program will definitely ensure that any required arguments for the sequence are available on the stack first.

For the 48 series, HP provided tools for writing SysRPL and Saturn assembly language programs on a PC, and 3rd-party external libraries were developed to do this on the calculators themselves. For the 49 series, a SysRPL/assembly language compiler (MASD, or the "Development Library"), including assembly language mnemonic keywords, is built-in, although "out-of-the-box", only numeric SysRPL codes can be used. To use mnemonic SysRPL keywords with the "Development Library", an extable library has to be installed.

For the ARM-based models (49g+, 48gII, and 50g), the Saturn processor is emulated, but note that the emulated Saturn processor has additional (apparently "unsupported", but, I hope, stable) machine language opcodes and, for the Development Library, their matching assembly language mnemonic keywords, and it's often referred to as the "Saturnator" or the "Saturn+ processor".

SysRPL and assembly language programming are intended for "developers", not for "ordinary users". In general, the results of a mistake are often dire enough that most of us (Wolfgang and perhaps a few others are exceptional) shouldn't attempt to use them for ad hoc programs where development time is an important consideration. That said, with the 49 series, (or a 48 series with a RAM card installed), archiving and restoring all of user memory (which may very well be corrupted in case of a mistake) isn't very difficult, and the compiler is built-in on the 49 series with an extable library easily installed, so it isn't unreasonable for an "advanced" user who's willing to take the time to learn how to do so to write his own "development language" programs.

The advantages of SysRPL programming are, first, that there are a lot more commands available than with UserRPL, and second, most SysRPL commands don't spend any time doing argument checking. Of course, the disadvantages are that the lack of argument checking means that the developer has to be more careful, there's a lot more that can be learnt (much of which is "an exercise for the student"), and with so many more ways to accomplish the same thing, choosing which way to do it may be more difficult.

The advantages of assembly language programming are that you can do things in it that would be difficult or impossible in RPL, and a well-written assembly language program should be faster than an RPL program that accomplishes the same thing. A disadvantage is that it often takes several assembly language commands to accomplish what could be done with just one RPL command, so assembly language programs are typically larger. Of course, a mistake in an assembly language program can be just as disastrous as in a SysRPL program.

Note that assembly language (or machine language) code sections can be embedded within SysRPL code.

With the ARM-based models, it's possible to access the underlying ARM processor, and indeed HPGCC has been developed for using C++ code with these calculators. That said, I've never experimented with this.

Of course the 49 series also have an ALG mode, and programming in this mode seems to be what HP means by "hp basic" in regards to these models. Note that this "hp basic" is not related to BASIC (Beginner's All-purpose Symbolic Instruction Code). The only thing that I've bothered to figure out how to do in ALG mode is switching to RPN mode; if I'd wanted an algebraic model, then I would've bought a "Brand X" model.

SysRPL is also the underlying "development language" for many of the algebraic-only models that use the Saturn processor, beginning with the 18C. In some cases it's possible to write and compile a SysRPL / assembly language program and transfer it to an algebraic-only model. I don't have any of the algebraic-only models, and I have no personal experience with this.

The comp.sys.hp48 usenet group certainly seems a better place to discuss the RPL models; many RPL experts frequent that newsgroup and are generally very helpful, although of course it's best to "do your homework" and try to avoid repeating the "Frequently Asked Questions". I prefer to participate in that newsgroup by using Thunderbird with my ISP's news server, but it can also be accessed through <http://groups.google.com/group/comp.sys.hp48/>. The entire newsgroup archive, all the way back to 1991, can be searched from [http://groups.google.com/advanced\\_search?](http://groups.google.com/advanced_search?) (which also works for any "Google Group" or any usenet group that Google has archived).

The current HP Museum CD-ROM set / DVD-ROM includes lot of information about the RPL models, including documentation for the 48SX Equation Library card, which is useful for using the Equation and Periodic Table libraries on the current models. I particularly recommend the books by William C. Wickes. See <http://www.hpmuseum.org/cd/cddesc.htm>.

Certainly any 49g+/50g user should have the 48gII/49g+ Advanced User's Reference Manual, available from HP's site.

Note that a version of the current 49g+/50g "ROM" without the optimizations for running faster on an ARM-based model is included with Debug4x. With minor tweaks to a copy of a 49G .KML file, this can be used with the 49G emulator and transferred to a real 49G with the ROMUPLOAD command. Except for the execution speed and hardware-dependent operations (including Saturnator-only opcodes and accessing the ARM processor), you can make the 49G behave very nearly the same as the 49g+ and 50g, with the latest ROM revision.

Note that emulators for the 48GX and all 49 series models are included with Debug4x, but also note that it's the "Hardware Saturn" that's emulated, not the ARM processor with a "Saturnator". See <http://www.debug4x.com/>.

Alternatively, a 3rd-party Version G Revision #2.10-7 ROM, with some bug fixes and additional capabilities, can be found at <http://www-fourier.ujf-grenoble.fr/~parisse/english.html> (or <http://www-fourier.ujf-grenoble.fr/~parisse/francais.html> if you read French). This version includes the Equation and Periodic Table libraries for the 49 series. Information on the 49 series CAS can also be found from there.

The most recent Equation and Periodic Table libraries for the 49 series can also be found from <http://www.hydrinx.com/Download/Hp/>.

Of course, any RPL user should be familiar with <http://www.hpcalc.org/>.

"Training modules" for the 50g are available at <http://h20331.www2.hp.com/hpsub/cache/383680-0-0-225-121.html>.

Other useful on-line resources for RPL models include <http://membres.lycos.fr/ekalin/>, <http://hp.giesselink.com/>, <http://staff.science.uva.nl/~dominik/hpcalc/>, <http://page.mi.fu-berlin.de/raut/>, <http://holyjoe.net/hobbies.htm> (also <http://holyjoe.net/hp/tiotable.png>, <http://holyjoe.net/hp/types4.htm>, and perhaps various other files at <http://holyjoe.net/hp/>), <http://alaska.magpage.com/~jakes/>, and

<http://m.webring.com/hub?ring=hp48>.

Each new RPL implementation is mostly a superset of the previous implementation, and the documentation for earlier models is often better, so don't ignore something just because it's written for a different model; it may well apply to your model as well.

Take anything that you read with a grain of salt. If you want to know how someone else (including an HP technical writer) thinks something works, then read whatever information is available about it; if you want to know for certain how it works, then experiment for yourself.

Regards,  
James

### **Re: RPL (long)**

*Message #19 Posted by [Ron Allen](#) on 11 June 2007, 3:08 a.m.,  
in response to message #18 by James M. Prange (Michigan)*

James, what a wealth of knowledge, people, places, technical and non-technical things you share with us! Thank you for being so generous. Between this letter from you, the treatment you provided with the explanation for "COMPILED LOCAL VARIABLES," you recently gave me I feel that I have short-circuited a lot of work.

I will take your advice seriously and will be avoiding any development activities above UserRPL for some time, if not forever. Besides, I just had great response to a question about Lorentz transposes used in Relativity, especially the advice from Plastics Guy. I expect to be too busy trying to derive them with my own differential equations and another summer project to design INPUT FORMS to work with photography.

Thanks again for your contributions,

Ron

### **Re: RPL (long)**

*Message #20 Posted by [James M. Prange \(Michigan\)](#) on 11 June 2007, 9:06 a.m.,  
in response to message #19 by Ron Allen*

I really didn't mean to discourage anyone from trying the "development languages", but trying them does mean that the calculator's memory should be backed up first, and extra care is needed, and yes, some study and sometimes experimentation is required, and you're still likely to occasionally crash your calculator and need to clear and restore memory, at least until you "get the hang of it". That said, you don't need to know or use every feature of SysRPL programming or every SysRPL command to write a useful SysRPL program, any more than you need to know or use every feature of UserRPL programming or every UserRPL command to write a useful UserRPL program.

I do recommend waiting until you're reasonably comfortable with UserRPL programming before venturing into SysRPL programming, but SysRPL really isn't all that much different from UserRPL.

A comparison of the source code for a UserRPL program and a SysRPL program that end up accomplishing the same thing, but the SysRPL program is much smaller (70 bytes versus 116.5 bytes) and faster (about 2.09 seconds versus about 6.30 seconds on a 49g+):

```
%%HP: T(3)A(D)F(.);  
@ For 49 series only.  
@ Arguments: None
```

```

@ Download or enter in exact mode.
@ Checksum: # A162h
@ Size:      116.5
\<<
"
 128 255
FOR n
  "\010"
  n
  " "
  OVER R\->B
  OVER +
  PICK3 CHR
  PICK3
  OVER
  # 2F34Eh SYSEVAL      @ KVIS for 49 series.
  + + + + +
NEXT
"\010" +
\>>

```

```

%%HP: T(3)A(D)F(.);
@ For 49 series, MASD syntax.
@ Extable library required for compiling.
@ Arguments: None
@ Checksum of source code string: # 469Eh
@ Size of source code string:      280.
@ Checksum after compiling: # 7E4Fh
@ Size after compiling:           70.

```

```

"!NO CODE
!RPL
::
  CK0NOLASTWD
  NEWLINE$
  REALOBOB
  BINT80h
  DO
    INDEX@
    DUP
    #>$
    APPEND_SPACE
    OVER
    #>HXS
    HXS>$
    &$
    APPEND_SPACE
    SWAP
    #>CHR
    CHR>$
    SPACE$
    OVER
    KVIS
    &$
    &$
    &$
    &$
    NEWLINE&$
  LOOP
;
@"

```

Alternative source code for the same SysRPL program as above, but which doesn't require an extable library for compiling:

```

%%HP: T(3)A(D)F(.);
@ For 49 series, MASD syntax.
@ Extable library not required for compiling.
@ Arguments: None
@ Checksum of source code string: # E1C5h
@ Size of source code string:      337.
@ Checksum after compiling: # 7E4Fh
@ Size after compiling:           70.
"!NO CODE
!RPL
::
  PTR 26292
  PTR 33B39
  PTR 33733
  PTR 33607

```



PTR 073F7  
PTR 07221  
PTR 03188  
PTR 25F77  
PTR 35BD7  
PTR 032C2  
PTR 059CC  
PTR 2EFC0  
PTR 05193  
PTR 35BD7  
PTR 03223  
PTR 05A75  
PTR 37AA5  
PTR 33B55  
PTR 032C2  
PTR 2F34E  
PTR 05193  
PTR 05193  
PTR 05193  
PTR 05193  
PTR 361DA  
PTR 07334

;  
@"

To compile that last SysRPL source code string on any 49 series, even without an extable library installed or the development library attached, with the string in level 1, execute 256.06 MENU, and then press the menu key labelled ASM.

What that SysRPL program looks like as a string of hex digits, after compiling:

```
D9D202926293B3333733706337F370122708813077F527DB532C230CC9500CFE239150  
7DB533223057A505AA7355B332C230E43F239150391503915039150AD16343370B2130
```

(Treat the above 2 lines as 1 long line.)

Saturn assembly language isn't too difficult either, although it seems to me that it has some "quirky" limitations on which registers can be used with each other and with which instructions, and using it tends to be tedious.

But UserRPL is quite powerful enough for most purposes, and when keeping development time low is important, seems the best of these languages for almost all users.

I recommend restricting "development language" programming to when you have some spare time to work on it.

Regards,  
James

*Edited: 11 June 2007, 10:17 a.m.*

### **Re: RPL (long)**

*Message #21 Posted by [Les Wright](#) on 11 June 2007, 6:07 p.m.,  
in response to message #20 by James M. Prange (Michigan)*

Quote:

\_\_\_\_\_

I do recommend waiting until you're reasonably comfortable with UserRPL programming before venturing into SysRPL programming

\_\_\_\_\_

That is where I am at right now, and I must admit that even the yellow-belt level is pretty gratifying.

I have recently developed an interest in writing routines for special functions that are not built into the calculator--the incomplete beta function, the incomplete gamma function, and the sine, cosine, exponential, and Fresnel integrals, to name a few. Right now, the code looks an awful lot like the C, Fortran, Pascal, or Basic templates I am cribbing from (be they from Numerical Recipes, Cephes, Netlib, or GSL, for example)--lots of local variables, for example, and the RPL equivalents of common operations in other languages. For example, the C statement "term \*= fact/k" would appear in my program as "fact k / 'term' STO\*" and "d = 1/d" would get rendered as "'d' SINV" -- that sort of thing. So far, I have produced a few neat little programs that give good results and run much more quickly than their RPN counterparts on the 41CX, 42S, or even the rather fast 33S.

My next goal is to develop an awareness of stack in order to write UserRPL routines that don't use a single local variable, but rather control the stack and manipulate it with PICK, ROLL, OVER, DROP, DUP, etc. to generate and track interim results. I expect such versions would be smaller in size and perhaps a little faster.

Then, if I ever have time, I will try to learn a thing or two about SysRPL.

Les

### Re: RPL (long)

Message #22 Posted by [bill platt](#) on 11 June 2007, 9:26 p.m.,  
in response to message #21 by Les Wright

Quote:

My next goal is to develop an awareness of stack in order to write UserRPL routines that don't use a single local variable, but rather control the stack and manipulate it with PICK, ROLL, OVER, DROP, DUP, etc. to generate and track interim results. I expect such versions would be smaller in size and perhaps a little faster.

This is interesting, as you can see an eclecticism in the design of the 48 series: A pretty complete and very robust \*structured\* programming language, as well as a pseudo machine-code-line-interpreter stack-based paradigm. The former is easier to read, perhaps easier to debug, logical and pretty transferable as you demonstrated with your examples of "cribbing", whereas the latter seems to be an inescapable exercise in programming elan if nothing else. One would think that the structured approach would win out and leave the stack concept behind, and yet there is something so versatile about the stack, and the genius of having both a stack and structured tools is what is to me the quintessential nature of the Champagnes and their offspring.

### Re: RPL (long)

Message #23 Posted by [Les Wright](#) on 12 June 2007, 12:04 a.m.,  
in response to message #18 by James M. Prange (Michigan)

Quote:

With the ARM-based models, it's possible to access the underlying ARM processor, and indeed HPGCC has been developed for using C++ code with these calculators. That said, I've never experimented with this.

I am not a C or C++ wiz, but I have downloaded HPGCC and will give it a try.

So far, I have been able to get the ARMTtoolbox successfully on my calculator. I have been able to "make" the examples that come with the installation and figured out how to convert, on the calculator, those files to native executables that run with a keypress so yo don't have to invoke the ARMTtoolbox PrRUN function.

There seem to be math libraries that carry out computations in double precision floating point. This is very intriguing to me--it seems possible to write math programs with increased accuracy.

Neat!

Les

## **Re: 50G--the accumulated experience to date?**

*Message #24 Posted by **brianh** on 10 June 2007, 9:57 a.m.,  
in response to message #1 by Les Wright*

I purchased one last week and spent the last several days playing with it's capabilities. I am comparing this to the 'classic' HP calculators, not the recent Kinpo mfg. models:

Good:

1. Build quality. Seems quite good. Solid, little case flex. Seems almost as rugged as the 48 series.
2. Keys. Good key color choices. Makes finding/differentiating functions easy. The keyboard is not too cluttered. Good key response. The arrow keys are a bit sloppy (you can wiggle them around) but otherwise all seems well built. While these keys have a good mechanical click they are not the same feel/response you will get from a 48-series machine. Still, all-in-all, pretty good!
3. Display. Better than the 48-series but can still be difficult to read in many lighting conditions.
4. Access to functions. I actually find the 50g easier to navigate around than the 48-series. For a time I was put off by the 'labrynthine' (is that a word?) 48gx menu structure. The 50g menu structure seems easier to work with and a bit more logical.
5. Expandability. I stuffed a cheap 1 gig SD card in mine and instantly had more storage space than I know what to do with.
6. Connectivity. USB, Serial and IR. Once I got the USB xmodem thing figured out everything went just fine. With the help of some forum members I was even able to get the calculator to talk to my old 82240B printer. Now I just wish there was a native 'trace' mode for printing...
7. Support. HP, on their website ([www.hp.com/calculators](http://www.hp.com/calculators)) already has a wealth of special purpose tutorials that take you through some of the more complex functionality. I've only looked at a few, but they seem to be well structured and documented. There is also a 50g-specific forum on the HP website but it's not too well populated yet (most HP savvy folks seem to turn to the HPMuseum website for help).

Bad:

1. Documentation. Folks in the HP calculator division need to be forced to read some of the classic HP calculator documentation (like for the 11C) to re-learn how to properly document a calculator. For example, there are two books that come with the 50g; the paper User's Manual and the User's Guide on CD. The paper User's Manual makes oblique references to the User's Guide but never explicitly states that the User's Guide is

in PDF format on the CD. A first year technical writer could have done a better job with layout and content. Don't get me wrong - most of what you are looking for is in the User's Guide but all I can say is 'Thank heavens for the search feature in Acrobat Reader!'

2. Documentation

3. Documentation

(do you get the idea that I'm not too impressed with this calculator's documentation?)

### **Re: 50G--the accumulated experience to date?**

*Message #25 Posted by [Howard Owen](#) on 10 June 2007, 11:12 a.m.,  
in response to message #24 by brianh*

Quote:

.. (most HP savvy folks seem to turn to the HPMuseum website for help) ..

Actually, this site focuses on older HP calculators primarily. The real center for HP 50g support is the Usenet news group [comp.sys.hp48](#) (link is to Google Groups.) As you have seen, you will probably get useful answers to HP50g questions here. But the folks who wrote the system software hang out on the news group, and they are backed up by an army of experienced RPL hackers.

I'm sure you're aware of it, but here's a link to Eric Rechlin's [HPCalc.org](#). That site is the mother lode for RPL calculator knowledge and software.

Quote:

The paper User's Manual makes oblique references to the User's Guide but never explicitly states that the User's Guide is in PDF format on the CD.

Also buried in the guide and manual are citations of the *real* manual, the [HP-49G+ Advanced Users Reference \(AUR\)](#)

Regards,  
Howard

### **Re: 50G--the accumulated experience to date?**

*Message #26 Posted by [Les Wright](#) on 10 June 2007, 4:44 p.m.,  
in response to message #24 by brianh*

Quote:

Now I just wish there was a native 'trace' mode for printing...

In recent months I believe James Prange wrote one of his famously erudite and detailed posts on this very issue. He provided some RPL code which will emulate trace mode. Sorry I can't seem to find the archived post....

Les

**Re: 50G--the accumulated experience to date?**

Message #27 Posted by [James M. Prange \(Michigan\)](#) on 10 June 2007, 5:21 p.m.,  
in response to message #26 by Les Wright

Thanks for the mention, Les.

For a way to implement user-customized print trace modes in the 48/49 series, see some of my posts in [this thread](#).

The Museum Forum lacks a way to conveniently search all of its archives at once. A work-around is to use a Google advanced search, and for the "Domain" line, specify:

```
[Only] return results from the site or domain [hpmuseum.org]
```

Regards,  
James

**Re: 50G--the accumulated experience to date?**

Message #28 Posted by [Gerson W. Barbosa](#) on 10 June 2007, 11:00 p.m.,  
in response to message #27 by James M. Prange (Michigan)

Quote:

\_\_\_\_\_

A work-around is to use a Google advanced search, and for the "Domain" line, specify:

```
[Only] return results from the site or domain [hpmuseum.org]
```

\_\_\_\_\_

Another way to get the same result without going to the advanced search is typing *site:hpmuseum.org* before the search key.

Regards,  
Gerson.

**Re: 50G--the accumulated experience to date?**

Message #29 Posted by [Les Wright](#) on 10 June 2007, 4:50 p.m.,  
in response to message #24 by brianh

Quote:

\_\_\_\_\_

I stuffed a cheap 1 gig SD card in mine and instantly had more storage space than I know what to do with.

\_\_\_\_\_

I have a 128MB card that was a throw in for a digital recorder. It holds only a few minutes of 96kHz WAV file stereo recording, and thus is pretty useless for serious use, so I got a 2GB card which accommodates an hour, and much more time in MPG formats. But the 128MB is positively huge as far as the 49G+ is concerned. And since I have a multimedia card reader on my PC, I can readily and quickly back up the card contents to my PC and not have to fuss with USB or serial connectivity.

Les

**Re: 50G--the accumulated experience to date?**

*Message #30 Posted by [Iqbal](#) on 10 June 2007, 9:30 p.m.,  
in response to message #29 by Les Wright*

Out of about 25 units sold I have problems with one. The thing kept burning out the batteries over 1-2 days. I even tried rechargeables. HP did change it though, without any problems. A couple surveyors actually prefer this over the 48 series, which amazes me though.

**Re: 50G--the accumulated experience to date?**

*Message #31 Posted by [Ron Allen \(Fairhope\)](#) on 13 June 2007, 12:16 a.m.,  
in response to message #24 by brianh*

I know I feel kind of funny going into a meeting with my very portable 50g with the choice of 900 pages of printed documentation (2 volumes of 3-inch double sided paper,) or a laptop to read the pdf files. Kinda ruins the image you were trying to project about handy programming power in the field.

Have fun!

Ron

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## HP Forum Archive 17

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### 50g Connectivity Issues

Message #1 Posted by [brianh](#) on 9 June 2007, 1:23 p.m.

Hello all! It's been a long time since I've posted here, but your (generally) positive reviews of the 50g drove me to add one to my HP collection.

However, there is one nagging issue with my calculator that forces me to seek help on this forum.

I can not get my 50g to connect with either of my two computers, each running WinXP. I have installed and uninstalled the Conn4x software and drivers multiple times on each machine, with no luck. Also, when connected my XP resources window in My Computer does not recognize the calculator as a USB device.

I am using Conn4x v2.3, build 2436 and the USB driver that came with the calculator. All I get is the error message 'Error. No device detected. Check cable connections and the calculator'

I've scoured the calculator documentation and the HPMuseum form, but I can't figure out what's up. Since this is a subject that has not received a lot of attention I'm beginning to think I've got a bum calculator.

So, any help or suggestions would be appreciated. Anyone out there experience the same 'issue' and have a solution? As always, thanks in advance.

Brian

### Re: 50g Connectivity Issues

Message #2 Posted by [brianh](#) on 9 June 2007, 1:36 p.m.,  
in response to message #1 by [brianh](#)

Duh (sound of head banging on heavy wooden table)

Right shift/right arrow

(sound of more banging)

OK, let me further expose my inability to solve my own problems...

Will the 50g print to my old 82240B IR printer, or has that capability been phased out with the 49 series?

Again, thanks in advance...

Brian

### Re: 50g Connectivity Issues

Message #3 Posted by [Gerson W. Barbosa](#) on 9 June 2007, 1:52 p.m.,  
in response to message #2 by [brianh](#)

Quote:

---

Will the 50g print to my old 82240B IR printer, or has that capability been phased out with the 49 series?

---

Surely, but don't forget to check flag -33 [MODES, FLAGS]. The printer has to be closer to the 50g, when compared to the 48G series, no more than one inch apart I think.

Regards,

Gerson.

### **Re: 50g Connectivity Issues**

*Message #4 Posted by **James M. Prange (Michigan)** on 11 June 2007, 5:53 a.m.,  
in response to message #3 by Gerson W. Barbosa*

Make that flag -34 for Print via IR / Print via wire.

Flag -33 is for Transfer via wire / Transfer via IR.

For the 48 series, "Print via IR" is the default, but for the 49 series, the "screen capture" capabilities of the "connectivity kits" require "Print via wire", so that's the new default.

Of course on the 49G, clearing flag -34 (Print via IR) has the effect of disabling printing, and setting flag -33 (Transfer via IR) has the effect of disabling all external I/O.

Regards,  
James

### **Re: 50g Connectivity Issues**

*Message #5 Posted by **Don Williams** on 9 June 2007, 1:55 p.m.,  
in response to message #2 by brianh*

Great post Brian. I just got a 50G last night. It is still in the package, but I was sooner or later about to attempt your same error. Whatever you can do wrong, I can do wrongger. ( wrongger - sure it's a word, it's a verb, I have been practicing it all my life.)

### **Re: 50g Connectivity Issues**

*Message #6 Posted by **Les Wright** on 9 June 2007, 2:33 p.m.,  
in response to message #2 by brianh*

Quote:

---

Will the 50g print to my old 82240B IR printer, or has that capability been phased out with the 49 series?

---

It sure will. I use it with my 49G+ to print out program listings all the time. Keep in mind the IR range is much shorter than the 48 series--a few inches at best--but save that it works pretty well.

I haven't gotten much feedback on this, but I have raised the point in the past that SD card storage capacity makes direct PC connectivity less essential than it was in the 48 series. I have gone so far as to even declare that at this time there is really no good reason for a serious user of the 49G+ and 50G calculators



NOT to have an SD card in the calculator at all times. 512MB are the smallest size widely available and run 20 to 30 dollars, cheaper when on sale. You may have family or friends who have, say, a 128MB card that has proved too small for camera or MP3 use, but is more than enough for a 50G where the objects to be stored are comparatively tiny. I routinely create program objects on my pc as text files, transfer them to SD card then calculator, then do on the calculator a little refinement so various symbols are rendered in the appropriate form. Works beautifully. And backing up the memory contents and flag settings is breeze thanks to a small program I wrote to execute the instructions in a single key press.

I don't use Conn4x or equivalents much, as a result, but am interested in being persuaded why I should. This all said, I am glad you got your setup to work.

Les

### **Re: 50g Connectivity Issues**

*Message #7 Posted by [James M. Prange \(Michigan\)](#) on 11 June 2007, 5:28 a.m.,  
in response to message #2 by brianh*

I'm glad that you got Conn4x to work for you, but I recall that some problems were reported for the version originally shipped with the 50g. If you have any trouble with build 2436, then try the latest build (currently 2439), available from [HP's site](#). Actually, I think that Conn4x is identical for all supported MS Windows versions, but "choose your poison". It seems to me that I've read that it also works with MS Windows Vista.

Alternatively, you could try the older Build 2353, which seems to work okay, and I think is still available at [hpcalc.org](#).

Personally, I find it easier to use an MMC or SD card for transfers.

Of course you can't use an 82240A/B with a 49G (which lacks the IR hardware), but except for the drastically reduced range, the 49g+ and 50g work just fine with the infrared printers.

Regards,  
James

*Edited: 11 June 2007, 5:37 a.m.*

### **Re: 50g Connectivity Issues**

*Message #8 Posted by [Egan Ford](#) on 11 June 2007, 10:21 a.m.,  
in response to message #2 by brianh*

Since you are running XP you may want to install Debug4x (basically Emu48+ with ROMs and development tools). At a minimum you get a 50g emulator out of it.

You can also use Conn4x with with Emu48+. Although Emu48 has primitive cut/paste. I find that I can keep the two in sync easier with Conn4x. You'll need something like <http://com0com.sourceforge.net/> to create the virtual connection. I created a pair of virtual null modem cables. One for Emu48+/50g and the other for Emu48/48gx.

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## HP Forum Archive 17

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**Paypal problem**

Message #1 Posted by [Don Shepherd](#) on 9 June 2007, 12:15 p.m.

People on this forum have complained about Paypal in the past, but I had never had any problems with them, until now.

This past week I won an auction, paid for it with Paypal using funds from my checking account (which I have done many times in the past), then waited to hear that the seller had shipped my item.

She wrote today and said she was waiting for the funds to "clear." I thought, what is that crap, when I pay from my checking account I thought the funds were instantly transferred to the sellers account. So I checked my Paypal account and it says the status of the transaction is "uncleared" with the expected clearing date one week after the close of the auction.

Needless to say, I won't be using Paypal in the future.

**Re: Paypal problem**

Message #2 Posted by [Raymond Del Tondo](#) on 9 June 2007, 5:18 p.m.,  
in response to message #1 by Don Shepherd

Hi,

have you checked with PayPal customer support?  
They should be able to explain the delay;-)

HTH

Raymond

**Re: Paypal problem**

Message #3 Posted by [Tadeyev](#) on 9 June 2007, 6:34 p.m.,  
in response to message #2 by Raymond Del Tondo

CUSTOMER SUPPORT?????

Really, are you kidding? This must be a joke :-)?

PayPal has no support- simply morons who send off pre-set replies in answer to everything...

If you call them, you will be on hold for hours, and be told there is nothing they can do (if you ever get a rel person to speak to) Even simple things are beyond them.

I ceased using them long ago... If you MUST use it, then only use it for amounts you can throw away and miss- when it goes wrong (which it inevitably will). Their so-called insurance is a total fraud as well.

As far as I am concerned, their eBay connection and shady banking system are a type of monopoly that should be broken. My choice is to use Western Union with sellers that have good feedback.

**Re: Paypal problem**

*Message #4 Posted by **Raymond Del Tondo** on 9 June 2007, 10:17 p.m.,  
in response to message #3 by Tadeyev*

Hi,

this is not a joke.

At some time a few years ago I had a question regarding my PP account, which I could not find an answer for in the FAQ, so called their support. They could clarify the question, so the support worked, at least for me.

Other than the above, I never had any problems with my PayPal account. Of course everyone should take reasonable care with \*every\* online payment method.

Interesting thing, slightly OT:

I opened a PayPal account some years ago only because there were various U.S. eBay members who insisted to pay (or to be paid) via PayPal, nothing else.

Raymond

**Re: Paypal problem**

*Message #5 Posted by **Don Shepherd** on 10 June 2007, 4:39 p.m.,  
in response to message #3 by Tadeyev*

Paypal customer support did respond (on Sunday no less). I don't know if it is a "canned" response or not, but the writer identified himself as Roel and he explained that the Automated Clearing House (ACH) or checking account transfers typically take 4 business days. I guess that has always been true, I never noticed the delay before because usually I use Visa with Paypal which, as another poster said, does provide instant funds transfer.

In future auctions, if I don't want to use Visa (and sometimes I don't), I'll just send a postal money order in the mail. It will be quicker than using Paypal with a checking account.

**Re: Paypal problem**

*Message #6 Posted by **James M. Prange (Michigan)** on 10 June 2007, 8:01 p.m.,  
in response to message #5 by Don Shepherd*

If I'm not mistaken, for an "instant transfer", you have to have both a primary funding source and a back-up funding source, for example, a bank account backed up by a credit card, and otherwise you have to wait for the transaction to clear.

Perhaps your bank account was previously backed up by a credit card, but the credit card is no longer valid, or perhaps the expiration date has changed?

Regards,  
James

## Re: Paypal problem

Message #7 Posted by **Don Shepherd** on 10 June 2007, 9:17 p.m.,  
in response to message #6 by James M. Prange (Michigan)

James, you know more about this than the Paypal customer service people do! In fact, the expiration date on my credit card did change recently, because a new credit card was issued. I guess I notified everyone of the new expiration date except Paypal.

One might wonder why Paypal would not notify someone whose expiration date has just expired....

thanks for the answer Don Shepherd

## Re: Paypal problem

Message #8 Posted by **James M. Prange (Michigan)** on 11 June 2007, 12:08 a.m.,  
in response to message #7 by Don Shepherd

Quote:

James, you know more about this than the Paypal customer service people do!

That knowledge is from a surprising (to me) personal experience. It seems to me that I did (eventually) find the relevant information on the PayPal site, but as I recall, it wasn't very easy to find.

Quote:

One might wonder why Paypal would not notify someone whose expiration date has just expired....

I agree.

Quote:

thanks for the answer

You're welcome.

Regards,  
James

## Re: Paypal problem

Message #9 Posted by **GE** on 11 June 2007, 7:02 a.m.,  
in response to message #5 by Don Shepherd

Some years ago I was banned from TAS because Postal Money Orders take more than 3 weeks to scrawk slowly from Europe to the US. A Canadian seller shot me for non-payment, a few days before receiving the payment, and after a couple of messages from me stating that the PMO was very slow. Of course he never negated his complaint.

So I'm not using PMOs any more, because some people are just plain stupid.

Paypal is very far from perfect, but can work when other ways don't. I don't like it, either...

---

**Re: Paypal problem**

Message #10 Posted by **Egan Ford** on 9 June 2007, 6:43 p.m.,  
in response to message #1 by Don Shepherd

Switch to using a VISA Checkcard on the same bank account. It's instant.

**Re: Paypal problem**

Message #11 Posted by **Don Shepherd** on 9 June 2007, 7:20 p.m.,  
in response to message #10 by Egan Ford

Thanks, guys.

Yes, I emailed their customer support but have not heard back yet (but it is Saturday so I'll cut them some slack). When I do hear, it will probably be a canned response.

Yes, I have used Visa in the past with Paypal, and I guess that is the only "instant" way that works. I don't think I will ever use my bank account with them again, though. It's faster to send a money order to the seller!

On a good note, because of the delay, the seller found the original manual and box (the auction was for the calculator only, a 17bii) while cleaning up today, so she will send those too. Sometimes bad things turn out good!

**Re: Paypal Is The Problem**

Message #12 Posted by **Happy HP User** on 10 June 2007, 9:57 a.m.,  
in response to message #11 by Don Shepherd

PayPal is eBay's secondary goldmine, generating additional fees with every eBay transaction it's used with. In agreeing to PayPal's terms, users give control of their bank account to PayPal. PayPal users also sign away all rights customary with banking and credit card. It's no wonder that PayPal is a primary source of fraud, generating countless scams. The solution is relatively simple: fully investigate buyers and sellers. If previous performance is unsatisfactory, don't do business with them. For payment, money orders and cashier's checks work well. For all my eBay transactions, for both buying and selling: No PayPal.

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## HP Forum Archive 17

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### HP-25C Battery Pack

Message #1 Posted by [Trent Moseley](#) on 8 June 2007, 9:21 p.m.

I just have to let everyone know I just reloaded a 25C battery pack with nickel metal hydrides rechargeables (RadioShack 23-525). And my first love performs so well.

tm

### Re: HP-25C Battery Pack

Message #2 Posted by [Walter B](#) on 9 June 2007, 5:52 p.m.,  
in response to message #1 by Trent Moseley

Enjoy! It was my first HP-love, too. Many happy years!

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## HP Forum Archive 17

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### **Displaying part of my collection at the San Diego County Fair**

*Message #1 Posted by [Victor R.](#) on 8 June 2007, 2:47 p.m.*

If anyone is in the San Diego, CA area between now and July 4th, I will be displaying my collection of HP Classic and Woodstock calculators at the San Diego County Fair in Del Mar. Just look in the Home and Hobby section.

### **Re: Displaying part of my collection at the San Diego County Fair**

*Message #2 Posted by [Matthias Wehrli](#) on 8 June 2007, 5:58 p.m.,  
in response to message #1 by Victor R.*

Maybe you can post 1-2 pictures here in the forum. I'm a Swiss collector and would really like to know how other people collect.

Matthias

### **Re: Displaying part of my collection at the San Diego County Fair**

*Message #3 Posted by [Dan W](#) on 8 June 2007, 6:15 p.m.,  
in response to message #1 by Victor R.*

If you have a 65, 67 or 97, have it running a program in an infinite loop. The random flashing display will attract people, and I think the kids will find it mesmerizing.

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## HP Forum Archive 17

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**My Ideal Calculator is Impossible**

Message #1 Posted by [Howard Owen](#) on 8 June 2007, 1:45 p.m.

I think that each of us has a unique idea of what the "ideal" calculator would be. I also think we all probably realize that our ideal machines are unlikely to materialize in the real world. Another reason why my ideal machine can't happen has just occurred to me. I enjoy the machines themselves a great deal. But that enjoyment would be sterile without a community of more-or-less like minded enthusiasts such as this one. My ideal calculator is impossible precisely because it is *my* ideal. If I had the only one in the world, I couldn't share the fun of using the darned thing.

Thanks for being here, everyone.

Regards,  
Howard

**Re: My Ideal Calculator is Impossible**

Message #2 Posted by [DaveJ](#) on 8 June 2007, 9:17 p.m.,  
in response to message #1 by Howard Owen

Quote:

I think that each of us has a unique idea of what the "ideal" calculator would be. I also think we all probably realize that our ideal machines are unlikely to materialize in the real world. Another reason why my ideal machine can't happen has just occurred to me. I enjoy the machines themselves a great deal. But that enjoyment would be sterile without a community of more-or-less like minded enthusiasts such as this one. My ideal calculator is impossible precisely because it is *my* ideal. If I had the only one in the world, I couldn't share the fun of using the darned thing.

Thanks for being here, everyone.

Regards,  
Howard

Well said Howard. I've never found my ideal calculator either, and the practical design engineer side of me says I never will either, as my "ideal" also changes depending upon how I want to use it.

For instance, sometimes I just want the smallest and simplest calc I can get as I'm always moving around. Other times I want one optimised for my electronics calculations, so I want all the commonly used keys (including parallel) as main buttons. Then when I want to do some repetitive calculations I want a nice easy to use and edit solver, and the list just goes on and on... No wonder I have 3 calculators in my drawer at work...

As someone who is currently designing and building their own calculator, I've lost count of the number of times I've changed the design and had to reluctantly accept various practical trade-offs. And I'm only trying to please myself! I'll be happy if everyone just says, "hey, that's cool!".

Dave.



---

## **Re: My Ideal Calculator is Impossible**

*Message #3 Posted by **Paul Fox** on 9 June 2007, 5:05 a.m.,  
in response to message #2 by DaveJ*

Hey! Thats cool Dave.

My ideal calculator is the rubbish TI I had when i was 8? When the calculator was powered by pure magic and I got to type:

1 + 1 = = = = = etc

Since then, as a techie, i know how they work and I want to discover more and more stuff but in the end find I have no use for any of it :-)

My ideal calculator is beginning to look like the RAON Everun machine - a big fat PDA which happens to run XP (yuck!) but for w-hich i can run any app i care to install - maths, reading, web, games etc, and be able to use whilst out shopping with the wife (outside changing rooms), and have that "Eureka!" moment where i can tell my wife about how to draw cool 3D graphs of temperature vs voltage, and she will just say "Gee! Sure! Whatever!" ...

:~)

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## HP Forum Archive 17

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### HP-91, HP-97 Printer Service - common issues

Message #1 Posted by [Dan W](#) on 8 June 2007, 1:37 p.m.

Hi all,

For you collectors of the HP-91 or 97, I would like to correspond with people who have refurbished the printer - probably off-board. What common problems have you seen and how can they be fixed? What thermal paper is available now that works well?

I have one 97 with the spur gear problem and read Katie Wasserman's article on that. What other problems are common?

Cheers,

-- Dan

### Re: HP-91, HP-97 Printer Service - common issues

Message #2 Posted by [marais](#) on 9 June 2007, 7:51 a.m.,

in response to message #1 by Dan W

I've had the following problems with my various 97 printers:

- a broken plastic gear wheel, for which a metal replacement part was suggested on this forum. Good fix!
- the white rubber wheels on the transport mechanism, which become flat if the printer is not used for a long time. If they do, the printer feed mechanism occasionally advances paper less than an entire line. I think this the most common problem, and I have not found a fix for this issue
- a broken printer head flex cable - one fellow in this forum successfully soldered it, but my attempt to do so failed. I will give it another try one day
- uneven printing. On one printer, cleaning the head arranged things, on another one, the problem remains.
- too light printing. There is one article on the forum explaining how to adjust print density by replacing a resistor, but I found that the most likely cause is just old thermal paper.

Anything I forgot?

Andreas

Edited: 9 June 2007, 7:52 a.m.

**Re: HP-91, HP-97 Printer Service - common issues**

Message #3 Posted by [Katie Wasserman](#) on 9 June 2007, 10:52 a.m.,  
in response to message #2 by marais

Good list! I'll just add one problem:

The tiny plastic rails that hold the clear plastic print window in place are sometimes broken and that the print window is often missing when you find an old calculator (potentially because of the broken rails).

-Katie

**Re: HP-91, HP-97 Printer Service - common issues**

Message #4 Posted by [marais](#) on 10 June 2007, 8:07 a.m.,  
in response to message #3 by Katie Wasserman

So we made the list of known problems - but what about the fixes?

**Re: HP-91, HP-97 Printer Service - common issues**

Message #5 Posted by [Dan W](#) on 10 June 2007, 2:57 p.m.,  
in response to message #4 by marais

There are some recommended fixes in this list. What we're missing is a detailed take-down guide like we have for the gummy wheel.

As I fix mine I'll log some notes and take pictures. Perhaps later I'll submit such a guide to the Museum library.

-- Dan

**Re: HP-91, HP-97 Printer Service - common issues**

Message #6 Posted by [Etienne Victoria](#) on 11 June 2007, 4:20 p.m.,  
in response to message #5 by Dan W

For the iddler gear, I've put a few pictures and a procedure [on my site](#).

When the quality of the procedure will be acceptable enough, I'll try to put it as an article on the Museum.

Cheers.

Etienne

**Re: HP-91, HP-97 Printer Service - common issues**

Message #7 Posted by [Etienne Victoria](#) on 9 June 2007, 12:59 p.m.,  
in response to message #1 by Dan W

Hi!

The reed switch that commands the print head moves sometimes fails or breaks.

It can be replaced but final adjustment is quite difficult.

Cheers.

Etienne

**Re: HP-91, HP-97 Printer Service - common issues**

*Message #8 Posted by [Dan W](#) on 10 June 2007, 1:09 a.m.,  
in response to message #1 by Dan W*

Thanks for your comments! I have two 97's with printers to repair. One makes a whining noise whenever I turn on the calculator. One has the broken spur gear. I've ordered the spur gear replacement from PIC Designs per Katie's article. But they're rather slow on shipping - that was 2 weeks ago.

Does anyone know where to get replacement thermal paper? Especially with blue printing?

Regards,

-- Dan

**Re: HP-91, HP-97 Printer Service - common issues**

*Message #9 Posted by [Katie Wasserman](#) on 10 June 2007, 1:41 a.m.,  
in response to message #8 by Dan W*

Blue printing paper might be hard to find, but black printing paper is easy. I use NCR's 2 1/4" x 85', you can buy this on ebay for next to nothing: [\(24\) THERMAL PAPER CREDIT CARD ROLLS 2 1/4" X 85 FEET](#)

-Katie

*Edited: 10 June 2007, 1:43 a.m.*

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## HP Forum Archive 17

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### stop moving the keys

Message #1 Posted by [Sam Levy](#) on 8 June 2007, 12:44 p.m.

I do dislike the strange keys on the 33S, I don't mind the smaller ENTER key. I am distressed by the 33S not having a dedicated STO key. What I think we would appreciate is not having a new key arrangement in every new model to come out. It is akin to every new computer having a new keyboard arrangement. I use the 32II and 33S at different locations and it takes a readjustment each time. I think loyalty should be rewarded by a commonality in key location. The power to make decisions is ever far from the problem. Every executive a Michelangelo. Sam

### Re: stop moving the keys

Message #2 Posted by [Patrick R](#) on 8 June 2007, 1:09 p.m.,  
in response to message #1 by Sam Levy

A good idea !

Some of the proposed key-rearrangements seem justified, but let's wait for an official release to start the flames.

The HP35s hasn't officially been announced and people already discuss the 35si, 35sii, the 35sx, 35sxi and the 35smcx. Just let's be patient and don't forget, the HP42s almost has it all!

### Re: stop moving the keys

Message #3 Posted by [Walter B](#) on 8 June 2007, 1:41 p.m.,  
in response to message #2 by Patrick R

Quote:

\_\_\_\_\_

don't forget, the HP42s almost has it all!

\_\_\_\_\_

...all except state-of-the-art display and I/O. Else, the interest in unreleased RPN models won't be so high IMO (though some design work is pure fun). So, you are right: **almost**.

Edited: 8 June 2007, 1:43 p.m.

### Re: stop moving the keys

Message #4 Posted by [Howard Owen](#) on 8 June 2007, 1:52 p.m.,  
in response to message #3 by Walter B

Quote:

\_\_\_\_\_

...all except state-of-the-art display and I/O..

\_\_\_\_\_

And a fast processor, and lots of memory and ..

Like I said at last year's HHC. I don't want HP to bring back the 42S, I want them to come out with what a top of the line RPN calculator would have been today, if the 42S had represented the direction HP took instead of the 28C and RPL.

More impossible dreams. 8)

Regards,  
Howard

### **Re: stop moving the keys**

*Message #5 Posted by [Howard Owen](#) on 8 June 2007, 2:01 p.m.,  
in response to message #1 by Sam Levy*

I think that you have good idea there. But perhaps it shouldn't be strictly applied. There's a tension between stability and innovation. If you are going to add features, where do you put them if the keyboard is static? But a basic set of arithmetic and scientific functions, the numeric keys, enter, roll down, last x, x<>y and perhaps a few others could be standardized to the great benefit of loyal users.

Regards,  
Howard

---

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## HP Forum Archive 17

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### My thinkings about HP35s keyboard layout and main capabilities

Message #1 Posted by *Patrice* on 8 June 2007, 12:37 p.m.

this is my idea of the way to make the HP35s as a scientific calculator for general purpose and worldwide use.

Diferences with 4x series: (so they don't compete)

- no graphics.
- no I/O but a way to print with IR. no memory card, no saving or loading of programs.
- limited kind of value handled: numeric, complex, matrix, alpha, binary.
- no units attached to values.
- no RPL programming, mainly 41C RPN programming.
- short list of functions: the user manual is not a dictionary of thousand of functions, quick/little learning.

Characteristics:

keyboard usage: like on the HP41C

- short key press : execute the key.
- medium key press: display function name and execute.
- long key press: : display function name, display NULL and do nothing.

Keyboard labelling consistancy:

- unshifted function labelled on main part of the key.
- yellow shifted function over the top of the key.
- blue shifted function on sloped par of the key.
- alpha mode on bottom/right of the key (including space).

Keybord organisation: to respect as much as possible

- as many as possible usefull (in everyday usage) functions on unshifted keys.
- complementary or associated function is shifted on same key when possible
- programming functions on shifted key.

Clock/SW

- Same as the Time module for the HP41C.
- Having a clock with multi-alarms is cool.
- Stopwatch permit to record fast laps (with a single key press) to registers and do analys after.

User mode: since it is general purpose, the user mode is a way to meet everyone's need (by assinging functions and programs to keys).

Letters on evrey key of first row:

- In a program, it permit to map local Lbl to keys

My fisrt keyboard layout: to be completed and improved

O is Over, F is Flat, S is sloped, A is alpha

Row1

|   |       |     |      |        |       |     |
|---|-------|-----|------|--------|-------|-----|
| O | X^2   | LN  | log  | XsqrtY | L.R.  | E-  |
| F | sqrtX | e^X | 10^X | Y^X    | 1/X   | E+  |
| S | !     | nCr | nPr  | S,o    | mX,mY | ClE |
| A | A     | B   | C    | D      | E     | F   |

Row2

|      |        |       |         |       |        |         |
|------|--------|-------|---------|-------|--------|---------|
| O    | asin   | acos  | atan    | Pi    | R up   | %Chg    |
| F    | sin    | cos   | tan     | i     | /\     | %       |
| S    | Alg    | RPN   |         | Rho   | Const  | Time/SW |
| A    | G      | H     | I       | J     |        |         |
| Row3 |        |       |         |       |        |         |
| O    |        |       | FN=     | Logic | R down | Matrix  |
| F    | Sto    | Rcl   | =       | <     | \/\    | >       |
| S    | Solve  | Intg  | Mode    | Flag  | Mem    | Display |
| A    | StoA   | RclA  |         |       |        |         |
| Row4 |        |       |         |       |        |         |
| O    | Alpha  |       | Xswap   | Abs   | ()     | ClX     |
| F    | Enter  |       | XswapY  | +/-   | EEX    | <-      |
| S    | user   |       | Mod     | Rnd   | [ ]    | Undo    |
| A    | K      |       | L       | M     | N      | ClA     |
| Row5 |        |       |         |       |        |         |
| O    | Asn    | IP    | Cpx>X,Y | D>Rad | P>R    |         |
| F    | XEQ    | 7     | 8       | 9     | /      |         |
| S    | Gto    | FP    | X,Y>Cpx | Rad>D | R>P    |         |
| A    |        | O     | P       | Q     | R      |         |
| Row6 |        |       |         |       |        |         |
| O    |        |       | View    | Lbl   |        |         |
| F    | Yellow | 4     | 5       | 6     | *      |         |
| S    | Shift  |       | Pse     | Rtn   |        |         |
| A    |        | S     | T       | U     | V      |         |
| Row7 |        |       |         |       |        |         |
| O    |        | Fix   | ISG     | X?Y   | H.MS-  |         |
| F    | Blue   | 1     | 2       | 3     | -      |         |
| S    | Shift  | Eng   | DSE     | X?0   | >H.MS  |         |
| A    |        | W     | X       | Y     | Z      |         |
| Row8 |        |       |         |       |        |         |
| O    | off    | Sci   | /c      | prgm  | H.MS+  |         |
| F    | on     | 0     | .       | R/S   | +      |         |
| S    |        | ./    | Ab/C    | stop  | >HR    |         |
| A    |        | space | ,       | '     | "      |         |

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## HP Forum Archive 17

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**HP 35 S with coloured Keys**

Message #1 Posted by [Doctor Bubu](#) on 8 June 2007, 10:50 a.m.

What do you think about my changes? They are not so good as Walters (n wich it based) but i hope some will enjoy it.

<http://www.doktor-bubu.de/Bilder/HP35SJR.jpg>

**Re: HP 35 S with coloured Keys**

Message #2 Posted by [Bob](#) on 8 June 2007, 11:39 a.m.,  
in response to message #1 by Doctor Bubu

I really like the white keys. Although you will have to change the intensity of the yellow and blue to show up well, I think it adds a bit to the "classic" or "anniversary" theme.

**Re: HP 35 S with coloured Keys**

Message #3 Posted by [Howard Owen](#) on 8 June 2007, 12:08 p.m.,  
in response to message #1 by Doctor Bubu

I think the blue actually shows up fine, but the yellow contrast with white is awful.

Overall, I like the contrast of the numeric keys. It's a lot like an adding machine, though, which might annoy a purist.

Regards,  
Howard

**Re: HP 35 S with coloured Keys**

Message #4 Posted by [Bob](#) on 8 June 2007, 1:04 p.m.,  
in response to message #3 by Howard Owen

I wonder how a white "Enter" key would look?

**Re: HP 35 S with coloured Keys**

Message #5 Posted by [Walter B](#) on 8 June 2007, 1:51 p.m.,  
in response to message #4 by Bob

White :-))

**Re: HP 35 S with coloured Keys**

Message #6 Posted by [Howard Owen](#) on 8 June 2007, 2:04 p.m.,  
in response to message #5 by Walter B

At least at first.

### **Re: HP 35 S with coloured Keys**

*Message #7 Posted by **Howard Owen** on 8 June 2007, 12:10 p.m.,  
in response to message #1 by Doctor Bubu*

So the easy solution to the yellow contrast problem is to move these labels off the keys and down on to the keyboard itself.

Regards,  
Howard

### **Re: HP 35 S with coloured Keys**

*Message #8 Posted by **Walter B** on 9 June 2007, 3:54 p.m.,  
in response to message #1 by Doctor Bubu*

Hallo Jürgen, sieht gut aus! Wirft aber m.E. mehr Probleme auf (Farben, Logik der Labelanordnung) als es an Nutzen bringt. Außerdem erinnert es mich mehr an aktuelle TI- als an HP-Rechner. Summe: optisch sehr nett, aber ich würde es so nicht übernehmen.

*(Looks nice! Causes more problems (colors, labelling consistency), however, than benefits IMHO. BTW, it reminds me of the color schemes of recent TI calcs more than of HP. Summary: very nice looking, but I won't adopt it.)*

### **Re: HP 35 S with coloured Keys**

*Message #9 Posted by **Donald** on 9 June 2007, 4:21 p.m.,  
in response to message #1 by Doctor Bubu*

I found abandoned in a drawer at work, an old HP 29c. It's once white keys are grey, grubby and tarnished.

So I would vote against this idea.

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## HP Forum Archive 17

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### Timer with splits

Message #1 Posted by [Sam Levy](#) on 8 June 2007, 10:11 a.m.

I Googled timer with splits and found this from the dark side; <http://splits.brokenski.com/> I found the concept of multiple splits useful for timing machine responses, like the timing of elevator operations. It would be useful for any time and motion study. Sam

### Re: Timer with splits

Message #2 Posted by [Karl Schneider](#) on 9 June 2007, 3:12 p.m.,  
in response to message #1 by Sam Levy

Hi, Sam --

Quote:

I Googled timer with splits and found this from the dark side; <http://splits.brokenski.com/> ... It would be useful for any time and motion study.

The TI-89 program found at the link seems to be a good, practical application. I should note that a similar timing capability was provided within our "bright side" long ago -- namely, the HP-41 Time Module, which was incorporated into the HP-41CX. Of course, the output of a similar skiing application program wouldn't look as nice on an HP-41, with its one-line 14-segment LCD.

-- KS

*Edited: 9 June 2007, 3:14 p.m.*

### Re: Timer with splits

Message #3 Posted by [Maximilian Hohmann](#) on 9 June 2007, 3:42 p.m.,  
in response to message #2 by Karl Schneider

Hello!

Quote:

Of course, the output of a similar skiing application program wouldn't look as nice on an HP-41, with its one-line 14-segment LCD.

I think, it won't even look nice on the Ti-89, because at typical skiing temperatures, the display will show just uniform grey ;-)

Greetings, Max

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## HP Forum Archive 17

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### **Mercy!! who will send me the PDF about the comming 35S?**

Message #1 Posted by [Doctor Bubu](#) on 8 June 2007, 1:35 a.m.

Please,Please etc.etc.

mail@diewilde13.de

Thanks Juergen

### **Re: Mercy!! who will send me the PDF about the comming 35S?**

Message #2 Posted by [Maximilian Hohmann](#) on 8 June 2007, 2:24 a.m.,  
in response to message #1 by Doctor Bubu

Hello!

You should have gotten it by now :-)

Greetins, max

### **Re: Mercy!! who will send me the PDF about the comming 35S?**

Message #3 Posted by [Tom \(UK\)](#) on 8 June 2007, 3:34 a.m.,  
in response to message #1 by Doctor Bubu

Try:

<http://www.hpcc.org/calculators/35s.pdf>

### **Re: Mercy!! who will send me the PDF about the comming 35S?**

Message #4 Posted by [Namir](#) on 8 June 2007, 11:16 a.m.,  
in response to message #3 by Tom (UK)

Link no longer works!!!!!!

### **Thanks for all who send me the PDF. Thankyou very much!**

Message #5 Posted by [Doctor Bubu](#) on 8 June 2007, 5:26 a.m.,  
in response to message #1 by Doctor Bubu

:-))))

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## HP Forum Archive 17

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**Yet another HP35S question**

Message #1 Posted by [Jim Creybohm](#) on 7 June 2007, 2:12 p.m.

I almost hate to ask this question seeing as how the poor HP35S has already been autopsied even before birth, but does anyone know if it has a clock/stopwatch? I found this to be the greatest help in my day job, and would dearly love for it to be included.

I also suspect that the 35S picture that has been released is different that what we will see in the end. As a result, I am not sure that spending a lot of time re-designing different functions is an exercise of anything more than fancy. I mean, HP would be giving the competition a lot of information if they released this calculator's sales material first and the calculator six months later. Even the pictures of it with the baby (cute baby, BTW) don't clearly show the keys.

Just a thought.

**Re: Yet another HP35S question**

Message #2 Posted by [Dave Johnson](#) on 7 June 2007, 2:21 p.m.,  
in response to message #1 by Jim Creybohm

I do not believe the 35s will have many more capabilities than the 33s (maybe more storage registers and if they are nice more program labels). There is debate about matrix ability. I doubt very much there will be a stop watch. I am not aware of too many calculators with stop watches (of course the old 55 and 45 many moons ago) and the 33s does not have that capability.

*Edited: 7 June 2007, 2:22 p.m.*

**Re: Yet another HP35S question**

Message #3 Posted by [ECL](#) on 7 June 2007, 2:51 p.m.,  
in response to message #2 by Dave Johnson

Possibly you could write a program that performs an operation and loops until you break it.

Then, calibrate how long it takes for each loop by averaging over a measurable time interval using a regular stopwatch. Have it track the number of iterations (a counter), and simply multiply the counter by a time conversion constant as the final operation?

Just an idea for a workaround.

ECL

**Re: Yet another HP35S question**

Message #4 Posted by [Bob](#) on 7 June 2007, 3:15 p.m.,  
in response to message #3 by ECL

...or you could get a digital stopwatch for a few bucks and use that instead. A good one is pretty cheap nowadays. I bought one at a sporting goods store for about \$15 over 10 years ago and it still works great. We got one in a McDonalds Happy Meal a few weeks ago for free and it has all the same features of the 10 year old stopwatch. (...and has a magnifying lens on the front to make it easier to read.)

I also use a Sunbeam kitchen timer that I got for \$4 from Walmart a couple of months ago. It measures in seconds, counts up, or counts down (in minutes only, up to 20 hours) It also gives count-down beeps at 10 and 5 minutes before sounding the alarm at 0. Depending on how fine your measurement needs are, it could work.

Besides, will the calc will let you use it for it's intended purpose while the clock is running?

### Re: Yet another HP35S question

Message #5 Posted by [bill platt](#) on 7 June 2007, 4:08 p.m.,  
in response to message #2 by Dave Johnson

The 48g family has clocks and stopwatch The 17bii, 27s, 41c has a clock even one of the classics or woodstocks had a clock--and I think you could hack a clock function in the 45?

### Re: Yet another HP35S question

Message #6 Posted by [Walter B](#) on 7 June 2007, 4:14 p.m.,  
in response to message #5 by bill platt

Quote:

\_\_\_\_\_

I think you could hack a clock function in the 45?

\_\_\_\_\_

Please find the answer in this very museum :-)

### Re: Yet another HP35S question

Message #7 Posted by [Fred Lusk](#) on 7 June 2007, 9:18 p.m.,  
in response to message #5 by bill platt

The HP-55 had a quartz crystal controlled stopwatch. That and the better statistics is why I bought it over the newer HP-25 (the 25c hadn't come out yet). My dad had a 45, and the local HP rep showed him how to access the faux stopwatch with a three finger salute.

The stopwatch in HP-55 was very useful in college physics for timing experiments. Also, one time in surveying we had to find our latitude/longitude by doing sun shots with a transit. The stopwatch allowed me to synchronize with the time signal from WWV (from a shortwave radio), walk it over to the transit, and work for a long period with very accurate times to record with our angles. Our group was the only one within thirty miles of the correct location, and we were less than half a mile off (mostly in the E-W direction; our N-S was almost dead on).

Oh, it was also uesful for measuring the hang time of punts during football games I was watching instead of doing my homework.

Fred

### Re: Yet another HP35S question

*Message #8 Posted by **GE** on 8 June 2007, 3:56 a.m.,  
in response to message #5 by bill platt*

The 28C/S has an hidden clock feature. It runs in the background and doesn't interfere with calculations, as it should. May I add that I love the 28's form factor (many many keys...). In other brands, I recall only the TI65 with a whole second resolution clock capable of running in the background.  
The best clock and timing integration IMHO remains the HP41 Time Module.

### **Re: Yet another HP35S question**

*Message #9 Posted by **Steve Borowsky** on 8 June 2007, 5:16 a.m.,  
in response to message #8 by GE*

Quote:

\_\_\_\_\_

The 28C/S has an hidden clock feature. It runs in the background and doesn't interfere with calculations, as it should.

\_\_\_\_\_

Why do you think it should interfere with calculations?

haha, just kidding!

### **Re: Yet another HP35S question**

*Message #10 Posted by **Les Wright** on 8 June 2007, 11:06 a.m.,  
in response to message #2 by Dave Johnson*

Quote:

\_\_\_\_\_

I do not believe the 35s will have many more capabilities than the 33s (maybe more storage registers and if they are nice more program labels).

\_\_\_\_\_

Jeepers, I hope there are more labels! With all of those registers, being restricted to 26 measly labels is like being in a candy store with all of the goodies inaccessible, under lock and key, expect for a few choice morsels at a time.

Quote:

\_\_\_\_\_

There is debate about matrix ability.

\_\_\_\_\_

I have an abundance of optimism that the the mysterious (i) and (j) key labels may actually refer to matrix element addresses under certain conditions. Even if there is no intrinsic matrix abilities, if there are adequate registers and labels it should be feasible for a geeky sort with too much spare time to port, say, the MATRIX routine from the HP41 Math Pac module to the 35S paradigm. This could be challenging if i and j are the only indirection registers available--remember on the 41 any of the 319 registers can be used for indirect addressing. But if it worked, it should be pretty fast--cut up the 33S if you will, but there is no doubt that it is somewhat faster than the 42S and much faster than the 41 or 15C, and the 35S should inherit this speed. Of course, only the most determined sorts will want to enter the 500+ steps into the 35S, but it should be a labour of love for the truly nerdy.

For the busy and practically minded, I expect computer software will just have to do for matrix work, or the 15C, 42S, or one from the 48 or 49 series for those who have them. But I do think the 35S will prove



excellent for routines that iterate over a series of computations to convergence and produce a single result, as in the computation of special functions. My 33S is loaded with routines I have written (or borrowed and adapted) for the incomplete gamma functions, which in turn can be called to compute the error functions, the cumulative normal distribution, and the chi-square distribution. They are really zippy and I look forward to transferring them to the 35S.

Les

*Edited: 8 June 2007, 11:07 a.m.*

### Re: Yet another HP35S question

Message #11 Posted by [DaveJ](#) on 7 June 2007, 8:11 p.m.,  
in response to message #1 by Jim Creybohm

Quote:

\_\_\_\_\_

I almost hate to ask this question seeing as how the poor HP35S has already been autopsied even before birth, but does anyone know if it has a clock/stopwatch? I found this to be the greatest help in my day job, and would dearly love for it to be included.

\_\_\_\_\_

Isn't that what a watch is for?

Dave.

### Re: Yet another HP35S question

Message #12 Posted by [Chan Tran](#) on 7 June 2007, 8:31 p.m.,  
in response to message #11 by DaveJ

The reason for having a clock in a programable calculator isn't so much for checking the time but is very useful to do calculations based on current time without having to enter the time and also it can be programmed to run program based on time.

### Clock/stopwatch? [HP35S question]

Message #13 Posted by [Karl Schneider](#) on 8 June 2007, 12:46 a.m.,  
in response to message #1 by Jim Creybohm

Hi, Jim --

Quote:

\_\_\_\_\_

... does anyone know if (*the Hp-35s will have*) a clock/stopwatch?

\_\_\_\_\_

As others have pointed out, the Pioneer-series HP-17B/BII and HP-27S, as well as the HP-48/49/50 models, have a clock. The HP-41 Time Module (built into the HP-41CX) has both a clock and stopwatch functions.

However, the Pioneers include this feature for business and financial purposes (alarms and calendar functions), the HP-41 can be a controller of peripherals, and the others are top-of-the-line RPL models. The HP-35s will not have these functions and attributes that would justify clock and stopwatch functions.

A potential problem is the thin CR-2032 "coin" cells that the HP-35s will likely use. They don't hold much charge, and would not last if employed to drive a clock.

As for stopwatch functions on wristwatches, that's not a given. It seems that the main choices in stores are convoluted multifunction digital "sport" watches or analog dress watches that offer little except HMS and a mechanical date display. That's why I still wear a 26-year-old Seiko model with a versatile digital display (including time, alarm, day/date, and stopwatch) above an analog HMS display.

-- KS

### **Re: Clock/stopwatch? [HP35S question]**

*Message #14 Posted by [Donald](#) on 8 June 2007, 2:49 a.m.,  
in response to message #13 by Karl Schneider*

Quote:

\_\_\_\_\_

A potential problem is the thin CR-2032 "coin" cells that the HP-35s will likely use. They don't hold much charge, and would not last if employed to drive a clock.

\_\_\_\_\_

The watch our wrists seems to manage for a year using one such battery. A real time clock module is not going to draw a significant current : something in the 500nA region.

Not including one is a feature/cost/product-positioning choice alone.

### **Re: Clock/stopwatch? [HP35S question]**

*Message #15 Posted by [Maximilian Hohmann](#) on 8 June 2007, 2:49 a.m.,  
in response to message #13 by Karl Schneider*

Hello Karl,

Quote:

\_\_\_\_\_

A potential problem is the thin CR-2032 "coin" cells that the HP-35s will likely use. They don't hold much charge, and would not last if employed to drive a clock.

\_\_\_\_\_

I don't think so: In my small collection, I have several calculator/clock/worldtime/alarm-gadgets that run on a single CR2032 cell for years with the clock display always on!

Quote:

\_\_\_\_\_

As for stopwatch functions on wristwatches, that's not a given. It seems that the main choices in stores are convoluted multifunction digital "sport" watches or analog dress watches that offer little except HMS and a mechanical date display.

\_\_\_\_\_

That seems to be one of the strange differences between the US and Europe: Here, you have a very wide variety of analogue watches with stopwatch function, with prices varying from very cheap quartz watches (like some "Swatch-Chrono"s <http://www.swatch.com/>) to quite expensive mechanical ones (e.g. <http://www.fortis-watch.com> <http://www.breitling.ch/en/> both brands are very popular amongst aviators). I myself don't like to wear a watch (nor any other kind of metal stuff on my body) but still I have accumulated several such watches over the years ("as a pilot, he certainly needs a pilots watch...").

Greetings, Max

## Re: Clock/stopwatch? [HP35S question]

Message #16 Posted by **Frank Rottgardt** on 8 June 2007, 3:49 a.m.,  
in response to message #15 by Maximilian Hohmann

Quote:

\_\_\_\_\_  
(nor any other kind of metal stuff on my body)  
\_\_\_\_\_

...except for a RPN calculator in your shirt pocket - will say close to your heart :-)

## Re: Clock/stopwatch? [HP35S question]

Message #17 Posted by **Karl Schneider** on 9 June 2007, 7:31 a.m.,  
in response to message #15 by Maximilian Hohmann

I stated:

Quote:

\_\_\_\_\_  
*A potential problem is the thin CR-2032 "coin" cells that the HP-35s will likely use. They don't hold much charge, and would not last if employed to drive a clock.*  
\_\_\_\_\_

Max stated:

Quote:

\_\_\_\_\_  
I don't think so: In my small collection, I have several calculator/clock/worldtime/alarm-gadgets that run on a single CR2032 cell for years with the clock display always on!  
\_\_\_\_\_

Donald stated:

Quote:

\_\_\_\_\_  
The watch our wrists seems to manage for a year using one such battery. A real time clock module is not going to draw a significant current : something in the 500nA region.  
\_\_\_\_\_

What you both say about the current consumption seems reasonable. I, too, have a wristwatch whose single CR2032 cell lasted for a few years, even with the display always on.

However, I and others got very short life from the original twin CR2032 cells in the HP-33S, despite sparing use. I've also noted substantially shorter battery life of the three 13/44/76/357 "button" cells in my Pioneer-series models with running clocks, also used very sparingly. (I now store them in "coma" mode by turning them off with the keys in the upper and lower right-hand corners pressed.)

I haven't researched any tech specs for disposable batteries (and these are generally not given on the package), but I'd surmise that the shape of the CR2032 precludes it from storing very much energy. The cell doesn't bend easily, so the outer shell must be proportionally thick. The overall thinness of the cell is its main attribute, especially for slim wristwatches and the like. I just doubt that it's well-suited for a calculator with significant power demands.

-- KS

**Re: Clock/stopwatch? [HP35S question]**

Message #18 Posted by [Dave Shaffer](#) on 9 June 2007, 6:26 p.m.,  
in response to message #17 by Karl Schneider

Our always-on wristwatches run on highly task-specific low power CMOS logic, running at pretty low clock rates (I think most watches count down from a 32768 Hz crystal). Our newer calcs run a lot faster (I suspect even in whatever clock mode they might have) and the power consumption of CMOS (and other logic) depends on the clock rate.

**Re: Clock/stopwatch? [HP35S question]**

Message #19 Posted by [Donald](#) on 9 June 2007, 6:56 p.m.,  
in response to message #18 by Dave Shaffer

Quote:

\_\_\_\_\_  
(I think most watches count down from a 32768 Hz crystal). ... power consumption of CMOS (and other logic) depends on the clock rate.  
\_\_\_\_\_

Spot on: that's why many embedded processors have dedicated real time clock hardware ( either internal or external ) running of a 32KHz crystal, with the processor core running at a different rate. The main processor can power down or sleep while the real time clock hardware still ticks over.

**Re: Clock/stopwatch? [HP35S question]**

Message #20 Posted by [DaveJ](#) on 9 June 2007, 7:13 p.m.,  
in response to message #19 by Donald

Quote:

\_\_\_\_\_  
Spot on: that's why many embedded processors have dedicated real time clock hardware ( either internal or external ) running of a 32KHz crystal, with the processor core running at a different rate. The main processor can power down or sleep while the real time clock hardware still ticks over.  
\_\_\_\_\_

Correct.

Lithium coin cells actually have very high energy density for their size and weight, typical capacity of a 2032 cell is 235mAh @ 3V

Low power ASICs like that used in purpose designed watches can last for the shelf life of the battery. A new range of Casio watches claim 10 years battery life.

It is possible to add a Real Time Clock chip to any microcontroller (if it doesn't have one internally) that will last for many years. So it would have been easy to add such functionality to the 33S, but they chose not to for some reason (cost, perceived need etc).

My new calculator has dynamic processing speed, speeding up when it needs to, and slowing down when it's not doing much like waiting for user input.

Dave.

### **Re: Yet another HP35S question**

*Message #21 Posted by [Jim Creybohm](#) on 8 June 2007, 12:01 p.m.,  
in response to message #1 by Jim Creybohm*

Thanks to all who responded. As some correctly identified, my purpose in wanting a stopwatch/clock built in to the calculator is that it makes for a nice addition to the laboratory. I can write a program that also initiates the stopwatch, and takes the splits, etc., and uses them as input variables for the same program. I am using my beloved 41 for this now, but I am concerned the day it dies of age.

Sadly, it does not look like the 35 will have that capability. Oh well, perhaps I can write a routine to work off the ticks of the crystal.

It is almost like anticipating Christmas.

### **Re: Yet another HP35S question**

*Message #22 Posted by [bill platt](#) on 8 June 2007, 12:31 p.m.,  
in response to message #21 by Jim Creybohm*

There is really a pretty simple solution to the problem of the 41c getting old:

Replace in with a 50G.

I believe that Hrastprogrammer has even written his HP41C emulator for the 50G.

Or you can use the 50G (or 48GII) and write RPL code for it. It has the clock and I/O built-in.

### **Re: Yet another HP35S question**

*Message #23 Posted by [Don Williams](#) on 8 June 2007, 1:47 p.m.,  
in response to message #22 by bill platt*

I found that becoming proficient with any of the HP RPL calcs from the 48 series on, will provide you an activity that will last till the end of your life. Those of us who are overly fond of the 41 series calcs are usually just looking for simple practical solutions for the problem at hand. Call me lazy. I don't want to study a manual for longer than 10 minutes to solve a problem.

### **Re: Yet another HP35S question**

*Message #24 Posted by [Walter B](#) on 8 June 2007, 2:10 p.m.,  
in response to message #23 by Don Williams*

Fully agreed! For this purpose, RPN is superior to RPL. The latter is better for real geeks, but also I won't reach this level anymore :-)

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## HP Forum Archive 17

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### HP-42S I/O

Message #1 Posted by [Gerry Schultz](#) on 7 June 2007, 1:33 p.m.

Okay, I just got my 42 and it works great. Now, I have some questions. I've read previous discussions here about the 42 and limited I/O but what's the deal? After looking at memory management in chapter B, it looks like the maximum available memory in the 42 is about 6977 bytes, about the same as a 41CV or CX. With my 41, I had magnetic data cards, tape drives and even 3 1/2 disk drives for mass storage. There's no way to load or store 42s programs!?

I find this unbelievable. Part of the success of the 41 line was its great selection of peripherals. I don't get it; what happened? This must be a doozy of a story given the 42 was suppose to be the replacement for the 41. I would think that HP would have wanted 41's peripherals to work with a 42. Oh, don't tell me, to save money. Boy, I hope not.

I do have an HP 82240B printer that I bought for my 48GX and it should work fine with the 42 but I'll have to test it. The 42 is a fascinating machine in that it seems to bridge the gap between how the classic HP calculators and the newer RPL calculators are designed. Even with the I/O limitations, I'm interested in using this machine.

As I mentioned in a previous post, I got an HP-97 and I just finished reading the owner's manual. Yes, I do read the manual. My boss thinks I'm nutty and he prefers the "poke around until it works or breaks" method.

Anyway, as an old PPC member, I have all the back copies of the PPC manual on paper and since the PPC was originally founded on the 65 and 67/97 calculators, its pages should be full of programs for me to try on the 97. Do any of you have a favorite to share from the old PPC? This is where I learned about NNNs. Thanks, Valentin Albillo for your warning.

Since I lost contact with the PPC or the HPPC after the 41, did these user groups ever publish 42 programs? If they did, where can I get copies of these issues? Are they on CDs or DVDs in PDF like the files here at HP museum?

Thanks for the feedback, guys.

Gerry

### Re: HP-42S I/O

Message #2 Posted by [Dave Johnson](#) on 7 June 2007, 2:14 p.m.,  
in response to message #1 by Gerry Schultz

Your right - there is no input for the 42 and only printer output (though with some tricks I believe you can get memory dumps via IR transfer but not quick or easy...) I am sure it was hotly debated within HP whether the 42S should ever be released and it is not really a follow up for the 41 series. The debate was won by supporters of limited calculators such as the 32 series with limited memory, functionality and no menus. I'm sure it was disconcerting for true calculator supporters within HP at the time.

### Re: HP-42S I/O

Message #3 Posted by [Thomas Okken](#) on 7 June 2007, 4:27 p.m.,

*in response to message #1 by Gerry Schultz*

The HP-42S is not the successor of the HP-41. It is the successor of the HP-15C: small but powerful with a rich set of functions -- and it just happens to be designed around the HP-41 programming model. Rumor has it that the 42S was initially supposed to have bidirectional I/O, but that that was scrapped in order to prevent it competing with the HP-48 series -- and in terms of being a hand-held computer that can interface with the outside world, the 48 series is the true successor of the 41.

- Thomas

### **Re: HP-42S I/O**

*Message #4 Posted by [Ron Allen \(Fairhope\)](#) on 13 June 2007, 2:01 p.m.,  
in response to message #3 by Thomas Okken*

Sorry I had to reach you off topic, but I wanted to thank you for putting me on to the lectures by Weynman, especially v1 15. He seemed to anticipate all my questions and answer them before I could formulate them. Instincts from teaching so many freshmen. The full development of those equations are gratifying to see.

Amazon is running a special right now - I ordered my own set. The "Lectures" was certainly a great idea by those students at Cal Tech. What a teacher!

Thanks again,

Ron

### **Feynman lectures**

*Message #5 Posted by [Thomas Okken](#) on 13 June 2007, 9:37 p.m.,  
in response to message #4 by Ron Allen (Fairhope)*

Quote:

Sorry I had to reach you off topic, but I wanted to thank you for putting me on to the lectures by Weynman, especially v1 15. He seemed to anticipate all my questions and answer them before I could formulate them. Instincts from teaching so many freshmen. The full development of those equations are gratifying to see.

Amazon is running a special right now - I ordered my own set. The "Lectures" was certainly a great idea by those students at Cal Tech. What a teacher!

You're welcome!

Feynman was not just a great scientist and teacher, but also an all-around interesting person. For some really wonderful light reading I recommend "Surely you're joking, Mr. Feynman" and "What do YOU care what other people think?". The latter has fascinating first-hand accounts of his work on the Manhattan Project and the Challenger inquiry.

- Thomas

### **Re: Feynman lectures**

*Message #6 Posted by [bill platt](#) on 14 June 2007, 8:21 a.m.,  
in response to message #5 by Thomas Okken*

One of my favorite (auto)biographies.

### Re: Feynman lectures

Message #7 Posted by [Prabhu Bhooplapur](#) on 22 June 2007, 1:30 a.m.,  
in response to message #6 by bill platt

More than two decades ago, just after I had started work after my graduation, I read "Surely, You must be joking Feynmann" and was immensely fascinated by his personality and subsequently read his other works including some of his lectures. Three weeks ago I gave the book (Surely...) to my son who is pursuing his research interests in Physics related electrical engineering at an American university. I am sure he will quite appreciate it. Feynmann is a must read for people interested in science and technology.

### Re: HP-42S I/O

Message #8 Posted by [Karl Schneider](#) on 8 June 2007, 2:29 a.m.,  
in response to message #1 by Gerry Schultz

Hi, Gerry --

You stated:

Quote:

... the maximum available memory in the 42 is about 6977 bytes, about the same as a 41CV or CX. With my 41, I had magnetic data cards, tape drives and even 3 1/2 disk drives for mass storage. There's no way to load or store 42s programs!?

Part of the success of the 41 line was its great selection of peripherals. I don't get it; what happened? ... I would think that HP would have wanted 41's peripherals to work with a 42.

Thomas Okken stated:

Quote:

Rumor has it that the 42S was initially supposed to have bidirectional I/O, but that that was scrapped in order to prevent it competing with the HP-48 series.

The other "high-end" Pioneer-series models (namely, the HP-17B/BII and HP-27S) also have 7 kB of RAM, but no I/O except the IR output to printer.

I believe that the primary reasons for lack of full I/O are engineering-based physical and practical considerations. Bidirectional IR would be convenient, but those users who would exchange programs and data via I/O would certainly demand reliability and low error rate. This dictates hardwire I/O and inexpensive batteries with adequate energy storage for the demands of data transmission.

Remove the translucent red cover on a Pioneer model, and what do you see? Three 13/44/76/357 1.5V "button" cells in a row, a place for the IR transmitter (present or not), *barely* enough room (given a minor redesign) for the IR receiver, but insufficient room for a robustly-constructed 4-pin hardwire plug, such as that used on the original HP-48S/G series.

The HP-48 had three bigger and higher-capacity "AAA" batteries placed in a different location within its much larger package. The Pioneers, however, had no other place for its button cells inside its slim package. The



costly button cells -- designed for medical devices -- don't leak, but also don't hold a great deal of charge. Use of the HP 82240A/B printer will shorten battery life considerably, as will keeping the clock running on the HP-17B/BII or HP-27S.

Space could have been made available in the front by using thin "coin" cells placed side-by-side elsewhere (such as the two CR2032 cells in the HP-33S), if these were even available in the 1980's. However, the limited mAh capacity and cost per mAh would have been further exacerbated.

As for the HP-42S' lack of support for HP-41 peripherals, the obvious problem is the lack of space in the Pioneer package for the peripherals' plugs, even if a suitable adapter could be designed. Another engineering problem is power consumption, as some peripherals -- such as the card reader, wand, and HP-IL -- draw their power from the HP-41's batteries. The broader issue, however, is that PC's became available and increasingly affordable in the 1980's, enabling them to usurp the niche of peripheral control filled by the HP-41 and HP-71B.

-- KS

*Edited: 10 June 2007, 6:07 a.m.*

## Re: HP-42S I/O

Message #9 Posted by [Christoph Giesselink](#) on 10 June 2007, 5:59 p.m.,  
in response to message #1 by Gerry Schultz

Some aspects don't mention from the authors before.

Memory limitation to ~7000 bytes.

The 8KB and 32KB 8 bit static RAM chips have a quite similar pin layout. The PCB of the High-End Pioneers is prepared for the use of both chips. So it's possible to replace the RAM chip with the 32KB on all high end pioneers. 2nd part are the MMU mask fuses in the Lewis chips. These are programmed for a memory device at address #50000 with a size of 32KB on all High-End Pioneers.

But why only the HP42S can make use of this additional memory getting ~31500 bytes of free memory whereas on the HP17B or HP27S there's no difference?

The answer is very simple. Only the HP42S firmware contain code expecting more then the usual 8KB of RAM (history repeats). So we can say that HP thought about HP42S with more memory but never sold them.

Now to the limited I/O capabilities of the High-End Pioneers. Therefore we have to go back into Saturn history. The HP71B, the first calculator with the Saturn CPU, was build out of several modules, display driver, ROM, RAM, ... made the complete thing quite expensive. On the other hand we have had a powerful mobile CPU (Saturn) which was predestinated for further use. The HP18C used this CPU but now in connection with a more integrated customer chip (1LP2 Centipede) containing reset control, oscillator, RAM, display driver, timer, input/output, ... reducing the amount of necessary chips to build a calculator. But from history we can see that this was still too expensive too, because only the HP18C and HP28C used this hardware.

Now my short comment to "history repeats". The HP28C was sold with 2KB of RAM (from the two integrated Centipede chips). But Educalc sold versions with more than these 2KB of RAM. The HP28C hardware was prepared to add HP71B RAM module chips and the HP28C firmware was adding this additional found RAM to it's memory pool. I don't know if HP ever thought to sell memory upgraded HP28C by themselves, but HP added code to the firmware to exactly do this without firmware change.

The successors, the High-End Pioneers and Clamshell calculators, use the Lewis chip. In a very very simple view the Lewis chip is a combination of the Saturn CPU and the Centipede customer chip. From the I/O side

the Lewis chip inherit the I/O capabilities of the Centipede chip, nothing more, nothing less.

This is in fact a single bidirectional Input/Output pin. On the HP42S and on all other calculators with the Lewis chip this hardware pin was used to drive the IR transmitter LED.

I verified this on a HP28S (also using two Lewis chips), where I removed the IR transmitter LED and connected a simple hardware to adjust the calculator logic level to RS232C level. The interface is mostly powered by the PC RS232C interface, the power consumption out of the calculator battery is  $< 4 \mu\text{A}$ . The rest for the RS232C communication between HP28S and PC is software.

Cheers

Christoph

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## HP Forum Archive 17

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### **HHC2007 website updated with a surprise!**

Message #1 Posted by [Gene](#) on 7 June 2007, 11:54 a.m.

<http://www.holyjoe.net/hhc2007/>

Go here and click on the small image of the HP35 at the top of the page. The surprise is on the page it takes you to.

At this point, we have well over 30 registered attendees.

While you're there, consider whether you can come and register to do so. Enjoy time with fellow calculator nuts, ahem, enthusiasts and help celebrate the 35th anniversary of the HP35.

### **Re: HHC2007 website updated with a surprise!**

Message #2 Posted by [Giancarlo \(Italy\)](#) on 8 June 2007, 2:42 a.m.,  
in response to message #1 by Gene

Hi Gene.

Got the original HP35 brochure - what a nice present :-) !

At that time I was just starting my 1st year in the school....

Best regards.

Giancarlo

### **Re: HHC2007 website updated with a surprise!**

Message #3 Posted by [Jake Schwartz](#) on 11 June 2007, 12:10 p.m.,  
in response to message #1 by Gene

Quote:

<http://www.holyjoe.net/hhc2007/>

Go here and click on the small image of the HP35 at the top of the page. The surprise is on the page it takes you to.

At this point, we have well over 30 registered attendees.

While you're there, consider whether you can come and register to do so. Enjoy time with fellow calculator nuts, ahem, enthusiasts and help celebrate the 35th anniversary of the HP35.

FYI, The registration list is above 40 now.

Also, below that HP35 brochure link is a new one called "other legacy literature" where there currently are nine high-res pdf scans of "ancient" HP calculator brochures, for your enjoyment. More will be added shortly.

See you in San Diego,

Jake Schwartz

**Re: HHC2007 website updated with a surprise!**

*Message #4 Posted by **Howard Owen** on 11 June 2007, 1:02 p.m.,  
in response to message #3 by Jake Schwartz*

Those brochures are lots of fun. Are those your scans? Thanks so much for making them available!

Regards,  
Howard

**Re: HHC2007 website updated with a surprise!**

*Message #5 Posted by **Gene** on 11 June 2007, 3:29 p.m.,  
in response to message #4 by Howard Owen*

The scans (and brochures) are mine. More scans will be posted in a few days / week.

I've kept those for quite some time. :-)

**Re: HHC2007 website updated with a surprise!**

*Message #6 Posted by **Jake Schwartz** on 12 June 2007, 8:56 a.m.,  
in response to message #5 by Gene*

Quote:

\_\_\_\_\_

The scans (and brochures) are mine. More scans will be posted in a few days / week.

I've kept those for quite some time. :-)

\_\_\_\_\_

The page now has twenty brochures, with more coming...should bring a smile to your face.

Jake Schwartz

**Re: HHC2007 website updated with a surprise!**

*Message #7 Posted by **Walter B** on 12 June 2007, 9:47 a.m.,  
in response to message #6 by Jake Schwartz*

Quote:

\_\_\_\_\_

The page now has twenty brochures ... should bring a smile to your face.

\_\_\_\_\_

Oh yeah :-)))

**Re: HHC2007 website updated with a surprise!**

*Message #8 Posted by **Giancarlo (Italy)** on 12 June 2007, 11:48 a.m.,  
in response to message #6 by Jake Schwartz*

Hi Jake.

There's an Italian proverb that says : "L'appetito vien mangiando"

that in English could sound like "the more you eat, the more appetite you get"...  
Any further brochures :-) ?  
Seriously: great stuff, great gift, thanks a lot !!!  
Best regards  
Giancarlo

*Edited: 12 June 2007, 11:49 a.m.*

**Re: HHC2007 website updated with a surprise!**

Message #9 Posted by **Walter B** on 11 June 2007, 3:16 p.m.,  
in response to message #3 by Jake Schwartz

Thanks a lot for these files! I'd love to see you guys in San Diego, it's just a bit far (only 11 hours flight time :-)

**Re: 11-hour flight to HHC**

Message #10 Posted by **Paul Brogger** on 12 June 2007, 10:47 a.m.,  
in response to message #9 by Walter B

Bring along your favorite handheld programmable, and make good use of all that extra time!

*Edited: 12 June 2007, 10:48 a.m.*

**Re: 11-hour flight to HHC**

Message #11 Posted by **Walter B** on 12 June 2007, 11:54 a.m.,  
in response to message #10 by Paul Brogger

Congratulations, you killed the very root cause with your first shot! In fact, the bigger part of the problem is to get the time off and the \$\$\$ for the travelling expenses. Sorted: time off > \$\$\$ > flight time.

**Re: 11-hour flight to HHC**

Message #12 Posted by **Paul Brogger** on 13 June 2007, 12:54 p.m.,  
in response to message #11 by Walter B

Well, I suspected you could probably figure out something to do with a few idle hours.

Yes, the money & time are significant factors, aren't they? Fortunately for me, I've relatives in the area, and I'm "just up the coast" a bit.

**Re: 11-hour flight to HHC**

Message #13 Posted by **DaveJ** on 13 June 2007, 6:06 p.m.,  
in response to message #12 by Paul Brogger

If anyone wants to foot the \$1500 bill for my flight from Australia, I'll happily attend and show off my new RPN calc design.

Dave.

**Re: 11-hour flight to HHC**

*Message #14 Posted by **Walter B** on 14 June 2007, 1:15 a.m.,  
in response to message #13 by DaveJ*

Hey, Dave, there is queuing here!!

**Re: 11-hour flight to HHC**

*Message #15 Posted by **DaveJ** on 14 June 2007, 2:11 a.m.,  
in response to message #14 by Walter B*

Quote:

Hey, Dave, there is queuing here!!

Yeah, but the person with the longest flight wins right? :->

Dave.

**Re: 11-hour flight to HHC**

*Message #16 Posted by **Walter B** on 14 June 2007, 2:31 a.m.,  
in response to message #15 by DaveJ*

OK, can you pick me up? :-)

**Re: 11-hour flight to HHC**

*Message #17 Posted by **DaveJ** on 14 June 2007, 3:17 a.m.,  
in response to message #16 by Walter B*

Quote:

OK, can you pick me up? :-)

I think the only land between Sydney and mainland USA is Hawaii, which I'll gladly stop at for a pick-up. I'll take business class please!

Dave.

**Re: 11-hour flight to HHC**

*Message #18 Posted by **Walter B** on 14 June 2007, 4:12 a.m.,  
in response to message #17 by DaveJ*

Come on, Europe is worth a detour, so fly the other way round! If you won't insist on C, the money will be sufficient for 2\*Y :-)

**Re: 11-hour flight to HHC**

*Message #19 Posted by **Paul Fox** on 14 June 2007, 6:19 a.m.,  
in response to message #18 by Walter B*

Nope - definitely no reason to detour Europe, especially the UK. They might just fine you for not disposing of your spare keystrokes in a carbon friendly manner.

Move along please!

**Re: 11-hour flight to HHC**

*Message #20 Posted by **Paul Dale** on 14 June 2007, 8:35 p.m.,  
in response to message #15 by DaveJ*

Quote:

Yeah, but the person with the longest flight wins right? :->

I've got to travel further. My flight to the USA typically goes via Sydney :-)

- Pauli

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## HP Forum Archive 17

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### Complex number on HP 35s

Message #1 Posted by [Marcel Pelletier](#) on 7 June 2007, 9:41 a.m.

On the PDF data sheet we have, I remark that the HP 35s was on RPN mode whit a strange number that I think is a new way to enter a complex number on the stack.

For exemple, the number  $(5+15i)$  is enter like this:

enter 15 press "i" key enter 5 press "enter" key.

Then you have 15i5 on the stack!

So this method permit to have a whole complex number in a register.

The HP 35s can now have a new COMPLEX MODE like the HP 15c!

What do you think of that?

### Re: Complex number on HP 35s

Message #2 Posted by [Doctor Bubu](#) on 7 June 2007, 10:21 a.m.,  
in response to message #1 by Marcel Pelletier

Hallo Marcel! Would you be so kind to send me the PDF, because i missed to store it.

mail@diewilde13.de

Thank you Juergen

### Re: Complex number on HP 35s

Message #3 Posted by [Kevin](#) on 7 June 2007, 10:23 a.m.,  
in response to message #2 by Doctor Bubu

You can find a copy of the pdf here:

<http://www.hpcc.org/calculators/35s.pdf>

Best Regards,

Kevin

### Re: Complex number on HP 35s

Message #4 Posted by [Donald](#) on 7 June 2007, 1:56 p.m.,  
in response to message #1 by Marcel Pelletier

Quote:



---

So this method permit to have a whole complex number in a register. The HP 35s can now have a new COMPLEX MODE like the HP 15c!

---

I hope it's better than the 15C's:

If the HP35s stack supports data types, i.e. assuming good design based on the HP28/48/50 series, the complex numbers, bit-types, and alpha prompts etc. should all be directly storeable in memory and not just stack registers.

On the HP15C splitting and storing complex numbers into two registers is a pain, partitioning gets even worse when dealing with complex matrices.

Has the 35S's stack depth been mentioned yet ? It's unclear to me if the classic 4 deep stack is used or a deeper RPL like stack, or even a flag to switch between those 2 modes.

### **Re: Complex number on HP 35s**

*Message #5 Posted by [bill platt](#) on 7 June 2007, 2:16 p.m.,  
in response to message #4 by Donald*

I think it is quite safe to bet that:

1. There will not be an RPL kernel and no advanced "datatypes" on the stack. Perhaps they will have a complex datatype, but that will be it (for stack types). Programs have labels, also equations and equations as comments in same fashion (via flag) as the 32sii.
2. Stack depth is almost certainly 4 deep. This model, in addition to being celebration of the classic RPN of the 35, is also most likely to be compatible with the earlier kin--the 32sii and the 33s.
3. HP already has the 50g for the top of the line RPL, and the 48GII for the lower-cost RPL, and the 39G+ for the algebraic RPL. I don't see why they would make this machine RPL--it would merely reduce its sales potential to those looking for a "scientific" rather than a graphing, and it would rob sales from the RPL models.

### **Re: Complex number on HP 35s**

*Message #6 Posted by [Donald](#) on 7 June 2007, 2:38 p.m.,  
in response to message #5 by bill platt*

Quote:

---

I don't see why they would make this machine RPL

---

I didn't really want to suggest a RPL mode .. merely a dynamic depth stack option.

### **Re: Complex number on HP 35s**

*Message #7 Posted by [Karl Schneider](#) on 9 June 2007, 3:31 p.m.,  
in response to message #1 by Marcel Pelletier*

Quote:

---

The HP 35s can now have a new COMPLEX MODE like the HP 15c!

What do you think of that?

---

What do I think? I hope that the capability is better than that of the HP-15C, and also that of the HP-42S in certain ways. If it's close to what I advocated as follows, I'll be very pleased:

*"User-friendly complex numbers"* at <http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv014.cgi?read=63415#63415>

-- KS

---

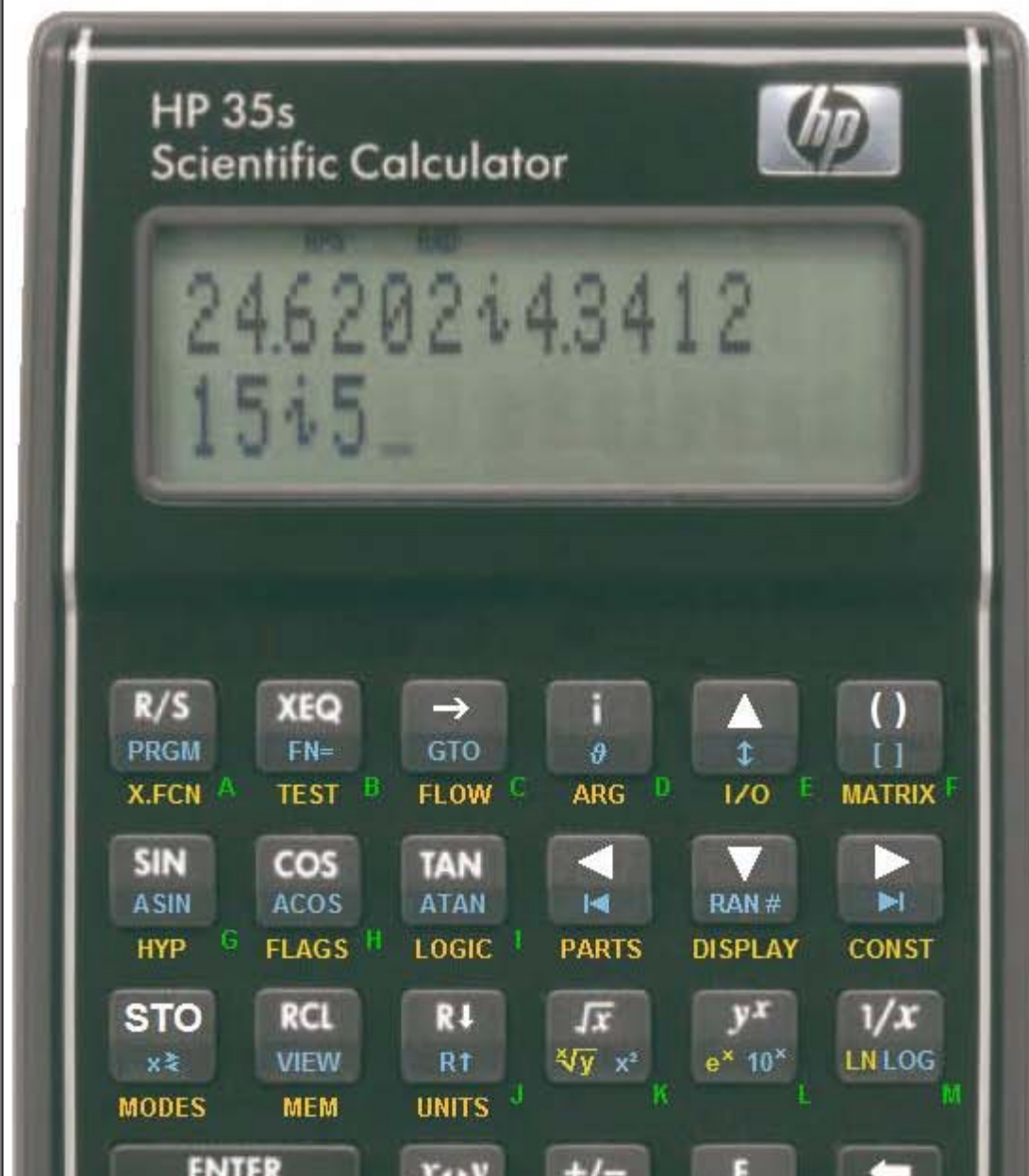
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## HP Forum Archive 17

[ [Return to Index](#) | [Top of Index](#) ]**A Serious Scientific Instrument**Message #1 Posted by [Walter B](#) on 6 June 2007, 7:54 p.m.

Thanks for your numerous reactions and comments after [my last proposal](#) (the equivalent amount of thanks goes to you). Based on these, I got many ideas to ponder: Why is there more response for some minimal cosmetic changes than for efforts to improve an instrument in total? Why does one create more excitement by changing 3 colors or (not and!) reshaping 4 keys? What kind of keyboards do people have allowing them to delete by moving a cursor to the left? How big is the fraction of melapetrophils in this honorable forum? What happened to all those members striving for the optimum? Etc.

Nevertheless, I won't give up so easily, but try again with a more "serious" and cleaner outfit:





Don't be afraid, that's it. No repelling explanations nor frightening requests for comments and the like. Just a picture. Don't bother. Everything is calm and peaceful and quiet. Good night :-)

### Re: A Serious Scientific Instrument

Message #2 Posted by [ECL](#) on 6 June 2007, 9:41 p.m.,  
in response to message #1 by Walter B

Walter,

I'll try to rise to meet your challenge :)

On your handsome keyboard, and while I haven't scrutinized it, I'd point out that your UP key is the only alpha key. This could be frustrating when modifying programs or editing equations (the 48 series has this problem).

ECL

### Re: A Serious Scientific Instrument

Message #3 Posted by [Egan Ford](#) on 6 June 2007, 10:07 p.m.,  
in response to message #2 by ECL

The 48/50 have letters on STO/RCL. I do not see an issue with that given that this new keyboard has an alpha key. That would push Z up to 3. You could add a comma. Since symbols are used infrequently consider a few on the arithmetic operators. I would also consider the darker (or lighter) bar under menus unless all CAPS is how you distinguish them.

### Re: Alpha key most unlikely

Message #4 Posted by [Paul Brogger](#) on 7 June 2007, 10:11 a.m.,

*in response to message #3 by Egan Ford*

I suppose you're consciously divorcing your speculation from reality, and with that in mind, it's a fine exercise. (I do like the overall result!)

The alpha key is, I think, the proposed feature *least* likely to be realized in a 35s. Apparently built upon the 33s, the 35s will no doubt impose very strict limitations on the nature of any alpha entry, relying upon keystroke context for automatically entering alpha mode.

Explicit manual control of alpha mode implies more of a 42s- or 48g-style alpha capability, with lengthy variable and program names, etc. Fundamentally different, and not gonna happen. (If only to insure the test-use certifications, let alone the software redevelopment and testing costs.)

But in its layout, legend placements, and color choices, your re-imagining of the 35s is *beautiful!*

H-P: there is much wisdom here, worthy of your consideration!

## **Re: A Serious Scientific Instrument**

*Message #5 Posted by **Patrice** on 6 June 2007, 10:19 p.m.,  
in response to message #1 by Walter B*

Hello,

I think this keyboard is better with the cursor keys à la HP48.

I see 2 flow in this keyboard.

First, I don't see how you swith between normal and user keyboard, my proposal is to put it on the alpha/assign key.

Second, I think that the logic/binary keys are specific to the logic/binary mode and have nothing to do there, many floating point keys are meaningless in that case. With the HP41C, this kind of problem is solved with a keyboard overlay. On the HP41C, when you enter the stopwatch mode, you have a specific keyboard and an overlay.

In binary mode, an overlay should bring us something like the key board of an HP16C with shifts, rotates, word size ...

Last thing, I know it is guessing with capabilities, but I see nothing related to time/stopwatch/alarm

Happy flaming :-) Patrice

## **Re: A Serious Scientific Instrument**

*Message #6 Posted by **Hugh Evans** on 6 June 2007, 10:26 p.m.,  
in response to message #1 by Walter B*

Walter,

Very nice work, as always. My only major suggestions are to put the alpha labels on the same level as the lower yellow labels. In addition, I think the yellow labels should ALL be placed under the keys rather than next to the blue labels occupying the same space. Not only would that improve clarity, it would also make the use of overlays feasible. It also appears that there is ample space for a set of soft keys beneath the LCD so a nice 42s style menu system could be implemented.

Keep up the good work!

-Hugh

## Re: A Serious Scientific Instrument

Message #7 Posted by **Karl Schneider** on 6 June 2007, 11:30 p.m.,  
in response to message #1 by Walter B

Hi, Walter --

Well, that's an earnest graphic effort for which you may be commended. The "goal" also seems ambitious, beyond what the HP-35s is intended to be -- perhaps more like an "HP-45s".

It looks elegant, but there's a certain amount of, er, *inconsistency* in the layout -- sometimes, the yellow legends are below the key, and sometimes they are on the sloped face. Sometimes they are in capitals, and sometimes in title case. Pi,  $x^2$ ,  $e^x$ , and  $|x|$  are barely visible -- somewhat of a carryover from HP's own graphic.

(Remember that the original concept was that the yellow legend was to be centered *above* the key and the blue legend was to be centered on the sloped lower part of the key, leaving the large main legend centered between them.)

How practical is modern I/O (hardwire or IR) on a calculator that uses low-charging-capacity 1.5V cells? The three 13/44/76/357 button cells of the Pioneer (and Voyager) lines were poorly-suited for such use in 1988; this, and limited open space on the front, is probably why bidirectional hardwire I/O was not provided on the HP-17B/27S/42S. The thin CR-2032 cells used by the HP-33S seem to be even worse in that respect.

There's a "MATRIX" legend, but have you given thought to how it should work? (I'm still pondering it.)

Is the display unit well-suited for a full ALPHA mode?

---

As for me, I'd like to learn more details about how the HP-35s will actually work, as well as experiment with one, before I make detailed suggestions about how to improve it. I guess that we'll just have to wait...

-- KS

*Edited: 6 June 2007, 11:36 p.m.*

## Re: A Serious Scientific Instrument

Message #8 Posted by **Hugh Evans** on 6 June 2007, 11:53 p.m.,  
in response to message #7 by Karl Schneider

Actually, a great idea would be to keep those gold labels above the keys and center the green alpha labels below them. One way to make overlays even more versatile would be to put the gold labels above the keys, the blue labels below the keys, and green alpha labels on the lower sloped face of the keys. I think that would be a pretty slick way of handling it.

As far as the batteries are concerned using coin-cells in a calculator that's ~0.7" thick is just plain dumb. The 33s isn't in mass production yet, so I hope they will be smart enough to use 3 or 4 AAA's to power the thing and get 10 years of battery life.

I think Walter's current layout is much closer to something along the lines of a 41sx... Although for that purpose I hope they go with a 2sx

## Re: A Serious Scientific Instrument

Message #9 Posted by **db (martinez, ca.)** on 7 June 2007, 12:32 a.m.,  
in response to message #8 by Hugh Evans

Hugh; i am guessing the batteries will be set up like the 33s. you can change one at a time and not have to risk loosing the memory like in a 32, 42, or the time/date settings on the 41. there's no reason to worry about how long the batteries last if changing them doesn't affect the memory. it will probably be a good design.

## Re: A Serious Scientific Instrument

Message #10 Posted by **Dave Shaffer** on 7 June 2007, 12:45 a.m.,  
in response to message #1 by Walter B

I don't recall this being discussed in all that's appeared about alternate keyboards:

It seems to me that it makes more sense to put log and  $10^x$  together on one key and ln and  $e^x$  on a different key, rather than having the two log functions on the same key and the two exponentiations on a different key. All (most?) other keys, where it's logical, put inverse operations together, such as rad  $\leftrightarrow$  degrees; hms  $\leftrightarrow$  h.hh; Rec  $\leftrightarrow$  Pol; sqrt  $\leftrightarrow$   $x^2$ ; etc.

My '11C, '41CX, and '48GX have logs and exponentiation the way I like them (the "old" way, let's say). My 32Sii has them the "new" way (i.e. ln and log together). Anybody know why this changed between models? Which makes more sense to you?

I'd also prefer pi as an unshifted key. As an astronomer using angles all the time, I use pi a WHOLE lot more than many other functions on the keys. Perhaps pi could be the primary function of what is now the () and [] key (makes sense to have them with MATRIX, though)

Other functions not so necessary(?): roll up (almost, but not quite, of course, the same as ENTER); complex roots (I think the way somebody else put it: take the reciprocal of the root and then do  $y^x$ ; RAN # (what do you really need this for?!); % and delta% (again, just about any user of a calculator like this can probably do % calculations faster by keying them in than he/she can remember the details of how the % key works! - see recent discussion about this matter).

Glad to see that ON is a single push. I think it was (yellow?) shifted in the original version (at least it was in one of the cached versions). OFF should then be a yellow shifted (rather than blue shifted) ON (i.e. immediately above ON). I suspect most of us turn our calcs off more often than we clear the summation registers!

## Re: A Serious Scientific Instrument

Message #11 Posted by **Paul Guertin** on 7 June 2007, 11:08 p.m.,  
in response to message #10 by Dave Shaffer

Quote:

My '11C, '41CX, and '48GX have logs and exponentiation the way I like them (the "old" way, let's say). My 32Sii has them the "new" way (i.e. ln and log together). Anybody know why this changed between models? Which makes more sense to you?

I like the 32Sii way (unshifted  $e^x$  and ln side by side) because, as a math teacher, I use the natural log much more often than log base 10.

I wish my calculator had "log\_b" and "b^x" keys instead of "log\_10" and "10^x", with the value of b settable by the user in a special register. I'd set mine to base 2, since I use it more than base 10. This is admittedly a minor point, since base-2 logs are easy to compute with 3 extra keypresses.

### Re: log\_b and b^x

Message #12 Posted by **Paul Brogger** on 8 June 2007, 10:59 a.m.,  
in response to message #11 by Paul Guertin

Quote:

I wish my calculator had "log\_b" and "b^x" keys instead of "log\_10" and "10^x", with the value of b settable by the user in a special register.

I think *that* is by far the coolest idea I've heard in a LONG time! Excellent thinking!

I'll be implementing that as standard routines on my 33s. It would indeed be *very* cool if such was available on the 35s.

Great idea!

### Re: A Serious Scientific Instrument

Message #13 Posted by **Gerson W. Barbosa** on 8 June 2007, 11:08 p.m.,  
in response to message #11 by Paul Guertin

Quote:

I wish my calculator had "log\_b"

It's a pity  $x|/y$  (xroot) will be a shifted function on the HP-35S. On the HP-33S  $\log_{x,y}$  can be obtained with only three keystrokes:

[LN] [ $x|/y$ ] [LN]

For instance:

32 ENTER 2 LN  $x|/y$  LN -> 5 ( $\log_2 32$ )

### Re: A Serious Scientific Instrument

Message #14 Posted by **Dennis Trafananko** on 9 June 2007, 8:29 p.m.,  
in response to message #13 by Gerson W. Barbosa

Quote:

It's a pity  $x|/y$  (xroot) will be a shifted function on the HP-35S. On the HP-33S  $\log_{x,y}$  can be obtained also by:

32 LN 2 LN / -> 5 ( $\log_2 32$ )

Dennis



**Re: A Serious Scientific Instrument**

Message #15 Posted by [Gerson W. Barbosa](#) on 9 June 2007, 9:27 p.m.,  
in response to message #14 by Dennis Trafananko

Quote:

On the HP-33S  $\log_x y$  can be obtained also by:

32 LN 2 LN / -> 5 (log<sub>2</sub>32)

This is not  $\log_x y$ , in the sense  $x$  and  $y$  refer to stack registers, as on the key labeled  $y^x$ .

Actually, the sequence I presented simulates a hypothetical  $\log_x y$  key. This might be more interesting programatically though. For instance, assuming  $a$  in stack-register  $Y$  and  $b$  in stack-register  $X$  try to write a shorter RPN program than the following to compute  $\log_b a$ :

```
L0001 LBL L
L0002 LN
L0003 x|/y
L0004 LN
L0005 RTN
```

(15 bytes on the HP-33S; 7.5 bytes on the HP-32SII)

Regards,

Gerson.

**Re: A Serious Scientific Instrument**

Message #16 Posted by [Antonio Maschio \(Italy\)](#) on 7 June 2007, 6:20 a.m.,  
in response to message #1 by Walter B

Good,

but, even if someone pointed out that they're useless, to perform ASINH (hyperbolic arcsin) you've got to hit  
[yellow] HYP [blue] SIN

or am I wrong?

-- Antonio

**Re: A Serious Scientific Instrument (Some Explanations)**

Message #17 Posted by [Walter B](#) on 7 June 2007, 7:36 a.m.,  
in response to message #16 by Antonio Maschio (Italy)

Thanks for the feedback! So you shall get some, too:

- yellow print on the keyplate is for menus - this explains most of your remarks
- HYP is a menu containing 6 items
- there are 3 blue menus on the keys 1, 2, 3
- everything else is a function

- Patrice, you are right with USER mode - I'll think about it
- Dave S., I agree on your remark about LOG/LN. The reason I distributed it this way was simply the space available. A solution may be to abbreviate the decimal log with "LG". OK?

I'll come to your other remarks later. Promised!

### **Re: A Serious Scientific Instrument**

*Message #18 Posted by **Frank Boehm** on 7 June 2007, 7:44 a.m.,*

*in response to message #1 by Walter B*

Well, talking about a serious instrument, you should consider my 65 modification:

<http://www.pixxicato.de/aybabto1.gif>

(google for "all your base" to experience what has been a running gag since 2001...)

### **Re: A Serious Scientific Instrument**

*Message #19 Posted by **Ren** on 7 June 2007, 12:01 p.m.,*

*in response to message #18 by Frank Boehm*

Nice HP-65 redux! B^)

It made me wonder, (pardon my not knowing this) did HP's have a F-1 button?

Ren

dona nobis pacem

### **Re: A Serious Scientific Instrument**

*Message #20 Posted by **Walter B** on 7 June 2007, 12:08 p.m.,*

*in response to message #19 by Ren*

Quote:

\_\_\_\_\_

did HP's have a F-1 button?

\_\_\_\_\_

AFAIK only one: HP65.

### **Re: A Serious Scientific Instrument**

*Message #21 Posted by **Doctor Bubu** on 7 June 2007, 8:42 a.m.,*

*in response to message #1 by Walter B*

Hallo Walter! It looks great.

But what do you think about colouring the Number-Keys and the Arithmetic-Keys in a other colour like older HP (Spice, Woodstock, Champion and so on).

I think this will give it a kick, doesn't it?

Thanks Jürgen

## Re: A Serious Scientific Instrument

Message #22 Posted by [Vieira, LC \(Brazil\)](#) on 7 June 2007, 10:50 a.m.,  
in response to message #1 by [Walter B](#)

Hi;

all 'n all we want either to present our best shot about what we call the best calculator ever or we are getting back to rebuilt an old HP successful calculator. Many attempts to get such combinations failed so far, and HP (the ACTUAL HP) offered a bunch of solutions that worked in many areas.

From time to time in this forum we experience the chance to answer to surveys about our favourite HP calculator (In some surveys, our favourite calculator despite brand). Well, if there is such unique model that satisfies all needs, no survey is needed, right?

When the HP28C was introduced, I felt as if HP was ahead of time, showing us what we WOULD need and never considered possible. The whole 48/49/50 series was a consequence of such vision. At that time, I wrote a book about such changes ('Da HP41 para a HP48', or 'From the HP41 to the HP48') and I intended to guide former RPN users into the new RPL usage/programming paradigm.

I feel as if the message has been lost, though. Not that I disagree with the RPN-driven models, I actually believe RPN helps students to understand calculus subjects. It is something like the abacus users when they actually see it (as a visual reference) instead of touching the device itself; reasoning over the RPN stack and operating structure seems to force the brain to understand the problem and find a solution in a different perspective. I remember that some classmates of mine actually got the main ideas in the many subjects after trying them out with an RPN calculator. Creating a program to solve the problems was a passage to understanding both problem and solution. I actually experienced this.

Did not have the chance to go ahead with RPL, because I was no longer a student when the HP48SX was introduced. The HP28 was not so often seen, but I remember joining a group of about ten students with HP28C's that wanted to know how to use it the best way possible in algebraic environment. My only and last HP28C class...

Time has gone and now HP seems to listen to us, users, prior to introduce a new product. Interesting, we all had to wait till HP decided to show us what it was hiding that was astonishing, new and desirable. Now we are trying to get from HP what we believe is mostly important, and there are many close, yet different proposals. If I'm there I'd be confused, because it seems to me that HP would need to offer some different versions of the HP35S to satisfy some of us. I myself would add a few suggestions, but based on the gigantic thread that followed the first appearance of the HP35S in this forum, I felt I'd not add significant contribution, though.

Please, read this as my private view of the rare chance we are (supposedly?) having to interfere in HP's choice of features to be offered in a new calculator. If there are so too many suggestions, maybe none of them will be caught, neither considered, and frustration may arise after the sensation that we were not heard after all.

I'd not be surprised if the HP35S is introduced exactly as it was shown in the first place, no changes applied. And we know what happened with the first HP12C Platinum and also with the HP49G+. Both carried many problems and had a negative impact, being replaced by their new versions.

I think we should support fewer suggestions, only one if possible, a consensual proposal. I do not know which one, because I have my own needs for a personal computing device, but I'd surely try to support the one with more people supporting.

I just want a new, good-looking, reliable, resourcefull RPN calculator. It seems to me that the HP35S will match my needs.

Sorry writing too much... (did not spell check, though)

Suggestions? Flames? Blames? Etc?

Cheers.

Luiz (Brazil)

*Edited: 7 June 2007, 11:01 a.m.*

## **Re: A Serious Scientific Instrument**

*Message #23 Posted by **Howard Owen** on 8 June 2007, 3:45 p.m.,  
in response to message #22 by Vieira, LC (Brazil)*

Quote:

---

.. I remember that some classmates of mine actually got the main ideas in the many subjects after trying them out with an RPN calculator. Creating a program to solve the problems was a passage to understanding both problem and solution. I actually experienced this.

---

I did too, in a different sphere. For several years after learning to program a computer, I would turn to the 41 to help me understand abstract problems that came up. These problems would entail algorithms I hadn't seen before, or new constructs in a new language or - especially - algorithms I would have to invent to solve a particular problem. In either case, I would code the problem in Forty One Calculator Language (FOCAL) and the answers would become clear to me. Since it was the first device I ever programmed, the 41Cs user language was like my native tongue. And moving data around registers, manipulating stacks and so forth *are* very concrete activities. For one example, when I first encountered pointers in Pascal, and then in C, I thought to myself "Aha! Indirect addressing."

Quote:

---

Time has gone and now HP seems to listen to us, users, prior to introduce a new product. Interesting, we all had to wait till HP decided to show us what it was hiding that was astonishing, new and desirable. Now we are trying to get from HP what we believe is mostly important, and there are many close, yet different proposals. ..

---

I think that "HP" is both listening to us and not listening to us. I believe that the first order of business for HP is to make a profit on the new machine. (It was a surprise to me to hear that the 33S led its market category in sales.) That means they need to listen to *all* their users. Thus we see features designed to increase acceptability with test administering bodies.

I have always thought - and I still do - that we enthusiasts represent a small segment of the pool of potential customers for HP's calculators. It's true that we tend to have strong opinions, and we like to think that others we come in contact with are positively influenced by those opinions, so it may be that we have a little more leverage in the marketplace than our numbers would indicate. But I don't think that's the reason why we are listened to at HP, if indeed we are.

So are we listened to? Well, we just saw a case and keyboard design that incorporated many elements that are near and dear to our hearts. We also know that Sam and Cyrille are aware of this community. So it's tempting to make the leap into believing that the 35s is the way it is due to our direct influence. But Sam, Cyrille and others at HP are not empty vessels to be filled up with our concepts of what is right and proper in an RPN machine. I think Sam listened to us, and to others, trying to garner good ideas. I think he heard some, but also that many of those ideas resonated with what *he* believed was right and proper. I think that he then turned around and applied his ideas to the real-world problem of producing a calculator that

embodied them.

Quote:

\_\_\_\_\_  
..I'd not be surprised if the HP35S is introduced exactly as it was shown in the first place, no changes applied..  
\_\_\_\_\_

I think that's right, for two reasons. First and foremost, I think that it must be too late to add features to the design. Remember there would be software development and testing, as well as keyboard and case retooling to do, all some three months before the machine is scheduled to ship. Second, I think that what we see in the 35S is HP's best compromise between *their* idea if the ideal machine, and the realities of bringing such a product to market.

Quote:

\_\_\_\_\_  
I just want a new, good-looking, reliable, resourcefull RPN calculator. It seems to me that the HP35S will match my needs.  
\_\_\_\_\_

Once again, I think that is exactly right.

Regards,  
Howard

### **Re: A Serious Scientific Instrument**

*Message #24 Posted by [Trent Moseley](#) on 8 June 2007, 9:03 p.m.,  
in response to message #23 by Howard Owen*

Howard

I agree. The proposed 35s appears to be a very well thought-out machine and I will certainly buy one. And, (OT), I would like to think Mr. Hurd perhaps, had something to do with this.

tm

### **Re: A Serious Scientific Instrument**

*Message #25 Posted by [John Nelson](#) on 7 June 2007, 8:15 a.m.,  
in response to message #1 by Walter B*

Walter, it looks great. Only two things I would like changed. I'm old school and would like to see the F & G key back, and I would also like to see Hewlett \* Packard spelled out on the very lower lip of the calculator.

### **Re: A Serious Scientific Instrument**

*Message #26 Posted by [Walter B](#) on 7 June 2007, 11:44 a.m.,  
in response to message #25 by John Nelson*

John, what is "F & G" ??

### **Re: A Serious Scientific Instrument**

*Message #27 Posted by **Gene** on 7 June 2007, 11:56 a.m.,  
in response to message #26 by Walter B*

Sadly, that's what 98% of everyone who would buy a machine with "f" and "g" keys these days would say.

WE all know what they are, but the majority of purchasers would wonder if the "f" key was broken...imagine the calls to tech support "What is this "f" key and why doesn't it do anything?"

**Re: A Serious Scientific Instrument**

*Message #28 Posted by **Ren** on 7 June 2007, 12:06 p.m.,  
in response to message #27 by Gene*

Gene, and others who miss the f 'n g keys...

Maybe the f and g could be printed on the shift keys along with the curvy arrow, maybe on the lower bevel, the same color as the function.

Hmmm, maybe they could make the key tops holographic, depending on the viewing angle, it would show the curvy arrow or f 'n g.

Ren

dona nobis pacem

**Re: A Serious Scientific Instrument**

*Message #29 Posted by **Walter B** on 7 June 2007, 12:13 p.m.,  
in response to message #27 by Gene*

Shame on me, I should have known this! :-)

But in CAPITALS ... was looking like one single operation ... simply couldn't get an idea :-/

**Re: A Serious Scientific Instrument**

*Message #30 Posted by **John Nelson** on 7 June 2007, 4:41 p.m.,  
in response to message #29 by Walter B*

Quote:

Shame on me, I should have known this! :-)

But in CAPITALS ... was looking like one single operation ... simply couldn't get an idea :-/

Sorry about that Walter....

**Re: A Serious Scientific Instrument (Summary & Poll)**

*Message #31 Posted by **Walter B** on 8 June 2007, 2:13 a.m.,  
in response to message #25 by John Nelson*

Thanks a lot for your kind responses and valuable critics. As Luiz rightfully suggested, there shall be one

proposal at the end. So let me sum up the open points and wishes:

- "f" & "g" will appear along with the curved arrows as Ren proposed, Nelson.
- USER mode will be selectable, Patrice. I'd put it on "g" "UP".
- MATRIX menu shall work as in 42s, Karl.
- I/O: I thought of an USB socket.
- SOFT KEYS like in 27s, 42s, 48 would be very nice to have, but would require a different LCD. I didn't want to redesign that much, but keep as much as possible of the 35s HP showed us. Well, I failed with the cursors already... ;-)
- ALPHA keys: I must admit I had an 48sx on the desk. Nevertheless, I'll follow ECL's arguments, and will have alpha-free cursors. To make up for this, I'll put letters on STO/RCL as Egan suggested. Paul (B.), you're right, I'm longing for a 42sx more than for a 33sII - IMHO the 42s was (and still is) far superior to the 32s, 32sII, and 33s. And if there will be a 35s for NCEES tests very soon, HP is free to put something serious on top of it :-). It's still a very limited alpha feature.
- GENERAL FUNCTION SET & KEYS: there were different wishes, so we have a list of candidates and a drop list below.
- GENERAL LABELLING: Going way back in history, an HP21 looks far cleaner than a 31e or a 10c. The 32sII put it to the extreme negative. Thus, labelling itself will stay as proposed for sake of clarity. Please also see my explanations posted earlier in this thread.
- COLORS OF KEYS: Jürgen, I agree this may give it a kick, but unless there is a broad majority wanting this and agreeing on the colors, I won't do it.
- OVERLAYS: For user- or application-specific reassignments, overlays with flaps may be used (the flaps covering the slanted front of keys, but may be cut away). I vote against overlays for parts of the standard function set. Instead, there shall be as much as possible directly accessible from the keyboard.

Candidates: Pi unshifted (Dave S.), EQN unshifted (Bill),  $e^x$  & LN unshifted, LOG\_b &  $b^x$  (Paul G.), stopwatch (assume >1 function, Patrice), ALL YOUR BASE ARE BELONG TO US (sorry, Frank, I see low chances for this important operation ;-), %T (Carlos).

Drops: Binary & logic functions (Patrice),  $x\_SQRT\_y$ , R\_UP, RAN#, %, %CHG (Dave S.). (If there isn't a space problem, I won't drop anything.)

Anyway, right now the keyboard is full. So, whoever wants a candidate included must say which function shall be replaced (i.e. deleted from the keyboard or moved to another location). Paul G. already told us he wants LOG\_b &  $b^x$  replacing LOG\_10 (= LOG = LG) &  $10^x$ .

Hope I didn't forget anybody's contribution. Else please remind me. In either case, it's your turn again :-)

Addendum: Most probably the 35s will be released as published. So whoever is completely satisfied with the 35s as is, you'll get it. I'll buy one for sure, too. And I'll continue "tuning" (or dreaming ;-). Just imagine. "Maybe I'm a dreamer, but I'm not the only one!"

Edited to update the candidates and drops. Added the last paragraph.

*Edited: 9 June 2007, 3:33 p.m. after one or more responses were posted*

## Re: A Serious Scientific Instrument (Summary & Poll)

Message #32 Posted by **Maximilian Hohmann** on 8 June 2007, 3:08 a.m.,  
in response to message #31 by Walter B

Hello!

Quote:

---

Hope I didn't forget anybody's contribution. Else please remind me. In either case, it's your turn again :-)

---

I havent contributed yet, but i will do now, with a reminder :-)

This thing is supposed to be a reborn HP-35. A very simple (by todays standards) scientific calculator. With no shift key. Simple and clear.

For me, the HP-35S should be just the same: Simple and clear. No need to read the manual, no need to install communication software on my Mac (that HP will never supply anyway, other than Ti :-), no need to press "XEQ Alpha Letter Letter Letter Alpha Enter" to invoke a command like on the '41 (horrible, terrible, unergonomic nightmare of a user interface!), no need to hassle with menus and cursor keys. Sine of 31 Degrees? "3 1 SIN" is all I ever want to have to type into any pocket calculator to do that.

A simple machine for quick and simple calculations is all it should be. For the not-so-simple calculations absolutely nobody (apart us nutters!) has used a pocket calculator in the last 30 years anyway...

Therefore I would suggest to wait with all these ideas and improvements for the 35-years-jubilee-version of the '41....

Greetings, Max

*Edited: 8 June 2007, 3:11 a.m.*

### **Re: A Serious Scientific Instrument (Summary & Poll)**

*Message #33 Posted by [Dave Shaffer](#) on 8 June 2007, 10:41 a.m.,  
in response to message #32 by Maximilian Hohmann*

I kinda like Maximilian's suggestion! (I might even get my unshifted pi key back!)

Isn't "retro" in these days?

### **Re: A Serious Scientific Instrument (Summary & Poll)**

*Message #34 Posted by [Walter B](#) on 8 June 2007, 2:21 p.m.,  
in response to message #33 by Dave Shaffer*

Quote:

---

I might even get my unshifted pi key back!

---

Dave, you will get it, just you tell me what I shall drop for it. Referring to "retro" I suppose you'll be not satisfied with the original function set of HP35A, will you?

*Edited: 8 June 2007, 2:24 p.m.*

### **Re: A Serious Scientific Instrument (Summary & Poll)**

*Message #35 Posted by [Maximilian Hohmann](#) on 8 June 2007, 2:56 p.m.,  
in response to message #34 by Walter B*

Hello!



Quote:

---

Referring to "retro" I suppose you'll be not satisfied with the original function set of HP35A, will you?

---

Well, I at least would be completely satisfied with the original function set. For everything that requires more functions than that, I wouldn't use a pocket calculator anyway. I live in the year 2007 and get paid for 2007 work, so I am not able (nor are my employers!) to afford the luxury of doing this work with a toy, whatever sophisticated this toy might be, when the competition uses proper tools to do the same work.

Come to think of it, the calculator that gave me the biggest satisfaction ever was the Privilege basic scientific machine (D-883) that I got for Christmas when I was 13 or 14. Somehow, I am still after the same degree of satisfaction, and I don't feel that matrix operations and triple-nested menus will bring that back to me...

Greetings, Max

### **Re: A Serious Scientific Instrument (Summary & Poll)**

*Message #36 Posted by **Dave Shaffer** on 8 June 2007, 10:56 p.m.,  
in response to message #34 by Walter B*

"Referring to "retro" I suppose you'll be not satisfied with the original function set of HP35A, will you?"

Well, like Maximilian, that would meet most of what I use a calculator for. I just dragged out both my original '35 and my '41CX. Other than the summation+ key, which I've used on a few occasions (mostly when teaching physics labs) for linear least squares fitting, there aren't any other new keys on the 41 that I use (except for those few times when I actually programmed the 41 - which I did in the field back before the days of laptop PCs, which I would probably take now). Similarly for my 32Sii and 42S - there isn't much new there that I need.

As has been mentioned elsewhere in the Forum, one could imagine a split between simple calcs (the 35S) used for simple purposes, and the heavy iron (a 50G) used for more complex problems.

### **Re: A Serious Scientific Instrument (Summary & Poll)**

*Message #37 Posted by **Walter B** on 9 June 2007, 2:41 p.m.,  
in response to message #36 by Dave Shaffer*

Quote:

---

one could imagine a split between simple calcs (the 35S) used for simple purposes, and the heavy iron (a 50G) used for more complex problems.

---

Agreed for the 35s. With 50g, the one and only problem for me is it is RPL instead of RPN. As others in this forum, I see a gap left by the late 42s and even 41c. I hope for a midrange calc with some (limited) possibility to exchange data with the rest of the world (e.g. with a PC), especially for program loading and backup. Else, several kilobytes of memory are of very limited use. If we call it "45s", we may believe we won't have to

wait for the 41 anniversary ;-)

*Edited: 9 June 2007, 3:02 p.m.*

### **Re: A Serious Scientific Instrument (Summary & Poll)**

*Message #38 Posted by [Carlos Lacroze](#) on 9 June 2007, 11:15 a.m.,  
in response to message #31 by Walter B*

Although our wishes may only help for future developments or just to fantasize, I would never drop the "x\_SQRT\_y, %, %CHG" keys in a scientific calculator. What is more, I would even consider a "%T" key for recurrent calculations. Just my 2 cents.

### **Re: A Serious Scientific Instrument (Summary & Poll)**

*Message #39 Posted by [Walter B](#) on 9 June 2007, 3:06 p.m.,  
in response to message #38 by Carlos Lacroze*

Buenas tardes, Carlos, I put your suggestion into the summary. Though you did not tell us what shall be dropped for %T.

### **Re: A Serious Scientific Instrument (Summary & Poll)**

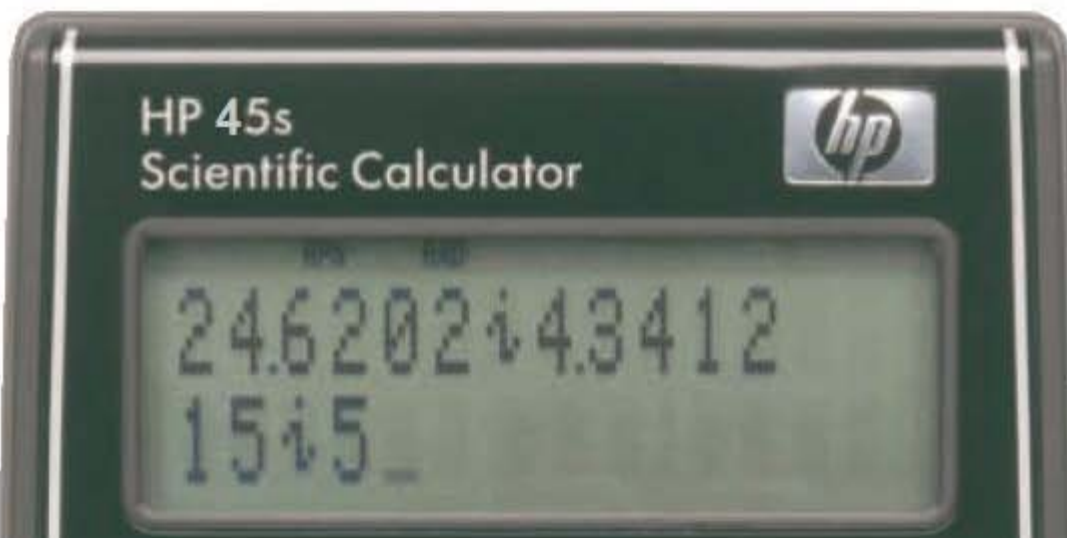
*Message #40 Posted by [Carlos Lacroze](#) on 11 June 2007, 4:44 p.m.,  
in response to message #39 by Walter B*

Thanks Walter for your reply. I should have chosen to drop a shifted key like <-ENG-> or the blue shifted computer terms like XOR, etc. but I wouldn't like to be murdered :) by my dear fellow colleagues who claim them for their own reasons, because I preferred a more comfortable way of dividing numbers (for prorating). That said, let me point out that I found the delta percent and percent functions, sharing the same key place, mostly interesting, as well as the elegant proposal for logs in any base.

### **A Serious Scientific Instrument (Version 1.1)**

*Message #41 Posted by [Walter B](#) on 10 June 2007, 2:12 a.m.,  
in response to message #31 by Walter B*

Here we go:





Please see the keys K, L, M, where the logs were rearranged (thanks to Dave S.), and a log to base "b" is introduced (thanks to Paul G.). The base may be stored and recalled via "STO b"/"RCL b" using the SQRRT-key. The function xSQRTy was deleted because I needed the space for "b" and the operation may be reached as fast via "1/x" "y^x". The shift keys now show f & g (thanks to John Nelson). Besides, I relocated some keys for better grouping (especially for EQN, thanks to Bill P.).

In alpha mode, the cursor keys are "alpha-free" now (thanks to ECL). Some symbols are on the arithmetic operators (thanks to Egan). The keytop functions of *those keys attributed with a green character* may be accessed via "g" + the respective key (thus, the normal g-shifted operations shall be not accessible in alpha mode, except GTO and LASTx; f-shift may be used, however).

Thanks to everyone who contributed! Comments, critics etc. are most welcome 8)

*Edited: 10 June 2007, 2:31 a.m.*

**Re: A Serious Scientific Instrument (Version 1.1)**

*Message #42 Posted by **DaveJ** on 10 June 2007, 3:26 a.m.,  
in response to message #41 by Walter B*

The Backspace key is *\*still\** there :- ( It is simply not needed when you have a left arrow key that can be used as a backspace key in normal RPN entry mode.

Get rid of the backspace key forever, move the 1/X key down, and give LOG it's own key.

Then I'll be able to sleep at night!

Dave.

**Re: A Serious Scientific Instrument (Version 1.1)**

*Message #43 Posted by **Walter B** on 10 June 2007, 5:33 a.m.,  
in response to message #42 by DaveJ*

Dave, I'm simply too stupid to understand :-/ Assume you are editing a matrix. You want to go e.g. from element a33 to a12 to clear one digit of it. But you must not delete a33 nor a22 on your way. So how do you want to do this without a left cursor plus a backspace key?? And why do 48 and 42s have cursors and backspace?? Please explain to me like to a 4-year-old toddler. You are not allowed to sleep before ;-)

*Edited: 10 June 2007, 6:46 a.m. after one or more responses were posted*

**Re: A Serious Scientific Instrument (Version 1.1)**

*Message #44 Posted by **DaveJ** on 10 June 2007, 6:41 a.m.,  
in response to message #43 by Walter B*

Quote:

\_\_\_\_\_  
Dave, I'm simply too stupid to understand :-/ Assume you are editing a matrix. You want to go e.g. from element a33 to a12 to clear one digit of it. But you must not delete a33 nor a22 on your way. So how do you want to do this without a left cursor plus a backspace key?? Please explain to me like a 4-year-old toddler. You are not allowed to sleep before ;-)

\_\_\_\_\_  
Simple, you have backspace (or delete digit) as a shift function. Guess it comes down to whether or not you want the keyboard optimised for matrix operations or basic scientific functions. For me, I'd use basic scientific functions 99.9% of the time so would rather have the extra keys for that purpose. I just think it's smarter to combine the left arrow and backspace functions for normal operation, gaining an extra valuable key. And in my opinion matrices are not "normal" operations, so a shift function would suffice. But of course, YMMV.

I could complain about the other "wasted" keys, but I'll let that slide! :->

Dave.

**Re: A Serious Scientific Instrument (Version 1.1)**

*Message #45 Posted by **Walter B** on 10 June 2007, 6:49 a.m.,  
in response to message #44 by DaveJ*

And why do 48 and 42s have cursors and backspace?? (you see I'm trying hard to act like a 4-year old)

And what are the other "wasted" keys? Why?

**Re: A Serious Scientific Instrument (Version 1.1)**

*Message #46 Posted by **DaveJ** on 10 June 2007, 6:48 p.m.,  
in response to message #45 by Walter B*

Quote:

And why do 48 and 42s have cursors and backspace?? (you see I'm trying hard to act like a 4-year old)

Because they are more complicated calculators. I agree with Maximilion above when he said the 35S should be a \*simple\* scientific calculator. That means lots of keys dedicated to simple everyday functions.

If I want to edit matrices I'll do it on a nice big 4 line screen thanks, not a pokey one or two line display.

Quote:

And what are the other "wasted" keys? Why?

A simple calc shouldn't even have dedicated cursor keys, so there is 4 wasted keys for starters. I won't go into the others!

OMG, I just notice the ENG and <ENG shifted function are now gone! Every basic (or even complex) scientific calc should have a dedicated ENG button. I was even happy with the shifted versions on the original 35S, at least they were in a nice prominent position.

These changes make this calc almost useless for me for everyday use. Just like big graphing calcs are useless to me for everyday use.

Dave.

**Re: A Serious Scientific Instrument (Version 1.1)**

*Message #47 Posted by **Walter B** on 10 June 2007, 6:52 p.m.,  
in response to message #46 by DaveJ*

Thanks for your opinion. Let's wait for more feedback.

## Re: A Serious Scientific Instrument (Version 1.1)

Message #48 Posted by *Karl Schneider* on 11 June 2007, 1:50 a.m.,  
in response to message #46 by *DaveJ*

Hi, Dave --

Quote:

---

If I want to edit matrices I'll do it on a nice big 4 line screen thanks,  
not a pokey one or two line display.

---

I'd prefer a PC screen with Matlab or similar, but for a calculator, I actually prefer the "single element plus menu" display methods of the HP-42S over the methods of the RPL-based 48/49/50, with their four or five lines. I think it's best to display one complete datum -- real or complex -- than to try to cram as many elements as possible into a small display.

Quote:

---

A simple calc shouldn't even have dedicated cursor keys, so there is  
4 wasted keys for starters.

---

Including the abominable "raised silver bar", the HP-33S has five more keys than the proposed HP-35s -- 48 versus 43. You're right that including four cursor keys will eliminate some desired primary-function keys. However, the cursor keys could be put to very effective use:

- Program navigation: Up/down scrolls by line; left/right could jump to adjacent labels.
- Equation navigation: Up/down jumps to adjacent equation in memory; left/right could scroll cursor within an equation (a feature missing from the HP-22S/32SII/33S, but present in the HP-17B/BII/27S).
- Menu navigation: Up/down jumps to next screen or level; left/right moves to different selections
- Matrix navigation: If matrix capabilities were present, the cursor keys would allow the easy navigation provided for the HP-42S and RPL-based HP-28/48/49/50.

Quote:

---

Every basic (or even complex) scientific calc should have a  
dedicated ENG button.

---

I like Casio's way of doing things, which may have been adopted for the HP-35s. Use "<-ENG" and "ENG->" to place the display in ENG mode and to move the decimal point for scaling the value as desired. There is no need to include ENG by itself as a separate mode setting under the DISP menu, because it is equivalent to SCI except that the exponent is an integer multiple of three. "ENG n" versus "SCI n" also makes no difference if used as an integrand-uncertainty setting.

-- KS

*Edited: 11 June 2007, 2:26 a.m.*

## Re: A Serious Scientific Instrument (Version 1.1)

Message #49 Posted by *DaveJ* on 11 June 2007, 3:48 a.m.,  
in response to message #48 by Karl Schneider

Quote:

---

Including the abominable "raised silver bar", the HP-33S has five more keys than the proposed HP-35s -- 48 versus 43. You're right that including four cursor keys will eliminate some desired primary-function keys. However, the cursor keys could be put to very effective use:

\* Program navigation: Up/down scrolls by line; left/right could jump to adjacent labels. \* Equation navigation: Up/down jumps to adjacent equation in memory; left/right could scroll cursor within an equation (a feature missing from the HP-22S/32SII/33S, but present in the HP-17B/BII/27S). \* Menu navigation: Up/down jumps to next screen or level; left/right moves to different selections \* Matrix navigation: If matrix capabilities were present, the cursor keys would allow the easy navigation provided for the HP-42S and RPL-based HP-28/48/49/50.

---

Agreed they can be put to good use, but of course a basic scientific calculator doesn't need any of those functions now does it :->

Quote:

---

I like Casio's way of doing things, which may have been adopted for the HP-35s. Use "<-ENG" and "ENG->" to place the display in ENG mode and to move the decimal point for scaling the value as desired. There is no need to include ENG by itself as a separate mode setting under the DISP menu, because it is equivalent to SCI except that the exponent is an integer multiple of three. "ENG n" versus "SCI n" also makes no difference if used as an integrand-uncertainty setting.

---

Indeed. As an electronics engineer the ENG key is my most used key after the 4 functions and EXP, as I am always dealing in M,k,m,u,n,p etc, I can't imagine any scientific calculator without this key. I'm happy with <ENG as a shift function, but ENG simply must be a dedicated key on any calculator that claims to be suitable for engineering use. On more complex calcs like the original proposed 35S, shift functions for both are a reasonable compromise. HP had the good sense to not only add them, but make them prominent.

And before anyone mentions it, ENG mode is *\*not\** the same thing as an ENG key. Having everything always display in ENG mode can be incredibly annoying, and I always want the option of pressing the ENG key when needed. Simple and effective, the way it should be.

Dave.

**Re: A Serious Scientific Instrument (Version 1.1)**

Message #50 Posted by **Antonio Maschio (Italy)** on 11 June 2007, 11:06 a.m.,  
in response to message #49 by DaveJ

No one of you seems aware of the following fact:

the xROOTy key is essential when the operand is negative; I have a HP-32II in front of me:

```
27
ENTER
+/-
3
xROOTy
```

yields (correctly) -3.0000, because the function  $x^3$  is reversible. The result is obviously correct because  $-3 \cdot -3 \cdot -3$  is -27. Try with, say -27.3 as operand and you'll get -3.0111, which is correct.

Now:

```
27
ENTER
+/-
3
1/x
y^x
```

returns "INVALID y^X", because the function  $a^x$  (with  $x$  real) admits only positive values for "a", and its graphic (similar to the exp case) shows this.

So it's simply not true that the  $[1/x]$   $[y^x]$  sequence is equivalent to the  $[xROOTy]$  key.

-- Antonio

**Re: A Serious Scientific Instrument (Version 1.1)**

Message #51 Posted by **Walter B** on 11 June 2007, 12:28 p.m.,  
in response to message #50 by Antonio Maschio (Italy)

Antonio, you will get the same result on a 42s unless you allow complex results. Is there a way to do this with a 33s?

BTW, I count on  $y^{(1/x)}$  being identical to  $xROOT(y)$  - else you force me to read my old math books again ;-)

*Edited: 11 June 2007, 12:32 p.m.*

**"x\_root\_y" and real vs. complex roots**

Message #52 Posted by **Karl Schneider** on 12 June 2007, 3:45 a.m.,  
in response to message #50 by Antonio Maschio (Italy)

Hi, Antonio and Walter --



Antonio seems to have replied to the wrong post, but I'll address it anyway.

This topic was discussed more than a year ago, but I haven't made the effort to look up the thread.

"x\_root\_y" is not absolutely essential, but is somewhat useful, as it allows the real-valued odd-integer root of a negative real value to be calculated without cumbersome special code to ascertain odd integer  $x$  and negative  $y$ . (Checking for  $\text{MOD}(x, 2) = 1$  is probably the best way to verify an odd-valued integer.)

"x\_root\_y" is also sometimes a bit more accurate than  $[x < > y][+/-][x < > y][1/x][y^x][+/-]$ , probably because full internal precision is maintained throughout, rather than rounding the result of  $[1/x]$  to 12 digits.

In the strictest mathematical sense, the "correct" cube root of -27 is  $1.50(1 + i\sqrt{3}) = (1.50 + i2.59808) = 3.00 @ 60 \text{ degrees}$ . This is the "primary" root, which has the lowest angle on the complex plane, measured counterclockwise from the positive real axis.

This can be obtained on the HP-33S (or HP-32S/SII) by the following procedure:

```
0
ENTER
-27
ENTER
0
ENTER
3
CMPLX1/x
CMPLXY^x
```

CMPLX"x\_root\_y" is not supported.

-- KS

## Cursor keys and ENG display mode

Message #53 Posted by [Karl Schneider](#) on 12 June 2007, 2:37 a.m.,  
in response to message #49 by DaveJ

Quote:

Agreed (*that cursor keys*) can be put to good use, but of course a basic scientific calculator doesn't need any of those functions, now, does it? :->

But the HP-35s would be more than a basic scientific calculator -- more like an *intermediate* model. The TI-30X and the original HP-35 are basic scientific calculators, but in the case of the 35, basic is all there was...

Quote:

And before anyone mentions it, ENG mode is *\*not\** the same

thing as an ENG key. Having everything always display in ENG mode can be incredibly annoying, and I always want the option of pressing the ENG key when needed. Simple and effective, the way it should be.

---

I think what you mean is that ENG should function as implemented by Casio for years, allowing a value to be displayed to the nearest ENG exponent using a single keystroke, and to have that exponent shifted using one or two keystrokes. The "=" key cancels ENG mode.

My 1981 Casio fx-3600P and 2005 fx-115MS operate in exactly that fashion, which I also find convenient. However, both are algebraic and non-programmable, and perhaps "therein lies the rub." IF ENG is treated only as a temporary display mode (like SHOW), it could be nonprogrammable. Maybe SHOW (in addition to FIX/SCI/ALL) could cancel ENG, and the left and right cursor arrows could provide ENG-> and <-ENG (if not used for matrix navigation)...

-- KS

### **Re: Cursor keys and ENG display mode**

*Message #54 Posted by [DaveJ](#) on 12 June 2007, 3:32 a.m., in response to message #53 by Karl Schneider*

Quote:

---

But the HP-35s would be more than a basic scientific calculator -- more like an intermediate model. The TI-30X and the original HP-35 are basic scientific calculators, but in the case of the 35, basic is all there was...

---

What I mean by "basic scientific" is non-programmable. Non-programmable scientifics range from the basic early ones like the HP35 through to say the Casio FX-991ES which is about as advanced as you can get without having programmability. I call them all "basic scientific" calc, although some are obviously a lot more advanced than others and can have a solver etc.

But once that programability option goes in then you have to start dedicating keys and having menus etc. That to me becomes an "advanced" scientific calc.

How do others classify and categorise various calcs like this?

Quote:

---

I think what you mean is that ENG should function as implemented by Casio for years, allowing a value to be displayed to the nearest ENG exponent using a single keystroke, and to have that exponent shifted using one or two keystrokes. The "=" key cancels ENG mode.

---

Yes, I'm talking about the Casio's, I love the way they implement the ENG mode, to me it's just perfect. I've never liked the ENG "mode" used on the HP's.

Dave.

### Re: A Serious Scientific Instrument (Version 1.1)

Message #55 Posted by [asdf](#) on 10 June 2007, 7:55 p.m.,  
in response to message #42 by DaveJ

The cursor keys in addition to the backspace are extremely useful when you need to edit an equation or if you are in (gasp) algebraic mode. This has always been one of the most serious shortcomings of the 33s.

### Re: A Serious Scientific Instrument (Version 1.1)

Message #56 Posted by [Gerson W. Barbosa](#) on 10 June 2007, 8:12 a.m.,  
in response to message #41 by Walter B

Quote:

...and a log to base "b" is introduced

Instead of  $\mathbf{b}$ ,  $\mathbf{b}^x$  and  $\mathbf{LOG}_b$ , I would suggest the most used  $\mathbf{LOG}$  and  $\mathbf{10}^x$  functions are kept and  $\mathbf{log}_x y$  is introduced. The latter will require two arguments but will be used only occasionally by just a few users.

Regards,

Gerson.

*Edited: 10 June 2007, 8:15 a.m.*

### Re: A Serious Scientific Instrument (Version 1.1)

Message #57 Posted by [Walter B](#) on 11 June 2007, 1:36 a.m.,  
in response to message #56 by Gerson W. Barbosa



So these 3 keys may look like this then:

With  $\mathbf{b} = \mathbf{10}$  as startup default you will reach the same with the previous function set, and only experienced users will change  $\mathbf{b}$  at all. I leave it to the forum to decide.

*Edited: 11 June 2007, 1:54 a.m.*

### Re: A Serious Scientific Instrument (Version 1.1)

Message #58 Posted by [bill platt](#) on 10 June 2007, 10:18 a.m.,  
in response to message #41 by Walter B

Much better.

But I have one suggestion:

"i" is still wasting a primary, and the equation mode is still buried. Do the following:

the "i" key comes "EQN" as primary, and the --> key becomes SOLVE as primary. The --> and the "i" go to secondary positions on the 0 and the comma key. Additionally, why is the comma primary?

And what is the --> key for, anyway?

*Edited: 10 June 2007, 10:19 a.m.*

### **Re: A Serious Scientific Instrument (Version 1.1)**

*Message #59 Posted by **Karl Schneider** on 10 June 2007, 3:46 p.m.,  
in response to message #58 by bill platt*

Hi, Bill --

Quote:

\_\_\_\_\_  
"i" is still wasting a primary, and the equation mode is still buried.  
\_\_\_\_\_

I disagree, and believe that HP's concept should be retained. Those of us who use complex numbers regularly would appreciate having  $i$  unshifted, with the angle symbol blue-shifted on the same key. I also believe that a menu of functions germane to complex numbers (not ARG, which I believe is like ATAN2) should be the yellow-shifted function for the key. Please see the following post from 2004:

"User-friendly complex numbers" at <http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv014.cgi?read=63415#63415>

Quote:

\_\_\_\_\_  
And what is the --> key for, anyway?  
\_\_\_\_\_

My sentiments exactly!

-- KS

### **Re: A Serious Scientific Instrument (Version 1.1)**

*Message #60 Posted by **Walter B** on 10 June 2007, 5:49 p.m.,  
in response to message #59 by Karl Schneider*

Bill & Karl,

Quote:

\_\_\_\_\_  
And what is the --> key for, anyway?  
\_\_\_\_\_

Well, you could have read in [my earlier post](#):

Quote:

an unshifted -> is introduced to allow double use of mode keys also for conversions (e.g. blue-shift 6 sets hexadecimal mode, while -> blue-shift 6 converts to hex display); this makes the menu BASE obsolete

This shall work for the keys "4" through "9".

@Karl, I second you keeping "i" as primary key. BTW, I'm slowly approaching the state where I can quote my older posts, too ;-)

@Bill

Quote:

why is the comma primary?

So far, the decimal separator has been primary always :-). Of course you may also set the calc to use a point as decimal separator. However, the layout chosen has an advantage in alpha mode: there is a point available already via "f" "\*" (the function DOT outside alpha), so we save one key by using the comma as default decimal separator. And AFAIK it's the default for the majority anyway.

*Edited: 10 June 2007, 6:31 p.m.*

**Re: A Serious Scientific Instrument (Version 1.1)**

*Message #61 Posted by [Dave Shaffer](#) on 11 June 2007, 2:08 p.m.,  
in response to message #41 by [Walter B](#)*

I think OFF should be shifted yellow. Swap the shift colors for OFF and clear sigma.

**Re: A Serious Scientific Instrument (Version 1.1)**

*Message #62 Posted by [Walter B](#) on 11 June 2007, 3:19 p.m.,  
in response to message #61 by [Dave Shaffer](#)*

Why? (remember the 4-year-old ;-)

**Re: A Serious Scientific Instrument (Version 1.1)**

*Message #63 Posted by [Dave Shaffer](#) on 11 June 2007, 4:29 p.m.,  
in response to message #62 by [Walter B](#)*

well, if I was a 4-year old too, I would just pout and say I want it that way ....

But, in a more measured tone, I would say that's the way it is (not necessarily the color code, but the functionality of the key immediately above the ON button) on at least the 32, 33S, 42S, and 48 calcs. Plus, it seems most obvious and convenient to turn it OFF by pressing the button immediately above the ON, rather than the button two rows up.

**Re: A Serious Scientific Instrument (Version 1.1)**

Message #64 Posted by **Walter B** on 11 June 2007, 6:37 p.m.,  
in response to message #63 by Dave Shaffer

:-D OK, Dave, you can have it! FYI, I made it blue because it shall invert the primary function of this key (like blue SIGMA-,  $x^2$ , R\_UP, ASIN etc.). I did not have any yellow inversions of primary functions so far. But, for sake of convenience, and to prevent you from pouting... ;-)

**Re: A Serious Scientific Instrument (Version 1.1)**

Message #65 Posted by **Dave Shaffer** on 11 June 2007, 8:11 p.m.,  
in response to message #64 by Walter B

Thanks. Now if HP would only make it your/our/this way!

Interesting point about inverse functionality, though.

**Re: A Serious Scientific Instrument (Version 1.1)**

Message #66 Posted by **Walter B** on 12 June 2007, 1:29 a.m.,  
in response to message #65 by Dave Shaffer



So this part of the calc may look like this now: also following an advise of Brian (see [here](#). Hugh, this shall be interesting for you!).

*Edited: 12 June 2007, 8:53 a.m.*

**For Thou The Lovers Of The Morning Star (Version 1.1\*)**

Message #67 Posted by **Walter B** on 13 June 2007, 1:53 a.m.,  
in response to message #41 by Walter B

... there is an alternative design:





Everything else is the sum of all the contributions above, wherever there were good arguments or a

clear majority.

### Re: For Thou The Lovers Of The Morning Star (Version 1.1\*)

Message #68 Posted by **Ren** on 13 June 2007, 11:04 a.m.,  
in response to message #67 by Walter B

Walter,

Either version is fine with me!

Just remember to send the idea(s) to your HP insiders

;^)

Ren

dona nobis pacem

### Re: For Thou The Lovers Of The Morning Star (Version 1.1\*)

Message #69 Posted by **Gerson W. Barbosa** on 13 June 2007, 8:16 p.m.,  
in response to message #67 by Walter B

Actually, I don't see the need of wasting a key position just to allow for logs of other bases, since this easily accomplished, either manually or by means of a very short program. Anyway, if this is really needed, the proposed solution might lead the user to errors in case the base (b) is accidentally changed. On the HP-33S it's quite common /c is involuntarily changed from its default value (4096).

Regards,

Gerson.

### Re: For Thou The Lovers Of The Morning Star (Version 1.1\*)

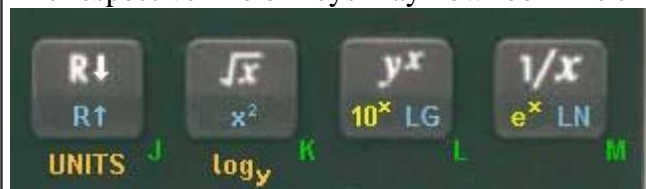
Message #70 Posted by **Walter B** on 14 June 2007, 1:23 a.m.,  
in response to message #69 by Gerson W. Barbosa



Gerson, I count your post as a vote for this:

Looks a bit cluttered. However, I can make an exception (I hate exceptions ;-)) and put the golden **LOG<sub>xy</sub>** function *below* of the key. BTW, for sake of consistency, this function shall be **LOG<sub>y</sub> x** instead of **LOG<sub>x</sub> y**.

The respective line of keys may now look like this:





Your votes, please 8)

Edited: 14 June 2007, 2:46 a.m.

**Re: For Thou The Lovers Of The Morning Star (Version 1.1\*)**

Message #71 Posted by **Gerson W. Barbosa** on 14 June 2007, 9:08 a.m.,  
in response to message #70 by Walter B

Hello Walter,

Quote:

BTW, for sake of consistency, this function shall be **LOG<sub>y</sub> x** instead of  
**LOG<sub>x</sub> y**.

For the sake of consistency, I would keep **LOG<sub>x</sub> y**. In  $y^x$ , for instance, *first* we enter the number and then the power to which we want it raised. Likewise, entering the number and base, in this order, appears to be more natural to me. Another matter for voting :-)

In order to avoid cluttering and exceptions you dislike, what about using lower case letters for those functions? I mean **log**, **ln** and **log<sub>x</sub> y**.

Best regards,

Gerson.

**Logarithms (was: Version 1.1\*)**

Message #72 Posted by **Walter B** on 14 June 2007, 11:56 a.m.,  
in response to message #71 by Gerson W. Barbosa

Ola, Gerson,

Quote:

I would keep **LOG<sub>x</sub> y**. In  $y^x$ , for instance, *first* we enter the number and then the power to which we want it raised. Likewise, entering the number and base, in this order, appears to be more natural to me.

I can argue for **LOG<sub>y</sub> x** the same way: first enter the base and then the number which should be analyzed versus this base.

Quote:

Another matter for voting :-)

Agreed.

Quote:

... what about using lower case letters for those functions?

Fine idea. You can see it above already. However, many people seem to be inclined (?) to CAPITALS. Therefore, I confined lower case to variables and to modes so far (needing the space in **Rec Pol** and **Deg Rad**, and writing **Cx Re** consistently). And I started to use it for functions on the keyplate to indicate the difference to menus. And even lower case **log<sub>x</sub> y** will not fit nicely on the key.

Quote:

I mean **log**, **ln** and **log<sub>x</sub> y**.

IF the universal logarithm shall be called **log<sub>x</sub> y** or **log<sub>y</sub> x** (which is perfectly OK for me) THEN the decadic logarithm can't be named **LOG** again but needs a different name, e.g. **LG** as proposed above.

Com os melhores cumprimentos,

Walter

*Edited: 16 June 2007, 11:05 a.m.*

### [HP-35s] For Thee -- Lovers Of The Morning Star

*Message #73 Posted by **Karl Schneider** on 14 June 2007, 10:38 p.m.,  
in response to message #67 by Walter B*

"I feel, I feel, I feel ... I feel like a morning star"

Sorry -- it just reminded me of that. (Those who don't get the reference can Google it.)

Seriously, I've decided to wait until I have my own HP-35s before expressing detailed suggestions for improvement. I probably won't depend upon a "surprise in San Diego"; that way, I'll arrive at HHC with well-formulated constructive input, both suggestions and criticisms.

In addition to the implementation of complex numbers, the main mystery to me is how the "800+ registers" would be addressed, and whether and how two-character variables are supported without an ALPHA mode. Any major improvements would have to wait for an HP-35sii or HP-45s to be developed. Take note: The "morning star" would be great for matrix editing.

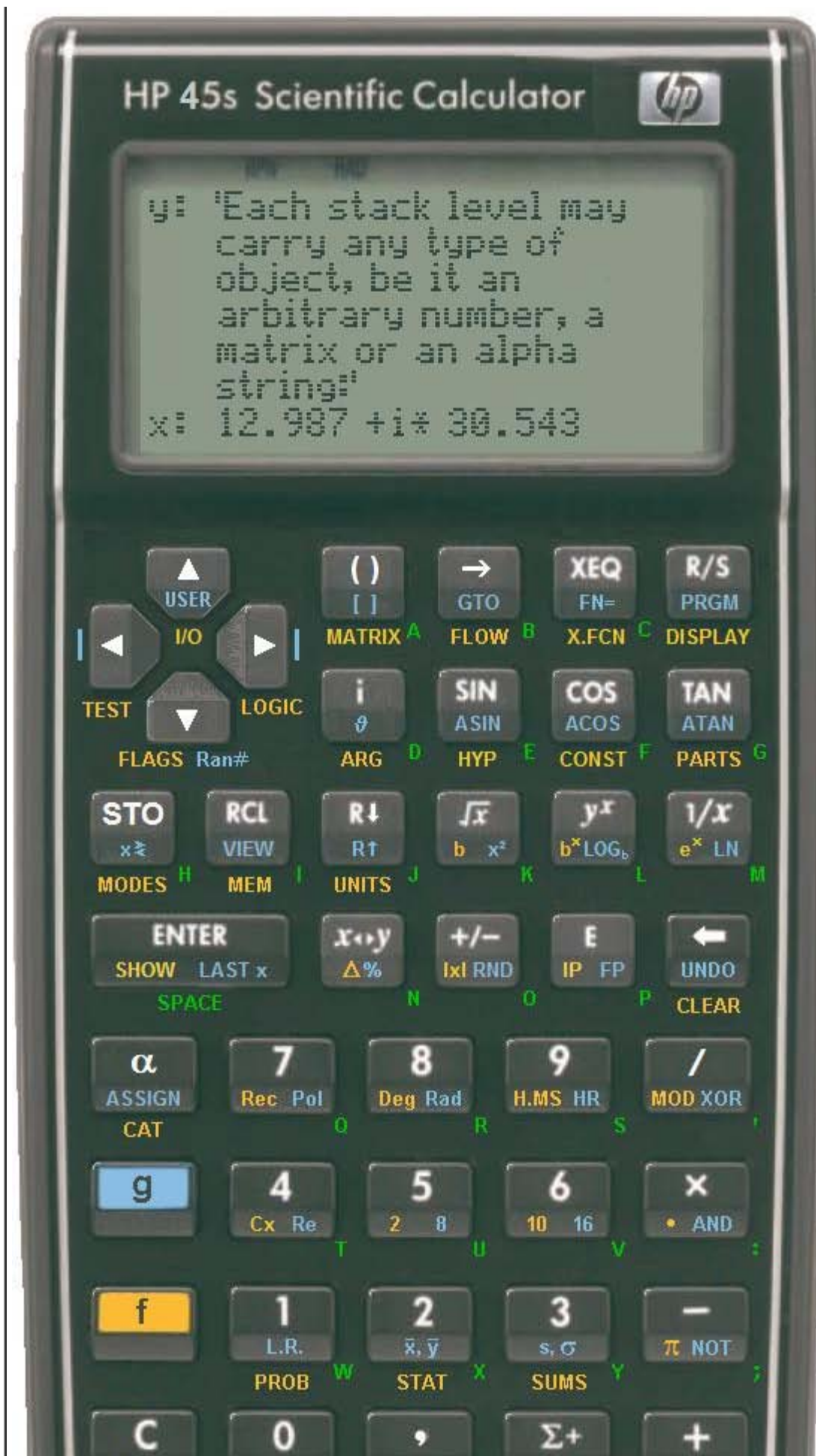
-- KS

*Edited: 16 June 2007, 2:09 a.m.*

### A Serious Scientific Instrument (Version 1.2)

*Message #74 Posted by **Walter B** on 17 June 2007, 9:23 a.m.,  
in response to message #41 by Walter B*

As many of you already suggested, such a calculator will be more useful and really fun with a slightly bigger display. Keeping the given outer dimensions it may look like this:





With the coarse resolution of the 33s/35s this would allow for 4 lines. Using something a bit more advanced, 6 lines are possible with a font still perfectly readable for the true old fans of HP. And their (hopefully many) coming successors could go up to 8 lines easily. With a good display resolution the number of lines may be user-settable within a given interval. Either way the cursors make more sense than before.

For the logs: I think this version keeping **b**, **b<sup>x</sup>**, **LOG<sub>b</sub>** is still better than the alternative with the universal LOG, **10<sup>x</sup>**, **LG** for at least 2 reasons:

- a) easier error correction,
- b) I expect users to stay with a specific base for some calculations, so it's more efficient setting the base once instead of having to enter it for each and every operation.

And for those folks who will never need any other base than 10? They will just stay with the startup default of **b = 10** and never change it :-)

As usual, do not spare with comments and critics! 8)

(Edited to update the picture: LCD + cursor print)

*Edited: 21 June 2007, 3:27 a.m. after one or more responses were posted*

### **Re: A Serious Scientific Instrument (Version 1.2)**

*Message #75 Posted by **Wayne Brown** on 17 June 2007, 3:58 p.m.,  
in response to message #74 by Walter B*

Quote:

As usual, do not spare with comments and critics! 8)

Well, I was happy with the versions without the weird cursor keys, and have been completely uninterested since you put them back in.

### **Re: A Serious Scientific Instrument (Version 1.2)**

*Message #76 Posted by **Walter B** on 17 June 2007, 6:02 p.m.,  
in response to message #75 by Wayne Brown*

Well, I did not find your vote in this thread above. Anyway, you may take the top 2 lines of keys as they were in [Version 1.1](#) and regain your interest :-) And I recommend you find some more votes for this, else I fear you will not end as majority leader ;-)

### **Re: A Serious Scientific Instrument (Version 1.2)**

*Message #77 Posted by **Wayne Brown** on 17 June 2007, 9:04 p.m.,  
in response to message #76 by Walter B*

Quote:

---

Well, I did not find your vote in this thread above.

---

Firstly, I'm just stating a preference, not "voting." I don't see the point of a vote, since I highly doubt the result will have any influence on what HP does. Secondly, I'd already stated my preference earlier, and saw no need to repeat it. The rest of the discussion has centered on details that don't matter much to me. But for the record, **all** of your versions that have "normal" cursor keys are acceptable to me, and **none** of the versions with the "diamond" pattern keys are.

Quote:

---

And I recommend you find some more votes for this, else I fear you will not end as majority leader ;-)

---

As I said, I don't see the point of voting, because I expect that even 100% agreement here will make no difference in the outcome.

### **Re: A Serious Scientific Instrument (Version 1.2)**

*Message #78 Posted by **Walter B** on 18 June 2007, 5:47 a.m.,  
in response to message #77 by Wayne Brown*

So there's no mercy even for black diamonds ;-) So far I assumed you had a color problem with the 35s's diamond, but now I know. Thanks for your explanation.

Ref. to "voting": I know HP is free to (and will presumably not) take anything from these proposals, regardless how many forum members stand behind them (free of charge, anyway). Nevertheless, I'm interested in the opinion of the educated majority of these members. And I make it visible, so we can talk about a concrete model instead of pondering wishlists which's combined effects blast any design. IMO we had too many easy wishlists in the past, and very few people made a serious effort to check them at least by modelling. As people say here: "The devil hides in detail!"

Thanks again for making your opinion clear.

### **Re: A Serious Scientific Instrument (Version 1.2)**

*Message #79 Posted by **Wayne Brown** on 18 June 2007, 7:43 p.m.,  
in response to message #78 by Walter B*

Quote:

---

So far I assumed you had a color problem with the 35s's diamond, but now I know.

---

Actually, it was both color *and* shape.

### **Re: A Serious Scientific Instrument (Version 1.2)**

*Message #80 Posted by **Howard Owen** on 17 June 2007, 5:28 p.m.,  
in response to message #74 by Walter B*

I love the big display.

Now give it graphing features and a CAS, plus a thoroughly revised and evolved RPN programming environment, and we'll have the flagship RPN calculator that HP would have produced by now if it had never taken the left turn into RPL. 8)

Regards,  
Howard

**Re: A Serious Scientific Instrument (Version 1.2)**

*Message #81 Posted by **Walter B** on 19 June 2007, 12:39 p.m.,  
in response to message #80 by Howard Owen*

Thanks, Howard!

Quote:

Now give it graphing features and a CAS

Please remember this keyboard is fully occupied already. So, if you want any additional functions, you have to kick out as many others (see above). Please specify your wishes, I cannot do it for you. IMO, for a real flagship a third shift key may be inevitable.

Edited to correct an ambiguity.

*Edited: 20 June 2007, 5:00 p.m.*

**Re: A Serious Scientific Instrument (Version 1.2)**

*Message #82 Posted by **Walter B** on 21 June 2007, 6:14 a.m.,  
in response to message #74 by Walter B*

FYI, the picture in [my earlier post](#) is updated to show how a 7 line display may look like. Luiz's 42s-font was used (thanks!).

IMO such a display is still clearly readable in full natural size, even above 50 :-). Principally, as long as you can read the yellow and blue print, you shall be able to read this display as well. And you may set the LCD to 6, 5, and 4 lines for bigger letters, but I cannot give you a bigger print ;-)

*Edited: 21 June 2007, 5:11 p.m.*

**Re: A Serious Scientific Instrument**

*Message #83 Posted by **bill platt** on 7 June 2007, 1:01 p.m.,  
in response to message #1 by Walter B*

Nice work. It must have taken you a lot of time to do that!

However I must comment on it.

1. I do not think that your design matches the features which are likely to be included in the 35s. This is especially the case for the 41x type stuff you have included such as ASSIGN.

2. I feel that you have smothered one of the key features of the 32sii-333-35s family: equations. The controls for them are all shifted (except parentheses) and scattered all over the keyboard.

Considering that the equation feature, especially if improved with full editing, is a forward-looking feature with equal to superior algebraic handling to that of "algebraics" it really ought to take a primary role in the keyboard layout.

But your waork is very nice and I am grateful for the effort and the chance to criticize :-)

---

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## HP Forum Archive 17

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### NoVRAM Module

Message #1 Posted by [Jeff Davis](#) on 6 June 2007, 7:47 p.m.

I wanted to see if anyone knows how to program and upload the files to the NoVRAM Module. The NoVRAM-h.exe software is there and I presume is used just like the Clonix6p software. Can I use the icprog software and use the F8 function to read the existing contents of the NoVRAM module? I wanted to ask before trying this so I do not damage the NoVRAM Module. When I tried the NoVRAM-h.exe I end up with 4 different files. romimg0H, roming1H, mappingH and sgnaturH. How do these files work with the icprog software? Thanks for your help.

### Re: NoVRAM Module

Message #2 Posted by [Vieira, L. C. \(Brazil\)](#) on 6 June 2007, 10:18 p.m.,  
in response to message #1 by [Jeff Davis](#)

HI;

please, forgive me if I am heading the answer prior to wait for Diego's post. I have both NoVRAM and NoV32 modules, and I have programmed them many times. Some days ago I reprogrammed my NoV32 a few times prior to match my needs.

Quote:

Can I use the icprog software and use the F8 function to read the existing contents of the NoVRAM module?

Yeap! Just configure the ICPROG to work with the 18F252 and, after reading (there is a button to read contents, too) you'll see the current configuration (.ROM file names) in the lower, small window.

Quote:

I wanted to ask before trying this so I do not damage the NoVRAM Module.

I use the programmer sold by Diego, and had no problems so far. It is a good idea to read all documents related to both Clonix and NoVRAM. The procedures explained in the Clonix manual apply to the NoVRAM as well, added the complementary explanations found in the NoVRAM manual.

Quote:

When I tried the NoVRAM-h.exe I end up with 4 different files. romimg0H, roming1H, mappingH and sgnaturH. How do these files work with the icprog software?

What I actually do is to prepare the configuration with the novram-h.exe, save it and wait till the ICPROG opens automatically. Then I have the NoVRAM programmed. You see, the 16KRAM only make sense when you use some sort of software to handle it, like HEPAX, David Assembler... You probably know about this, sorry, just to make sure. I configured my NoV32 to run HEPAX and David Assembler with the additional



label ROM, and it works fine (I cannot access the second 16KRAM page, though, but this is another story...) So, when I want to use the HEPAX emulation with NOVRAM, novram-h.exe must be used to create the necessary files. I think that some of the files you mention are used as temporary buffers (the H might be related to hex coded data), because only the NOVRAM-H.HEX file seems to be used. As mentioned in the Novram manual, it is possible to invoke the ICPROG with a command line that specifies the .HEX file you want to use instead of the default NOVRAM-H.HEX. I have also executed ICPROG directly and then I explicitly opened another .HEX file and programmed the module. Worked fine as well.

I hope I did not miss anything. Anyway, it would be wise to wait for some extra help.

Success!

Luiz (Brazil)

(Tomorrow is a Holliday here, so I found some time to write a few words in some posts today. Feels good...)

*Edited: 6 June 2007, 10:21 p.m.*

### **Re: NoVRAM Module**

*Message #3 Posted by [Diego Diaz](#) on 7 June 2007, 5:06 p.m.,  
in response to message #2 by [Vieira, L. C. \(Brazil\)](#)*

Hi all,

Jeff, I've answered your private e-mail, basically I told you the same Luiz has pointed out here. Please let me (us) know if you need/want any other details.

BTW thanks a lot Luiz! ;-) and let me know if we can work your NoV-32 issue out. It's more likely that you've got some garbage into your second 16K block.

Best wishes.

Diego.

### **Re: NoVRAM Module**

*Message #4 Posted by [Jeff Davis](#) on 7 June 2007, 5:46 p.m.,  
in response to message #3 by [Diego Diaz](#)*

Thanks Luiz and Diego. I will be trying this out over the weekend. Jeff

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## HP Forum Archive 17

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### HP-41 CV Repair/Battery Contacts

Message #1 Posted by [Kevin](#) on 6 June 2007, 4:03 p.m.

Hi All, I have a HP-41CV calculator over 20 years old. I made the mistake at some point of putting some cheap Radio Shack batteries in it - and one of the battery terminals suffered somewhat minor damage. I attempted to gently clean the terminal with some baking Soda mixed with just a little water and to gently dry and buff the area to remove the green crud. However, I could not get it completely clean and I hesitate to clean more vigorously as it looks like the metal is starting to separate just a little.

When I replaced the batteries with new ones 0.0000 appears briefly and then fades out. I took the batteries out and put them back in a couple of times and now it appears to be working fine. But I suspect that the battery is not making perfect contact with one of the terminals. Incidentally, the other three terminals look shiny/new and are in perfect condition.

Is there are very minor repair that I could do to the 1 slightly damaged battery terminal?

Thanks,

Kevin

### Re: HP-41 CV Repair/Battery Contacts

Message #2 Posted by [Ralph](#) on 10 June 2007, 11:17 a.m.,  
in response to message #1 by Kevin

I picked up a 41CX at Goodwill a couple of weeks ago for \$2.99. It had a corroded battery contact point and would only work if the pack was jiggled in a certain way. I went to Fry's Electronics and picked up a circuit writer pen from the ProGold people (Caig Labs Inc.). It is a silver based paint marker like thing that leaves a conductive coating on the circuit trace that is still there. Seems to be holding up just fine so far.

I stick to Duracells. I have had some bad luck with Radio Shack and Energizer cells in several devices.

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## HP Forum Archive 17

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**15C program question**

Message #1 Posted by [John Nelson](#) on 6 June 2007, 9:26 a.m.

I was looking at the programs we have here, and in the longer quadratic program, it lists a command that I am not familiar with.

026 RCL: 1

I understand the RCL and the 1, but what does the colon signify and how do I enter that on the 15C?

- John

**Re: 15C program question**

Message #2 Posted by [Valentin Albillo](#) on 6 June 2007, 9:32 a.m.,  
in response to message #1 by John Nelson

It probably is a "division" operation, so just press the RCL key, the division key, and the "1" key.

Best regards from V.

**Re: 15C program question**

Message #3 Posted by [John Nelson](#) on 6 June 2007, 9:35 a.m.,  
in response to message #2 by Valentin Albillo

Thanks... that's odd... normally you will see / for division.

Thanks again for the heads up.

**Re: 15C program question**

Message #4 Posted by [Donald](#) on 6 June 2007, 10:51 a.m.,  
in response to message #1 by John Nelson

is it RCL <decimal point> 1 i.e. RCL 11 ?

**Re: 15C program question**

Message #5 Posted by [John Nelson](#) on 6 June 2007, 1:31 p.m.,  
in response to message #4 by Donald

No... it is a colon.

**Re: 15C program question**

Message #6 Posted by [Egan Ford](#) on 6 June 2007, 2:52 p.m.,

*in response to message #5 by John Nelson*

If you are referring to <http://www.hpmuseum.org/software/15cquad.htm> then it should be RCL/, not RCL:.

<http://upload.wikimedia.org/math/3/e/a/3ea647783b5121989cd87ca3bb558916.png>

Register 1 contains 2a, so RCL/ 1 is required to get the correct answer.

### **Re: 15C program question**

*Message #7 Posted by [John Nelson](#) on 6 June 2007, 3:38 p.m.,  
in response to message #6 by Egan Ford*

Well, I treated the colon as a divide, so it really wouldn't matter. Is there something else the colon can stand for as I have seen it before, but then a few lines below I would see them use the forward slash so it was as if they were using it interchangeably, which does not make any sense.

### **Re: 15C program instruction question**

*Message #8 Posted by [Karl Schneider](#) on 6 June 2007, 10:01 p.m.,  
in response to message #1 by John Nelson*

Quote:

026 RCL: 1

I understand the RCL and the 1, but what does the colon signify and how do I enter that on the 15C?

As Valentin and others have stated, I think it's supposed to be "divide". The original intent was probably to superimpose ":" on "-", to make a divide sign. A capital theta can similarly be formed by superimposing "-" on a "0".

-- KS

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## HP Forum Archive 17

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### User RPL speed

Message #1 Posted by [Xerxes](#) on 6 June 2007, 9:01 a.m.

For sure some of you remember the thread about the [Calculator Benchmark](#). A legitimate criticism was not having a structured version of the test algorithm for languages without GOTO command or if slower with unstructured code. Meanwhile I have added an accurate structured version of the test using the same algorithm as the unstructured one. If a language allows both versions, you will find the faster version in the table now.

This is the accurate User RPL implementation:

```
<< 8. 0. 0. 0. { } -> R S X Y A
<< CLEAR TICKS
  1. R START 0. NEXT R ->LIST 'A' STO
  DO
    'A' 'X' INCR R PUT
    DO
      'S' INCR DROP
      X 'Y' STO
      WHILE Y 1. > REPEAT
        A X GET A 'Y' DECR GET -
        IF DUP 0. == SWAP ABS X Y - == OR THEN
          0. 'Y' STO
          'A' X A X GET 1. - PUT
          WHILE A X GET 0. == REPEAT
            'A' 'X' DECR A X GET 1. - PUT
          END
        END
      END
    END
  UNTIL Y 1. == END
  UNTIL X R == END
  TICKS SWAP - B->R 8192. /
  S
>>
>>
```

After running the program, it returns the test value of 876 for correct executing and the time needed, if I am right that 8192 ticks are one second on all RPL calculators. The typical execution speed of the HP-50G is 90.3 seconds after 10 runnings.

It would be nice, if somebody can test a RPL calculator with other hardware.

Hardware Overview:

```
-----
Saturn 0.640 MHz: HP-28C
Saturn 1 MHz: HP-28S
Saturn 2 MHz: HP-48 S/SX
Saturn 3.7-4 MHz: HP-48 G/GX/G+
Saturn 4 MHz: HP-49G
ARM9 48 MHz: HP-48GII
ARM9 75 MHz: HP-49G+ / HP-50G
```

*Edited: 6 June 2007, 9:04 a.m.*

### Re: User RPL speed

Message #2 Posted by [Frank Rottgardt](#) on 6 June 2007, 9:11 a.m.,  
in response to message #1 by [Xerxes](#)

I own a HP-28s. TICKS is new to me. Is it implemented in first generation User-RPL or is only available via Sys-RPL?

### Re: User RPL speed

Message #3 Posted by [Gerson W. Barbosa](#) on 6 June 2007, 10:06 a.m.,  
in response to message #2 by Frank Rottgardt

On the HP-28S you should use #11CAh SYSEVAL. For instance, in interactive mode,

```
#11CAh SYSEVAL ENTER
#11CAh SYSEVAL ENTER
SWAP - 8192 /
```

will return the elapsed time between the two ENTER presses.

Regards,

Gerson.

P.S.:

I think replacing TICKS with #11CAh SYSEVAL in Xerxe's program might work.

*Edited: 6 June 2007, 10:10 a.m.*

### Re: User RPL speed

Message #4 Posted by [Xerxes](#) on 6 June 2007, 12:02 p.m.,  
in response to message #2 by Frank Rottgardt

If Gersons tip doesn't work, you can try this version using a stopwatch:

```
<< 8. 0. 0. 0. { } -> R S X Y A
<< CLEAR
  1. R START 0. NEXT R ->LIST 'A' STO
  DO
    'A' 'X' INCR R PUT
  DO
    'S' INCR DROP
    X 'Y' STO
    WHILE Y 1. > REPEAT
      A X GET A 'Y' DECR GET -
      IF DUP 0. == SWAP ABS X Y - == OR THEN
        0. 'Y' STO
        'A' X A X GET 1. - PUT
        WHILE A X GET 0. == REPEAT
          'A' 'X' DECR A X GET 1. - PUT
        END
      END
    END
  END
  UNTIL Y 1. == END
  UNTIL X R == END
  440. .1 BEEP
  S
>>
>>
```

*Edited: 6 June 2007, 12:03 p.m.*

### Re: User RPL speed

Message #5 Posted by [joey Bernard](#) on 6 June 2007, 10:27 a.m.,  
in response to message #1 by Xerxes

Well, I just ran it on my 48SX, and I got the following output

```
2:          368.674194336
1:          876
```

I assume that the first time is the number of seconds used?

### **Re: User RPL speed**

*Message #6 Posted by [Xerxes](#) on 6 June 2007, 11:18 a.m.,  
in response to message #5 by [joey Bernard](#)*

Thanks for testing. I have updated the table with your result.

Yes, the 876 means that the program works correctly and the second value on the stack is the execution time in seconds. Note that it is important to use the decimal point at all constants in the program for faster execution.

### **Re: User RPL speed**

*Message #7 Posted by [Joey Bernard](#) on 7 June 2007, 10:11 a.m.,  
in response to message #6 by [Xerxes](#)*

Yup. I typed it in exactly as presented above.

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## HP Forum Archive 17

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### HP 35S US Pricing

Message #1 Posted by [John Nelson](#) on 6 June 2007, 8:14 a.m.

Has anyone seen what the prospective US pricing will be for the new HP 35S?

One thing I wish they would have done with the design was to spell out Hewlett \* Packard on the bottom of the unit. Otherwise, it's nice to see that HP is listening. I wonder if it will come in a nice box with a printed user manual in a spiral bound format?

### Re: HP 35S US Pricing

Message #2 Posted by [Frank Rottgardt](#) on 6 June 2007, 9:02 a.m.,  
in response to message #1 by John Nelson

My guess is that the 35s will be in the same range as the 33s, will say around 50-60 US\$ If the 33s is discontinued the 35s will become HPs next exam-approved calculator. Already today the 33s is expensive compared to its competitors. Increasing the price would not be very smart. For most of the students the 33s (35s) is the second calculator next to the more powerful machines the usually work with. So the 35s will be an oncost for the exams only.

In Europe HP calculators are usually more expensive. You can get a 33s for around 60 Euro = 80 US\$.

### Re: HP 35S US Pricing

Message #3 Posted by [John Nelson](#) on 6 June 2007, 10:12 a.m.,  
in response to message #2 by Frank Rottgardt

Quote:

For most of the students the 33s (35s) is the second calculator next to the *more powerful* machines the usually work with. So the 35s will be an oncost for the exams only.

When you say more powerful above, are you referring to graphing calculators?

### Re: HP 35S US Pricing

Message #4 Posted by [Frank Rottgardt](#) on 6 June 2007, 10:58 a.m.,  
in response to message #3 by John Nelson

Quote:

When you say more powerful above, are you referring to graphing calculators?

Yes. I think most of them uses calculators like the 49 / 50 or maybe the TI8x. More powerful means simple bigger number of functions, graphing, matrices, decent complex number handling, unlimited stack, USB, SDcard etc.



Personally I need a small scale calculator without graphing. I/O would be great. I use a 33s in my daily work, but will swap to the 35s when it becomes available (for optical reasons). As student back in the early 90's I used a 28s which at that time really was among the best you could get. I hadn't enough in my budget to buy a 48SX. But I think the set of functions was almost identical. The 28s was a kind of "poor mans" 48SX.

If I would be student today, I certainly wouldn't buy a 33s/35s, except for the exams, if I can get a 50 to work with the rest of the time.

### Re: HP 35S US Pricing

Message #5 Posted by [Dia C. Tran](#) on 6 June 2007, 11:28 a.m.,  
in response to message #4 by Frank Rottgardt

if I am a student today the 35s seems like what I want to use for exam. The rest of the time I would use some sort of math software running on the PC.

### Re: HP 35S US Pricing

Message #6 Posted by [Frank Rottgardt](#) on 6 June 2007, 12:21 p.m.,  
in response to message #5 by Dia C. Tran

OK, MathCAD, Excel etc. are comfortable to work with. And if you have enough money to buy you one of these cute little micro-laptops you could use this software in your courses or in the lab. Otherwise a "handheld" device like a 50 is a powerful alternative at a much lower cost.

Using a 33s (35s) in an exam? OK, in the US there are not many alternatives. But the lack of matrix-functions would be a big disadvantage for me. Doing matrix calculations manually is error-prone and not so easy when it comes to bigger equation systems. I remember once I had a test (gearbox-design) where I needed to solve a 7x7 system to calculate stress. I was very happy to have my 28s solving it easily. Many classmates, owning "simple" calculators w/o matrices devoloped the equations correctly, but failed when solving the system manually. But maybe the 35s allows for more independet lables. Thus you could program a matrix routine able to solve more than 3x3 systems as on the 33s.

### Re: HP 35S US Pricing

Message #7 Posted by [bill platt](#) on 6 June 2007, 12:36 p.m.,  
in response to message #6 by Frank Rottgardt

Geez, in my graduate school, they didn't want to over-bog the arithmetic in the exams. I seem to remember the numerical answer per se being worth a small fraction of the grade. Showing the logic was more important. This was in the mid 90s in engineering school.

### Re: HP 35S US Pricing

Message #8 Posted by [Les Wright](#) on 6 June 2007, 12:47 p.m.,  
in response to message #6 by Frank Rottgardt

Frank, your scenario raises some fascinating philosophical and educational questions regarding the use of computational devices in test settings. I am not an engineer, physicist, chemist, or the like, but I have a graduate degree in adult education have have formulated some pretty strident opinions about traditional approaches to test taking.

There is a lot of discussion here about about "approved" calculators for the professional engineer certification exams in the US. I assume that the equivalents in Canadian provinces have similar rules. The common sense and educator parts of me ask, "What is the point in making the number crunching part of problem solving so onerous? In real life, a practicing professional is going to use her ingenuity and any resources at her disposal to solve problems, isn't she?" Such an approach to candidate evaluation is outmoded, divorced from real life, and is probably poorly correlated with actual ability and competency in the field. Isn't there a better way to examine people's qualifications? Certainly! But the traditional pencil and paper time-limited examination is so ingrained in the culture of universities and professional bodies there is no way it will be abandoned any time soon in favour of evaluation procedures that are more organic and realistic and respectful of the special requirements of the adult learner. It just boggles my mind that a 25 year old professional engineering candidate is required to perform on a test under similar conditions that a 15 year old has to when taking an algebra test. It is silly.

I am glad you had your 28S in your test and were able to use the best device at your disposal to fully solve the problem. But I ask, who in their right mind would expect anyone to manually solve a  $7 \times 7$  matrix problem under such bizarre and artificial conditions? Professionals in the field would have more resources, the ability to consult, and hopefully the time, to do it in a real life setting.

Les

### **Education**

*Message #9 Posted by **Gene** on 6 June 2007, 1:05 p.m.,  
in response to message #8 by Les Wright*

That's why in my career as a teacher, I tend to give open book take home tests. They must sign an honor code statement that they didn't cooperate, but they could use their book, their notes, calculators, etc.

I always thought a closed-book test didn't approximate the "real world" (of which I'm a part as an adjunct instructor for 15+ years who had a "real job").

People often spent 15+ hours working on the tests, but it was more real world than others.

Did cheating occurred? Well, my students certainly weren't making 100 on the tests. I always reserved the right to go to closed book tests if scores all started being 100, 99 or 98 on a take home test. :-)

### **Re: Education**

*Message #10 Posted by **Wayne Brown** on 6 June 2007, 2:02 p.m.,  
in response to message #9 by Gene*

In my son's Algebra III & Statistics class this past semester the students each had to do a project (worth 300 points). They were given a large number of word problems and each student had to choose 15 problems. For each problem they had to derive the correct equation (or system of equations) and solve it. They also had to list and define all variables in the context of the problem, list all steps used in solving the equations, explain each step (in complete sentences), illustrate with appropriate charts, diagrams and/or graphs, and write a concluding statement explaining the solution in terms of the original problem.

The problems were graded on several different characteristics, with a correct answer being the *least* significant factor in the grade. It was far more important for the students to understand the problem, find the right equation, find and follow the best approach, and explain clearly what they were doing (and how and why they were doing it) at every step from start to finish.

Andrew ended up getting a perfect score, but he could have gotten every answer wrong and still gotten a high score if he did everything else correctly.

## **Re: Education**

*Message #11 Posted by **John Nelson** on 6 June 2007, 2:08 p.m.,  
in response to message #9 by Gene*

As for me, I use my 15C as my daily driver when doing computations. As someone in the IT industry, I will at times bring out my 16C to switch between decimal and binary or HEX, but most of the time I use the 15C. It does what I need, is quick to use, and is small.

I agree with what others have said too about testing. I have two graduate degrees. One in computer science and also an MBA. During both of those studies, we hardly ever had a closed book exam. They were take home exams that would take quite some time, and we knew that if we were caught cheating, the punishment could be up to expulsion from the program. The main rigor of the tests though were to test our understanding of what is behind the numbers and how you get to your final decision. Yes, it is important to understand how you figure the equation out, but, IMO it is a far greater challenge to understand what the result of that equation or expression tells you. Sure, I can tell you how to find the highest point on a profit maximization curve by using some very basic calculus, but what does that point really mean to me or my company. Same thing with finding roots and many other problems. Many people can memorize the formula to figure that out, but what does it mean.

Many of my professors stressed the understanding, and I think that gave me a far better education than some of my counterparts where I work. One co-worker attained her MBA from a good school, but all she was concerned with was getting the correct answer to the formula. Her class didn't discuss what it meant, and that boys and girls is what I think separates the better schools from the ones that are not as good.

Now don't get me wrong, there are many good schools out there that are not ivy league schools that teach the why, and frankly, there are some ivy league schools that don't teach the why either. I just think though that the propensity to ask "why" is greater at some of the higher schools.

I am finding it fascinating though at my children's high school they are teaching the "why" with calculus. How many of you remember sitting in calculus in H.S. and wondering why the heck are we figuring this out and what does it mean to me?? Calculus is hard when you don't understand the why. When I went to college though, one of my first classes the professor asked us if anyone knew why we were doing calculus. Besides the "we have to graduate" answer, nobody really knew why. Thank heavens he explained the why that morning, and after that, calculus was easy, because I finally understood why we were doing it.

## Re: Education

Message #12 Posted by [Gene](#) on 6 June 2007, 2:43 p.m.,  
in response to message #11 by John Nelson

The classes I taught were business math (TVM stuff), business statistics (inferential stuff), then principles of finance and managerial accounting.

In the business math class, I always wanted the students to know how to evaluate an answer returned by their TI BAIL plus calculators (or sometimes, the HP10B or HP12c, but that's another story).

They would punch things in the 5 TVM keys, but when they got an answer, "Is it reasonable or nuts?" was my first reply.

Often, if you're wrong on something, it will be WAY off if something were input wrongly.

That's the approach I took when writing my business math textbook (on amazon but I only have 1 left...and not sure if I'm doing a reprint). :-)

## Re: Education

Message #13 Posted by [John Nelson](#) on 6 June 2007, 3:35 p.m.,  
in response to message #12 by Gene

I remember in 2004, Valentin posted a great little didactic [problem](#) that looked at compounding interest and a great gold disc growing in size. I think these are the types of questions professors should be using to quiz their students. It is a perfect example teaching a concept with a problem. Does anyone remember this post? I thought it was great!

## growing disk in the sky

Message #14 Posted by [bill platt](#) on 7 June 2007, 7:22 a.m.,  
in response to message #13 by John Nelson

I remember it

## Re: Education

Message #15 Posted by [Palmer O. Hanson, Jr.](#) on 7 June 2007, 10:00 a.m.,  
in response to message #11 by John Nelson

You wrote in part:

Quote:

... I am finding it fascinating though at my children's high school they are teaching the "why" with calculus. How many of you remember sitting is calculus in H.S. and wondering why the heck are we figuring this out and what does it mean to me?? Calculus is hard when you don't understand the why. When I went to college though, one of my first classes the professor asked us if anyone knew why we were doing calculus. Besides the "we have to to graduate" answer, nobody really knew why. Thank heavens he explained the

why that morning, and after that, calculus was easy, because I finally understood why we were doing it.

---

In my high school days back in the 1940's very few high school students were exposed to calculus. In college I was introduced to calculus in parallel with mechanics during physics class. That made it easy to understand why I needed to learn calculus. Leonardo da Vinci was right when he wrote:

Quote:

---

Mechanics is the paradise of the mathematical sciences because by the means of it one comes to the fruits of mathematics.

---

### **Re: HP 35S US Pricing**

*Message #16 Posted by **Frank Rottgardt** on 6 June 2007, 3:24 p.m.,  
in response to message #8 by Les Wright*

There were no limitations during our tests regarding calculators, only the use of laptops was prohibited. But at that time not even many of our professors owned such a piece of hardware as far as i recall. But there existed several rules what kind of books and notes/compendium one was allowed to take to the test room. For most of the tests we could use a formulary written by ourselves plus some standard literature.

Half of the class used to work with HPs. One guy had a 42s, I was the only one with a 28s and the rest were proud owners of a brandnew 48SX. I never figured out how they could afford them. There were also many really big-sized grey SHARP calculators which could be programed in BASIC. Can't remember the exact modell. And a minority of students used simple scientifics w/o programs. So I guess it was not very fair against these guys.

A typical test lasted 4 to 5 hours, and mostly we had to solve real world problems. Like dimension a gearboxshaft, the gears, certain parts of a pump, choosing the right bearings, making thermodynamic caculations etc.

The professors then gave us points for A) the right approach B) the right results. Depending on the amount of computation needed to get the result, you often could get more points for the approach which I thing was fair.

After each test I felt like after a long-distance run. Really tired and exhausted, but not able to get calm since we students immediately started discussions about how everybody solved the problems and what the right results were. But the hardest part of it was that the tests were always concentrated in the last week before the summer break, and the first week after. So sometimes one had to wait for ten long weeks until you knew if you passed or not. That could make your summer somtimes hard to enjoy.

### **Re: HP 35S US Pricing**

*Message #17 Posted by **Norris** on 6 June 2007, 5:41 p.m.,  
in response to message #8 by Les Wright*

Quote:

---

There is a lot of discussion here about about "approved" calculators for the professional engineer certification exams in the US...The common sense and educator parts of me ask, "What is the point in making the number crunching part of problem solving so onerous? In real life, a practicing professional is going to use her ingenuity and any resources at her disposal to solve problems, isn't she?"

You misunderstand the reasons for the calculator restrictions on these exams.

High-end calculators weren't banned because of their number-crunching capabilities. They were banned because NCEES perceived them (rightly or wrongly) as threats to exam security. Their concerns are that calculators with alphanumeric keyboards and text editing capabilities could be used to copy and store actual exam questions, and that calculators with wireless I/O capabilities could be used to communicate within the exam room.

NCEES doesn't care at all if you exploit the number-crunching capabilities of your calculator. The 33S, for example, is legal for NCEES exams, and it can be packed with as many programs or equations as you can fit in. Several vendors openly advertise and sell commercial 33S exam software for exactly this purpose.

The reality is that NCEES exams don't require a great deal of onerous number crunching. For most questions, the hard part is to make the correct assumptions and select the correct equations; actually crunching the numbers is relatively easy. The exams are designed so that you can pass them with \$15 non-programmable scientifics, and people regularly do so. A pre-programmed 33S can facilitate solving certain problems, but it's only a convenience, not a necessity.

*Edited: 6 June 2007, 5:47 p.m.*

### **HP-15C anecdote and calculations for tests**

*Message #18 Posted by [Karl Schneider](#) on 6 June 2007, 10:43 p.m.,  
in response to message #6 by Frank Rottgardt*

Hi, Frank --

Quote:

But the lack of matrix-functions would be a big disadvantage for me. Doing matrix calculations manually is error-prone and not so easy when it comes to bigger equation systems. I remember once I had a test (gearbox-design) where I needed to solve a 7x7 system to calculate stress. I was very happy to have my 28s solving it easily. Many classmates, owning "simple" calculators w/o matrices developed the equations correctly, but failed when solving the system manually.

In 1991, I was taking an exam in a junior-level EE circuits course. One problem on the exam was to solve numerically for various quantities in a three-loop AC ladder circuit. Of course, this can be approached by "collapsing the ladder" from the outside toward the voltage source to obtain the equivalent circuit impedance and current, then re-expanding the circuit to obtain the other values. However, this was rather tedious.

Instead, I solved the problem on my HP-15C as described in the Owner's Handbook --

namely, writing three loop equations and entering those as a 3x3 complex-valued matrix (which is represented on the HP-15C as a 6x6 real-valued matrix after using built-in transformation functions). I made short (and correct) work of that problem, and felt that I had an advantage over students whose calculators did not have that capability, or who didn't know how to use it.

Numerically solving a 7x7 real-valued system seems beyond what ought to be considered reasonable in an in-class exam, unless all students had adequate tools to calculate the result.

BTW, the HP-15C -- a *pure calculator* from 1982 -- has just enough memory to solve a 7x7 real-valued system  $Ax = b$ , while retaining the vector "b". If the solution "x" is allowed to overwrite "b", then eight allocatable registers will be available for other uses.

-- KS

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## HP Forum Archive 17

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### Re: 42s Screen problem

Message #1 Posted by [Alan](#) on 6 June 2007, 2:33 a.m.

Hi, some of you may remember I posted [this thread](#) regarding a full black patch forming on my 42s screen. At that time, I thought the machine was dead as I put in CHEAP CHINA MADE batteries and there was nothing. So, I concluded that the screen was having some problems and was causing the calculator not to display anything. Thinking the 42s was dead, I happily open up my 42s(yes, I used a screwdriver to pry it open :( ) just to play with it and later found that the case couldn't be shut anymore.

Today, of of curiosity, I went to buy some JAPAN MADE PANASONIC batteries (not cheap), put it in the calculator, and guess what, it came to life, even though there's a black patch on the screen, the screen still works as per normal. Though it's harder to read the display now because of the black patch.

So now, I'm using rubberbands to shut the calculator case and the sides of the case are marred:

<http://img155.imageshack.us/img155/4886/img008yk4.jpg>

Lesson learnt: never buy cheap batteries.

Just asking: Anyone have any ideas to shut the case?(besides using rubberbands)

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## HP Forum Archive 17

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### HP35 with "The Bug" - latest s/n and version?

Message #1 Posted by [Dan W](#) on 6 June 2007, 12:21 a.m.

Anyone know the latest known serial numbers of HP-35's with "the Bug"? Also were buggy HP-35's seen in the 3rd version (with the 35 on the HP logo plate)?

TIA

-- Dan

### Re: HP35 with "The Bug" - latest s/n and version?

Message #2 Posted by [Jeff O.](#) on 6 June 2007, 8:51 a.m.,  
in response to message #1 by Dan W

I have never see a version 3 HP-35 with the ln bug. The latest version 2 that I have is 1143A58xxx, and it has the bug. While I don't know for sure, I believe that the next batch of version 2 HP-35's started with 1230A, indicating that production of this batch began around the last week of July 1972. I have a photo of the letter that HP sent out to owners describing the bug and offering to repair their calculators. Unfortunately, the letter does not seem to have a date on it. It does state "We have taken immediate steps to correct the problem, and will have replacement read-only-memories available sometime after the first of the year." Presumably, that was after January 1, 1973. Dave's list of serial numbers indicates the earliest version 3 started with 1302A. This is consistent with the above letter and the conclusion that they corrected the roms and started producing the version 3 bug-less models in early 1973. My version 3 unit is S/N 1302A98xxx, no bugs in sight.

### Re: HP35 with "The Bug" - latest s/n and version?

Message #3 Posted by [Dan W](#) on 6 June 2007, 7:11 p.m.,  
in response to message #2 by Jeff O.

Thanks. that's helpful and interesting. I found an HP35 with the bug at a garage sale, date code 1230A But it had been opened, so one never knows what may have been swapped in or out.

I opened it up and found a datecode on the mainboard: 1218.

I've noticed that some datecodes show up a lot, like 1230, 1302, 1143. It seems to me the datecodes changed more with some revision than with the dates.

Also some early HP35's have a 2 piece center plate with 10 screws and later ones have a 1 piece with 8 screws. Anyone know when this change took place?

-- Dan

### Re: HP35 with "The Bug" - latest s/n and version?

Message #4 Posted by [Jeff O.](#) on 11 June 2007, 2:33 p.m.,  
in response to message #3 by Dan W

Quote:

---

I've noticed that some datecodes show up a lot, like 1230, 1302, 1143. It seems to me the datecodes changed more with some revision than with the dates.

---

The common serial number explanation is that the first two digits are the year of manufacture (minus 1960), the second two are the week number within that year, the letter indicates country, then the last five digits are the individual sequence numbers. So, the first four can be called the date code, and as you say, some date codes show up a lot. I have no direct evidence, but I do not believe that hp changed the date code at the beginning of each new week. I think it was changed only when certain events occurred, such as:

1. they produced 99,999 copies with a particular date code (assuming they would not produce a unit with a sequence number of "00000".)
2. a fairly major design change was implemented, such as the updated roms between versions 2 and 3, or the keyboard design change between versions 3 and 4.

Quote:

---

Also some early HP35's have a 2 piece center plate with 10 screws and later ones have a 1 piece with 8 screws. Anyone know when this change took place?

---

My version 2 units are all 1143A and all have the 2-piece center plate with 10 screws. My 1302A version 3 has a single piece center plate, and presumably only 8 screws, although I have not disassembled it. Does your 1230A unit have a 1-piece or 2-piece center plate? If it is 2-piece and if I had to conjecture, I would say that the 2-piece to 1-piece center plate change coincided with the version 2 to version 3 change.

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## HP Forum Archive 17

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### **For all of HPs (semi)-recent misgivings...**

*Message #1 Posted by [ECL](#) on 5 June 2007, 11:05 p.m.*

When I became "serious" about HPs, programming (in general), and efficient calculator programming (late 2001 or so) I caught notice of a special-edition 'employee's only' HP calculator (33 or 32sii was it??). (some of you know of my childhood explorations with my 42s (who was the go-to nerd of my 6th grade class?))

Well, when you grow up cataloging magstrips for your engineer-father there is a certain 'likely outcome' at work. Well, as much as we have griped about the stray HP that we used to love there is something that is worth mentioning-

How many 'edition' calcs has TI released in the past x years? We've had the 33 (or 32s), 12cp anniversary, and now the 35s.

That's pretty cool. Just a brief look through other eyes: It is not cool to look forward to "Special Edition" calculators! While we get amped about these things, it is uncommon (therefore not the best business model) to pander to us. So, here's to us techies and nerds that "get" these machines!

ECL

### **Re: For all of HPs (semi)-recent misgivings...**

*Message #2 Posted by [allen](#) on 6 June 2007, 12:17 a.m.,  
in response to message #1 by [ECL](#)*

HP also released special editions of the 14b, 28s, and 48gx.

<http://www.enterhp.com/images/gx2d-512.jpg> <http://www.enterhp.com/images/14B-512.jpg>

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## HP Forum Archive 17

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### My Brief Comments on 35S as shown

Message #1 Posted by [bill platt](#) on 5 June 2007, 9:18 p.m.

1. The cursor keys use a lot of real estate, yet have only single shifts--apparently to menus. Why not put blue-shifts on them?
  2. If MODE is used merely for switching RPN and ALG, it is a big waste of direct keys.
  3. Neither LN nor  $e^x$  are primary. This really ought to be rectified. Both should be there in my opinion. Of course we have precedents that vary: 41c with both LOG and LN primary, shift for exponents, and the 11c, which was exactly opposite, and finally the 32sii which is as I suggest.
  4. It is rather interesting to see "i" as a primary key. In the past, on all the models I have used, I and i or (i) have always been shifted and it really hasn't been a problem. Furthermore, it appears that all the indirect addressing is using either a primary key or a shifted function. On the 32sii, these were actually quaternary functions--they didn't even use up a shift! Here on the 35s, only the (i) and (j) appear to be quaternary.
  5. Similarly, the SPACE was always a quaternary. If the letters are quaternary, why can't the space be--shared with R/S--as it was on the 32sii. When writing an equation or a note, R/S is meaningless anyway, so it is a good use. Heck, even the 41c did this after a fashion.
  6. Moving the Equation List as well as brackets, to primary keys seems good to me--it opens up the equation feature to prominence, rather than an apparent buried add-on (which it was) on the 332sii.
  7. I do hope the the equation list is fully editable with those cursors. It sure better have all the functionality of the 17bii in that respect--being able to edit rather than backspace over an equation. Indeed, it would be nice if they implemented the softkeys of the 17bii equations, but I would bet that is not going to be the case. Just as long as you can edit the equations though--that would be a big improvement. [Perhaps it would be difficult to implement softkeys, when the equations are valid both on their own as well as in programs. The parser would have to understand to disable softkeys when in programs.
- Another wish-list item for equations would be the ability to copy equations for editing, and also the ability to pull equations that are in the List into RPN programs, though both of these features start to sound like RPL features don't they?
8. For additional primary key real estate, GTO could be shifted if need be. We accepted it as such on the 32sii, even though it is used for navigation as well as programming.

*Edited: 5 June 2007, 10:25 p.m.*

### Re: My Brief Comments on 35S as shown

Message #2 Posted by [Chuck](#) on 5 June 2007, 11:20 p.m.,  
in response to message #1 by [bill platt](#)

I had some similar thoughts about the wasted spaces with respect to a few functions. For instance

(1) the square root is shifted requiring 2 key strokes. This can be done by  $2 x^y$ , also two strokes, (and also, ENTER \*, again two strokes, but not as useful in a program).

(2) the x-root option shouldn't be necessary for anyone using a scientific. Radicals, bah! 7th root is just  $7 \frac{1}{x} x^y$ . No need for a dedicated x-root button.

OT. I played around with a TI-36 that was left in my class today. A lot of neat features on this little guy. A few of them I'd like to see incorporated into the 35s (I still don't like any TI's). [TI 36X](#)

### Re: My Brief Comments on 35S as shown

Message #3 Posted by [ECL](#) on 6 June 2007, 12:38 a.m.,  
in response to message #2 by Chuck

Chuck,

I've been having recurring thoughts along those lines.

In fact, I don't recall ever using the y, x, root(y,x) key. I always key in coefficient, exponent,  $1/x$ ,  $y^x$ .

I do this for everything on my 33s, including squaring a number. I laughingly approached it as an experiment that caught on. As you pointed out,  $y^2$  is just a common case of the  $y^x$ . So it can only reduce efficiency to keep track of two special cases ( $y^2$ ,  $y^3$ ) when running numbers. I am, however, very happy for the return of the  $x^2$  and root(x) sharing the same key.

When using my 32sii, I became so fluent with keystrokes that I consciously evaluated the "form" of my motions, feeling an affinity for certain fluidity.

To illustrate: Square the number 5

1. Index finger (5)
2. Thumb (shift)
3. Middle finger ( $x^2$ )

With a fluid rhythm. It was a bit of a dance or art to smoothly navigate nested expressions.

Keyboard quality with the 49g and \*+ really struck close to home. The 50g is a solid step in the return of HP, and if the actual 35s product follows the cues of the pre-release pictures, while improving/maintaining the 33s & 50g keyboard qualities, we'll have something nice to look forward to.

ECL

### Re: My Brief Comments on 35S as shown

Message #4 Posted by [Walter B](#) on 6 June 2007, 1:27 a.m.,  
in response to message #1 by bill platt

Hi Bill,

agree with most of your comments. To add, I suspect "i" to be used for complex number input and indirect addressing. However, there's little space left for primary functions like LN and  $e^x$ .

Please look at [this link](#). I'm most willing to take proposals for blue-shifted cursor functions. Your comments, please :-)



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## HP Forum Archive 17

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### HP-97 and HP-42

Message #1 Posted by [Gerry Schultz](#) on 5 June 2007, 8:10 p.m.

I am really excited about some new calculators I got from that unmentionable website. I purchased an HP-97 which arrived today and I'm looking forward to using it. It works great and is just what the seller promised. When the 97s first came out around 1975, I couldn't afford one but I always wanted one. Finally, after some 30 years I actually have one in my hands. I've never seen a 97 in real life, only in pictures and it's not as big as I expected it to be.

It's funny how those desires stick with you through your life. It's a fond memory that's finally been fulfilled. Now I can see first hand how the 67/97s works and not just what I saw in the program translation firmware built into the 41C card reader.

Now, that I have it, I'll have figure out how I'm going to show my wife without getting shot. I know the first question she'll ask me, "How much?" But, she's also a good sport and will understand my need as long as it makes me happy.

I also purchased a HP-42 but I haven't received it yet. Being the successor to the 41, it will be interesting to see how different it is from the 41. I stopped collecting HP calculators after the 41 until the 48GX. It was such a change going from the 41 to the 48GX that it took me a long time to understand how the 48GX worked.

My first HP calculator was an HP-45 which I sold to buy an HP-55. I didn't get the 67/97 since it was too expensive but I ended up buying a 41C when they first came out. Then a 41CV and finally I bought a 41CX last year. After a long gap in my interest in HP calculators, I got a 48GX right after they first came out. I ended up buying just about every book I could find on the GX just to figure out how it worked.

I still have all this stuff even though my wife wonder's why. The 49G+ and the 50G are great calculators but in many ways, beyond me. The 97 is a much simpler calculator and I'm looking forward to playing in that much smaller playground.

Gerry

### Re: HP-97 and HP-42

Message #2 Posted by [Valentin Albillo](#) on 5 June 2007, 8:28 p.m.,  
in response to message #1 by [Gerry Schultz](#)

Hi, Gerry:

Congratulations for your newly acquired HP-97. It's indeed a truly fine machine and a pleasure to use, what with that large, easy-to-read red LED display and the equally large and comfortable buffered keys, which will allow you to key numbers and operations in advance, for faster results.

Just two comments/advices:

1. \*Never\* try to print NNN's (Non-normalized-numbers). They can be read from data cards, usually generated using an HP-67, where they can be made on purpose to create quasi-alphanumeric messages, and are also used for timers and such. If you're given such a data card, it would be wise

to either never read it at all, or in any case, never try to print the NNN you're seeing in the display. Doing that will probably result in a burned-out, utterly destroyed printhead.

NNN's can also be accidentally created by means of sudden low or peak voltages. If you happen to see some funny display, showing some strangely malformed number or letters in mid-number, \*do not attempt to print it\*, it's most probably some NNN and thus printing it can hopelessly ruin your printhead.

2. With a little programming you can make your HP-97 emulate other Topcat models, such as the financial functions of the HP-92. Programs to compute and list mortgages, for instance, can easily fit in a single card and will duplicate the HP-92 financial results. Perhaps you could show such a program, listing all periods of a mortgage, to your wife for she to appreciate the real, practical usefulness of your new acquisition ! :-)

I sincerely hope you enjoy your new machines !

Best regards from V.

### Re: HP-97 and HP-42

Message #3 Posted by [Sam Levy](#) on 5 June 2007, 8:34 p.m.,  
in response to message #1 by Gerry Schultz

Gerry, I appreciate the simpler commands of the earlier calculators, I didn't have to learn a lot new. I remember the 32, I read the book through twice before it all fell into place, The later graphical calculators don't fill my needs, and the 35s, who wants a calculator without a STO key, Sam

### Re: HP-97 and HP-42

Message #4 Posted by [Don Shepherd](#) on 5 June 2007, 9:17 p.m.,  
in response to message #3 by Sam Levy

Sam, the "proposed" 35s does have STO, it is just shifted. Wouldn't make sense to have a RCL without a STO!

### Re: HP-97 and HP-42

Message #5 Posted by [Jim Creybohm](#) on 6 June 2007, 10:54 a.m.,  
in response to message #1 by Gerry Schultz

Wow Gerry, I could have been reading my own history. The only difference would be that where you found the 97 to be enjoyable and desirable, my choice was the 67. And I finally found one, with full documentation.

I also purchased a 42 and compared it to the 41 (which is my only true love). The 42 is very nice however. I only wish I could have purchased one when they were new. I don't like the alpha process however, with every letter taking at least two key strokes. (you pick the letter from a menu). I also find the screen to be annoying in that it does not offer the greatest contrast unless it is viewed at 45 degrees.

I too find that the 48 and 50 (and indeed RPL) are way beyond my needs and possibly my understanding.

If the calculator was good enough for the space program - it should meet my needs.

Using your playground analogy, more real estate also means more garbage to pick up. I like a smaller yard too.



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## HP Forum Archive 17

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### HP35s - This how it should have looked - modified arrow keys.

Message #1 Posted by [Jason](#) on 5 June 2007, 1:41 p.m.

The classic look HP35s.

I modified the proposed design of the HP35s to show how it could have been made to look even more "classic":-

<http://www.flickr.com/photos/8771575@N08/531755750/>

If someone with access rights wants to upload this picture directly into this thread for visual convenience, feel free to do so.

Cheers Jason

### Re: HP35s - This how it should have looked - modified arrow keys.

Message #2 Posted by [Howard Owen](#) on 5 June 2007, 1:55 p.m.,  
in response to message #1 by Jason

You can do that yourself, Jason. Just hit the button marked "Link" in the editor, and fill in the URL and what you would like the text to say. The code to do what you want is then included at the bottom of your posting.

[Here's your link done up that way.](#)

The code for that is:

```
[link:http://www.flickr.com/photos/8771575@N08/531755750/]Here's your link done up that way.[/link]
```

Regards,  
Howard

### Re: HP35s - This how it should have looked - modified arrow keys.

Message #3 Posted by [GE](#) on 5 June 2007, 2:11 p.m.,  
in response to message #2 by Howard Owen

Awesome work, it is much better now IMHO. Congratulations.

### Re: HP35s - This how it should have looked - modified arrow keys.

Message #4 Posted by [Frank Rottgardt](#) on 5 June 2007, 3:08 p.m.,  
in response to message #1 by Jason

We are focusing to much on the keyboard, hey - there is also a back side of this neat little thing waiting to be filled with information.

When talking classic design features like a chrome border and the like, why not adding the good old back side

labels!

### Rear label - HP35 - german

Look at these arrows! Gives the whole thing a kind of ENIGMA touch. Imagine the next time a friend wants to borrow a calculator and you give him/her your brandnew HP-35s. When he/she is still wondering what the he.. this big ENTER key is good for and where the = key got lost, you simply say: "there is a short-manual on the back side." This finally will put him/her over the edge!

### Re: HP35s - This how it should have looked - modified arrow keys.

Message #5 Posted by [Hal Bitton](#) on 5 June 2007, 3:12 p.m.,  
in response to message #1 by Jason

Hi Jason,

Forgive me, but I'm just not seeing the logic in your improved arrow keys. Both of the arrows point up. It seems to me the yellow shift key should have an arrow that points straight up (indicating the above key function), and the blue shift key's arrow should point straight down (for the bottom side of the key function), with no left of right bends in the arrows at all. Something akin to the arrows on the up and down cursor keys would be perfect IMHO.

Are you sure you posted the right picture?

Best regards, Hal

### Re: HP35s - This how it should have looked - modified arrow keys.

Message #6 Posted by [Walter B](#) on 5 June 2007, 3:53 p.m.,  
in response to message #5 by Hal Bitton

Hal,

Jason was talking about the *cursor* keys. The *prefixes* you mentioned have been addressed [here](#).

### Re: HP35s - This is how it should have looked - modified blue & gold shift keys and cursor keys

Message #7 Posted by [Jason](#) on 5 June 2007, 5:10 p.m.,  
in response to message #1 by Jason

I modified my previous image to remove the arrows from the blue and gold shift keys - is now similar to the HP42 :-

<http://www.flickr.com/photos/8771575@N08/532162815/>

Another option is to add "f" and "g" to the blue and gold shift keys similar to the HP25 :-

<http://www.flickr.com/photos/8771575@N08/532162821/>

Cheers Jason

### Re: HP35s - This is how it should have looked - modified blue & gold shift keys and cursor keys

Message #8 Posted by [Sam Levy](#) on 5 June 2007, 8:06 p.m.,  
in response to message #7 by Jason

I have no problem with the cursor or shift keys, I am disappointed by the lack of a STO key, giving precedence to less used keys. I don't understand this at all. Love your imagined layouts, Sam

### STO key

Message #9 Posted by [bill platt](#) on 5 June 2007, 8:38 p.m.,  
in response to message #8 by Sam Levy

I agree with the STO key as a primary. It is much more important than  $x^2$  for instance, I think. Of course RCL is even more important in my opinion.

Decisions on keys are never easy. Look at the transition from 11c to 32sii:

GTO moved to shifted,

clearing x, regs or sigma moved to shift and a menu so one extra step,

$10^x$  went to shifted, but an improvement (to me) was moving LN to primary,

SST was moved to shifted,

One reason for these changes was that the 32sii actually had two fewer keys--37 instead of 39! It also has more functions, but the menus pretty much make up for that--and the change in HYP handling--only one HYP key rather than a  $\text{Hyp}^{-1}$  key as the 11c had. Perhaps this was part of the original Pioneer design concept of a simplified clean keyboard with menus (32s, 42s, 22s? 17b).

### Re: HP35s - "STO" unshifted?

Message #10 Posted by [Karl Schneider](#) on 7 June 2007, 12:02 a.m.,  
in response to message #8 by Sam Levy

Quote:

I am disappointed by the lack of a STO key, giving precedence to less used keys. I don't understand this at all.

STO need be used only once for a given value, while RCL can be used many times. Hence, RCL is unshifted on the conceptual HP-33s. I also prefer STO unshifted, but the aren't very many free keys.

Naturally, the reverse of this arrangement is found on the HP-28/48/49...

-- KS

*Edited: 7 June 2007, 12:03 a.m.*

### Re: HP35s - This is how it should have looked - modified blue & gold shift keys and cursor keys

Message #11 Posted by [Wayne Brown](#) on 5 June 2007, 8:16 p.m.,  
in response to message #7 by Jason

The one with "f" and "g" is your best one yet, and much better than HP's version. I'd buy one of these tomorrow if they were available.

**Re: HP35s - This is how it should have looked - modified blue & gold shift keys and cursor keys**

Message #12 Posted by **Gene** on 5 June 2007, 9:39 p.m.,  
in response to message #11 by Wayne Brown

C'mon Wayne. IT still doesn't look like a wedge of sharp metal!

**Gene's Idea of What Wayne Wants**

Message #13 Posted by **Howard Owen** on 5 June 2007, 11:14 p.m.,  
in response to message #12 by Gene

<http://retrocalculator.com/images/GenesIdea.jpg>

*Edited: 6 June 2007, 4:02 a.m. after one or more responses were posted*

**Re: Gene's Idea of What Wayne Wants**

Message #14 Posted by **Walter B** on 6 June 2007, 12:20 a.m.,  
in response to message #13 by Howard Owen

:-)) Thanks, Howard, I love this one! Though it reminds me of the 33s - it should be all black.

**(deleted post)**

Message #15 Posted by **deleted** on 6 June 2007, 3:10 a.m.,  
in response to message #13 by Howard Owen

This Message was deleted. This empty message preserves the threading when a post with followup(s) is deleted. If all followups have been removed, the original poster may delete this post again to make this placeholder disappear.

**Re: Gene's Idea of What Walter Wants**

Message #16 Posted by **Howard Owen** on 6 June 2007, 4:14 a.m.,  
in response to message #15 by deleted

OK, I changed the title back.

Regards,  
Howard

**Re: Gene's Idea of What Wayne Wants**

Message #17 Posted by **Gene** on 6 June 2007, 8:34 a.m.,  
in response to message #13 by Howard Owen

Hey, that's very close! BIG :-)

Gene

**Re: Gene's Idea of What Wayne Wants**

Message #18 Posted by **Wayne Brown** on 6 June 2007, 9:35 a.m.,  
in response to message #13 by Howard Owen

No, [this](#) is what I want (but not as a calculator).

### Re: HP35s - This is how it should have looked - modified blue & gold shift keys and cursor keys

Message #19 Posted by [Wayne Brown](#) on 6 June 2007, 9:29 a.m.,  
in response to message #12 by Gene

You must have a reading comprehension problem. I've said several times that I *prefer* certain things, but there's a difference between what I *prefer* and what I'll *accept*. Jason's latest version is completely acceptable.

You *really* haven't been paying attention if you think I want a "wedge" of anything. I *prefer* perfectly straight lines and perfect right angles, which means a rectangular solid, not a wedge. Also, I don't want metal, but something with the look and feel and weight of marble. Plastic would do (if the internal components are sufficiently heavy), but a black ceramic material would be even better.

But, as I said, I'd buy Jason's design right away if HP had the sense to build it.

### Re: HP35s - This is how it should have looked - modified blue & gold shift keys and cursor keys

Message #20 Posted by [Walter B](#) on 6 June 2007, 1:05 a.m.,  
in response to message #7 by Jason

Hi Jason,

prefix-wise, I like your keyboard with the pure colors best. To *write* about shift keys in manuals and wherever else is easier with f and g. And they are looking good, too.

More generally speaking, I've no problem with the cursors HP has shown. I see them as a tribute to modern times. And they are more ergonomic than the patterns you offer.

What hurts me (and others) more is the shifted STO, the dislocation of  $x \langle \rangle y$ , the waste of space for <-ENG/ENG-> and the like. My attempt to get this solved is found and explained [in this previous post](#) (BTW: another example of an automated link). I would adopt your f and g if you allow.

### Re: HP35s - This is how it should have looked - modified blue & gold shift keys and cursor keys

Message #21 Posted by [Wayne Brown](#) on 6 June 2007, 9:49 a.m.,  
in response to message #20 by Walter B

Quote:

More generally speaking, I've no problem with the cursors HP has shown. I see them as a tribute to modern times.

And *that* is precisely what I dislike about them most. I want something that's more a tribute to [this](#) and [this](#), or at least [this](#).

### Re: HP35s - This is how it should have looked - modified blue & gold shift keys

### **and cursor keys**

*Message #22 Posted by **Walter B** on 6 June 2007, 12:09 p.m.,  
in response to message #21 by Wayne Brown*

Oh yes, I remember the ones of your last picture very well: I learned computing on them and later developed a "fast" data acquisition system on a pdp 11 with 64kB and a total of 5MB disk space, using a 1600bpi MagTape. I'll look how I can approach your needs, though I'll probably be unable to fulfill them completely.

### **Re: HP35s - This how it should have looked - modified arrow keys.**

*Message #23 Posted by **Raymond Del Tondo** on 6 June 2007, 3:39 a.m.,  
in response to message #1 by Jason*

Hi,

I'd prefer the cursor keys to be arranged like in the HP-48.  
So the MODE key would go the the top right,  
the left-arrow key would go one pos left,  
the downarrow key would go where the left-arrow key was,  
and the i key would go up one row, where the MODE key was.

The GTO key could be shifted, to make room for an unshifted STO key.

Regards

Raymond

### **Re: HP35s - This how it should have looked - modified arrow keys.**

*Message #24 Posted by **Dave Johnson** on 6 June 2007, 3:19 p.m.,  
in response to message #1 by Jason*

I am missing something.. What benefit do you gain? You don't gain any more keys and you lose the natural directional nature in the proposed HP design. Why would you not position arrow keys as HP did? The 48 series and 28C/S series did not offer an optimal keypad layout wrt the arrows.

### **Re: HP35s - This how it should have looked - modified arrow keys.**

*Message #25 Posted by **Wayne Brown** on 6 June 2007, 3:49 p.m.,  
in response to message #24 by Dave Johnson*

Quote:

\_\_\_\_\_

What benefit do you gain?

\_\_\_\_\_

In my case, the benefit would be not having to use the calculator with my eyes closed, or trying to shield it to keep people around me from seeing me use it.

### **Re: HP35s - This how it should have looked - modified arrow keys.**

*Message #26 Posted by **Dave Johnson** on 6 June 2007, 4:38 p.m.,  
in response to message #25 by Wayne Brown*

I still do not understand. Why would you not want the arrow cursors arranged in a rational manner as

opposed to the 48 / 28 scenario (I don't think the original posters arrangement is as bad as the 48 / 28 series but I don't see it being optimal..) Why would you need to shield your calculator from view?

**Re: HP35s - This how it should have looked - modified arrow keys.**

Message #27 Posted by [Wayne Brown](#) on 6 June 2007, 5:11 p.m.,  
in response to message #26 by Dave Johnson

Quote:

Why would you not want the arrow cursors arranged in a rational manner as opposed to the 48 / 28 scenario...

I think the "48 / 28 scenario" *is* rational and also looks much better. The diamond-pattern keys seriously offend my aesthetic sensibilities; they make the calculator look like a trivial bit of "consumer electronics" (like a game or a TV remote or a cell phone) rather than a serious scientific instrument.

Quote:

Why would you need to shield your calculator from view?

I'd be embarrassed to let anyone see me using it -- just as much as if it were pink and covered with fluffy bunnies and kittens. (Maybe I shouldn't be giving HP any ideas. :-)

**Re: HP35s - This how it should have looked - modified arrow keys.**

Message #28 Posted by [Steve Borowsky](#) on 6 June 2007, 7:43 p.m.,  
in response to message #27 by Wayne Brown

Quote:

I'd be embarrassed to let anyone see me using it -- just as much as if it were pink and covered with fluffy bunnies and kittens. (Maybe I shouldn't be giving HP any ideas. :-)

I hope you realize that the negative associations you have with certain arrangements of keys are subjective, that is, they're in your head.

**Re: HP35s - This how it should have looked - modified arrow keys.**

Message #29 Posted by [Wayne Brown](#) on 6 June 2007, 11:22 p.m.,  
in response to message #28 by Steve Borowsky

Quote:

I hope you realize that the negative associations you have with certain arrangements of keys are subjective, that is, they're in your head.

OK, look at it this way: Which cursor-key style do *you* think looks more modern, up-to-date, in keeping with current styles? And which do *you* think looks "old" (or at least, "old-fashioned")?



Which would a teenager or twenty-something be more likely to consider "cool" and "in style?" Well, *that's* the one I don't want. Something the average person considers "modern" or "trendy" or "in style" is what I would consider a "negative association."

**Re: HP35s - This how it should have looked - modified arrow keys.**

Message #30 Posted by [Raymond Del Tondo](#) on 6 June 2007, 7:15 p.m.,  
in response to message #26 by Dave Johnson

Hi,

the HP-48 and the HP-28 have a total different cursor key arrangement. The layout on the HP-48 (Upside-down T) is very common, nearly every PC keyboard uses this layout, whereas the cursor key arrangement on the 28C/S is not very good IMHO.

The arrangement and implementation as seen on the unmodified 35s pictures isn't bad in itself, but the cursor keys shape doesn't fit very well compared to the other keys. The cursor keys look cheap IMO.

Raymond

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## HP Forum Archive 17

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### Paravirtualisation

Message #1 Posted by **Mike (Stgt)** on 5 June 2007, 10:50 a.m.

VM (Virtual Machine) is not a new concept to build an interface to real HW. Everyone who logically rebuilt a CPU to interpret some firmware with it as close as possible to real HW programmed a Virtual Machine (Simulation or Emulator). New are the terms used for old processes: "Paravirtualisation" is called the method when a guest-OS may know it's not running on a real machine and gets access to it's host's HW, the really real HW. If you use an HP-50G with an ARM inside to emulate (simulate?) a Saturn-CPU but (AFAIK) that "new" OS calls now and then native ARM routines you have an **"ARM based Saturn-emulator running a paravirtualized OO-OS"** at hand. (OO-OS = Object Orientated Operating System, hence '3OS'.)

Reminds me the last words in "Paradigm", a song of (from? with??) Prince interpretet by George Clinton: **"... and virtual is real!"**

Ciao.....Mike

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## HP Forum Archive 17

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**HP-25C repair**

Message #1 Posted by [MikeG](#) on 4 June 2007, 8:28 p.m.

I have one HP-25C that exhibits a lack of programming storage, for example entering any key code in program mode results in <01 1 00> in run mode the unit stores and recalls correctly, also using Sigma+ works correctly.

I have kept the unit running without any signs that would be indicative of the clock skewing issue. I haven't tried putting a 20K resistor across data line 11 and ground though.

Is this a problem with the ACT or RAM IC?

**Re: HP-25C repair**

Message #2 Posted by [Eric Smith](#) on 4 June 2007, 8:34 p.m.,  
in response to message #1 by MikeG

I'd guess that you have a unit with two RAM chips (most likely 1820-1630 or 1820-1843), and that the second has gone bad. Check whether Last x works, as it is stored in the same RAM as the user program.

**Re: HP-25C repair**

Message #3 Posted by [MikeG](#) on 4 June 2007, 10:18 p.m.,  
in response to message #2 by Eric Smith

Thanks, that's it. I do have 1843 RAM. I have another 25C that has other issue but I would like to try the RAM off of it, do you know if the RAM 1820-1610 is pin compatible with 1843?

**Re: HP-25C repair**

Message #4 Posted by [Eric Smith](#) on 5 June 2007, 2:14 a.m.,  
in response to message #3 by MikeG

I think so, but I'm not 100% certain. Maybe someone else here can verify?

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## HP Forum Archive 17

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**Confessions of a rocket scientist**

Message #1 Posted by [Frank Rottgardt](#) on 4 June 2007, 5:43 p.m.

A lovely video on Youtube! Look at this ol man, he is the kind of guy HP engineers had in mind when they designed their old-school master-pieces.

Up to now he is still a faithful HP-customer (HP-33s). He uses it to keep his checkbook accurate. No more satellite-control algorithms!

Watch this video and hear him telling everybody what RPN means to him.

<http://www.youtube.com/watch?v=tlvcWEk4fcU&mode=related&search>

Have fun!

Frank

**Re: Confessions of a rocket scientist**

Message #2 Posted by [Tadeyev](#) on 4 June 2007, 6:34 p.m.,  
in response to message #1 by [Frank Rottgardt](#)

Thanks Frank, that was really great and very enjoyable!

**Re: Confessions of a rocket scientist**

Message #3 Posted by [Walter B](#) on 4 June 2007, 7:06 p.m.,  
in response to message #1 by [Frank Rottgardt](#)

Thanks a lot! Quite an interesting life!

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## HP Forum Archive 17

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### That's great, but...(the 35s)

Message #1 Posted by [ECL](#) on 4 June 2007, 4:04 p.m.

We're like a group of good professors, always pushing their students (that's great, but did you consider THIS case?? ) :)

I'm greatly looking forward to the new 35s. Here's one detail that I hope is addressed:

I'd hope (in addition to the requisite matrix support, and other oft mentioned capabilities) for the 35s to not carry over the lingering 'operation' trait that the 33s has. What I'm referring to is the response to a keypress where the operation name is shown on the screen (x^2 for example) for the duration of the time the key is depressed. I've always been annoyed by that on the 33s.

ECL

### Re: That's great, but...(the 35s)

Message #2 Posted by [Richard Ottosen](#) on 4 June 2007, 4:21 p.m.,  
in response to message #1 by [ECL](#)

Quote:

What I'm referring to is the response to a keypress where the operation name is shown on the screen (x^2 for example) for the duration of the time the key is depressed.

How does the 41C act compared to the 33S?

I have never found the 41C operation to be an irritation. In fact, I almost never notice it.

-- Richard

### Re: That's great, but...(the 35s)

Message #3 Posted by [TomF](#) on 4 June 2007, 4:43 p.m.,  
in response to message #2 by [Richard Ottosen](#)

In fact, with USER mode on the 41, it is a very useful, (almost required) feature that I rely on. With my 33s, it would be useful if it had the same implimentation that the 41 does in that if the keypress is held long enough, the command is canceled.

### Re: That's great, but...(the 35s)

Message #4 Posted by [Hal Bitton](#) on 5 June 2007, 2:56 p.m.,  
in response to message #2 by [Richard Ottosen](#)

On my 41CX, the display responce is just slow enough that you don't see the function preview when the key is held for what I would consider a "normal" duration. Not so with the 33S and it's faster display.

IMHO, that's the difference (in addition to the 41's null option).  
Best regards, Hal

**Re: That's great, but...(the 35s)**

*Message #5 Posted by **Howard Owen** on 4 June 2007, 7:37 p.m.,  
in response to message #1 by ECL*

In fact, with the 41, (and others,) the function will cancel if you hold it long enough. That's super useful if you sometimes make errors. The 33S previews, but won't cancel. So you get to sit there like an idiot, with disaster staring you in the face in the form of a function that will kill all the work you did today, not daring to lift your finger, but having to use it for something else, like dialing the phone for example.

Of course, *I* don't make errors, but my evil twin does. He just loves this wonderful preview capability on the 41.

8)

Regards,  
Howard

**Re: That's great, but...(the 35s)**

*Message #6 Posted by **ECL** on 4 June 2007, 9:32 p.m.,  
in response to message #5 by Howard Owen*

Sorry to hear that...

I use my own 'undo' routine. When I err, it launches with fairly little delay (although it often generates curse words). Some of my jealous co-workers claim that my 'undo' routine is nothing more than me re-entering the arguments a second time, but I usually don't let that bother me. ;)

ECL

**Re: That's great, but...(the 35s)**

*Message #7 Posted by **Howard Owen** on 4 June 2007, 9:51 p.m.,  
in response to message #6 by ECL*

Quote:

\_\_\_\_\_

.. me re-entering the arguments a second time ..

\_\_\_\_\_

I often rehash the arguments that led up to my evil twin making an error. 8)

Regards,  
Howard

**Re: That's great, but...(the 35s)**

*Message #8 Posted by **Frank Rottgardt** on 5 June 2007, 3:59 a.m.,  
in response to message #5 by Howard Owen*

Quote:

\_\_\_\_\_

---

So you get to sit there like an idiot, with disaster staring you in the face in the form of a function that will kill all the work you did today, not daring to lift your finger

---

Since you know the feeling and still alive and kickin you qualified for membership in the NYPD Bomb Squad!

### **Re: That's great, but...(the 35s)**

Message #9 Posted by **Karl Schneider** on 5 June 2007, 5:31 a.m.,  
in response to message #1 by ECL

Quote:

---

I'd hope ... for the 35s to not carry over the lingering 'operation' trait that the 33s has. What I'm referring to is the response to a keypress where the operation name is shown on the screen (x^2 for example) for the duration of the time the key is depressed. I've always been annoyed by that on the 33s.

---

Hi, ECL --

In fact, I mentioned that one in 2004. From

<http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv014.cgi?read=62029#62029>:

*"The display instantly changes to name of function when a key is pressed, instead of after a time delay when the key is held down, as on the 32S, 32SII, and 42S. It is disconcerting to watch the display flash each time an operation is performed."*

The "null" feature of the HP-41 and HP-42S (also in the HP-15C matrix navigation) that others mention in this thread would also be desirable.

-- KS

### **Look to the 33s for answers (and "800+ registers"?)**

Message #10 Posted by **Paul Brogger** on 5 June 2007, 11:03 a.m.,  
in response to message #9 by Karl Schneider

The 35s is obviously a retooled 33s, with some of the major shortcomings addressed (appearance, data storage). So, when in doubt about what behavior to expect, I'd look to the 33s and assume something like that, until we actually have the 35s in hand.

What about those "800+" registers? Two-alpha (alpha-alpha: "AA", "AB", "AC" ... "ZZ") naming would allow for 26\*26 or almost 700 separately addressable registers. Alpha-alphanumeric ("AA", "AB", ... "AZ", "A0", "A1", ... "A9") would allow 26\*36, or over 900 addresses. I wonder where "800+" comes from?

### **Re: Look to the 33s for answers (and "800+ registers"?)**

Message #11 Posted by **TomF** on 5 June 2007, 11:28 a.m.,  
in response to message #10 by Paul Brogger

I think Valentin Albillo came up with a senerio that works for the 800+ registers. Of course we'll not know for sure unless one of the HP folks reading this forum responds or we finally get or grubby little

fingers on one...

<http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/forum.cgi?read=114858#114858>

**Re: Look to the 33s for answers (and "800+ registers"?)**

Message #12 Posted by **Paul Brogger** on 5 June 2007, 11:46 a.m.,  
in response to message #11 by TomF

Thanks for that. (I've been away, and only just now found out about the 35s -- I haven't had time to read through everyone's observations.)

I've been able to get past the 33s' looks and limitations, and have enjoyed it immensely. I certainly am looking forward to getting 'hold of my 35s!

*Edited: 5 June 2007, 11:50 a.m.*

**Re: Look to the 33s for answers (and "800+ registers"?)**

Message #13 Posted by **Les Wright** on 5 June 2007, 12:56 p.m.,  
in response to message #12 by Paul Brogger

Quote:

I've been able to get past the 33s' looks and limitations, and have enjoyed it immensely.

I do to! I have peaceably lived with the HP33s's more embarrassing bugs, like the errors involved when cos and tan take arguments close to 90 degrees. I am looking forward to the increased register number. But I am especially hoping that the restricted number of program labels is rectified, perhaps with an alphanumeric labelling system akin to how the registers are directly addressed.

If the 35s uses 33s processor electronics, or better, then I am particularly looking forward to its speed. I have a number of special function routines that basically iterate a series or continued fraction to convergence. They are agonizingly slow on the otherwise revered 15C, a bit faster on the 11C, a bit faster still on the 41CX, somewhat quicker on the 42S, but quite peppy on the 33S. I really hope for more labels and registers so I can easily port some of my favourite 41C programs and watch them run much faster.

Indeed, despite its many flaws, it is the speed of the otherwise maligned 33s that makes the revered 15C, for example, seem embarrassingly archaic and irrelevant in comparison. If the 35s extends the strengths of 33s and incorporates the improved quality observed in the 50G, then we could have a pretty darn good RPN programmable scientific.

Les

**Re: Look to the 33s ...**

Message #14 Posted by **Paul Brogger** on 5 June 2007, 2:07 p.m.,  
in response to message #13 by Les Wright

Quote:

If the 35s uses 33s processor electronics ...



---

Both the 33s and 35s data sheets specify a SPLB31A processor, with many other similarities (batteries, display, etc.) I'm sure it's a 33s with a new skin and updated firmware.

---

**Re: Look to the 33s for answers (and "800+ registers"?)**

Message #15 Posted by **Jeff O.** on 5 June 2007, 1:43 p.m.,  
in response to message #12 by Paul Brogger

Quote:

- 
- The 800+ storage registers might be addressed like this:

|                            |   |               |
|----------------------------|---|---------------|
| Register 00 to Register 99 | = | 100 registers |
| Register A to Register Z   | = | 26 registers  |
| Register AA to Register ZZ | = | 676 registers |
| Register (i) and (j)       | = | 2 registers   |
|                            |   | -----         |
|                            |   | 804 registers |

---

The above may be very close to how it will be done, but the fact that the numeric keys 1 through 9 also have letters R through Z, and 0 has (i) on it, will complicate things a bit. For example, how will the calculator know the difference between RCL 89 and RCL ST? My preference might be to dispense with the letter designations altogether. Just give it 3 digit memory addressing, which would be typed in fully for three digit numbers, such as RCL 123. To access registers 1 through 99, you'd terminate with ENTER, e.g. RCL 1 ENTER recalls register 1, RCL 11 ENTER recalls register 11, etc. That paradigm would yield 999 registers plus (i) and (j) for a total of 1001, so I doubt that is correct either.

---

**Re: "800+ registers"?**

Message #16 Posted by **Paul Brogger** on 5 June 2007, 2:13 p.m.,  
in response to message #15 by Jeff O.

I see the "(i)" and "(j)" functions, but no "i" or "j". (Yes, there's an "i" key, presumably for imaginary number entry, but no obvious way to store or retrieve directly the *i* & *j* registers.)

There must be some new contextual method of distinguishing "STO *i*" from "STO (i)".

Yeah, I'm interested . . .

*Edited: 5 June 2007, 2:14 p.m.*

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## HP Forum Archive 17

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### **Spice from unsolderd to solderd Circuits**

Message #1 Posted by **Juergen Richter** on 4 June 2007, 8:11 a.m.

I Have a 32 e wich works well (circuits, display, Keys)but it is realy bad condition. Broken screws corrosion at the batterycontacts and so on. It is one of the unsoldered versions. So I think about buying an broken one to repair it.

Did someone know the year in which the change from unsolderd to solderd Circuits in the spice series take place.

---

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## HP Forum Archive 17

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### HYP, ARC and the rest

Message #1 Posted by [Antonio Maschio \(Italy\)](#) on 4 June 2007, 6:07 a.m.

On modern (and less modern) calculators, you have the trig functions on three separate and contiguous keys, with their arc functions on the same shifted key (e.g. arcsin on sin). The hyp key is generally shifted, so you have to digit (typically):

shift hyp shift sin

to get arcsinh. This configuration, while common, uses three keys and four shifted keys, totaling seven key-positions.

No one, as far as I know, has ever thought to a simpler way to accomplish the same task:

HYP ARC SIN COS TAN

on five adjacent keys which can perform every trig and hyp function:

SIN for sin

ARC SIN for arcsin

HYP SIN for sinh

HYP ARC SIN (or ARC HYP SIN) for arcsinh.

This configuration uses five main keys, but nothing else, leaving two extra key-positions with respect to the previous configuration.

I think (but you may have a very different opinion) that trig (and possibly hyp) functions are those that are far more used after LN, EXP, LOG, and the other classics (the four basics, root, square, and so forth), that usually are more or less in an easy position and don't need any help, while trigs and hyps would (and deserve).

And, thinking to some older TI model, the ARC function could even be used in conjunction with LOG (or LN) to get EXP or vice-versa, or to root to get square, and so forth, making more room for other functions, or to put more functions on the main keys, or to reduce the total keys amount. People who need a scientific calculator should easily understand and use such ARC key!

I'd want your opinion on this subject, which is a minor subject, I know.

-- Antonio

### Re: HYP, ARC and the rest

Message #2 Posted by [Maximilian Hohmann](#) on 4 June 2007, 7:47 a.m.,  
in response to message #1 by Antonio Maschio (Italy)

Hello!

Quote:

---

No one, as far as I know, has ever thought to a simpler way to accomplish the same task:

HYP ARC SIN COS TAN

on five adjacent keys which can perform every trig and hyp function:

---

I have just recently added an "MBO Alpha 2000" calculator (ca. 1978, green VFD tube) to my collection, that has exactly these five keys :-). I could not find a picture on the internet, but if you wish to see it, I will post an image when I'm home tonight!

Greetings, Max

NB: Try this link, as long as it works, it's from the eBay auction:

[http://i12.ebayimg.com/07/i/000/93/ab/01ef\\_1.JPG](http://i12.ebayimg.com/07/i/000/93/ab/01ef_1.JPG)

*Edited: 4 June 2007, 7:49 a.m.*

## Re: HYP, ARC and the rest

Message #3 Posted by **DaveJ** on 4 June 2007, 9:06 a.m.,  
in response to message #1 by Antonio Maschio (Italy)

Quote:

---

On modern (and less modern) calculators, you have the trig functions on three separate and contiguous keys, with their arc functions on the same shifted key (e.g. arcsin on sin). The hyp key is generally shifted, so you have to digit (typically):

shift hyp shift sin

to get arcsinh. This configuration, while common, uses three keys and four shifted keys, totalling seven key-positions.

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HYP ARC SIN COS TAN

on five adjacent keys which can perform every trig and hyp function:

SIN for sin

ARC SIN for arcsin

HYP SIN for sinh

HYP ARC SIN (or ARC HYP SIN) for arcsinh.

This configuration uses five main keys, but nothing else, leaving two extra key-positions with respect to the previous configuration.

---

What is the difference between ARC SIN and INV SIN using the normal inverse key? Exact same number of presses and you save one key. Seems silly to have a dedicated ARC key, INV is more logical in my opinion, and is already on practically every calc.

Quote:

---

I think (but you may have a very different opinion) that trig (and possibly hyp) functions are those that are far more used after LN, EXP, LOG, and the other classics (the four basics, root, square, and so forth), that usually are more or less in an easy position and don't need any help, while trigs and hyps would (and deserve).

And, thinking to some older TI model, the ARC function could even be used in conjunction with LOG (or LN) to get EXP or vice-versa, or to root to get square, and so forth, making more room for other functions, or to put more functions on the main keys, or to reduce the total keys amount. People who need a scientific calculator should easily understand and use such ARC key!

I'd want your opinion on this subject, which is a minor subject, I know.

---

The HYP key is one of my pet hates, to me it is the most useless key on a scientific calculator. I have never used it. But hey, that's just me.

Now there are just some keys that simply \*must\* be on dedicated keys on a good scientific calculator in my opinion. My list of keys (with there INV functions) is: EXP +/- ENG (INV ENG) Log (INV  $10^X$ ) Ln (INV  $e^X$ ) SQRT  $X^2$   $1/X$   $X^Y$  (X SQRT)  $X \leftrightarrow Y$  STO (or Min) RCL (or MR)

Note that I didn't list  $X^2$  as an inverse function to SQRT, both are vital to have on their own key.

Any calc that expands those INV functions onto their own keys gets extra bonus points in my book.

Other silly keys that often get their own key are the fraction key and the Sexagesimal key. I would not shed a tear on any calc that lost those keys.

Dave.

## Re: HYP, ARC and the rest

Message #4 Posted by **Gene** on 4 June 2007, 10:28 a.m.,  
in response to message #3 by DaveJ

Quote:

---

The HYP key is one of my pet hates, to me it is the most useless key on a scientific calculator. I have never used it. But hey, that's just me. Dave.

---

Gene: But that's just silly. Hyperbolic functions have many uses and it is not wise to leave it off a scientific calculator in this day and age.

Applications for hyperbolic functions include: catenary curves, design of many structures (nuclear cooling towers, buildings at Dulles, etc), gears with skewed axes, even the shape of a shadow cast on a wall by a lampshade, etc, etc, etc.

<http://www.pen.k12.va.us/Div/Winchester/jhhs/math/lessons/calc2004/apphyper.html>

Giving a scientific calculator the abilities to do these things at the expense of one shift key location seems

very reasonable.

Saying "I don't like it because I have never used it" is short-sighted, IMO. What if I never use base conversions? Should I have the inclusion of BASE and LOGIC as a pet peeve? Or should I recognize that many people DO use them?

### **Re: HYP, ARC and the rest**

*Message #5 Posted by **DaveJ** on 4 June 2007, 5:10 p.m.,  
in response to message #4 by Gene*

Quote:

Gene: But that's just silly. Hyperbolic functions have many uses and it is not wise to leave it off a scientific calculator in this day and age.

Applications for hyperbolic functions include: catenary curves, design of many structures (nuclear cooling towers, buildings at Dulles, etc), gears with skewed axes, even the shape of a shadow cast on a wall by a lampshade, etc, etc, etc.

<http://www.pen.k12.va.us/Div/Winchester/jhhs/math/lessons/calc2004/apphyper.html>

Giving a scientific calculator the abilities to do these things at the expense of one shift key location seems very reasonable.

Saying "I don't like it because I have never used it" is short-sighted, IMO. What if I never use base conversions? Should I have the inclusion of BASE and LOGIC as a pet peeve? Or should I recognize that many people DO use them?

Sorry, I should have been clearer, I didn't mean leave HYP off the calculator completely, just not give it a dedicated key. A shift function is perfectly adequate. The thing I hate it that probably the majority of scientific calcs I've seen dedicate a key to HYP.

Dave.

### **Re: HYP, ARC and the rest**

*Message #6 Posted by **DaveJ** on 4 June 2007, 5:36 p.m.,  
in response to message #4 by Gene*

Quote:

Gene: But that's just silly. Hyperbolic functions have many uses and it is not wise to leave it off a scientific calculator in this day and age.

Applications for hyperbolic functions include: catenary curves, design of many structures (nuclear cooling towers, buildings at Dulles, etc), gears with skewed axes, even the shape of a shadow cast on a wall by a lampshade, etc, etc, etc.

<http://www.pen.k12.va.us/Div/Winchester/jhhs/math/lessons/calc2004/apphyper.html>

Giving a scientific calculator the abilities to do these things at the expense of one shift key location seems very reasonable.

Saying "I don't like it because I have never used it" is short-sighted, IMO. What if I never use base conversions? Should I have the inclusion of BASE and LOGIC as a pet peeve? Or should I recognize that many people DO use them?

---

Sorry, I should have been clearer. I am not saying leaving off the HYP function altogether, just don't dedicate a key to it.

I am sure there are a far greater number of calculator uses who do \*not\* use HYP on a regular basis than those who do. Yet probably the majority of scientific calcs have a dedicated HYP key. Casio are famous for it, and indeed in the older models it is a such a protected and revered key that it often does not have any other shift function associated with it.

Dave.

### **Re: HYP, ARC and the rest**

*Message #7 Posted by **Jean-Michel** on 4 June 2007, 9:11 a.m.,  
in response to message #1 by Antonio Maschio (Italy)*

CASIO fx-602p (about '83)

5 Keys (3rd/4th row) :

INV hyp

sin/sin-1 cos/cos-1 tan/tan-1

### **Re: HYP, ARC and the rest**

*Message #8 Posted by **DaveJ** on 4 June 2007, 9:32 a.m.,  
in response to message #7 by Jean-Michel*

Quote:

---

CASIO fx-602p (about '83)

5 Keys (3rd/4th row) :

INV hyp

sin/sin-1 cos/cos-1 tan/tan-1

---

The majority of Casio calcs operate the same way, and have a dedicated HYP key next to the TRIG keys. And all the ones I have accept the HYP and INV in any order, so you can use either: INV HYP SIN or HYP INV SIN

And come to think of it, it's probably the reason why most of the older Casio calcs don't have any extra shift function on the HYP key.

Dave.

### **Re: HYP, ARC and the rest**

*Message #9 Posted by **Palmer O. Hanson, Jr.** on 7 June 2007, 10:09 a.m.,*

*in response to message #8 by DaveJ*

Quote:

The majority of Casio calcs operate the same way, and have a dedicated HYP key next to the TRIG keys. And all the ones I have accept the HYP and INV in any order, so you can use either: INV HYP SIN or HYP INV SIN

And come to think of it, it's probably the reason why most of the older Casio calcs don't have any extra shift function on the HYP key.

Dave.

You can get the same thing at Wal-Mart for twenty dollars by buying their Durabrand Graphing calculator. And, if you happen to get the second version you get sixteen digit arithmetic.

## **Re: HYP, ARC and the rest**

*Message #10 Posted by **Walter B** on 4 June 2007, 10:34 a.m.,  
in response to message #1 by Antonio Maschio (Italy)*

The very first scientific handheld (HP35) was the only HP I know of with an ARC key as you propose. The very first programmable scientific handheld, the HP65, used a prefix  $f^{(-1)}$  to invert f-shifted functions. These keys were never observed again in an HP pocket calc thereafter.

One reason may be these are very specialized keys: ARC (and HYP as well) makes sense only for SIN, COS, TAN. But they will take 5 keys! INV sounds more flexible, but eventually is rather restricted compared to an universal shift key.

Today's calcs are so packed with functions, key-space is a major issue. Take the HP35s, for example: it has 43 keys. Sounds a lot. But: You need 16 dedicated keys just for the basic inputs (ON/OFF, digits, ., ENTER, E, +/-, <-), 3 for stack and memory handling (x<>y, RDOWN, RCL), 4 for arithmetic, 6 for transient functions, 4 cursors and 2 prefixes, 3 keys for programming incl. program execution, and one each for MODE, statistical summing, complex input, EQN, and (). This sums up to 43 (surprise!). So, if you want ARC and HYP unshifted, you have to take 2 keys off the list to become shifted instead. Sounds easy. Try it!

IMHO proper function grouping on small keyboards is not easy at all. And a block of 5 adjacent keys will not make it easier.

Just my 0,02 Euro.

*Edited: 4 June 2007, 10:38 a.m.*

## **Re: HYP, ARC and the rest**

*Message #11 Posted by **htom** on 4 June 2007, 10:50 a.m.,  
in response to message #10 by Walter B*

One keytop, "Trig" that leads to the menu: Hyp Inv Sin Cos Tan.

I don't know if I'd like it, though. It could be argued that the hyperbolic functions should be with the other exponentials, and powers and roots with the trigs.

In log hsin hcos htan



$x^2$   $y^x$  sin cos tan

### Re: HYP, ARC and the rest

Message #12 Posted by [Gene](#) on 4 June 2007, 10:55 a.m.,  
in response to message #10 by Walter B

Having INV or ARC keys is more associated with the Dark Empire (TI) than with HP.

HP adopted a more direct "key for each function" approach when compared to TI. In general, on most HP scientifics until recently, if you wanted a function, there was a place on a keyboard to press it. The HP41 developed the catalog idea, but you could still assign a function to a key to directly press it. Later, menus gave the ability to get to a function fairly quickly.

Compare that to the TI models. The TI 58/59 series took this to an extreme with 40 OP Codes enterable using the OP function. Mean was available with 2nd x-bar, but to get standard deviation, TI adopted the terrible INV 2nd x-bar!

That obtuse thinking is something HP never went for and I'm very glad.

I really don't like having an INV key that applies to many many functions. Perhaps it is ok for the trig functions, perhaps not. But I really don't think we want to go back to the ways of the DARK EMPIRE to do INV LN to get  $e^x$ , as was the case on the SR-52 model.

### Re: HYP, ARC and the rest

Message #13 Posted by [GE](#) on 5 June 2007, 5:41 a.m.,  
in response to message #12 by Gene

Well on the HP65 the [f-1] key performs the 'inverse' function, and it seems easy to understand. It applies to trigonometrics, logs, square root, fractional part, and probably others (can you guess what [f-1][+] could be ?).

On the HP15C, you don't have a [HYP] key, which makes sense as these are not used that much, but instead a row of :

```

HYP
[ ] [Sin] [Cos] [Tan]
HYP-1 Sin-1 Cos-1 Tan-1

```

Which give :

- direct access to sin, cos, tan
- inverse trigonometry with [g]
- hyperbolics with [f][HYP]
- inverse hyperbolics with [g][HYP]

It sounds almost optimal (direct hyperbolics could be done with only one prefix key if there was an [HYP] key, which is not desirable).

So I think this solution is optimal in practice.

### Re: HYP, ARC and the rest

Message #14 Posted by [Antonio Maschio \(Italy\)](#) on 5 June 2007, 8:58 a.m.,  
in response to message #13 by GE

...as usual, the 15C is, definitely, the best calculator! ;-)

Yes, I forgot this when considering the 15C. It has a wonderful feature, the "Abbreviated Key Sequences", that makes obvious, after a prefix, what a user would press, avoiding pressing other (annoying) prefix keys.

I thank you and all others for your observations. Mine was a first thought, and probably more experience in calculators (like yours) and more thinking by my side would prevent me from starting topics like this.

Thanks again.

-- Antonio

### **Re: HYP, ARC and the rest**

*Message #15 Posted by **Walter B** on 5 June 2007, 10:02 a.m.,  
in response to message #14 by Antonio Maschio (Italy)*

Quote:

more thinking by my side would prevent me from starting topics like this.

Do not be afraid! IMO a good part of this forum is for the questions you (and me) always wanted to ask, but did not dare to ask so far. Continued questions lead to continuous improvement. Else, the knowledge about such matters will be extincted in some years.

### **HP-15C: HYP, ARC and the rest**

*Message #16 Posted by **Karl Schneider** on 6 June 2007, 12:53 a.m.,  
in response to message #13 by GE*

Hi, all --

I agree with GE's summary of HYP and HYP<sup>-1</sup>, and note Antonio's mention of the HP-15C's thoughtful abbreviated keystroke sequences.

It should also be noted that the context-specific abbreviations and the HYP<sup>-1</sup> prefix were necessary in order to avoid four-keystroke sequences that don't include a ".", as the numeric keycodes for such sequences would not fit in the PRGM display.

As such,

[f][HYP][g][SIN<sup>-1</sup>]

and

[RCL][f][MATRIX][f][A]

would not have been not only cumbersome, but also unworkable.

-- KS

### **I loved OP codes**

*Message #17 Posted by **Palmer O. Hanson, Jr.** on 5 June 2007, 10:38 a.m.,  
in response to message #12 by Gene*

Gene:

As you well know I did a lot of work on the so-called "dark side" so I can't let your comments go by without a response.

Quote:

HP adopted a more direct "key for each function" approach when compared to TI. In general, on most HP scientifics until recently, if you wanted a function, there was a place on a keyboard to press it.

That led to three second function keys, yellow, blue and black, on the HP-67 and a horribly cluttered keyboard.

Quote:

The TI 58/59 series took this to an extreme with 40 OP Codes enterable using the OP function.

I loved most of the OP codes! Eight of them provided alphanumeric printing -- not to be available in RPN-land until the HP-41 arrived. Twenty of them (OP-20 through OP-39) provided the capability to increment or decrement data registers 0 through 9 without messing with the Dsz register or with bringing a one into the stack. That feature was invaluable when doing matrix manipulation. Four of them (OP-12 through OP-15) provided linear regression using sums in the statistics registers. With the HP-67 you had to implement those functions in user memory.

### **Re: I loved OP codes**

*Message #18 Posted by [Gene](#) on 5 June 2007, 11:53 a.m.,  
in response to message #17 by Palmer O. Hanson, Jr.*

Hi Palmer! the Dark Side was meant as a good natured jab. After all, in the TI-58/59 days, I was a member OF the Dark Side. I bought a TI-58c when it came out long before I ever owned an HP.

The OP Codes did allow for functionality, but they are a horrible user interface issue. A calculator ought to be a key-per-function approach. Having a list of 40 op codes that are only useful if the user remembers them or has them written down is not very friendly.

The never released TI-88 took this to another extreme. How many Op Codes was that supposed to have? Hundreds? Why not have a machine then with only 20 keys and an Op key. Need to do addition? That's OP 01. Need to do a SIN calculation? OP 29. Need to convert from base 2 to Base 16, Op 221, etc.

The TI 58/59 really did have some bad user interface decisions, IMO. The INV 2nd x-bar for standard deviation really did set a low point. The standard deviation is in now way an inverse function of the mean, but that's the key sequence you had to press.

Ah, the good old days. :-)

Hope you're feeling well. Thanks for the card! It was great!

### **Re: I loved OP codes**

*Message #19 Posted by [GE](#) on 5 June 2007, 12:03 p.m.,*

*in response to message #18 by Gene*

Funny that it all started with a TI58C back "a few" years ago for me too... I still have that machine sitting mint in box at the best viewing point in my storage area. Actually my first machine was a Radofin 2200, a wonderful 4-banger which was dismantled to bits by young me (I still keep the pieces). TI was the only affordable choice at the time (for me), plain and simple, and these machines were really good - **\*\*too\*\*** !!!

## **Re: I loved OP codes**

*Message #20 Posted by **Wayne Brown** on 5 June 2007, 1:05 p.m.,  
in response to message #17 by Palmer O. Hanson, Jr.*

Quote:

\_\_\_\_\_

I loved most of the OP codes!

\_\_\_\_\_

I can understand that. The HP-41 provides something similar (via synthetic programming) with the eG0BEEP codes. I love those; in fact, if lower-case letters were available on license plates, I'd have put an "eG0BEEP" plate on my car by now!

## **Re: I loved OP codes**

*Message #21 Posted by **Valentin Albillo** on 6 June 2007, 5:57 a.m.,  
in response to message #20 by Wayne Brown*

Hi, Wayne:

Wayne posted:

*"I can understand that. The HP-41 provides something similar (via synthetic programming) with the eG0BEEP codes."*

Yes, you're right. I did study eG0BEEP decades ago and submitted a detailed report which was published in the Australian "PPC Technical Notes". Months later, the PPC Journal proper featured a whole issue dedicated to the Australian Chapter of PPC, in which my report was again included.

Talking from memory, as I don't have the relevant issues at hand right now, I remember that filling up the prompt with various combinations of numeric addresses plus indirect addresses and other variants would execute (in RUN mode) or enter into a program (in PRGM mode) a certain XROM mm,nn instruction, with mm and nn both depending on the values entered at the prompt.

This was intrinsically useful, as you could enter that XROM instruction as a program line even if you hadn't the required ROM plugged in at the moment, but further, some of the XROM instructions belonged to very useful ranges, so that you could then execute a number of common instructions with a single key assigned to eG0BEEP plus filling in the prompt. This would save you a great number of assignments or having to spell out the alpha name, and it's extremely similar to the OP codes operation.

You can check either PPC Technical Notes or PPC Journal ("From Australia with love" issue) for the exact details, including all supported ranges for any given

prompt and comments.

Best regards from V.

### Re: I loved OP codes

Message #22 Posted by [Wayne Brown](#) on 6 June 2007, 10:26 a.m.,  
in response to message #21 by Valentin Albillo

Quote:

This was intrinsically useful, as you could enter that XROM instruction as a program line even if you hadn't the required ROM plugged in at the moment, but further, some of the XROM instructions belonged to very useful ranges, so that you could then execute a number of common instructions with a single key assigned to eG0BEEP plus filling in the prompt. This would save you a great number of assignments or having to spell out the alpha name, and it's extremely similar to the OP codes operation.

Yes, that's the way I use it. I have **eG0BEEP** assigned to [SHIFT][CHS] on my HP-41CX and I keep a list of the relevant codes in the case (along with a plastic synthetic programming quick reference card from SYNTHETIX). So I can enter READSUB (XROM 28,11) by pressing **eG0BEEP** and entering **11** at the prompt, VERIFY (XROM 28,16) with **eG0BEEP 16**, PRFLAGS (XROM 29,11) with **eG0BEEP 76**, etc. It saves a lot of typing for HP-IL and printer functions, and I can use one key assignment to do the work of 89 others.

### Re: I loved OP codes

Message #23 Posted by [Valentin Albillo](#) on 6 June 2007, 11:09 a.m.,  
in response to message #22 by Wayne Brown

Hi again, Wayne:

Wayne posted:

*"It saves a lot of typing for HP-IL and printer functions, and I can use one key assignment to do the work of 89 others."*

Come to think of it, it would have been a *\*great\** feature for power users if the HP42S had included an "OP"-like function as a primary key (in addition to the existing catalog, menu, and assignment functionalities, not as a replacement).

Pressing this [OP] key and filling up a 3-digit (say) prompt would execute *\*any\** available instruction, from ABS to %CHG, say, very quickly and conveniently, without having to navigate menus, use the catalog, spell out the alpha name, or assign anything.

Newbies would tend to ignore it at first, but once they became more proficient with the machine's instruction set they could and no doubt would derive a large benefit from this feature, in terms or enhanced useability. I for once would have loved it.

Best regards from V.

---

**Re: HYP, ARC and the rest**

*Message #24 Posted by **Tony Duell** on 4 June 2007, 1:16 p.m.,  
in response to message #1 by Antonio Maschio (Italy)*

If I understand you correctly, then this is exactly how the HP9100B's keyboard was laid out.

**Re: HYP, ARC and the rest**

*Message #25 Posted by **Woody Larkin** on 4 June 2007, 7:49 p.m.,  
in response to message #24 by Tony Duell*

I believe the TI SR-50 had those five keys. See this link:<http://www.datamath.org/>

**Re: HYP, ARC and the rest**

*Message #26 Posted by **Woody Larkin** on 4 June 2007, 8:52 p.m.,  
in response to message #25 by Woody Larkin*

Sorry, here is a more direct link: <http://www.datamath.org/Sci/WEDGE/sr-50.htm>

**Re: HYP, ARC and the rest**

*Message #27 Posted by **Gene** on 4 June 2007, 9:00 p.m.,  
in response to message #26 by Woody Larkin*

Hey, what about my pic? :-)

<http://www.rskey.org/gene/hpgene/sr50.GIF>

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## HP Forum Archive 17

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### HP-34C Intermittent Display

Message #1 Posted by [Robert Hollyer](#) on 4 June 2007, 1:39 a.m.

I have an HP-34C with an intermittent display. My 34C accepts keyboard inputs and passes the self test. However, frequently when I first turn on the calculator and start inputting data, various LED segments will not light correctly. I have noticed that a sharp tap to the back side of the calculator corrects the problem and data as previously entered is displayed correctly. Since this is a repetitive problem it would be nice to repair the calculator.

I opened the HP-34C and determined that it is the earlier solder-less design. Since I don't have prior experience with the Spice series, I haven't disassembled it further. I have tested the display PCB by moving it slightly from side to side and the intermittent problem is easily replicated. Observing the backside of the LED PCB it is obvious that the through hole pins have no solder. However, before I proceed to solder the display PCB pins or disassemble the unit further, I am curious if there are any recommendations or suggestions. For example is it likely that soldering the display will correct the problem? Is there a down-side to soldering the display?

thanks-Rob

### Re: HP-34C Intermittent Display

Message #2 Posted by [Vieira, L. C. \(Brazil\)](#) on 4 June 2007, 7:09 a.m.,  
in response to message #1 by Robert Hollyer

Hi;

I'd strongly suggest NOT to solder the display. I'd rather go for a cleaning procedure. I have two HP38 with solderless assembly, and they work pretty fine.

I used liquid metal polisher and let the PCB and the display contacts shinning (must be careful using it without 'contaminating' unnecessary areas). After that, I allowed a thin coat of micro-oil to remain in their surface, so it would reduce oxidation occurrences. It does not interfere in the normal operation because the pressure of the assembling components is enough making sure the necessary electrical contact to happen.

In any way, I'd avoid, by all means, to solder it. The flex PCB would not resist higher temperatures, and even if you have the necessary equipment, you should align it correctly to fit in the molded chassis. And, as a final remark... if it would work better as soldered assembly, chances are it would come this way, though.

Success!

Time's up... running back to normal life, though. Cannot check for spelling, sorry.

Luiz (Brazil)

*Edited: 4 June 2007, 7:20 a.m.*

### Re: HP-34C Intermittent Display

Message #3 Posted by [Robert Hollyer](#) on 4 June 2007, 6:57 p.m.,

*in response to message #2 by Vieira, L. C. (Brazil)*

Luiz, just curious about some details. The 34C LED display PCB appears to be typical FR-4 material so it shouldn't be damaged by soldering. From the 34C battery compartment view, the through hole pins are not soldered. Did HP solder these pins on the opposite side of the PCB (the LED side) or did they rely on some type of pressure contact?

The row of LED display PCB pins fold 90 degrees and then are fed into the hard plastic backbone. I assume this is where the display pins contact the flex circuit and where you are recommending against soldering?

### **Re: HP-34C Intermittent Display**

*Message #4 Posted by **Vieira, L. C. (Brazil)** on 5 June 2007, 6:42 a.m.,  
in response to message #3 by Robert Hollyer*

Hi, Robert;

Quote:

Did HP solder these pins on the opposite side of the PCB (the LED side) or did they rely on some type of pressure contact?

AFAIK, I have never seen explicitly soldered terminals in these Spice LED assy. In one particular case, I remember having a damaged unit and I tried to remove one of these terminals. I got it loose after some effort, but it seemed not to be soldered.

Quote:

The row of LED display PCB pins fold 90 degrees and then are fed into the hard plastic backbone. I assume this is where the display pins contact the flex circuit and where you are recommending against soldering?

The whole flex PCB, IC's and PSU flex contacts are hold together by both metal clamps on each side of the set. The display may be removed and placed back without the need of disassembling it all. After removing the LED assy, you'll see that the only contacts are the ones in the position you are mentioning, opposed to the plastic backbone. You see, the Spice soldered version has another kind of plastic backbone, and there is room for the remaining solder mass on each terminal for each IC. The area under the LED assy contacts has a different cut, though.

My primary concerns about soldering refer to the fact that the soldered LED assy will add stress to the flex circuit surface, and you may have broken copper tracks in the future. Depending on what is used to solder the LED display, the copper tracks may be detached from the flex surface, enhancing the problem.

Sorry to be such a Devil's advocate... d:8^(

Success!

Luiz (Brazil)

### **Re: HP-34C Intermittent Display**

*Message #5 Posted by **Robert Hollyer** on 6 June 2007, 12:56 a.m.,*



*in response to message #4 by Vieira, L. C. (Brazil)*

Luiz,

Thank you for the advice. All of your comments were correct.

As you suggested, I removed the 34C sandwich assembly from main body, but did not need to disassemble the metal sandwich clips. At this point the LED display PCB was easily removed from the sandwich connector. The LED PCB through hole pins are not soldered. They rely on a very tight compression fit and were rigidly located. However, the LED PCB to sandwich connector had a very loose fit. Possibly due to aging of the sandwich foam which has decreased the compression force. Although the LED assembly pins and the sandwich receptacle appeared corrosion free, I lightly cleaned the areas. I then reassembled the LED PCB slightly offsetting the LED pins to take advantage of the sandwich locations that have thicker plastic. I expect this was not HP's original assembly intent, but it seems reasonable now.

I reassembled the 34C and it is working perfectly. However, there is a certain irony. I own two Spice models. The 34C and a 31E. Both models are of the non-soldered style. While searching for the 34C charger, I decided to use the 31E. Whoops, the 31E died while in storage. No life signs whatsoever. Presumably similar non-soldered issues, and another project.

Rob

### **Re: HP-34C Intermittent Display**

*Message #6 Posted by **Vieira, L. C. (Brazil)** on 6 June 2007, 7:33 a.m.,  
in response to message #5 by Robert Hollyer*

Hi, Robert;

good news, indeed! At least, mostly.

Hope you succeed fixing your HP31E. I had two working units, but I decided sending one as a gift to one of our contributors, in fact, an e-friend. And if you check for its value, the HP31E is somehow rare, it's worth bringing it back to life.]

One small advice: IIRC, there are two different Spice chargers, and I remember reading that it is not a good idea to use one of them with the 'other kind'. I am not entirely sure about this, but it is something related to clamping diodes used to protect their internal circuits. This subject has been discussed here last year, but I did not check the messages. Chances are that some Spices had their internals put in risk with different chargers...

Best regards and success!

Luiz (Brazil)

*Edited: 6 June 2007, 7:34 a.m.*

### **Re: HP-34C Intermittent Display**

*Message #7 Posted by **Robert Hollyer** on 7 June 2007, 1:37 a.m.,  
in response to message #6 by Vieira, L. C. (Brazil)*

Luiz,

Thanks for the advice regarding the charger. Fortunately, I have the 82087B which is the

recommended 34C charger. The prior Spice discussion centered around some extra Zener clamping diodes present in the 82087B but missing in the 82087A. It would be interesting to have the charger development history from an HP engineer. And interesting to disassemble both models.

I will let you know how the 31E progresses.

thanks, Rob

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## HP Forum Archive 17

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### HP 35s

Message #1 Posted by [Jan](#) on 3 June 2007, 4:23 p.m.

At last! A new HP scientific that looks well (or is it the vague resemblance to the classics that attracts me). Back are the trapezoidal keys (indeed the most efficient way of attributing multiple functions to a key). Nice "old" colours as well. The red for the alphanumerical characters may be somewhat difficult to read but it improves the esthetics. After all: why should only financial experts have calcs that look "professional"? Here's the new good looking choice for the scientists and engineers. Now HP: get rid of that 33s asap!

### Re: HP 35s

Message #2 Posted by [Frank Rottgardt](#) on 3 June 2007, 4:42 p.m.,  
in response to message #1 by Jan

Agree. But lets hope the engineers have made their homework. Please no dead keys or keylables that get worn after one years usage and the like. It has always been the complete package of classic design, functionality and excellent mechanics which made us fans proud owning and using an original Corvallis-calculator which nobody else around knew how to use. At least that satisfying feeling will last even with the HP-35s :-)

Frank

### Re: HP 35s

Message #3 Posted by [Karl Schneider](#) on 3 June 2007, 6:01 p.m.,  
in response to message #2 by Frank Rottgardt

Quote:

Agree. But let's hope that the engineers have done their homework. Please, no dead keys or key labels that get worn after one year's use and the like. It has always been the complete package of classic design, functionality and excellent mechanics which made us fans proud to own and use an original Corvallis-calculator which nobody else around knew how to use.

*(I took some liberties to make minor corrections to grammar, punctuation, and spelling, where they differ from that of German.)*

I would add that, if the functional specification is not finalized yet, I hope that the HP designers address (or have *already* addressed) some things that we have found and dicussed here -- namely, the "IP", "FP", and "P<->R" functions, which appear to be missing if they are not within menus.

-- KS

### Re: HP 35s

Message #4 Posted by [reth](#) on 4 June 2007, 10:26 a.m.,  
in response to message #3 by Karl Schneider

P->R and R->P are most probably presented as ARG and Theta

**Re: HP 35s**

*Message #5 Posted by [Jan](#) on 3 June 2007, 6:07 p.m.,  
in response to message #2 by Frank Rottgardt*

You're absolutely right. I share your initial scepticism. W.r.t. quality too many bad things have happened recently with HP calculators. I guess also the new 35s will be made in china and that in itself bears a certain risk when it comes to quality and durability to my point of view, moreover because it reveals a certain attitude towards product quality at HP. The Corvallis days are really over but let's hope the engineers have prevailed in this case and the 35s will still be a true tribute to the classic 35.

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## HP Forum Archive 17

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### **broken 67 - \_ (underscores) on the screen**

*Message #1 Posted by [Matthias](#) on 3 June 2007, 11:54 a.m.*

Hello,

I just bought an old non-working HP67 in a garage sale yesterday, and i'd REALLY like to revive it. I kinda got attached to it even after one day :)

It seems like the battery leaked into the PCBs, most of them (mainly the one with the main controller) were corroded. I cleaned what I could very carefully, and changed the battery (with standard 3 AA batteries).

The screen now displays a line of \_ (underscores) characters, except one digit (which might be broken). The keys have no action, neither has the prgm/run switch.

Does someone know what makes it display \_, and what that indicates? Which part might be working/broken, so I can narrow down my search to the defective part. Is there hope? What do you think? Could you give me general advices on repairing this beautiful little toy?

Note: I wasn't so careful in the cleaning of the card reader part (the motor is even unplugged). Can it be the cause of the \_?

Thanks in advance,

--Matthias

### **Re: broken 67 - \_ (underscores) on the screen**

*Message #2 Posted by [Matthias](#) on 3 June 2007, 12:10 p.m.,  
in response to message #1 by Matthias*

Wow, sorry for this very quick update...

After letting it on just the time of writing my last message, the display just changed (i was just pushing buttons randomly): It now displays: -00000000000 That's it. Is the controller dead? or can it still be caused by a bad connection? Or a broken discrete component? The enigma is still full.

PS: Seeing it display actual numbers just gave me even more motivation to repair it. Please help me!

--Matthias

### **Re: broken 67 - \_ (underscores) on the screen**

*Message #3 Posted by [Randy](#) on 3 June 2007, 8:40 p.m.,  
in response to message #2 by Matthias*

Quote:

\_\_\_\_\_

Is the controller dead?

That is very difficult to say without an oscilloscope.

Quote:

can it still be caused by a bad connection?

Very likely if there is significant corrosion.

Quote:

a broken discrete component?

Unlikely, unless someone worked on it before you.

The best method to troubleshoot would be to install a known good processor board to verify the display and keyboard PCB are good or place the suspect processor into unit with a known good keyboard/display PCB. Bad LED's and display drivers can cause all manner of strange behavior so it is easiest to divide the problem causes in half.

If the corrosion has actually gotten onto the processor board (pretty rare), look for damaged traces and corrosion on the connector pins.

Any chance of some photos so we can see the extent of the damage?

*Edited: 3 June 2007, 8:42 p.m.*

## **Re: broken 67 - \_ (underscores) on the screen**

*Message #4 Posted by **Matthias** on 4 June 2007, 10:11 a.m.,  
in response to message #3 by Randy*

Sure, here are some photos:

<http://www.flickr.com/photos/mqtthiqs/tags/hp67/>

Quote:

The best method to troubleshoot would be to install a known good processor board to verify the display and keyboard PCB are good or place the suspect processor into unit with a known good keyboard/display PCB.

Of course but I don't have another one to test this. In case someone around here lives in Paris, FR and have one...

Quote:

If the corrosion has actually gotten onto the processor board (pretty rare), look for damaged traces and corrosion on the connector pins.

I can't see any when I look though the proc PCB with a strong light, but the broken track could be hidden under an IC. I have to buy a multimeter to test them thoroughly (anyway I don't know how I

lived these first 25 years of my life without one).

Another idea is to unsolder all components, clean the PCB and re-solder them. Do you think it would make sense? What should I do first?

Thanks for your advices!

PS: Is there any good reverse-engineering material about this calculator out there? With the exact pinouts of every component, I could test them more efficiently...

**Re: broken 67 - \_ (underscores) on the screen**

*Message #5 Posted by [Maximilian Hohmann](#) on 4 June 2007, 10:22 a.m.,  
in response to message #4 by Matthias*

Hello!

Quote:

Another idea is to unsolder all components, clean the PCB and re-solder them.

Don't do that! Unless you have access to professional unsoldering equipment (you can get several working hp-67s for what that costs!) you will only fry your integrated circuits to death and damage the PCB. From the photos, the PCB dosen't look too badly corroded anyway. But the keyboard is probably beyond repair, so fixing the circuits will not restore this calculator to working condition anyway :-(

Look out for a better '67 and keep this one for spares, just in case.

Greetings, Max

**Re: broken 67 - \_ (underscores) on the screen**

*Message #6 Posted by [Klaus](#) on 4 June 2007, 10:44 a.m.,  
in response to message #4 by Matthias*

There is an article about the HP-67 in the article-section of this website:  
<http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/articles.cgi?read=394>

**Re: broken 67 - \_ (underscores) on the screen**

*Message #7 Posted by [Randy](#) on 4 June 2007, 12:17 p.m.,  
in response to message #4 by Matthias*

It would appear there is a fair amount of corrosion under the keys on the bottom half of the display circuit board. I would check for shorts between the columns and rows of the keyboard. Any leakage from the corrosion can cause display problems. Pinouts can be found at [67 Internals](#)

A good method to remove the corrosion is to stand the board on end in vinegar for about a half hour. Rinse several times and dry in a warm place.

**Re: broken 67 - \_ (underscores) on the screen**

*Message #8 Posted by [Matthias](#) on 4 June 2007, 3:10 p.m.,  
in response to message #7 by Randy*

Thanks to you all for the advises. Maximilian: Thanks, but i'll try to repair it anyway. I can't help it.

Randy:

Quote:

\_\_\_\_\_

A good method to remove the corrosion is to stand the board on end in vinegar for about a half hour.

\_\_\_\_\_

Wow, I didn't know that one! Do you submerge it totally? What type of vinegar do you usually use? The red one or the white one? Do you dissolve it?

**Re: broken 67 - \_ (underscores) on the screen**

*Message #9 Posted by **Randy** on 4 June 2007, 3:56 p.m.,  
in response to message #8 by Matthias*

White is best, full strength right from the bottle. Put it in a jar so that you can stand the board on end in the vinegar. You only want to submerge the key strips and contacts, not the IC's or LED's at the top of the board.

**Re: broken 67 - Epilogue**

*Message #10 Posted by **Matthias** on 5 June 2007, 8:06 a.m.,  
in response to message #1 by Matthias*

Hello,

I'm beginning to give up. This is where my electronics skills stops.

I did what Randy told me, I went actually even further: I cleaned the whole keyboard and logic PCBs with vinegar (it worked amazingly well), and I checked every connections I could with a multimeter. Everything seems to work fine, and power seems to arrive into the logic PCB. But then I can't see any current arriving in the ICs. I think the voltage converter on the logic PCB is dead (and I really don't know how to fix it): as soon as I put the battery in, one of the transistors in the upper-left corner overheats very fast.

If someone has another idea, something I should try or change before giving up totally, please tell me.

I'm VERY disappointed, but now I have to overcome this and think about getting a normal life back. This little toy was so cute! Maybe one day when I have courage, I'll try to replace the PCB with some microcontroller and write a HP67 emulator for it.

Thanks to all of you for your wise advises!

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## HP Forum Archive 17

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### New HP-35s ranking

Message #1 Posted by [Frank Rottgardt](#) on 2 June 2007, 6:26 p.m.

Hi,

the new HP-35s specifications are known by now. Also its design, color-scheme and keyboard-layout. If you should give it a ranking from 0 to 100 in the range of (old and current) HP-calculators, where would the new HP-35s end up?

Criteria could be: - Man-Machine-Interface / Ergonomics - bang for the buck (lets say we are talking about the same price as for a HP-33s) - build quality (hard to judge by now) - emotional factor (do you think it would be FUN to use?)

Of course a ranking is by nature always very personal depending on ones expectations and needs. I passed my engineer exam for many years ago. So graphics are not longer that important to me. A simple but yet powerfull number crunching machine is what I prefer.

I am curious where the community places the new HP-35s.

Personally I'll give it 70 out of 100 (wherby 100 stands for the HP-42s)

Functionwise the HP-35s is more a 60. But I gave it 10 more points for the low price compared to old school HPs which used to be really expensive.

Frank

### Re: New HP-35s ranking

Message #2 Posted by [John](#) on 2 June 2007, 6:46 p.m.,  
in response to message #1 by Frank Rottgardt

Personally, I would not give the HP42s a 100. The user interface is terrible for alpha, IMO.

### 42S ranking

Message #3 Posted by [Howard Owen](#) on 3 June 2007, 4:04 a.m.,  
in response to message #2 by John

For me, it would depend on what exactly was being rated. If the 100 represented "the best keystroke programmable calculator HP ever produced, neglecting I/O" then I would have to give the 42S a 100. (With I/O and expandability considered, I'd go with the 41 as the best.) If the scale included the best RPN scientific keystroke programmable I could imagine at the 100 spot, I'd probably give the 42s a 40, and the 33s a 20.

I agree that the 42S sucks in a number of ways, including the cumbersome alpha input. Although that "pick board" arrangement is workable, if you practice some, I'd prefer voice input or better - sub-vocalization. (Or in an even more whimsical vein, direct brain-wave reading - a technology not that far off, judging by current research.)

What I mean by all that is that the form factor severely limits your choices. "Typing" on the 50g sucks too, just a little less than the 42S. A QWERTY arrangement in a small form factor works really well, in comparison. I've had several portable devices with that approach. The most successful in my opinion are the "clamshell" Sharp Zaurus line. But of course, we want keyboards optimized for calculation, not alpha input, so that means what you really need is a full size keyboard with number pad, and a generous amount of real estate for mathematical functions. You just can't get all that in a calculator form factor. The 200LX has a nice little keyboard which fits the bill feature-wise. But that's a "palmtop," not a calculator. And even though the keyboard is well built, it doesn't hold candle to the finest Corvallis produced for the 200's smaller brethren.

While I like the shape of the characters on the 42S better than the 33S, I agree that the contrast of the former's screen is poor in comparison.

So assuming the 42S is 100 - neglecting I/O remember - then I'd put the 33s at 50, and a 35s that met all my expectations at 75 or so. In economic terms, it doesn't matter at all, since I will certainly buy at least one of the 35s when they come out.

Regards,  
Howard

**Re: New HP-35s ranking**

*Message #4 Posted by [Richard Garner](#) on 3 June 2007, 4:37 a.m.,  
in response to message #2 by John*

I think Frank's ranking is a good rank using the 42s as a basis. I agree that there are things about the 42s that could be better, but if you use a known quantity as a base for comparison the base would have to be the maximum on the scale.

I too hold the 42s in high regards and will use it as my base to compare the new 35s with a maximum score of 100 points.

I will break my comparison up in several criteria:

All are assumptions from the description and image given in the fact sheet.

Display 100 (characters look to be well separated and readable.) Key design 80 (directional keys take up too much space.) Keyboard layout 70 (some heavily used commands are now shifted and require more key strokes to use.) Color Scheme 100 (case, keys, and shifted function colors are well defined.) Function List 60 (alphanumeric entry function list could be increased.) Size 90 (would fit shirt pocket better if slightly shorter and narrower.) Memory 100 Battery Life 50 (without IR battery life should be much greater.)

Overall Score 81.25

**Re: New HP-35s ranking**

*Message #5 Posted by [Bruce Bergman](#) on 2 June 2007, 11:28 p.m.,  
in response to message #1 by Frank Rottgardt*

I'd give it a 78.

thanks, bruce

**Re: New HP-35s ranking**

*Message #6 Posted by [Steve Borowsky](#) on 3 June 2007, 12:54 a.m.,  
in response to message #1 by Frank Rottgardt*

I'll give it an 80, although I don't know whether to add or subtract 10 points due to not actually having used it yet, so I'll do both.

**Re: New HP-35s ranking**

*Message #7 Posted by [Les Wright](#) on 3 June 2007, 1:02 a.m.,  
in response to message #1 by Frank Rottgardt*

I am going to wait until I actually get one.

I must admit that I like the looks of the prototype in the photos with Cyrille's son. The size and shape, including the taper, is reminiscent of the Classics, Woodstocks, Spice and 41 series. The colours are attractive. We will need to wait and see if the concerns about certain missing functions is borne out--they may be concealed in menus like the statistical functions on the 33s.

The promised 800 registers makes me very optimistic indeed. However, I am really hoping that number of available labels is substantially greater than the measly 26 available on the HP33s. The 33s has gobs of memory yet with so few labels, that cannot be reused in different programs, programs cannot achieve anywhere near the level of complexity that all the memory could theoretically allow. The limited label paradigm works beautifully on the limited memory 32sii, but seems incongruous and unnecessary restrictive on the 33s. I hope the 35s corrected this limitation. If the processor speed matches the 33s, I would like to port certain 41 series routines that are painfully slow on the original calculator. Indeed, the one thing that I love about the 33s is its speed. It would be great for the 35s to have a more flexible programming capacity so that those of us who wish to program the calculator can take advantage of it.

As for the 42S, I must admit I love the IDEA of the calculator more than the actual machine. I use Free42 extensively on my Palm TX, and the ability to save and import programs as files makes it easy to use and create 41-style keystroke programs that execute very quickly. But I rarely take the trouble to enter them into the actual 42S. Keystroke entry is cumbersome, and I really don't like the wimpy contrast of the display. The 35s will have the disadvantage of no flash media storage, but a sharper display and quick processor may make it otherwise gratifying to use. I hope!

At any rate, the 35s will be priced about the same as the 33s, so there really is not much to lose. This isn't 1975, when the HP65 sold for what would be a months salary for many people in this Forum.

Cheers,

Les

### Re: New HP-35s ranking

Message #8 Posted by [DaveJ](#) on 3 June 2007, 8:02 a.m.,  
in response to message #1 by Frank Rottgardt

Quote:

Hi,

the new HP-35s specifications are known by now. Also its design, color-scheme and keyboard-layout. If you should give it a ranking from 0 to 100 in the range of (old and current) HP-calculators, where would the new HP-35s end up?

Criteria could be: - Man-Machine-Interface / Ergonomics - bang for the buck (lets say we are talking about the same price as for a HP-33s) - build quality (hard to judge by now) - emotional factor (do you think it would be FUN to use?)

Man-machine interface is let down by the redundant backspace key, incorrect Blue Function key, and excessive keys dedicated to programming (ok for some, not ok for me). I would have preferred a few more keys dedicated to often used functions like Log, X<sup>2</sup> and ENG.

Big pluses are ENG and <ENG support, not wasting a key on HYP (a pet hate), and good colour contrast on key legends.

LCD contrast looks ok for a dot matrix type, but I want to know what the exponent symbol looks like.

Arrow keys I've decided to stay neutral on. I would prefer keys that look the same, but I know the new arrangement is more practical. But I could also say a scientific calc doesn't need cursor keys.

Gets a 75 on Man-Machine interface.

Emotional Factor - I just like it, it's old-school, it's a beautiful piece of engineering to look at, it looks like it belongs on an engineers desk and not a students desk, and it's got cool looking stripes.

Gets a 95 on the Emotional factor.

Dave.

### Re: New HP-35s ranking

Message #9 Posted by [DaveJ](#) on 3 June 2007, 8:16 a.m.,  
in response to message #8 by DaveJ

Quote:

Emotional Factor - I just like it, it's old-school, it's a beautiful piece of engineering to look at, it looks like it belongs on an engineers desk and not a students desk, and it's got cool looking stripes.

Gets a 95 on the Emotional factor.

BTW, I knocked the 5 points off for it not having a 35th anniversary logo or something like that on it. Maybe a nice "The HP Way" written along the bottom, or make it a Bill Hewlett signature edition, that would be cool.

Dave.

### Re: New HP-35s ranking

Message #10 Posted by [Geir Isene](#) on 3 June 2007, 8:59 a.m.,  
in response to message #1 by Frank Rottgardt

Having seen only the specs, I'll give it a 65.

HP-42s = 75 HP-41CX = 100

### Re: New HP-35s ranking

Message #11 Posted by [Maximilian Hohmann](#) on 3 June 2007, 11:58 a.m.,  
in response to message #10 by Geir Isene

Hello!

35 of course ;-) but only, if it has a decent keyboard! And 35 Euros I would bid for it on eBay. Nothing with a grey LCD will ever get more than 50 from me, the full 50 going to the Ti Voyage 200.

The closest to 100 for me so far are hp-67 and hp-97.

Greetings, Max (hopelessly old-fashioned)

### Re: New HP-35s ranking

Message #12 Posted by [DaveJ](#) on 3 June 2007, 5:23 p.m.,  
in response to message #11 by Maximilian Hohmann

Quote:

Hello!

35 of course ;-) but only, if it has a decent keyboard! And 35 Euros I would bid for it on eBay. Nothing with a grey LCD will ever get more than 50 from me

Why on earth does anyone need a colour screen on a basic scientific calculator?

Dave.

### Re: New HP-35s ranking

Message #13 Posted by [Maximilian Hohmann](#) on 4 June 2007, 2:28 a.m.,  
in response to message #12 by DaveJ

Hello!

Quote:

Why on earth does anyone need a colour screen on a basic scientific calculator?

Why on earth does anyone need a colour screen (or even two of them!) on a cellphone? And yet, no cellphone came without one in the last five years...

But it is not really a colour screen that I would like to see, but any kind of display that glows in the dark, just like the real hp-35. Either a true LED display or a backlit LCD or a modern OLED display. In my working environment, this feature really makes a difference!

Greetings, Max

*Edited: 4 June 2007, 2:28 a.m.*

### Re: New HP-35s ranking

Message #14 Posted by [DaveJ](#) on 4 June 2007, 2:54 a.m.,  
in response to message #13 by Maximilian Hohmann

Quote:

Hello!

Why on earth does anyone need a colour screen (or even two of them!) on a cellphone? And yet, no cellphone came without one in the last five years...

That is why I still have a 5+ year old phone! and if it goes bust I'll get another 5+ year old phone. At least I can read the

display in almost any lighting condition without having to press a key to turn on the stupid backlight.

Quote:

But it is not really a colour screen that I would like to see, but any kind of display that glows in the dark, just like the real hp-35. Either a true LED display or a backlit LCD or a modern OLED display. In my working environment, this feature really makes a difference!

Greetings, Max

I'd rather have a longer battery life, thanks!

What is wrong with your lighting condition that a nice high contrast black segmented LCD that draws almost no power can't be seen properly?

Dave.

### Re: New HP-35s ranking

Message #15 Posted by [Maximilian Hohmann](#) on 4 June 2007, 8:02 a.m.,  
in response to message #14 by [DaveJ](#)

Hello!

Quote:

I'd rather have a longer battery life, thanks!

With two rechargeable AAA cells, a two-line dot-matrix OLED display should last for many, many hours.

Quote:

What is wrong with your lighting condition that a nice high contrast black segmented LCD that draws almost no power can't be seen properly?

Reddish night-time cockpit lighting makes almost anything unreadable... and having to shine a flashlight at the calculator with one hand all the time can be a real pain. The best thing to do calculations with when flying at night is actually a cellphone, believe it or not! Illuminated keys, illuminated screen and mine has even a very complete units coverter.

But apart from the actual useability, for me a pocket calculator (that no-one really needs any more, to be honest) must be an aesthetic device with a large fun-factor. And since LCDs are neither aestetically pleasing nor funny in any way, 50 points is all an LCD calculator will ever get from me :-)

It is with great pleasure that I see the renaissance of the LED watch (just look at eBay!) and I am sure, that within this year, we will also see the rebirth of the LED calcualtor. It is a pity, that it will not come from hp...

Greetings, Max

### Re: New HP-35s ranking

Message #16 Posted by [DaveJ](#) on 4 June 2007, 9:25 a.m.,  
in response to message #15 by [Maximilian Hohmann](#)

Quote:

Hello!

Reddish night-time cockpit lighting makes almost anything unreadable... and having to shine a flashlight at the calculator with one hand all the time can be a real pain. The best thing to do calculations with when flying at night is actually a cellphone, believe it or not! Illuminated keys, illuminated screen and mine has even a very complete units coverter.

Ah, ok, a very specialised case indeed.

Quote:

But apart from the actual useability, for me a pocket calculator (that no-one really needs any more, to be honest)

I'll completely disagree on that. One of my biggest gripes is that no one makes a truly \*small\* scientific calculator, they just get bigger and bigger every year, it's getting ridiculous. You just can't carry calcs of today around in your shirt pocket or your lab coat pocket, they are too big and too heavy. My desk space is limited enough without having to make room for a big silly looking calc. It's harder to balance a big calc on an open book or catalog on your desk, or hold it on your hand and carry it around the office etc. Smaller is better.

The most useful calculator I ever owned was a Casio CFX-400 Scientific calculator watch.

Quote:

must be an aesthetic device with a large fun-factor. And since LCDs are neither aesthetically pleasing nor funny in any way, 50 points is all an LCD calculator will ever get from me :-)  
It is with great pleasure that I see the renaissance of the LED watch (just look at eBay!) and I am sure, that within this year, we will also see the rebirth of the LED calculator.

Won't happen. Most people don't care about calculators, and the people who do want long battery life.

Quote:

With two rechargeable AAA cells, a two-line dot-matrix OLED display should last for many, many hours.

Some of my calcs last for 10+ years on the one set of batteries, some with a little help from their solar cell. Changing batteries is a truly horrible experience.

Watch out for the limited display life of OLED displays, they don't last forever.

Reflective LCD's have a simplistic elegance about them!

Dave.

## Re: New HP-35s ranking

Message #17 Posted by [Maximilian Hohmann](#) on 4 June 2007, 10:03 a.m.,  
in response to message #16 by [DaveJ](#)

Hello!

Quote:

Ah, ok, a very specialised case indeed.

Well, if you look at the bottom of this page (topic: "Where is everybody from" or so) you will see, that there are quite a few aviators here! And onboard the aircraft is really the only place where I ever need a pocket calculator; in the office there are enough real computers...

Quote:

One of my biggest gripes is that no one makes a truly \*small\* scientific calculator, they just get bigger and bigger every year, it's getting ridiculous.

Just look at this forum: Whenever there is a new calculator coming out, the first one says: "But I want matrices too" and the next one says: "I want dedicated function keys for everything" and so on ... that's what keeps them growing larger and larger!

Quote:

You just can't carry calcs of today around in your shirt pocket or your lab coat pocket, they are

too big and too heavy.

There are still some small ones around, like the HP-6S or some Ti30 variants. Not programmable though! Of course, the times of truly pocket sized Sinclair programmables are gone forever.

Quote:

Watch out for the limited display life of OLED displays, they don't last forever.

Neither do LCDs... I have enough calculators in my collection with leaking or otherwise broken LCDs!

Greetings, Max

*Edited: 4 June 2007, 10:06 a.m.*

### Re: New HP-35s ranking

Message #18 Posted by [Frank Rottgardt](#) on 4 June 2007, 1:22 p.m.,  
in response to message #17 by Maximilian Hohmann

Quote:

Just look at this forum: Whenever there is a new calculator coming out, the first one says: "But I want matrices too" and the next one says: "I want dedicated function keys for everything" and so on ... that's what keeps them growing larger and larger!

Not necessarily. Example: HP-15c, it has matrices and full complex in a very small form factor. OK, its not so comfortable to enter matrices with an one-line-LCD only. But it works. In my opinion matrix-calculations are one of the most important things I expect from a *mature* scientific calculator. Even today (it is years ago I was freshman) it happens that I need to solve a system of equations. And each time this happens I am gladly putting away the 33s to reactivate my 28s. Matrices, even with objects and complex numbers, are a piece of cake for this machine.

HP - do you copy me? Please give the 35s a decent build-in matrix function! Its not even hardware - only software - and you have lots of ROM. Let's do it.

### Re: New HP-35s ranking

Message #19 Posted by [Karl Schneider](#) on 5 June 2007, 5:23 a.m.,  
in response to message #18 by Frank Rottgardt

Hi, Frank --

Quote:

Example: HP-15c, it has matrices and full complex in a very small form factor. OK, its not so comfortable to enter matrices with an one-line-LCD only. But it works. In my opinion matrix-calculations are one of the most important things I expect from a *mature* scientific calculator.

Excellent points.

Quote:

HP - do you copy me? Please give the 35s a decent build-in matrix function!

I fully agree with your sentiment. The following issues would need to be addressed:

- Matrix identification
- Resolution of ambiguity between scalars and matrices
- Editing (ideally, make use of the cursor keys)
- Placing matrix-specific functionality (e.g., transpose, determinant, norms, residual)

A good implementation would borrow from both the HP-15C and HP-42S, while utilizing the two-

line display.

-- KS

### Re: New HP-35s ranking

Message #20 Posted by [DaveJ](#) on 4 June 2007, 5:23 p.m.,  
in response to message #17 by Maximilian Hohmann

Quote:

Just look at this forum: Whenever there is a new calculator coming out, the first one says: "But I want matrices too" and the next one says: "I want dedicated function keys for everything" and so on ... that's what keeps them growing larger and larger!

That's not an excuse, it is just lazy engineering that makes them larger, and/or lack of a specification to keep it small.

Extra firmware functions take no room except in ROM Extra keys can take up no more room is you trim a few thou here and few thou there. Even my smallest scientific calc has ample room between the keys.

Dave.

### Re: New HP-35s ranking

Message #21 Posted by [Howard Owen](#) on 4 June 2007, 9:23 p.m.,  
in response to message #20 by DaveJ

Quote:

That's not an excuse, it is just lazy engineering that makes them larger, and/or lack of a specification to keep it small.

I hear what you are saying, but I disagree, in part.

The HP Journal article than introduced the 41C began with a discussion about the problem of proliferating functions. The then current top-of-the line pocket calculator was the HP-67. That machine has quite a "busy" keyboard, with two shift keys, and labels on the key top, key face and keyboard background. The problem was that each function had to be accessible via simple combinations of keystrokes - there was no menu capability for less frequently used functions.

But that isn't what the HP engineers came up with for a solution on the HP-41C. Instead, they used the alphanumeric capability to invoke functions by spelling out their names. This allowed them to greatly expand the CATalog of functions. One problem with this approach was that each decision made about which function to leave on the keyboard, and which to relegate to the CATalog was likely to annoy somebody. However, they apparently were aware of this problem, because they implemented a completely redefineable keyboard. This allowed users to get around the annoyance by defining their own set of trade offs between completeness and keyboard accessibility. (I know that USER mode on the 41 had other reasons to exist besides this.) I remember that despite nice features like programmatic redefinition of the keys, which became fully general with synthetic programming, and later with the CX and Xfunctions module, it was still a hassle for me to juggle between different keyboard modes with the various ROM modules and programs I had written. But I was grateful on balance for the rich feature set, and accepted the hassle as an inevitable consequence of that abundance.

With the 42S, having a two line display, HP moved to using menus with redefineable soft keys. This was more convenient because it grouped related functions together under a single menu key. This made the functions more "discoverable," and less a matter of wading through a long CATalog listing (or six!) to find that obscure function you had forgotten the name of.

But of course, things didn't stop with the 42s. The high end calculator line moved on to the 28c, with its double keyboard allowing even more functions on the keyboard *combined* with menus. The feature set continued to explode through the 48s, 48g, 49g and 49g+ machines, with each nw machine offering expanded feature sets, and a new take on how to access all that functionality. The current top



of the line is the HP-50g. This machine has added hardly any features to those offered by the 49g+, but it hardly needed to. Between the Metakernal and the CAS, the machine has an enormous vocabulary of built in words.

It's interesting to compare the 50g side by side with the 67, to see how the keyboard has come full circle since 1979. The 50g is much larger, of course. it's something under an inch taller than the 67, but most of that comes from the comparatively huge display. The keyboards of the two machines are actually about the same height. The Y axis height of the keys and their spacings on the 50g are less, on average, than those on the 67, so the former squeezes in 10 rows where the latter has only 8. Remarkably, the calculators are about the same width. But the same factors that pack the vertical dimension are also at work in the horizontal, allowing for an extra column on the 50g as compared to the 67. But then the 50g adds cursor keys (and makes very good use of them throughout the implementation, btw) which subtracts from the number of columns in the upper half. But in total, the 50g sports 51 keys while the 67 has 35, just like its progenitor, the HP-35. So much for the differences. On the similarity side, both calculators have two shift keys, and both crowd an enormous number of functions into the available space. But the 50g adds the alpha key as a third shift key. For that reason, and because there are more keys, and their labels are smaller and closer together to fit, the 50g's keyboard looks a lot more cluttered than the 67s. One last difference: the 50g has tons of menus, too.

The menu implementation on the 50g is pretty good. It provides soft labels that can be left or right shifted, providing three functions per soft key. With the addition of KeyMan, you can also assign long hold and double press actions to any key, including a soft key. Speaking of redefining keys, the 50g, like the 48 and 49s before it, has a completely redefineable keyboard like the 41C had. So your options for accessing the mind bogglingly large feature set of the HP-50g combines bright ideas from practically the entire heritage of HP calculators - and boy, do you need them!

Let's see. I want to debug this user RPL program I'm working on. I have the code saved to a soft key in the VAR menu. So first, I set up the stack with my input parameters, Then I hit:

```
VAR ' A LSHIFT EVAL UP ENTER A B B B
```

That translates to "Go to the VAR menu, (VAR) hit the single quote key (') which actually enters two single quotes and leaves your cursor sitting between them. Hit the first soft key (A). Ordinarily, pressing A when in the VAR menu would execute the function assigned to that key. But since I'm between those single quotes, the name of the function gets entered instead. So now I go to the PRG menu (LSHIFT EVAL) where I select the DEBUG entry (UP). DEBUG is the last entry in the PRG menu, so UP wraps around and selects it in the list box) Now pressing ENTER activates the DEBUG menu. Now I press the DEBUG soft key (A) and the debugger starts. It uses the program name on level one (X for us RPN types) as input, so that's the program I'm now debugging. I can now single step (SST - the B soft key) and try to figure out what's not working.

So that is complicated. Of course, I've memorized the sequence, so it takes much more time to describe than to actually perform it. But the calculator has hundreds upon hundreds of such sequences. If I have to do something I don't have memorized, it's likely to take me a while to get to the actual thing I need. This is the main drawback of a menu system traversing a tree hierarchy. You can only see the local structure, so its hard to navigate to separated parts of the tree. You run into the same problems with a windowing file manager, but since there is lots of screen real estate on a PC, you can get more of the global view. On Unix, I just use find.

So this started out as a partial refutation of the idea that complexity in a calculator interface is due just to laziness on the part of the designers. I think that far from being lazy, those designers are straining mightily to balance usability with the demands of the specs they are given for features on the calculator. I think that these two items have an inverse relationship to one another, and that the genius of HP over the years has been to find ways to fudge the balance. I think that result is less than ideal\*, as my example above should show, but I think it may be nearly optimal in a real device. I, for one, am not willing to give up features in a high end machine like the 50g in order to improve the balance.

On a machine that doesn't aspire to be the "all singing, all dancing" top-of-the-line mega-calculator, I don't mind dropping features to achieve a better balance with usability. But the laughing devil in the details is this: my optimal compromise doesn't match yours. This is the conundrum that makes those "lazy" designers work overtime.

Regards,  
Howard

\* I've written elsewhere that I would prefer a brainwave connection as my ideal interface to a computing device. for me, this is ideal, but not optimal, since such a thing doesn't exist - yet. 8)

### Re: New HP-35s ranking

Message #22 Posted by [kdv](#) on 4 June 2007, 12:47 p.m.,  
in response to message #15 by Maximilian Hohmann

Quote:

Reddish night-time cockpit lighting makes almost anything unreadable... and having to shine a flashlight at the calculator with one hand all the time can be a real pain.

I don't know how you feel about handling a soldering iron, but maybe you could simply add a LED backlight to an LCD display. Take a look at [www.farnell.com](http://www.farnell.com), under Optoelectronics > Backlighting > Backlight LED .

e.g.:

<http://ie.farnell.com/jsp/Optoelectronics/Backlighting/LED+TECHNOLOGY/BSRGS15308TE/displayProduct.jsp?sku=1208899>

Maybe someone who has opened, say, a HP33s, could comment on feasibility.

regards,

koen

### Re: New HP-35s ranking

Message #23 Posted by [Egan Ford](#) on 4 June 2007, 1:04 p.m.,  
in response to message #13 by Maximilian Hohmann

Quote:

But it is not really a colour screen that I would like to see, but any kind of display that glows in the dark, just like the real hp-35. Either a true LED display or a backlit LCD or a modern OLED display. In my working environment, this feature really makes a difference!

Perhaps the 35th Anniversary Edition version of the 35S will have LED/OLED. That would be a nice touch and a valuable limited edition.

### HP 35SX ?

Message #24 Posted by [Donald](#) on 4 June 2007, 1:53 p.m.,  
in response to message #23 by Egan Ford

Quote:

Perhaps the 35th Anniversary Edition version of the 35S will have LED/OLED.

Before the HP35S data-sheet appeared, I was thinking that might have been a possibility ( even hinted at - those requests to show up at HHC 2007 with LED displays glowing in the dark ).

But it would need a prismatic Li-ion cell and a USB port to charge it.

The 2x2032 coin cells would not supply the current ( 210mAh, 15mA max pulse current ).

However, an otherwise almost identical ( apart from the 35th Anniversary logo ) HP35SX with backlighting, a user replaceable Li-ion battery and a USB port for data and charging would be possible.

A small cell-phone style microSD card ( for backup and the matrix library ) could also hide under the cover next to the battery.

HP35s score 65

HP35SX score 80

HP41CX score 85

HP15C score 85

*Edited: 4 June 2007, 2:14 p.m.*

**Re: New HP-35s ranking**

Message #25 Posted by [Frank Rottgardt](#) on 4 June 2007, 3:49 a.m.,  
in response to message #1 by Frank Rottgardt

OK, what do we have?

Howard 75 / Richard 81 / Bruce 78 / Steve 80 / Dave ? / Geir 65 / Me 70

Makes an average 35s-score of 75 / 100 - Not bad. Actually more than I expected.

**Re: New HP-35s ranking**

Message #26 Posted by [DaveJ](#) on 4 June 2007, 3:55 a.m.,  
in response to message #25 by Frank Rottgardt

Quote:

OK, what do we have?

Howard 75 / Richard 81 / Bruce 78 / Steve 80 / Dave ? / Geir 65 / Me 70

Averaging my two scores gives an overall value of 85, making me the top scorer. Geeze, you guys are a bit harsh! :-> Come on, the 35S is beautiful!

Dave.

**Re: New HP-35s ranking**

Message #27 Posted by [Bruce Bergman](#) on 4 June 2007, 9:12 a.m.,  
in response to message #26 by DaveJ

I can't wait to get my hands on it in real life. Once I do, I'm sure my score will go up. ;-)

thanks, bruce

**Re: New HP-35s ranking. Not so fast.**

Message #28 Posted by [Trent Moseley](#) on 4 June 2007, 10:04 p.m.,  
in response to message #1 by Frank Rottgardt

How can anyone rank anything until one has the real thing in their hot little hands?

tm

**Re: New HP-35s ranking. Not so fast.**

Message #29 Posted by [Howard Owen](#) on 4 June 2007, 11:42 p.m.,  
in response to message #28 by Trent Moseley

Quote:

How can anyone rank anything until one has the real thing in their hot little hands?

Easily done:

Quote:

.. and a 35s that met all my expectations at 75 or so.

We rank our expectations (of the 35s) against our experiences (of othe HP calculators,) knowing full well that expectations can be left unmet or exceeded by reality.

Regards,

Howard

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## HP Forum Archive 17

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**Area under normal curve**

Message #1 Posted by [Paul Guertin](#) on 2 June 2007, 10:32 a.m.

I wonder who decided that hyperbolic functions and their inverses would be standard on basic scientific pocket calculators (not only HP but other brands, too), but Q and Q<sup>-1</sup> (area under the normal curve and its inverse function) would appear on only a few select models. Shouldn't they be considered basic, useful and common functions?

**Re: Area under normal curve**

Message #2 Posted by [Namir](#) on 2 June 2007, 12:02 p.m.,  
in response to message #1 by Paul Guertin

I agree. The Student-t probability distribution function and its inverse should also be included. Together with the inverse normal, the inverse Student-t are used to calculate confidence interval. Of course including the Chi-square and F distributions makes the set complete.

**Re: Area under normal curve**

Message #3 Posted by [Les Wright](#) on 3 June 2007, 2:29 a.m.,  
in response to message #2 by Namir

I have written 41C routines, also readily usable on the 42S, that compute the incomplete gamma and incomplete beta functions using series or continued fraction expansions, as appropriate. In the case of the continued fraction calculations, I use the Modified Lentz algorithm as spelled out in Numerical Recipes-- seems to be faster and converges more reliably than the familiar 300-year-old Wallis method.

The error function and cumulative normal and chi-square distributions are special cases of the incomplete gamma function. The t and F distributions are special cases of the incomplete beta function. I would hope that if the processor is fast as in the 33s and the programming paradigm is flexible enough it will be easy to adapt these routine to the 35s. The inverse normal and t distributions can be found using the corresponding cumulative distributions and the Solver. I have a routine for the 33s that computes the cumulative normal distribution fairly quickly (it is a direct routine that is not mediated through the incomplete gamma function), and I can use the Solver to find z scores associated with given percentiles fairly quickly--a few seconds at most in the typical case.

Les

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## HP Forum Archive 17

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**41s**

Message #1 Posted by [Hugh Evans](#) on 1 June 2007, 12:22 p.m.

Alright, so the 35s isn't even out yet, but even so it's a good platform for making modifications partially due to its' thickness. Here is my proposal of what we should do with it to make it better:

Gut the electronics, keep the LCD, make a new PCB with either an arm7 or arm9TDMI, give it about 512KB of SRAM, USB, SD/MMC card support, and load it with the command set of the 41c. We can give the keyboard a new set of labels with an overlay and silk-screen the keys.

If there's enough room it could even be fun to add 2 to 4 41c expansion module sockets.

Since the enclosure will be ready to go, producing the rest of a modification kit will cost under \$50. Anyone interested in bringing back the 41 in a more powerful form?

-Hugh

**Re: 41s**

Message #2 Posted by [cfh](#) on 1 June 2007, 12:31 p.m.,  
in response to message #1 by Hugh Evans

Hmm, Yes, but why not an HP42sx - Whooo haaaa!

cheers /cfh

**Re: 41s**

Message #3 Posted by [Hugh Evans](#) on 1 June 2007, 12:39 p.m.,  
in response to message #2 by cfh

The form factor of the 35s is a better match for the 41. I think one of the products from OpenRPN will satisfy your desire for a 42sx.

<http://home.insightbb.com/~hdevans/Quixote.jpg>

**Re: 41s**

Message #4 Posted by [cfh](#) on 1 June 2007, 12:44 p.m.,  
in response to message #3 by Hugh Evans

Nice pic!

But can we assume it will materialize? And when? /cfh

**Re: 41s**

Message #5 Posted by **Miguel Toro** on 1 June 2007, 3:12 p.m.,  
in response to message #3 by Hugh Evans

I want my OpenRPN 42sx!!!! :-)

**Re: 41s**

Message #6 Posted by **DaveJ** on 1 June 2007, 7:09 p.m.,  
in response to message #1 by Hugh Evans

I have never opened a 33s, on which the 35s hardware is presumably based. Does the keyboard have it's own PCB, or is it integral to the main PCB? (making the job a bit messier) Anyone got any internal photos of the 33s?

Dave.

**Re: 41s**

Message #7 Posted by **Gerson W. Barbosa** on 1 June 2007, 8:55 p.m.,  
in response to message #6 by DaveJ

[Open\\_33s.JPG \(167 KB\)](#)

**Re: 41s**

Message #8 Posted by **Walter B** on 1 June 2007, 11:49 p.m.,  
in response to message #7 by Gerson W. Barbosa

Oh, oh, old HP calcs look a lot cleaner!

**Re: 41s**

Message #9 Posted by **Hugh Evans** on 1 June 2007, 10:24 p.m.,  
in response to message #6 by DaveJ

Judging by the specs of the 35s, we're going to have tons of room to work with inside. There are enough engineers around here to create a standard modification procedure. Even if it entails major surgery we can figure it out. I'm just happy to have a good enclosure and set of keys to work with.

**Re: 41s**

Message #10 Posted by **Don Williams** on 1 June 2007, 9:09 p.m.,  
in response to message #1 by Hugh Evans

While everyone else is going "gaga" over the new 35S, I am a little disappointed in the "expected" lack of I/O. So any attempt to create it, however the means, would interest me.

**Re: 41s**

Message #11 Posted by **Hugh Evans** on 1 June 2007, 11:31 p.m.,  
in response to message #10 by Don Williams

I suspect you are not alone in your opinion. I'm viewing the 35s as a nice enclosure, set of keys, and lcd we can use to make something much better. Making electronics is much easier than the other parts. This has the potential to be an exceptionally cool project.

**Re: 41s**

Message #12 Posted by [Bill Wiese](#) on 2 June 2007, 12:35 a.m.,  
in response to message #11 by Hugh Evans

There's really little need for the horsepower of an ARM.

Packaging suitable for the casing, as well as power considerations and I/O appropriate for the existing HP LCD should be chosen first.

A TI MSP430 or PIC or other CPU along with an SPI serial flash memory (up to 2MB) and SPI serial RAM can work just fine to emulate an improved existing calc.

I'm betting the HP 35S uses low-cost COB (chip-on-board - chip bonded to PCB, covered with a glop of silicone) mounting, and that the PCB is heat-staked to the case.

A thin 'sub-PCB' will prob need to be fabricated, and existing CPU disabled somehow (foil cuts?). Tapping into PCB where existing chip is will be a bitch - there may be better places (test connector?) to get access without doing a whole new main PCB.

We really won't know until we can see the innards of a 35S.

Bill Wiese San Jose CA

**Re: 41s**

Message #13 Posted by [Paul Dale](#) on 3 June 2007, 11:57 p.m.,  
in response to message #12 by Bill Wiese

Quote:

---

There's really little need for the horsepower of an ARM.

---

I'm sure the horsepower could be utilised in one form or another. I wouldn't go so far as CAS and possibly not even to full on matrix support.

However, there is plenty of scope to make the mathematics more accurate and/or faster. E.g. using something like medium precision reals via the [MPFR library](#). Knowing your answers are correct is comforting.

Likewise being able to add new native functions (i.e. fast) via the inbuilt programming would be a major boon.

- Pauli

**Re: 41s**

Message #14 Posted by [DaveJ](#) on 2 June 2007, 3:55 a.m.,  
in response to message #1 by Hugh Evans

Quote:

---

Alright, so the 35s isn't even out yet, but even so it's a good platform for making modifications partially due to its' thickness. Here is my proposal of what we should do with it to make it better:



Gut the electronics, keep the LCD, make a new PCB with either an arm7 or arm9TDMI, give it about 512KB of SRAM, USB, SD/MMC card support, and load it with the command set of the 41c. We can give the keyboard a new set of labels with an overlay and silk-screen the keys.

---

I would add IrDA to that.

Dave.

**Re: 41s**

*Message #15 Posted by [Hugh Evans](#) on 2 June 2007, 4:47 a.m.,  
in response to message #14 by DaveJ*

Of course, I neglected to mention that feature. It's almost implied around here!

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## HP Forum Archive 17

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### 35s - English Conversions

Message #1 Posted by [Jeff O.](#) on 31 May 2007, 1:51 p.m.

I'll start by stating that I am fairly stunned by the 35s, and if it is produced exactly as it looks in the first view, with the presumed function set, no I/O and no matrix functions, I'll probably buy two or three. However, as a point of discussion, I was wondering what others thought of the lb $\leftrightarrow$ kg, F $\leftrightarrow$ C, l $\leftrightarrow$ gal, mile $\leftrightarrow$ km and in $\leftrightarrow$ cm functions. I don't recall seeing any discussion of the inclusion of these conversions. I realize that the 33s has such conversions, but the 35s actually expands on them by adding a second distance conversions, mile  $\leftrightarrow$  km. (I guess now I won't have to remember how many inches are in a mile.) I'll readily admit to still thinking in and using feet, miles, pounds and degrees Fahrenheit, so those conversions may be useful to me and a few others. However, I don't require the rest of the world to make any concession or suffer any detriment because of the continued use of English measurements in the US. So the prominent inclusion (shifted functions on **five** keys) of such conversions on a product that will be sold internationally seems like a waste of keyboard space. I'd be perfectly happy with an Engl $\leftrightarrow$ SI function (or similar) that would bring up a menu of those conversions. That would free up a shifted function on one key and two shifted functions on four more keys. Maybe Int $\div$  and Rmdr on one key, FP and IP on another, and ??? and ??? on the third and fourth. As for the other shifted function for the first key, I'd go with MATRIX for a menu of matrix functions.

edited to reflect the fact that there are **five** conversion keys - missed the liters to gallons conversions the first time around.

*Edited: 1 June 2007, 7:18 a.m. after one or more responses were posted*

### Re: 35s - English Conversions

Message #2 Posted by [Egan Ford](#) on 31 May 2007, 2:00 p.m.,  
in response to message #1 by [Jeff O.](#)

I though about raising that issue as well. I think it is a waste of space. A better solution would be a UNIT menu with 48/49/50 like units support. I think this is critical in a sci calc. My 8th grade Chem teacher beat in to me the notion of always calculating with units. It has saved me a few times. Would have saved others as well.

The freed up space could support Matrix, R $\leftrightarrow$ P, more integer and string functions. STO could be restored.

*Edited: 31 May 2007, 2:03 p.m.*

### Re: 35s - English Conversions

Message #3 Posted by [Hugh Evans](#) on 31 May 2007, 2:21 p.m.,  
in response to message #1 by [Jeff O.](#)

I think those quick unit conversion keys will be pretty useful. In terms of tracking units while doing calculations, I never do so on a calculator... That part belongs on paper as far as I'm concerned.

### Re: 35s - English Conversions

Message #4 Posted by [Walter B](#) on 31 May 2007, 2:31 p.m.,

*in response to message #3 by Hugh Evans*

Are you sure your post is logically consistent? I miss a "not" in the first sentence... d;-)

### **Re: 35s - English Conversions**

*Message #5 Posted by **Patrice** on 31 May 2007, 3:22 p.m.,  
in response to message #3 by Hugh Evans*

If you look carefully at the pictures, you will see that it is units conversion, not units attach to the values.

So it is not even usefull to what you say.

Patrice

### **Re: 35s - English Conversions**

*Message #6 Posted by **Hugh Evans** on 31 May 2007, 4:06 p.m.,  
in response to message #5 by Patrice*

Exactly, that's why I'm saying that I don't have any big problems with it. Having a quick unit conversion is more useful to me than attaching the units to stack objects. It's a feature I don't think HP will change on the 35s. At the very most we may be able to convince them to make a few changes to the layout and hopefully the label colors, but I wouldn't bank on them changing too much else.

-Hugh

### **Re: 35s - English Conversions**

*Message #7 Posted by **Patrice** on 31 May 2007, 3:18 p.m.,  
in response to message #1 by Jeff O.*

Hi all,

I don't remember having used english units conversion more than once every two years (or even less).

Those keys are really a waste of space.

By the way I am in France

Patrice

### **Re: 35s - English Conversions**

*Message #8 Posted by **Jürgen (CH)** on 31 May 2007, 3:31 p.m.,  
in response to message #1 by Jeff O.*

For those using SI units (some of them use also this strange umlaut characters) these conversion functions are not very useful. I would put them into a menu and use the keys for other (more generally useful) stuff. Personally, I also dislike the light grey of the cursor keys; the light color is too attracting and disturbs the otherwise very nice design. Anyway, it's by far the most interesting calculator HP presented in the last few years. I definitely would buy one.

Cheers, Jürgen

### **Re: 35s - English Conversions**

*Message #9 Posted by [Steve Borowsky](#) on 31 May 2007, 4:01 p.m.,  
in response to message #8 by Jürgen (CH)*

These conversions have become standard fare on scientific calculators, probably as a concession to grammar school usage. In light of this, the reason for having them on the keyboard and not in a menu is so that when the calculator is hanging on a shelf next to all the TI's, Casio's, and Sharp's which have them on the keyboard the HP isn't passed by for lack of them. Hp has given us most of what we wanted in the 35s, but they have to draw the line somewhere! Just my opinion, of course.

### **Re: 35s - English Conversions**

*Message #10 Posted by [Egan Ford](#) on 31 May 2007, 4:13 p.m.,  
in response to message #9 by Steve Borowsky*

I would agree if the 35s were the same price as the Casio/TI. Grammar school kids do not need a \$65-\$75 programmable calculator. IMHO, professionals do not need a handful of trivial conversions.

### **Re: 35s - English Conversions**

*Message #11 Posted by [Jürgen \(CH\)](#) on 31 May 2007, 5:07 p.m.,  
in response to message #9 by Steve Borowsky*

Steve,

I see your point. Often, we have to find a compromise between sales/marketing and engineering requirements. But doing things the same way as others is not very innovative. Perhaps HP can do better than others? But, as I said above, the conversion functions are not a major problem for me. I will definitely buy a 35s!

Best Regards, Jürgen

### **Re: 35s - English Conversions**

*Message #12 Posted by [Les Wright](#) on 31 May 2007, 8:54 p.m.,  
in response to message #9 by Steve Borowsky*

Does anyone have a guestimate as to MSRP?

I am expecting it will be priced similarly to the 12c--maybe cheaper. Certainly more than the 33S.

Does \$79.99US sound about right?

Les

### **Re: 35s - English Conversions**

*Message #13 Posted by [e.young](#) on 31 May 2007, 10:07 p.m.,  
in response to message #12 by Les Wright*

I would expect it to be around the cost of the 33s.

### **How about overlays and User key assignment**

*Message #14 Posted by [Donald](#) on 31 May 2007, 5:20 p.m.,*

*in response to message #1 by Jeff O.*

Quote:

... So the prominent inclusion (shifted functions on **four** keys) of such conversions on a product that will be sold internationally seems like a waste of keyboard space. ..

Less useful functions could be depreciated, if a USER mode with key assignments was included on the calculator.

Now there are raised edges on the keyboard sides, it's once again possible to have HP41/HP48 style overlay sheets - so you can write your own yellow shift layout.

Plus, I wonder if there's a flag which sets English or American conversions for gallons.

*Edited: 31 May 2007, 5:28 p.m.*

### **Re: How about overlays and User key assignment**

*Message #15 Posted by [Steve Borowsky](#) on 31 May 2007, 6:26 p.m.,  
in response to message #14 by Donald*

Quote:

Less useful functions could be depreciated, if a USER mode with key assignments was included on the calculator.

Well, if they included user key assignments, then they've obviously placed the conversions there intentionally so that we would have some keys to reassign without having to bump anything useful off the keyboard. HP is back baby!

### **Re: 35s - English Conversions**

*Message #16 Posted by [Paul Dale](#) on 31 May 2007, 6:02 p.m.,  
in response to message #1 by Jeff O.*

I like having the metric-imperial conversions on the keyboard. This is arguably the main reason I bring out my 32SII these days. Well when I don't do the conversions in my head.

I'm in Australia and we officially switched to metric some thirty years ago. I started learning imperial units in school but switched to metric part way through. I am, however, much more conversant in metric. Despite this, imperial units still seem to crop up moderately frequently especially in the building industry.

Working for a parent company that is American also promotes the need for these functions.

- Pauli

### **Re: 35s - English Conversions**

*Message #17 Posted by [Walter B](#) on 31 May 2007, 6:30 p.m.,  
in response to message #16 by Paul Dale*

If the HP35s shall have (at least almost) the same quality as the original HP35, we have a good chance USA will switch to metric within the lifetime of this calc, and these keys will become absolutly obsolete

outside of fantasy novels. Uh, oooh, why do you throw tomatos?!? d;-)

### **Re: 35s - English Conversions**

*Message #18 Posted by [blurdybloop](#) on 31 May 2007, 7:49 p.m.,  
in response to message #17 by Walter B*

Ahem. The US has been officially metric for the past 150 years.

All those US measures with similar names to imperial units are actually defined in US law in terms of metric units. For example, a US inch is exactly 2.54cm, not whatever the old imperial inch happened to be.

The difference is that, unlike most other countries, the US government does not attempt to force its citizens to use metric units; and Americans gravitated to whatever units are most convenient for the task at hand. To a lesser extent, this is also done in the UK and Canada. Even "all-metric" countries like Japan retain traditional units of area measure.

The advocates of mandatory metrification base their arguments upon faith rather than reality. Metric is, in many ways, just as arbitrary and unscientific. The origin of the meter is a flawed 18th century understanding of the circumference of the earth -- a flaw that was known back when when it was defined, but they went with it anyway! The kilogram is even more embarassing, as it continues to lose mass over time.

For some calculations, the use of order of magnitude unit levels is more convenient. In others, it is less convenient; base 10 handles negative powers of 2 poorly, and is even worse with other common fractions.

The standard argument is the difficulty in doing arithmetic with measures that mix inches/feet/yards, ounces/pints/quarts/gallons, ounces/pounds/tons, etc. That argument is bogus, because nobody does such arithmetic. These are contrived examples.

For what it's worth, I'm equally comfortable in both metric and US units, and use whatever unit is most suitable for the task at hand.

### **Re: 35s - English Conversions**

*Message #19 Posted by [John Gustaf Stebbins](#) on 31 May 2007, 8:18 p.m.,  
in response to message #18 by blurdybloop*

Most countries that are all metric have had the advantage of not having significant industrial activity prior to adoption of SI or have needed to rebuild industry after war or catastrophe. Hopefully, we in the US will continue to struggle with mixed units well past my lifetime.

There is a great book by Underwood Dudley called "Mathematical Cranks." He points out that the English system was actually derived with computational ease in mind. It is complicated in that we have not kept all the units, so conversions are 4 or 8 or 2, but origianally most of the unit sets had units for all powers of two. Thus any computation could be done through unit shifting and simple binary procedures. Much simpler for merchants in the day when a calculator was called an abacus, and it was a fancy new machine from Asia that they really didn't know how to work.

-jgs

### **Re: 35s - English Conversions**

*Message #20 Posted by [bill platt](#) on 31 May 2007, 10:12 p.m.,  
in response to message #19 by John Gustaf Stebbins*

Yes, that is an interesting point about mental calcs.

For instance, a dozen (which is after all essentially the word for "twelve" in french) is evenly divisible by 2 3 and 4 and 6, whereas the metric "10" is evenly divisible by 2 only!

Similarly, base 60 (which is after all a base 12 relative) has many convenient divisions.

Even the old English money system was very interesting and useful for division--it was a rich mixture of base 12 and base 20 which made possible dividing into thirds.

*Edited: 31 May 2007, 10:12 p.m.*

### **Re: 35s - English Conversions**

*Message #21 Posted by [GE](#) on 1 June 2007, 3:41 a.m.,  
in response to message #20 by bill platt*

Hello,  
10 ENTER 5 /  
!!!!

### **Re: 35s - English Conversions**

*Message #22 Posted by [bill platt](#) on 1 June 2007, 7:19 a.m.,  
in response to message #21 by GE*

:-)

### **Re: 35s - English Conversions**

*Message #23 Posted by [Walter B](#) on 2 June 2007, 12:31 a.m.,  
in response to message #20 by bill platt*

If we would calculate in a duogesimal number system today, you would be perfectly right. But mankind has chosen decimal some centuries ago.

There are few survivors of ancient times, most prominent is HMS. You even find "quatrevingt" in French, pointing to an old base-20 system. But all such are well countable exceptions in the sea of decimal.

### **Re: 35s - English Conversions**

*Message #24 Posted by [blurdybloop](#) on 1 June 2007, 6:04 p.m.,  
in response to message #19 by John Gustaf Stebbins*

Quote:

Most countries that are all metric have had the advantage of not having significant industrial activity prior to adoption of SI or have needed to rebuild industry after war or catastrophe. Hopefully, we in the US will continue to struggle with mixed units well past my lifetime.

The real issue is not Americans struggling with mixed units -- few actually have any "struggle" at all! -- but rather that non-US companies resent having to having a second set of tooling if they want to make non-OEM parts for US products. It makes it more expensive for them to compete with American makers; and they see our use of non-metric units as an anti-competitive measure.

### Re: 35s - English Conversions

Message #25 Posted by *bill platt* on 31 May 2007, 10:27 p.m.,  
in response to message #18 by *blurdybloop*

Some metric units are annoying for their lack of reality. Celsius is too coarse for instance, and "goes negative" in perfectly normal weather. Degrees F on the other hand goes 0 to 100 in temperate climates--and 0 and 100 are pretty much the extremes for much of the temperate world's populations. Furthermore, celsius doesn't get absolute zero any better than Rankine.

Luckily for metric, some of its units happen to mesh quite closely with our traditional measures:

\*\* A meter is very close to a yard, and 2 meters isn't too far off from a fathom (an arm-spread).

\*\* A metric ton (1000 kg) is almost the same as a Long Ton--they differ by only 36 pounds out of 2240.

And the fact that a cubic meter of fresh water weights essentially 1 tonne is also useful.

But metric unit naming is stupid. What lame-brain decided to name all the derived units after people? How the hell are you supposed to remember what a Pascal is? And what about the Bar? Why confuse everything! In "english units it is easier: psi or ksi for pressure--and that's "metric" scaling!--or "atmosphere". The Bar isn't quite an atmosphere but who's quibbling.

At least the Newton can be remembered through the fabled apple incident!

*Edited: 31 May 2007, 10:28 p.m.*

### Re: 35s - English Conversions

Message #26 Posted by *cfh* on 1 June 2007, 7:30 a.m.,  
in response to message #25 by *bill platt*

Do I treat that as "serious", or "ironic"?

Have you ever worked in metric units?

/cfh

### Re: 35s - English Conversions

Message #27 Posted by *cfh* on 1 June 2007, 12:24 p.m.,  
in response to message #25 by *bill platt*

Quote:

Some metric units are annoying for their lack of reality. Celsius is too coarse for instance, and "goes negative" in perfectly normal weather. Degrees F on the other hand goes 0 to 100 in temperate climates--and 0 and 100 are pretty much the extremes for much of the temperate world's populations. Furthermore, celsius



doesn't get absolute zero any better than Rankine.

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At least the Newton can be remembered through the fabled apple incident!

---

OK, so the \*Scientific Models\* will not sell in the US? Only the Carpenter Models?

cfh, \*laughing his eyes out\*

### Re: 35s - English Conversions

Message #28 Posted by **bill platt** on 1 June 2007, 3:01 p.m.,  
in response to message #27 by cfh

Of course I am being sarcastic, yet truthful too. Just as it is difficult to swat a fly with a sledgehammer, it is sometimes awkward to use certain units in certain circumstances and there is nothing inherently superior about one unit over another.

Have I used metric? Heck, that is the one language that American (engineers) are bi-lingual in!

### Re: 35s - English Conversions

Message #29 Posted by **Walter B** on 2 June 2007, 12:53 a.m.,  
in response to message #28 by bill platt

Quote:

---

Just as it is difficult to swat a fly with a sledgehammer, it is sometimes awkward to use certain units in certain circumstances and there is nothing inherently superior about one unit over another.

---

Fully agree. Each metric unit per se is as arbitrary as any Imperial unit. So, why bother? One difference is easier scaling (by powers of 10, never heard of kiloyards so far), but the main advantage is the SYSTEM. Of course, this shines most brilliant in physics, while the carpenter may still live well with his home units (as long as he doesn't have to go from length to area or volume or weight frequently).

**Re: 35s - English Conversions**

Message #30 Posted by [blurdybloop](#) on 1 June 2007, 6:14 p.m.,  
in response to message #25 by bill platt

Quote:

---

Some metric units are annoying for their lack of reality. Celsius is too coarse for instance, and "goes negative" in perfectly normal weather. Degrees F on the other hand goes 0 to 100 in temperate climates--and 0 and 100 are pretty much the extremes for much of the temperate world's populations. Furthermore, celsius doesn't get absolute zero any better than Rankine.

---

Metric area is particularly bad in this respect. Nobody uses the standard unit of metric area (the are). People either use square meters for smaller areas, or the hectare (100 are or a bit more than 2 acres) for larger areas. Metric measures also don't divide by successive powers of two very well.

That's why many countries continue to use non-metric measures for land measurements, even when they are otherwise metrified.

As for Celsius silliness...the whole reason why 98.6F is supposed to be "normal" human body temperature is that that value is a even 37C. Not that the human body has ever paid attention to metrification!

**Re: 35s - English Conversions**

Message #31 Posted by [Walter B](#) on 2 June 2007, 12:18 a.m.,  
in response to message #30 by blurdybloop

Bullshit. The standard unit for area is m<sup>2</sup>, of course.

The "ar" , though fitting in the system (1 ar = 100 m<sup>2</sup>), is not. It's seldom used. More popular is the "hektar" (= 100 ar = 10,000 m<sup>2</sup> - "hekato" means hundred in Ancient Greek) in agriculture or large scale building.

Have you seen the conversion constants? That's the difference in daily life!

**Vorsicht mit unserer Sprache!**

Message #32 Posted by [Karl Schneider](#) on 3 June 2007, 2:25 a.m.,  
in response to message #31 by Walter B

Quote:

---

Bulls\*\*t. The standard unit for area is m<sup>2</sup>, of course.

---

"Quatsch", Walter -- "Quatsch!" is mehr hoeflich...

:-)

-- KS

**Re: Vorsicht mit unserer Sprache!**

Message #33 Posted by **Walter B** on 3 June 2007, 3:29 a.m.,  
in response to message #32 by Karl Schneider

Karl, I know: Quatsch ist höflicher als "bulls\*\*t" ("Quatsch" is more polite than bulls\*\*t), but since we shall communicate in broken English here, I couldn't find a better expression for the bulls\*\*t written there. Better proposals, however, are welcome. I write straightforward, since I'm not able to command the diplomatic finesses of this language as a native, educated speaker may do. Please accept my apologies.

P.S.: The people here are known for such a language. "Mit dem hab' ich mal deutsch gered't" (= I've talked German to him) means: I've told him very clearly what to do. -  
- So we find it quite funny to be scared about four-letter-words and 3-year-olds bathing topless, but allow people to carry guns almost everywhere. But that's OT.

Edited: 3 June 2007, 3:36 a.m.

**Re: 35s - English Conversions**

Message #34 Posted by **Jürgen (CH)** on 1 June 2007, 2:48 a.m.,  
in response to message #18 by blurrybloop

But sometimes it is a good idea to use only a single unit system (or doing at least proper conversions), remember the lost of Mars Climate orbiter. So for NASA the HP 35s would be a good choice because every engineer would be reminded to this problem when looking at its calculator.

Quote:

\_\_\_\_\_

Mars Climate Orbiter (September 23rd, 1999)

The 125 million dollar Mars Climate Orbiter is assumed lost by officials at NASA. The failure responsible for loss of the orbiter is attributed to a failure of NASA's system engineer process. The process did not specify the system of measurement to be used on the project. As a result, one of the development teams used Imperial measurement while the other used the metric system of measurement. When parameters from one module were passed to another during orbit navigation correct, no conversion was performed, resulting in the loss of the craft. <http://mars.jpl.nasa.gov/msp98/orbiter/>

\_\_\_\_\_

**Re: 35s - English Conversions**

Message #35 Posted by **Walter B** on 2 June 2007, 12:03 a.m.,  
in response to message #34 by Jürgen (CH)

He, he, he, I've known this, but it's (awkward) fun to read it again. Though the objective was clear!

Quote:

\_\_\_\_\_

The process did not specify the system of measurement to be used on the project.

\_\_\_\_\_

IF there was a **system** of measurement to be used, it cannot be Imperial, because that is no

system at all, its just a collection of units for measurement.

### **Re: 35s - English Conversions**

*Message #36 Posted by [bill platt](#) on 2 June 2007, 10:15 a.m.,  
in response to message #35 by Walter B*

Well, "Imperial" (whatever that may mean) may not be a system, yet there are most definitely consistent sets of units that are not metric.

ft-lb-slug-second and it's derivatives is consistent, as is inch-lb etc.

Note that 1 lb accelerates 1 slug at 1 ft/sec<sup>2</sup>, just as one Newton accelerates one kg at 1 meter per second<sup>2</sup>.

Of course depending on the scale of the problem, one may choose to use lb-mass and pounds, or inches, or kips instead of lbs etc, but this is not fundamentally different from choosing Mks vs cgs etc in metric.

To say "it" (meaning non-metric) is not a system is quite inaccurate.

It is important (especially for the metricified) to understand that "customary" measure is not the same as "non-metric" or "imperial" and that there are perfectly rational unit systems for science and engineering that are not SI. Frankly imperial is meaningless to me, as I am 'merican.

It is so easy to poke fun at the non-SI of the U.S. but frankly it is myopic to be so disdainful. So much excellent work has been published in non-SI that it behooves the scientist or engineer to be open to the idea of working in many different units. It is after all a trivial exercise but one which for some reason creates a tremendous amount of trepidation.

*Edited: 2 June 2007, 10:23 a.m.*

### **Re: 35s - English Conversions**

*Message #37 Posted by [Mike T.](#) on 1 June 2007, 6:03 p.m.,  
in response to message #18 by blurrybloop*

Nobody does mixed unit calculations...? Hmm.. what about Hours Minutes and Seconds then - this sort of mixed unit arithmetic seems destined to stay quite popular for some time (excuse the pun).

On a more relevant note I think that unit conversions originally appeared on the HP31E and HP32E, however even though I still think in gallons and fuel is now sold in the UK in litres I find the gallon to litre conversion function on my HP32E less easy to use than I might as it converts to US gallons not imperial gallons, I wonder if the European versions of the HP35s will use a different conversion factor?

Overall I'm impressed by the my first impressions of the HP35s, it doesn't look at all bad, is has enough functionality to keep most people happy most of the time, it looks like it retains the simplicity of 'single key' function entry, and above all it is RPN.

The key question remains - is there enough demand for an RPN calculator to ensure the 35s is a success..?

**Re: 35s - English Conversions**

Message #38 Posted by [Gene](#) on 1 June 2007, 6:12 p.m.,  
in response to message #37 by Mike T.

Actually, try the HP45 for the first HP with unit conversions back in 1974.

**Re: 35s - English Conversions and the HP-31E**

Message #39 Posted by [Trent Moseley](#) on 1 June 2007, 10:55 p.m.,  
in response to message #37 by Mike T.

Question for Mike T. and anyone else re: the HP-31E. It has some of those conversions, but how does one make efficient use of the trig functions if there is no conversion key from degrees, minutes, and seconds into decimals and vice versa or am I missing something.

tm

**Re: 35s - English Conversions and the HP-31E**

Message #40 Posted by [Trent Moseley](#) on 5 June 2007, 2:51 p.m.,  
in response to message #39 by Trent Moseley

I will ask my question again. Is there a work-around for my problem with the 31E? How does one use the trig functions if it does not do degree/decimal conversions?

tm

**Re: 35s - English Conversions and the HP-31E**

Message #41 Posted by [Gene](#) on 5 June 2007, 9:11 p.m.,  
in response to message #40 by Trent Moseley

You convert them manually before and/or after.

**Re: 35s - English Conversions and the HP-31E**

Message #42 Posted by [Trent Moseley](#) on 5 June 2007, 10:38 p.m.,  
in response to message #41 by Gene

Thank you Gene. This looks like one of the few times HP engineers really dropped the ball big time.

tm

**Re: 35s - English Conversions and the HP-31E**

Message #43 Posted by [Trent Moseley](#) on 5 June 2007, 10:50 p.m.,  
in response to message #42 by Trent Moseley

One more thought to my last comment. As my dear late father-in-law from the ranch in Salinas would say: They're (i.e. trig functions on the 31E) as useless as tits on a bull".

tm

**Re: 35s - English Conversions and the HP-31E**

Message #44 Posted by [Gene](#) on 6 June 2007, 8:37 a.m.,  
in response to message #42 by Trent Moseley

Well, the 31E was VERY hampered by having a very small function set. They were only going to have one shift key on that unit, since it was the low end machine. So, what to put in and what to put out?

I've been told that is how PI ended up as a shift function on the top row of keys. Keyboard wars.

I imagine some of the people involved in those decisions wanted the HMS function set, but lost.

**Re: 35s - English Conversions**

Message #45 Posted by [bill platt](#) on 31 May 2007, 10:30 p.m.,  
in response to message #16 by Paul Dale

I work for an American company but we use metric unless the owner insists otherwise. Go figure.

**Re: 35s - English Conversions**

Message #46 Posted by [db \(martinez, ca.\)](#) on 1 June 2007, 12:53 a.m.,  
in response to message #45 by bill platt

Bill; I think you and blurdlyboop could sit around drinking liters (or quarts) of beer and agreeing about the metric/english thing. I work in both here in California because Caltrans and some other public money jobs require it, this week. It changes.

Most "fine" construction work like carpentry, cement forms and steel is measured in eighths of an inch or hundredths of a foot. They are almost the same thing. 96 eighths = a hundred hundredths. Carpenters know that minimum fall is 1/4 inch per foot without realizing that by definition that is 2%. Centimeters are too coarse and millimeters are too fine for this.

Dirt work: slopes, excavations, building pads, sub grades under roads-railroads-freeways and the like are done to the tenth of a foot. Lots of things are designed and drawn to even inches (1/12 of a foot). Centimeters are too fine and decimeters are too coarse. Most heavy equipment can dig or move a half foot of dirt at a pass. I can hold five fingers down and the operator knows i mean cut 5 tenths. I would have to take off a shoe to do that in France.

Most people can pace even 5 footers with a bit of practice and most mens feet in a shoe are about a foot long. My nose to tip of middle finger is a yard. Surveyors in the US use feet because we are here, and decimal because it works.

I'm not saying that the english system is completely superior but it is based on realistic distances which one can relate to and communicate easily. The metric system makes sense but the scale is off. We'd have been better off basing it on the furlong and gunters chain:

6600 ft = manly mile

660 ft = furlong

66 ft = gunters chain

6.6 ft = basketball player

all the way down to the microfurlong, which a machinist who owns a 41 once told me would be as sensible as thousandths of an inch for his job.

I like working in decimal and feel like i am being punished for something i didn't do wrong if i have to use inches but basing a system of measurement on how far it is from Paris to Santa Clauses House is as bad as using the length of the kings finger joints.

### Re: 35s - English Conversions

Message #47 Posted by **GE** on 1 June 2007, 3:57 a.m.,  
in response to message #46 by db (martinez, ca.)

I think you all miss the point, which is that the SI system is DECIMAL. I don't care if the unit is appropriate (example : Farad is much much too big for normal use).  
What is appropriate in the DECIMAL system is that when you write a number you usually use also the decimal system (base 10), so it works very conveniently, NO conversion in one's head needed.  
Example : 0.00002548756 F is 25 micro Farads, 487 nano Farads and 560 pico Farads. No remembering arbitrary divisors or even calculating at all !! Remember the ENG key.  
Splitting evenly in whatever number of equal parts is done by division and not limited to a handful of integer. Do you ALWAYS divide by 2 or 3 ? I sometimes use other numbers... And again, division by 10 needs no actual calculation in the SI System.  
Last point, I'd rather use units named after Newton, Einstein (too late for this one), Pascal or other great minds rather than Madonna, Tiger Woods or Spiderman. Your opinion may be different.

### Re: 35s - English Conversions

Message #48 Posted by **bill platt** on 1 June 2007, 7:23 a.m.,  
in response to message #47 by GE

The Madonna Unit:

what would it measure?

### Re: 35s - English Conversions

Message #49 Posted by **GE** on 1 June 2007, 11:33 a.m.,  
in response to message #48 by bill platt

: -)

### Re: 35s - English Conversions

Message #50 Posted by **John Limpert** on 1 June 2007, 5:41 p.m.,  
in response to message #48 by bill platt

We already have the milliHelen, which is the amount of beauty needed to launch one ship.

### Re: 35s - English Conversions

Message #51 Posted by **cfh** on 1 June 2007, 5:49 p.m.,  
in response to message #50 by John Limpert

And the MilliVanilli, the amount it takes to playback an old hit song :-)

/cfh

### Re: 35s - English Conversions

Message #52 Posted by **DaveJ** on 1 June 2007, 1:19 a.m.,  
in response to message #45 by bill platt

Quote:

\_\_\_\_\_

I work for an American company but we use metric unless the owner insists otherwise. Go figure.

\_\_\_\_\_

In PCB design which I do, metric and imperial are both used on the same board (regardless of the country you are in), and it is common to switch back and forth between thousands of an inch and mm on a minute-by-minute basis during a design. So much so that all PCB design software packages have a hotkey to swap between the two units on the fly.

My new calculator will have thous<>mm built in for sure :-P

Dave.

### Re: 35s - English Conversions

Message #53 Posted by **Trent Moseley** on 31 May 2007, 8:50 p.m.,  
in response to message #1 by Jeff O.

I know this is not a poll, however I vote a big NO to any conversions on the keyboard! My 2¢. From Redwood City, CA USA.

tm

### Re: 35s - English Conversions

Message #54 Posted by **bill platt** on 31 May 2007, 9:47 p.m.,  
in response to message #1 by Jeff O.

Yes, I think the mile conversion is a total waste: 1.6 / will suffice!

Celsius - Fahrenheit is most useful--it is the sort of conversion that is a pain (because it requires both multiplications and addition) so it is good to have.

lb-kg is internationally useful, as is inch-cm (though inch-mm might be better.)

I actually find myself storing 0.3048 somewhere (0 or Z etc) as converting feet to meters I find more useful than centimeters to inches. Heck, 10 cm is basically 4 inches, and a foot is basically 30 cm (in hard conversions).

Frankly I liked the printed on the back conversions of the 11-c even better.

I don't do a lot of litre conversions. Maybe that one is useful, except that there are different kinds of gallons and so I would nix that one too.

The thing about the conversions is that if they are buried in menus, then they are worthless anyway.

I can type 25.4 / faster than I can dig through menus.

*Edited: 31 May 2007, 9:49 p.m.*



**Re: 35s - English Conversions**

Message #55 Posted by **Meindert Kuipers** on 1 June 2007, 9:45 a.m.,  
in response to message #54 by bill platt

My personal opinion is that the whole world should go metric. Period.

This whole discussion would not have happened with assignable functions and overlays, much like the HP41 had (still my all-time favourite calc ...)

Meindert

**Re: 35s - English Conversions**

Message #56 Posted by **bill platt** on 1 June 2007, 2:05 p.m.,  
in response to message #55 by Meindert Kuipers

But Meindert,

The world shouldn't \*go\* metric any more than the whole world should speak French!

**Re: 35s - English Conversions**

Message #57 Posted by **Peter Geiser** on 1 June 2007, 4:16 p.m.,  
in response to message #56 by bill platt

Which gallon are you referring to? Not even in America is a gallon always the same:

U.S. liquid gallon is 231 cubic inches, or 3.785411784 litres  
U.S. dry gallon is 268.8025 cubic inches, or 4.40488277086 litres  
and the Imperial (UK) gallon: 4.54609 litres (defined)

Even worse is the pound:

Metric pound: 500g  
Avoirdupois: 453.59g  
Troy/ap.: 373.24g  
Tower: 349.91g  
Merchant: 437.39g  
London: 466.55g  
Wool: 453.07g  
Jersey: 489.94g  
Scottish: somewhere between 21 to 28 avoirdupois ounces

In Europe, there was a clear economic reason to abandon the old variety of systems: reduce transaction costs, and thereby increase wealth. But for a mainly self-centric economy such as America this seems to be less of a concern than the concern about the switching costs that would be enormous (see the switch from the old European currencies to the Euro.)

Best regards  
Peter

**Re: 35s - English Conversions**

Message #58 Posted by **bill platt** on 1 June 2007, 5:14 p.m.,  
in response to message #57 by Peter Geiser

Also, while Europeans may hold disdain for our customary units, the fact is that the U.S. has robust standards--even if they aren't the European ones.

ASTM ASME ANSI SAE not only publish standards (including \*metric\* standards) but also actively participate in the ISO.

Many important facets of the U.S. industries use metric anyway.

### Re: 35s - English Conversions

Message #59 Posted by [Sam Levy](#) on 1 June 2007, 5:20 p.m.,  
in response to message #57 by Peter Geiser

A swiss engineer told me he was to solve a spring and mass resonance problem. He converted the english units to metric and solved the matter in one page. His boss said you can't do it that easily, he took 3 pages and made several mistakes. The major reason for using metric units is they are not randomly based, but represent a consistent system. I found the kilometer a much more human based unit than the mile, I liked the 100 meter posts on the roadways. I think conversions could easily be accomplished in the constants information stored so the user could multiply or divide by the constant stored. Pi could also be a stored constant. Teach metric and use metric and the old will die off. We could hope!

### Gallons

Message #60 Posted by [bill platt](#) on 1 June 2007, 5:37 p.m.,  
in response to message #57 by Peter Geiser

Actually in the U.S., only one gallon is used in any great quantity: the Liquid gallon. Things that are sold dry are generally sold in pecks or bushels rather than gallons, or sold by weight. In agriculture there are all sorts of non-metric customary units which are very specific and as they are specific, there is no great need to re-standardize.

For pounds it is even easier: only the Avoirdupois has any widespread use. While the others are fascinating and have some marginal uses, they are not used in normal trade, nor in customary measure.

### Re: Gallons

Message #61 Posted by [Norris](#) on 1 June 2007, 6:41 p.m.,  
in response to message #60 by bill platt

The legal definition of the "foot" varies slightly in different US states, a point of significant [practical importance](#) to surveyors. This is why the HP48 series has both the "ft" and "ftUS" units, as well as both the "mi" and the "miUS" units.

### Re: Gallons

Message #62 Posted by [blurdybloop](#) on 2 June 2007, 5:56 p.m.,  
in response to message #61 by Norris

Wrong. You're thinking about "survey feet", which has nothing to do with state laws.

Before 1959, there was no standard definition of the meter vis a vis the foot, or vice versa. In that time, surveying was done with the definition of a foot being 1200/3937 meter. In modern times, the foot is defined as exactly .3048 meters (30.48cm, 304.8mm,

take your pick).

The difference between the two is small;  $6.09601e-7$  meters. But when you take into account that surveys cover large areas, that microscopic difference actually makes a difference.

Hence the survey foot. Now, some states have survey feet specified for their plane coordinate system, and a few have standard feet, leading to the myth that the foot is different in different US states. A foot is .3048 meters in every US state; the question of survey feet is only on SPCs.

The federal government only publishes SPCs in metric, so feet are calculated from the metric values. It's trivial to determine whether these are survey feet or standard feet. I haven't seen much usage of survey feet in new work.

### **Re: Gallons**

*Message #63 Posted by [Norris](#) on 2 June 2007, 8:45 p.m.,  
in response to message #62 by [blurdybloop](#)*

The point is that there are two different types of "feet" in the US, and that this issue is of sufficient practical significance to affect the units included in HP calculators.

Note also that while the US accepted the "international foot" in 1959, the standard US definition of the "acre" was *not* revised at that time. The standard acre is still based on "survey feet", as you can verify with your HP.

It is commonly assumed that 1 acre is 43,560 square feet, or 1/640 of a square mile. But if you try to convert the "acre" unit on an HP calculator into "ft<sup>2</sup>" or "mi<sup>2</sup>", you will get slightly different results. You can only get the expected results by converting the "acre" to "ftUS<sup>2</sup>" or "miUS<sup>2</sup>".

You may not see the "survey foot" in new work, but I'll bet you still see areas measured in "acres", which are based on the "survey foot".

*Edited: 2 June 2007, 8:48 p.m.*

### **Re: Gallons**

*Message #64 Posted by [blurdybloop](#) on 3 June 2007, 6:50 p.m.,  
in response to message #63 by [Norris](#)*

I doubt very much that you will find any acre sized parcels of land anywhere in the world that are exactly 43,560 square feet, whether in survey feet (4046.87260987 square meters) or standard feet (4046.8564225 square meters). Between the two, we're talking about a difference of about 162 square centimeters or about 25 square inches.

Nobody, and I mean nobody, will define either parcel as being more, or less, than one acre.

Furthermore, the definition of 43,560 square feet is for convenience only; 43,560 is simply  $5280 * 5280 / 160$ . An acre, by definition, is a 1/640 part of a section. Not all sections are perfect square miles; I doubt there is any section anywhere in the world which is a perfect square mile.

Any calculator which assumes that an acre is defined by survey feet (or standard feet) is defective by design.

Survey feet are an historical curiosity. For most calculations survey feet can be disregarded entirely; they are necessary only in doing metric conversions with some SPCs over large distances (and much of the time you discover that the survey used standard feet so you can disregard that). A far bigger concern is the effect of elevation on SPCs.

## Re: Gallons

Message #65 Posted by [Norris](#) on 3 June 2007, 7:24 p.m.,  
in response to message #64 by [blurdybloop](#)

Quote:

Survey feet are an historical curiosity.

Practices undoubtedly vary by state, but the survey foot is still explicitly required by at least some government agencies in my state, California. For example, CalTrans is in the process of transitioning to metric units, but their latest [guidelines](#) (dated 03/01/05) state:

Quote:

the exact conversion factor from meters to feet is  
3937feet/1200meters (the US Survey Foot)...The Party Chief  
shall ensure that the survey instrumentation is configured to  
collect data in the U.S. survey foot. Also, the survey reduction  
and adjustment software shall be configured to use the U.S.  
survey foot.

*Edited: 4 June 2007, 12:18 a.m.*

## Re: Gallons

Message #66 Posted by [Norris](#) on 3 June 2007, 8:46 p.m.,  
in response to message #64 by [blurdybloop](#)

Quote:

Any calculator which assumes that an acre is defined by survey  
feet (or standard feet) is defective by design.

The definition of the "acre", as implemented on HP calculators, is fully consistent with that specified by NIST.

According to [NIST](#), 1 acre = 43 560 square feet, and 640 acres = 1 square mile. NIST further states that "In these tables where foot or mile is underlined, it is survey foot or U.S. statute mile rather than international foot or mile that is meant."

## Acres

Message #67 Posted by [James M. Prange \(Michigan\)](#) on 3 June 2007, 10:23 p.m.,  
in response to message #64 by [blurdybloop](#)

Quote:

---

Furthermore, the definition of 43,560 square feet is for convenience only; 43,560 is simply  $5280 \times 5280 / 160$ . An acre, by definition, is a  $1/640$  part of a section. Not all sections are perfect square miles; I doubt there is any section anywhere in the world which is a perfect square mile.

---

That's interesting; I've seen the acre described as 160 square rods, 4840 square yards, 43560 square feet, 10 square chains, 160 perches (defined as square rods), as equivalent to 4 rods (a rood is 1 furlong by 1 rod), a rectangle 1 furlong by 1 chain, or 40 rods by 4 rods, or 660 feet by 66 feet, and I've often enough seen the square mile described as 640 acres, and occasionally the acre as  $1/640$  square mile, all of which are perfectly consistent descriptions, but I've never before read any suggestion that any of these were "approximate" conversions, and never before seen the acre described as a fraction of a section.

For that matter, neither have I seen the section defined in terms of acres, although I think that it's fairly well known that a section was intended to be **approximately** 1 mile by 1 mile square, although clearly a spherical surface can't be tiled with squares.

By the way, for the conversions that Norris quoted from NIST (which does, after all, have the responsibility for U.S. standards of measure), they're listed by NIST as "exact" conversions.

What about the U.S. National Geodetic Survey? In a [glossary](#), I find:

acre - A unit of area in the English system of measure, defined as 10 square chains (1 chain equals 4 rods or 66 feet). An acre is exactly equal to 43,560 square feet or 4,840 square yards, and is approximately equal to 4047 square meters. There are 640 acres in a square mile. By an ordinance of Edward I in 1303, the acre was defined as the area contained in a rectangle 40 rods long and 4 rods wide. With the rod defined as  $5 \frac{1}{2}$  ulnae (yards), as defined by the Edward I iron standard for the ulna, the acre is again 4,840 square yards. The term "square acre" is meaningless and should not be used.

Regards,  
James

## Re: Gallons

Message #68 Posted by [Wayne Brown](#) on 4 June 2007, 2:12 p.m.,  
in response to message #63 by [Norris](#)

Quote:

---

The point is that there are two different types of "feet" in the US, and

that this issue is of sufficient practical significance to affect the units included in HP calculators.

I think we should abandon "feet" as a measurement altogether and measure all distances in [smoots](#). :-)

## Feet

Message #69 Posted by [James M. Prange \(Michigan\)](#) on 3 June 2007, 6:34 p.m., in response to message #62 by [blurdybloop](#)

Quote:

Wrong. You're thinking about "survey feet", which has nothing to do with state laws.

Before 1959, there was no standard definition of the meter vis a vis the foot, or vice versa.

Wrong. In 1866, the U.S. Congress defined the relationship of 1 meter being equivalent to 39.37 inches. See <http://lamar.colostate.edu/~hillger/laws/metric-act.html>.

So (within the U.S.) 1 meter would be 3937/100 inches, and if we accept that 1 foot is 12 inches, then it follows that 1 meter would be 3937/1200 feet, and if we also accept that 1 yard is 3 feet, then it also follows that 1 meter would be 3937/3600 yard.

In 1866, the U.S. foot and inch would've been defined in terms of the U.S. yard, first adopted by the Treasury department in 1832 and then slightly changed to agree with new standards in 1856. This U.S. yard was intended to be equal to the British Imperial yard.

Eventually, Congress delegated its power to fix the standard of weights and measures to federal agencies. Judging from its performance regarding weights and measures other than coinage, it was probably a relief to shift its responsibility elsewhere.

In 1875, the U.S. was one of the 17 countries signing the Metric Convention, which founded the International Bureau of Weights and Measures. In 1890, the U.S. received its copies of the international meter standard, and a comparison against the U.S. standard didn't show the legal definition of 1866 to be incorrect; that is, they agreed within the error of measurement.

In 1893, the "Mendenhall Order" established the meter as the fundamental unit of length for the U.S., so, based on the 1866 legal relationship, the U.S. yard was redefined as 3600/3937 meter, and therefore the U.S. foot became 1200/3937 meter, and the U.S. inch became 100/3937 meter, and for a time, any attempts to maintain the U.S. yard as equal to the British Imperial yard were abandoned.

Quote:

In that time, surveying was done with the definition of a foot being

1200/3937 meter.

Well, presumably, until the U.S. yard was adopted in 1832, the definition of a foot would've been 1/3 British yard, and then would've been 1/3 U.S. yard from its adoption until 1893, and even then still 1/3 U.S. yard, but with the U.S yard being redefined as 3600/3937 meter, the foot would be 1200/3937 meter.

Quote:

In modern times, the foot is defined as exactly .3048 meters (30.48cm, 304.8mm, take your pick).

Well, English-speaking countries which used them had slightly different definitions for the yard and avoirdupois pound and units based on them, which, with the increasing needs for accuracy, increasingly caused difficulties, until in 1959, the directors of the national standards laboratories of Australia, Canada, New Zealand, South Africa, the United Kingdom, and the United States entered into an agreement establishing uniformity for them. The equivalents 1 yard=0.9144 meter and 1 avoirdupois pound=0.453449237 kilogram were adopted for each of these national laboratories, effective July 1st, 1959. So based on that, 1 international foot=0.3048 meter and 1 international inch=0.0254 meter.

But an exception was made for the definitions for the U.S. Coast and Geodetic Survey. I don't know whether other countries made such exceptions.

Measurements expressed in feet and published as a result of geodetic surveys in the U.S. would retain the relationship of 1 foot=1200/3937 meter, and this foot would be referred to as the U.S survey foot, and continue to be used for that purpose until such a time as it becomes desirable and expedient to readjust the basic geodetic survey networks in the U.S., after which the ratio of a yard, equal to 0.9144 meter, would apply.

Has such a time arrived? Or maybe it's already past, and it would be more desirable and expedient to just skip to always using the meter itself for those purposes?

Quote:

The difference between the two is small; 6.09601e-7 meters.

Approximately; the exact difference is 3/4921250 meter. Another way of looking at it is that 1 international foot is exactly 499999/500000 (or .999998) U.S. survey foot.

Quote:

But when you take into account that surveys cover large areas, that microscopic difference actually makes a difference.

Hence the survey foot.

Quite so. Converting all land records from the "old" foot defined as 1200/3937 meter to the "new" foot defined as 0.3048 meter would be an awful lot of work (especially before computers or even electronic calculators were generally available), so the old

foot was designated the "U.S. survey foot" and the new foot was designated the "international foot", and such units as the rod (or pole or perch), chain, furlong, U.S. survey mile ("statute mile"), acre, and fathom still retain their definitions based on the U.S. survey foot (at least, within the U.S.).

Note that there isn't a "U.S. survey inch" or a "U.S. survey yard".

For more on the relationship between the U.S. survey foot and the international foot, search within <http://physics.nist.gov/Document/sp811.pdf>, and good references for the history of the relationship of the metric system to the U.S. customary units include <http://lamar.colostate.edu/~hillger/> and <http://physics.nist.gov/Pubs/SP447/>.

Quote:

---

Now, some states have survey feet specified for their plane coordinate system, and a few have standard feet, leading to the myth that the foot is different in different US states. A foot is .3048 meters in every US state; the question of survey feet is only on SPCs.

---

Hmm, in every state, and anywhere else in the world for that matter, a "U.S. survey foot" is always 1200/3937 meter, and an "international foot" is always 0.3048 meter; these definitions don't vary. But just a "foot" can leave me wondering which definition of foot is intended, at least when it's used in land measurement.

It seems to have been left up to the various states to choose which units to use within their own state plane coordinate systems, and apparently some haven't even bothered to choose.

Quote:

---

The federal government only publishes SPCs in metric, so feet are calculated from the metric values. It's trivial to determine whether these are survey feet or standard feet. I haven't seen much usage of survey feet in new work.

---

I thought that it was up to the various states to choose which unit to use? It seems bad enough that the states use different units, but surely it would be madness for different surveys within a state to use different definitions of a "foot".

Actually, as Norris wrote, the standard U.S. definition of the acre is still based on the survey foot, and since land area is normally stated in acres in the U.S., it strikes me as rather insane to use international feet for land measurement. Let's see, 1 acre is exactly equivalent to 660 by 66 U.S. survey feet, thus 43560 square U.S. survey feet. So 1 acre equals exactly  $43560 \cdot (500000/499999)^2$  square international feet, which works out to exactly  $10890000000000000/249999000001$  (about 43560.174240522721) square international feet; who wants to work with a crazy conversion factor like that?

Suppose that I'm looking at a property description; how do I know which definition of "foot" is being used? But I grant that for the size of a property, I wouldn't be too worried about the difference; after all, 1 square international foot would be exactly  $249999000001/250000000000$  (or .999996000004) square U.S. survey foot, not enough of a difference for me to lose much sleep over.



Note that the definition of the meter has changed over time too; see <http://physics.nist.gov/cuu/Units/meter.html>. That said, as far as I can tell, each new definition of the meter merely reduced the uncertainty in its realization, rather than actually changing its length.

Regards,  
James

### Re: Gallons

Message #70 Posted by **Peter Geiser** on 2 June 2007, 5:08 a.m.,  
in response to message #60 by bill platt

**Quiz:** what is heavier (measured in New York, Wall Street):  
a) 3000 ounces of hamburger meat (as used in quarter-pounders)  
b) 3000 ounces of gold

Enjoy  
Peter

### Re: Gallons

Message #71 Posted by **Steve Borowsky** on 2 June 2007, 7:42 p.m.,  
in response to message #70 by Peter Geiser

Quote:

**Quiz:** what is heavier (measured in New York, Wall Street):  
a) 3000 ounces of hamburger meat (as used in quarter-pounders)  
b) 3000 ounces of gold

Enjoy  
Peter

Those things are up to 3000 ounces? No wonder obesity is so rampant.

### Pounds/ounces (weight)

Message #72 Posted by **Karl Schneider** on 2 June 2007, 8:22 p.m.,  
in response to message #60 by bill platt

Hi, Bill --

Quote:

For pounds it is even easier: only the Avoirdupois has any widespread use. While the others are fascinating and have some marginal uses, they are not used in normal trade, nor in customary measure.

Of course, the lighter troy ounce is used instead of the Avoirdupois ounce for jewelry and precious metals. Therefore, the answer to Peter's question is "hamburger". :-)

-- KS

Edited: 2 June 2007, 8:36 p.m.

## Re: 35s - English Conversions

Message #73 Posted by **Fred Lusk** on 1 June 2007, 8:55 p.m.,  
in response to message #1 by Jeff O.

Although I like my HP-42S better than my HP-48G+ for everyday use, one thing I really like about the 48 is the ability to append units to numbers. It's much more useful to me than simple conversions. However, if HP is going to include conversions on the 35S, why not the most useful conversion of all: furlongs per fortnight to/from parsecs per picosecond ???

Fred

BTW: 1 parsec/picosecond =  $1.854 \times 10^{32}$  furlongs/fortnight

## Re: 35s - English Conversions

Message #74 Posted by **Walter B** on 2 June 2007, 1:02 a.m.,  
in response to message #73 by Fred Lusk

:-)

## more SI conversions

Message #75 Posted by **db (martinez, ca.)** on 2 June 2007, 4:01 a.m.,  
in response to message #73 by Fred Lusk

Fred;  $10^{12}$  fics = 1 Terafic /  $10^{-6}$  fish = 1 microfiche /  $2 \times 10^3$  mockingbirds = 2 kilomockingbirds  
and  $10^{-18}$  boys = 1 attoboy

## Re: 35s - English Conversions

Message #76 Posted by **Peter Geiser** on 2 June 2007, 5:47 a.m.,  
in response to message #73 by Fred Lusk

Pretty useful, but what about:

Today's stock market index => tomorrow's stock market index

Obviously, this would be a one-way conversion only. But I still would love it.

Best regards  
Peter

## HP-35s : Metric<->English and Conversions

Message #77 Posted by **Karl Schneider** on 2 June 2007, 7:55 p.m.,  
in response to message #1 by Jeff O.

There's been quite a bit of discussion about the merits of SI/Metric and Imperial/English measurement -- too many to address individually.

John Gustaf Stebbins made an astute observation:

Quote:

---

Most countries that are all metric have had the advantage of not having significant industrial activity prior to adoption of SI or have needed to rebuild industry after war or catastrophe. Hopefully, we in the US will continue to struggle with mixed units well past my lifetime.

---

Without delving into much detail, I'll state the following:

- SI/Metric is the language of science and most engineering, for good reason: It is a structured, consistent, *system* of units and measures. Imperial/English is more of a *set* thereof.
- The main attribute of Imperial units is that they are generally are "right-sized" by design for practical use, and given short names with one or two syllables. Combining them can be a hassle, so decimal values are often employed.
- The "ton" and "pound" adopted for metric use are certainly better than "megagram" and "half-kilogram", aren't they?
- The Fahrenheit scale was probably designed for ambient temperature at the Earth's surface, and it remains better than Celsius for that purpose. There are 1.8 Fahrenheit degrees per Celsius degree, providing greater precision without a decimal digit. Moreover, triple-digit Fahrenheit readings ( $\geq 100$  degrees F) indicate hot conditions, but not *impossibly* so (as a triple-digit Celsius reading would indicate). Single-digit negative Fahrenheit readings indicate seriously cold conditions, rather than merely uncomfortably cold.
- Celsius is better for aviation, because negative readings indicate the potential for icing.
- The acre is generally a better-sized measure than the hectare for residential real estate.
- The millimeter is a fine measure for short distances that are visually perceptible. It's better-suited for sizing wrenches than fractional inches (given to the nearest 1/32 inch). This is why an inch $\leftrightarrow$ millimeter conversion might be more useful than inch $\leftrightarrow$ centimeter -- particularly with the fraction-arithmetic planned for the HP-35s that is present in the HP-32SII and HP-33S.

---

So, back to Jeff O's original topic:

It's nice to have routine, simple conversions easily accessible on the keyboard with two keystrokes. However, the five pairs of metric $\leftrightarrow$ Imperial measurements apparently intended for the HP-35s takes ten valuable keyboard positions. I certainly hope that the rectangular $\leftrightarrow$ polar conversion that was displaced to make way for miles $\leftrightarrow$ kilometers will be retained. To omit that would be a serious blunder.

-- KS

*Edited: 2 June 2007, 8:50 p.m.*

---

## **Re: HP-35s : Metric $\leftrightarrow$ English and Conversions**

Message #78 Posted by **Walter B** on 3 June 2007, 3:11 a.m.,  
in response to message #77 by Karl Schneider

Some additions:

Quote:

---

The Fahrenheit scale was probably designed for ambient temperature at the Earth's surface, ...

---

AFAIK, Fahrenheit took the lowest temperature on earth known at his time as zero. Very arbitrary.

Quote:

---

... and it remains better than Celsius for that purpose. There are 1.8 Fahrenheit degrees per Celsius degree, providing greater precision without a decimal digit. Moreover, triple-digit Fahrenheit readings ( $\geq 100$  degrees F) indicate hot conditions, but not impossibly so (as a triple-digit Celsius reading would indicate). Single-digit negative Fahrenheit readings indicate seriously cold conditions, rather than merely uncomfortably cold.

Celsius is better for aviation, because negative readings indicate the potential for icing.

---

Depends on where you were raised. For me, nasty weather is below 10C, 20C is a comfortable ambient temperature, hot weather starts at 30C, hot surfaces  $>60$ C are dangerous to touch, boiling hot is 100C. Negative Celsius readings are also important for drivers. I enjoy skiing at -10C, but I have to take my warm clothes. Etc.

BTW, most people here are not scared by decimals. While it's perfectly legal to talk about "half a degree", these folks are not only able to divide by 2 (e.g. good and evil), but can handle divisions by 10 easily. So if they are really sick, they may "have 39.3C fever".

Quote:

---

The acre is generally a better-sized measure than the hectare for residential real estate.

---

Another nice example for personal bias. Here, only farmers own hectares of land. Residential real estate is measured in  $m^2$ , and  $1,000m^2$  is unaffordable in populated and/or attractive areas.

Quote:

---

The main attribute of Imperial units is that they are generally are "right-sized" by design for practical use, and given short names with one or two syllables. Combining them can be a hassle, so decimal values are often employed.

The "ton" and "pound" adopted for metric use are certainly better than "megagram" and "half-kilogram", aren't they?

---

See above. There are more of these "right-sized" weight units like a "Zentner" for 50kg or a "Doppelzentner" for 100kg. They may be used or not, in either case they fit nicely in the system. And nobody finds it difficult to talk about kilometers frequently, so 4 syllables are no problem here.

Oh, and there are 2.5cm per Inch, providing greater precision without a decimal digit. d:-))

## Re: HP-35s : Metric<->English and Conversions

Message #79 Posted by *Maximilian Hohmann* on 3 June 2007, 1:18 p.m.,  
in response to message #78 by Walter B

Hello!

Quote:

---

BTW, most people here are not scared by decimals.

---

On the contrary: I am really scared by fractions and mixed-units-measurements that are so common in the "imperial" unit system (like "1 3/16" bolts or 7-feet-8-inches body heights...)

My business (aviation) over the years has made the biggest mess of units that one can imagine. People die (maybe not every day, but every week or month) because of this nonsense. And all this despite the fact, that since 1965 the ICAO (International Civil Aviation Organization) does everything it can to ensure, that SI units are made mandatory worldwide. Must I say which country has so far undermined all these efforts?

Greetings, Max

### **Re: HP-35s : Metric<->English and Conversions**

*Message #80 Posted by [Karl Schneider](#) on 3 June 2007, 5:39 p.m.,  
in response to message #79 by Maximilian Hohmann*

Hi, Max --

Quote:

---

On the contrary: I am really scared by fractions and mixed-units-measurements that are so common in the "imperial" unit system (like "1 3/16" bolts or 7-feet-8-inches body heights...)

---

*"1 3/16" bolts*

I agree. "30 mm" is much better.

*7-feet-8-inches body heights*

Wow! That's tall -- only men of the Dinka tribe in the Sudan and victims of giantism are generally that tall. 5'8" is more average for adults.

Quote:

---

And all this despite the fact, that since 1965 the ICAO (International Civil Aviation Organization) does everything it can to ensure, that SI units are made mandatory worldwide. Must I say which country has so far undermined all these efforts?

---

Hmm, mine, I guess... :-)

I assume that visibility measurements are given in hundreds of meters in European aviation, while in the US, fractional miles are still used. Are ceilings given in feet in Europe?

-- KS

### **Re: HP-35s : Metric<->English and Conversions**

*Message #81 Posted by **Walter B** on 3 June 2007, 6:24 p.m.,  
in response to message #80 by Karl Schneider*

Aviatic measures are another retreat area of feet and the like. In Russia and former Soviet republics, however, aviation flies metric. Perhaps in Eastern Europe, too.

## **Re: HP-35s : Metric<->English and Conversions**

*Message #82 Posted by **Maximilian Hohmann** on 4 June 2007, 8:29 a.m.,  
in response to message #80 by Karl Schneider*

Hi Karl,

Quote:

\_\_\_\_\_

Hmm, mine, I guess... :-)

\_\_\_\_\_

Not entirely wrong, your guess!

Quote:

\_\_\_\_\_

I assume that visibility measurements are given in hundreds of meters in European aviation, while in the US, fractional miles are still used. Are ceilings given in feet in Europe?

\_\_\_\_\_

Yes, horizontal visibilities are given in metres and kilometres throughout Europe (even in the UK, believe it or not!), while vertical visibilities are given in metres or feet depending on the country (France and former Eastern Block countries have metres, the rest uses feet, generally speaking, with some exceptions though...).

On the other hand, we have nothing on board to correlate the metric visibilities with: The airspeed indicators and distance readouts (apart from France again) display either nautical miles/knots (nautical miles per hour) or miles/mpH (American statute miles per hour, even in the UK where the mile is slightly different from the US, I'm told). There are even airspeed indicators with two scales: One in knots, the other in mph. One airplane that I regularly fly has an airspeed indicator on the left side with a main scale in knots indicated and a subscale with knots true airspeed and a knots/mpH indicator on the right hand side. Whenever you swap seats, you have to be very, very careful to get your speeds right, very dangerous nonsense indeed!

Greetings, Max

*Edited: 4 June 2007, 8:31 a.m.*

## **Re: HP-35s : Metric<->English and Conversions**

*Message #83 Posted by **Karl Schneider** on 3 June 2007, 5:20 p.m.,  
in response to message #78 by Walter B*

Quote:

\_\_\_\_\_

AFAIK, Fahrenheit took the lowest temperature on earth known at his time as zero. Very arbitrary.

\_\_\_\_\_

It didn't seem very plausible to me that an 18th-century German scientist would have been unaware of climatic conditions (if not quantitative records) in Moscow and continental central Europe. So, I found

the English- and German-language Wikipedia reference, which gives some unreferenced background:

<http://en.wikipedia.org/wiki/Fahrenheit>

[http://de.wikipedia.org/wiki/Grad\\_Fahrenheit](http://de.wikipedia.org/wiki/Grad_Fahrenheit)

Both articles reference the lowest temperature in Danzig/Gdansk in the winter of 1708-09, which may have established the zero-degree point. I believe that the lowest temperature recorded in Seattle, USA remains 0 degrees F (in January 1950), and there are many locations outside the tropics that have never experienced sub-zero Fahrenheit temperatures. (Incidentally, Seattle's all-time high was 99 deg F until several years ago.)

Just a clarification: Of course, I meant "ambient air temperature at the Earth's surface."

Quote:

---

BTW, most people here are not scared by decimals. While it's perfectly legal to talk about "half a degree", these folks are not only able to divide by 2 (e.g. good and evil), but can handle divisions by 10 easily.

---

The point, really, is to avoid half-degrees and to reserve negative and triple-digit readings as indicators of extreme conditions. My US-specification BMW's ambient temperature display shows integer Fahrenheit readings, and Celsius readings as "nn.0" or "nn.5".

Quote:

---

*The acre is generally a better-sized measure than the hectare for residential real estate.*

Another nice example for personal bias.

Here, only farmers own hectares of land.

Residential real estate is measured in m<sup>2</sup>, and 1,000m<sup>2</sup> is unaffordable in populated and/or attractive areas.

---

It's pretty much the same in North America, except that larger lots are more obtainable outside those "populated and/or attractive areas". Even here, though, a one-acre (about 0.40469 hectare) urban or suburban lot is large.

Ah, but farmers own *agricultural* real estate.

If residential real estate is measured in m<sup>2</sup>, I assume it's generally for a few *ares* of land directly underneath their own townhouses, not including a surrounding yard.

-- KS

*Edited: 3 June 2007, 5:28 p.m.*

## **Re: HP-35s : Metric<->English and Conversions**

Message #84 Posted by **Walter B** on 3 June 2007, 6:13 p.m.,  
in response to message #83 by Karl Schneider

Karl,

one big point for you for the Fahrenheit-(hi)story! My version was what I remembered from school some 40 years ago. Anyway, zero degF remains very arbitrary.

Quote:

---

The point, really, is to avoid half-degrees and to reserve negative and triple-digit readings as indicators of extreme conditions. My US-specification BMW's ambient temperature display shows integer Fahrenheit readings, and Celsius readings as "nn.0" or "nn.5".

---

WHY avoid decimals?? And negative as well as triple digit readings are interpreted according to your environment and education as I pointed out above. The temperature display of your BMW is set the way you observed, because (1) it is sufficient for ice warning next to 0 C (every other indication is just for fun IMHO, meaning it allows to report your friends the morning temperature), (2) it reflects the precision of the sensor, (3) showing every tenth of a C would bring no benefit.

Quote:

---

If residential real estate is measured in m<sup>2</sup>, I assume it's generally for a few ares of land directly underneath their own townhouses, not including a surrounding yard.

---

Lots may be as small as 200m<sup>2</sup> in towns, 400-600m<sup>2</sup> in suburbia nowadays, and bigger in the villages. A "surrounding yard" becomes possible with some 500m<sup>2</sup>, depending on local regulations, and looks better the more area you own. As mentioned, the "ar" is hardly used.

*Edited: 4 June 2007, 2:06 a.m.*

### **Re: HP-35s : Metric<->English and Conversions**

*Message #85 Posted by [Bernard Rochlin](#) on 6 June 2007, 2:16 a.m.,  
in response to message #84 by Walter B*

My GPS tells me no to use it as my sole means of navigation. In the same way my HP50g would not be the sole means of converting one system of measurement to another. I have a separate set of conversions in the outside chance that the HP 50g may be in error. Why is the United States not actively using the SI measurements

*Edited: 6 June 2007, 2:18 a.m.*

### **Re: HP-35s : Metric<->English and Conversions**

*Message #86 Posted by [James M. Prange \(Michigan\)](#) on 6 June 2007, 2:43 a.m.,  
in response to message #85 by Bernard Rochlin*

Quote:

---

Why is the United States not actively using the SI measurements

---

Maybe because most people in the U.S.A. simply don't want to use SI units for most measurements?

Regards,  
James



---

**Re: 35s - English Conversions**

*Message #87 Posted by [Frank Rottgardt](#) on 6 June 2007, 10:14 a.m.,  
in response to message #1 by Jeff O.*

The 33s has 40+ constants in a special menu. It shouldn't be so complicated to give the 35s a decent build-in unit conversion function. You could have one single conversion key starting such a routine. As a first step the 35s asked you for the kind of unit you want to convert, e.g. "Volume, Length, Mass" etc. 2nd step is to refine the choice from a special submenu only containing units of the chosen kind, e.g. "kg, t, g, mg" if your choice was "mass". 3rd step is to enter the actual value, 4th step is to go through the same process for the target-unit.

**Re: 35s - English Conversions**

*Message #88 Posted by [Frank Rottgardt](#) on 6 June 2007, 10:20 a.m.,  
in response to message #87 by Frank Rottgardt*

Of course you wouldn't need to specify the kind of units for the target value, will say if you have chosen to convert "mass", specified "kg" then the 35s could automatically display the right choice of possible target units as "lbs, stone ...."

**Re: 35s - English Conversions**

*Message #89 Posted by [Patrice](#) on 6 June 2007, 9:23 p.m.,  
in response to message #87 by Frank Rottgardt*

You are in RPN, so the first step is type the value, then go in the conversion menu cascade!

Patrice

---

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## HP Forum Archive 17

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### My minor 35s modifications

Message #1 Posted by [Hugh Evans](#) on 31 May 2007, 1:16 p.m.

Considering there is probably time left to make a few changes before mass production, I figure it's worth a shot to put together a slight change in the keyboard layout to make the stack manipulation keys more accessible. In addition, I applied the colors that I selected for OpenRPN. They are the end result of my research on human optics and included sources such as NASA's guidelines for man-machine-interfaces.

If anyone from HP wants any information from me on these colors I will be more than happy to furnish them with everything they could want to know. I can also suggest a better typeset if desired.

Feedback from the community is welcome.

[Edit: Far left- My first set of modifications, Middle- My modifications plus suggested dark cursor keys, Right- Unedited HP image -HDE]

<http://home.insightbb.com/~hdevans/35s2.jpg> <http://home.insightbb.com/~hdevans/35s.jpg>  
<http://home.insightbb.com/~hdevans/35s2.2.jpg>

*Edited: 31 May 2007, 4:00 p.m. after one or more responses were posted*

### Re: My minor 35s modifications

Message #2 Posted by [Egan Ford](#) on 31 May 2007, 1:55 p.m.,  
 in response to message #1 by [Hugh Evans](#)

Get rid of kg/lb, mile/kg, etc...

Add Matrix ops, Floor, Ceiling, Mod, Round, String manipulation, P<>R. Restore STO.

### Re: My minor 35s modifications

Message #3 Posted by [Hugh Evans](#) on 31 May 2007, 2:14 p.m.,  
 in response to message #2 by [Egan Ford](#)

My intention is to make modifications that are minor enough for HP to implement without too much effort prior to mass production.

Save the other ideas for the modification community.

### Re: My minor 35s modifications

Message #4 Posted by [Jürgen \(CH\)](#) on 31 May 2007, 3:23 p.m.,  
 in response to message #3 by [Hugh Evans](#)

For those using SI units (some of them use also this strange umlaut characters) these conversion functions are not very useful. I would put them into a menu and use the keys for other (more generally

useful) stuff. Personally, I also dislike the light grey of the cursor keys; the light color is too attracting and disturbs the otherwise very nice design. Anyway, it's by far the most interesting calculator HP presented in the last few years. I definitely would buy one.

Cheers, Jürgen

### Oops, wrong thread

Message #5 Posted by [Jürgen \(CH\)](#) on 31 May 2007, 3:29 p.m.,  
in response to message #4 by Jürgen (CH)

Ignore my previous message, it went into the wrong thread. Sorry

### Re: My minor 35s modifications

Message #6 Posted by [BruceH](#) on 31 May 2007, 7:28 p.m.,  
in response to message #3 by Hugh Evans

Quote:

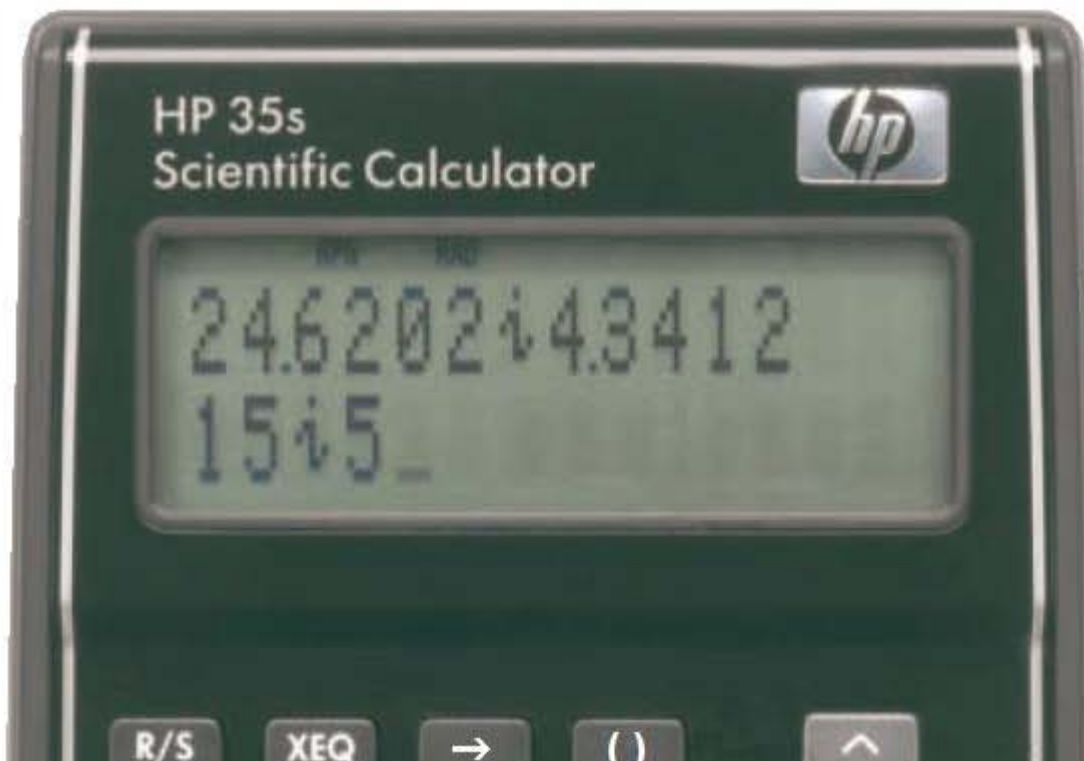
My intention is to make modifications that are minor enough for HP to implement without too much effort prior to mass production.

How about changing the shift keys to have arrows that point up and down rather than left and right, as someone pointed out before?

### Re: My 35s modifications

Message #7 Posted by [Walter B](#) on 4 June 2007, 6:07 p.m.,  
in response to message #2 by Egan Ford

OK, let's try:





<http://home.insightbb.com/~hdevans/35s.jpg>

What is modified?

- there is an ALPHA key
- STO is unshifted
- we would have the opportunity to ASSIGN CAtalog functions to keys
- IP and FP are visible
- a MATRIX menu is provided
- an I/O menu is provided
- LBL, RTN, ISG, and DSE are collected in a menu FLOW
- an unshifted -> is introduced to allow double use of mode keys also for conversions (e.g. blue-shift 6 sets hexadecimal mode, while -> blue-shift 6 converts to hex display); this makes the menu BASE obsolete
- the 4 basic logic operations are on the keyboard
- unit conversions are collected in a UNITS menu
- there is a MODulo operation on the keyboard

- nPr, nCr, x!, and SEED are collected in PROB
- x?y and x?0 are merged in TEST
- INPUT and PSE are collected in X.FCN, where more special operations may be hosted
- I cleaned the key plate; all yellow print there is for menus now (not so sure for ARG); the blue print on keys 1, 2, 3 is for menus, too – everything else are just functions
- etc.

You are invited to criticize 8)

Best regards, Walter

Edited to include the HP35s's published keyboard for direct comparison (thanks, Hugh). Edited to correct the picture address.

*Edited: 10 June 2007, 1:43 a.m. after one or more responses were posted*

### **Re: My 35s modifications**

*Message #8 Posted by **Wayne Brown** on 4 June 2007, 7:59 p.m.,  
in response to message #7 by Walter B*

Quote:

\_\_\_\_\_  
You are invited to criticize 8)  
\_\_\_\_\_

OK: It still has the awful cursor keys. :-)

### **Re: My 35s modifications**

*Message #9 Posted by **Walter B** on 5 June 2007, 12:36 a.m.,  
in response to message #8 by Wayne Brown*

Wayne, you are perfectly right :-)

Please consider: if we change this, we will need at least a new punching tool for the key plate and a new PCB design. By keeping this feature we save this money for whatever good. Please decide where you want to spend the bucks - and remember you can do so only once d:-)

### **Re: My 35s modifications**

*Message #10 Posted by **Jeff O.** on 5 June 2007, 8:08 a.m.,  
in response to message #8 by Wayne Brown*

Quote:

\_\_\_\_\_  
OK: It still has the awful cursor keys.  
\_\_\_\_\_

Wayne,  
Would you buy the 35s if it had this arrangement for the cursor keys?:



Or would it take this one?:



Edited: 5 June 2007, 8:31 a.m.

### Re: My 35s modifications

Message #11 Posted by **Gene** on 5 June 2007, 9:26 a.m.,  
in response to message #10 by Jeff O.

Why cater to him at all? It still isn't shaped like a brick with edges sharp enough to peel an orange.

Partial :-)) there, but not much of one.

### Re: My 35s modifications

Message #12 Posted by **Jeff O.** on 5 June 2007, 12:59 p.m.,  
in response to message #11 by Gene

Gene,

I wasn't necessary trying to or suggesting that hp cater to Wayne. I decided to create the images with the revised keyboards just to see how they might look. Having done so, I figured I'd see if that might be enough to please Wayne, or if another deal-breaker would come up. It will be just fine with me if the 35s is produced with the cursor keys exactly the way they were presented originally.

### Re: My 35s modifications

Message #13 Posted by **Donald** on 5 June 2007, 11:01 a.m.,  
in response to message #10 by Jeff O.

looks superb - much better than HP's attempt.

The first is probably better - fewer accidental hits of the MODE key.

The 'i' complex key is moving rather far away from the other numeric keys - how about swapping the, redundant in RPN, '( )' with 'i' . Even in algebraic the <> would be used in conjunction with ( ).

### Re: My 35s modifications

Message #14 Posted by **John** on 5 June 2007, 11:56 a.m.,  
in response to message #13 by Donald

You shouldn't call the parentheses keys redundant. They are used heavily in the equation mode on the 33s.

And, if you don't make the calculator friendly to use in algebraic mode, sales will be hurt. Sure, none of us may use the 33s in algebraic mode, but you can't make algebraic extra difficult or sales won't be good.

### Re: My 35s modifications

Message #15 Posted by **Jeff O.** on 5 June 2007, 12:47 p.m.,  
in response to message #13 by Donald

Quote:

The first is probably better - fewer accidental hits of the MODE key.  
The 'i' complex key is moving rather far away from the other numeric keys -  
how about....

Thanks for the compliment on the looks. I mostly did it just to see what it might look like. I restrained myself from trying to optimize the keyboard.

### Re: My 35s modifications

Message #16 Posted by **Wayne Brown** on 5 June 2007, 1:34 p.m.,  
in response to message #10 by Jeff O.

I'd prefer the second arrangement, but the first would be OK too. In fact, I wouldn't mind an arrangement like  $\langle \rangle \vee \wedge$  as I use the **h j k l** keys on my computer keyboards all the time in exactly that way for cursor movement. The main point is to avoid anything reminiscent of keys on a cell phone, game, TV remote, or other non-technical "consumer" device.

### Re: My 35s modifications

Message #17 Posted by **DaveJ** on 5 June 2007, 3:25 a.m.,  
in response to message #8 by Wayne Brown

Quote:

OK: It still has the awful cursor keys. :-)

And the redundant backspace key! There is already a left arrow key that can do the job just admirably.

Dave.

### Re: My 35s modifications

Message #18 Posted by **Walter B** on 5 June 2007, 12:32 p.m.,  
in response to message #17 by DaveJ

Quote:

And the redundant backspace key! There is already a left arrow key that can do the job just admirably.

The cursor keys are for moving, the backspace is for clearing. Look at your keyboard, please,

and think.

### **Re: My minor 35s modifications**

*Message #19 Posted by [John](#) on 31 May 2007, 2:39 p.m.,  
in response to message #1 by Hugh Evans*

Where did that picture come from? Much more detailed than any previous picture.

### **Re: My minor 35s modifications**

*Message #20 Posted by [Hugh Evans](#) on 31 May 2007, 2:53 p.m.,  
in response to message #19 by John*

It came from HP's PDF. My guess is that it looks better to your eyes now that the labels have much better contrast... Which is exactly the point I'm trying to get across to HP.

*Edited: 31 May 2007, 2:56 p.m.*

### **Re: My minor 35s modifications**

*Message #21 Posted by [John](#) on 31 May 2007, 3:18 p.m.,  
in response to message #20 by Hugh Evans*

No, that wasn't my point at all. The green gets lost next to the blue, so the color looks worse.

The resolution looked higher than I have extracted from the PDF, so I wondered where you got it. Looking at the original PDF now and it is clearly different.

### **Re: My minor 35s modifications**

*Message #22 Posted by [Hugh Evans](#) on 31 May 2007, 3:27 p.m.,  
in response to message #21 by John*

Well, the PDF is my source. I updated my original post for a side-by-side comparison.

The red alpha labels are nearly impossible to see, and the green color I selected has a good degree of difference from the nearby blue (90° difference in lab coordinates). The only other logical alternative would be to make the alpha labels white.

-Hugh

*Edited: 31 May 2007, 3:34 p.m.*

### **Re: My minor 35s modifications**

*Message #23 Posted by [John](#) on 31 May 2007, 5:17 p.m.,  
in response to message #22 by Hugh Evans*

The red are perfectly visible.

How about you start a new thread asking for a vote?

Red vs. Green?



### **Re: My minor 35s modifications**

*Message #24 Posted by [Hugh Evans](#) on 31 May 2007, 5:30 p.m.,  
in response to message #23 by John*

Maybe to your eyes. The red color HP has chosen has a much lower luminance score, 20-30 points lower than my green. That just means \*much\* better contrast. As far as I can tell HP did not put any thought into their color selection aside from approximating colors from the voyager series (which weren't perfect either).

Red is a lousy color to work with against a dark background anyways. I'm sticking with green, you're welcome to your opinion... But my solution is correct.

### **Re: My minor 35s modifications**

*Message #25 Posted by [Dennis Trafananko](#) on 31 May 2007, 11:17 p.m.,  
in response to message #24 by Hugh Evans*

Another color possibility for the Alpha labels is a magenta shade (diametrically opposed to the green), with a brightness (value in HSV) to be visible against the dark background. The green appears to clash with the other colors in the pictures, it just looks out of place.

### **Re: My minor 35s modifications**

*Message #26 Posted by [Hugh Evans](#) on 1 June 2007, 11:31 a.m.,  
in response to message #25 by Dennis Trafananko*

Yeah, I spec'd a color like but would prefer not to use it. Here's a copy of the optimal color palette I defined. HP was very close to perfect on early pioneer models such as the 48sx, they clearly did their homework. The green and purple colors I defined are what the should have used on the later 48g.

[http://home.insightbb.com/~hdevans/Color\\_Set.jpg](http://home.insightbb.com/~hdevans/Color_Set.jpg)

### **Re: My minor 35s modifications**

*Message #27 Posted by [Bram](#) on 1 June 2007, 6:51 a.m.,  
in response to message #24 by Hugh Evans*

Quote:

\_\_\_\_\_

Red is a lousy color to work with ...

\_\_\_\_\_

I agree with this.

That's why my HP-28S is practically useless to me. Too difficult to read. Even on not so dark background.

### **Re: My minor 35s modifications**

*Message #28 Posted by [Steve Borowsky](#) on 31 May 2007, 4:07 p.m.,  
in response to message #1 by Hugh Evans*

Wow, that's much improved. Good job.

**Re: My minor 35s modifications**

*Message #29 Posted by **GE** on 1 June 2007, 4:46 a.m.,  
in response to message #28 by Steve Borowsky*

Green looks much better than red IMHO. I hope it makes it to the production model, but it is very probably too late.

**Re: My minor 35s modifications**

*Message #30 Posted by **Bob** on 31 May 2007, 4:44 p.m.,  
in response to message #1 by Hugh Evans*

I would love to see some basic TVM/financial functions since so much of engineering, project management, and science require some level of financial justification or evaluation on top of the technical work.

The financial solver on the 48GX, or similar, would work fine. I don't even care if it is buried in a menu somewhere.

**Re: My minor 35s modifications**

*Message #31 Posted by **Chuck** on 31 May 2007, 5:00 p.m.,  
in response to message #30 by Bob*

One equation in the solver can calculate all the needed TVM's, including annuities, loan payments, future values, present values, etc. I have a version on most of my programmable calcs that don't have a built in TVM solver. But a built in TVM shouldn't be that hard to include.

**Re: My minor 35s modifications**

*Message #32 Posted by **Chuck** on 31 May 2007, 4:55 p.m.,  
in response to message #1 by Hugh Evans*

My eyes don't spot an "ALPHA" key. I wonder how one would store a value into a lettered register (unless it automatically switches mode, a feature I don't like.)

**Re: My minor 35s modifications**

*Message #33 Posted by **Hugh Evans** on 31 May 2007, 5:08 p.m.,  
in response to message #32 by Chuck*

I'm confused about that exact problem myself.

**Re: My minor 35s modifications**

*Message #34 Posted by **John** on 31 May 2007, 5:28 p.m.,  
in response to message #33 by Hugh Evans*

If this is like the HP33s, then you press STO and the key a letter is on.

Hugh, have you even owned an HP32s, HP32sII, or an HP33s? That's the series of machines since 1988.

That's how HP has done this in that time period.

Your yellow on the images is different, so your not comparing apples to apples. If the yellow

contrast/color is different, then you can't know what reality would be.

### **Re: My minor 35s modifications**

*Message #35 Posted by **Hugh Evans** on 31 May 2007, 5:37 p.m.,  
in response to message #34 by John*

I know my colors are different. They are also better tuned to the human eye. I'm not comparing apples to apples, I'm comparing my solution to HP's. Sure, my renderings are not under photographic conditions but tweaking the color scheme for natural light isn't much of a challenge.

### **Re: My minor 35s modifications**

*Message #36 Posted by **Norris** on 31 May 2007, 5:42 p.m.,  
in response to message #34 by John*

On the 33S, pressing STO, RCL, or LBL automatically toggles alpha mode. This mode only lasts for a single keystroke, because the variables and labels on the 33S are restricted to a single letter.

If you are entering equations, such as "A = B + C", then you have to hit STO or RCL before entering each letter. When you enter equations, the STO and RCL commands don't do anything except toggle the alpha mode. You can store brief text strings as dummy "equations", but you have to press STO or RCL before every letter; there is no "alpha lock" mode.

I believe the 32S and 32SII are similar, and the 35S probably is too. It sounds like the 35S may recognize two-letter variables and labels, but even in this case, there might not be a need for a dedicated alpha key.

### **Re: My minor 35s modifications**

*Message #37 Posted by **John** on 31 May 2007, 5:25 p.m.,  
in response to message #1 by Hugh Evans*

Of course, this is hardly fair, given the green you used wasn't actually photographed under real lighting.

### **HP35s: Keyboard errors**

*Message #38 Posted by **Patrice** on 1 June 2007, 4:51 p.m.,  
in response to message #1 by Hugh Evans*

Hi all,

The pictures on top are showing miswritings.

The problem is with metric units writing, they don't follow the rules.

kilogram is Kg, kg is wrong ! kilometer is Km, KM is wrong ! centimeter is cm, which is right !

As I already said, I don't like spending so much place on keyboard for conversion functions that I will almost never use, and not having others like FP, IP and modulus.

If they let them on keyboard, they should at least write them right.

Patrice from France

## Re: HP35s: Keyboard errors

Message #39 Posted by [Maximilian Hohmann](#) on 1 June 2007, 5:15 p.m.,  
in response to message #38 by Patrice

Hello!

Quote:

\_\_\_\_\_

kilogram is Kg, kg is wrong ! kilometer is Km, KM is wrong ! centimeter is cm, which is right !

\_\_\_\_\_

Not quite: In the international system of units (SI) (\*), lowercase "k" stands for kilo or thousands and uppercase "K" for Kelvin.

So "kg" is indeed the correct way to abbreviate kilograms, but kilometers are neither "Km" nor "KM", but "km" instead.

And like you, I also think that these conversions are quite useless on a general-purpose scientific calculator. I would rather like user-defineable conversions (labelled maybe as "C1" ... "C5") that can be used for whatever the individual user needs to convert (from currencies to nanoAngstroems)

Greetings, Max

(\*) see here: <http://www.bipm.org/en/si/>

## Re: HP35s: Keyboard errors

Message #40 Posted by [cfh](#) on 1 June 2007, 5:54 p.m.,  
in response to message #39 by Maximilian Hohmann

It is spelled Ångström :-) No umlauts, no pluralis s...

cheers cfh

## Re: HP35s: Keyboard errors

Message #41 Posted by [Walter B](#) on 2 June 2007, 1:09 a.m.,  
in response to message #40 by cfh

Reminds me of my all time favourite unit: Potatoes per Ångström ...

## Re: HP35s: Keyboard errors

Message #42 Posted by [Dominic Richens](#) on 5 June 2007, 11:23 a.m.,  
in response to message #41 by Walter B

Quote:

\_\_\_\_\_

Reminds me of my all time favourite unit: Potatoes per Ångström ...

\_\_\_\_\_

Isn't that a constant?

My favourite unit is furlongs per fortnight (0.000166309524 m/s according to Google)

### **Re: HP35s: Keyboard errors**

*Message #43 Posted by **Walter B** on 5 June 2007, 1:04 p.m.,  
in response to message #42 by Dominic Richens*

Quote:

> Reminds me of my all time favourite unit: Potatoes per Ångström ...

Isn't that a constant?

No, it's a unit for an area. A standard potatoe represents a volume of  $187.0815 \text{ cm}^3 = 187.0815 \cdot 10^{-6} \text{ m}^3$ , an Ångström equals  $10^{-10} \text{ m}$ , so a P/Å equals  $187.0815 \cdot 10^4 \text{ m}^2 = 1.870815 \cdot 10^6 \text{ m}^2 = 1.870815 \text{ km}^2$ . Enjoy! d;-)

### **Re: HP35s: Keyboard errors**

*Message #44 Posted by **Dave Shaffer** on 5 June 2007, 11:22 p.m.,  
in response to message #43 by Walter B*

This reminds me of my favorite (?) unit: inverse acres

Useful for the mileage that you get with your car: miles/gallon, which is length/length<sup>3</sup>, or 1/length<sup>2</sup> which has the same dimensionality as inverse acres. (Determining the actual conversion factor is "left to the student" and his/her favorite HP calculator.)

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## HP Forum Archive 17

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### hp 35s News Too Early?

Message #1 Posted by [cfh](#) on 31 May 2007, 7:16 a.m.

<http://www.calculatrices-hp.com/35s.html> is down.

Was the information withdrawn? Did the homepage release the news too soon? Is it still supposed to be a secret?

I don't care - I love it, and will buy one for everyone here at work. TI-users included! (\*adding a convert-button on the hp: TI->HP\*)

cheers cfh

### Re: hp 35s News Too Early?

Message #2 Posted by [Tadeyev](#) on 31 May 2007, 8:08 a.m.,  
in response to message #1 by [cfh](#)

No, not withdrawn, it is announced for the 'summer'. Here is response I received from the official distributor in Belgium: Goedemiddag,

Deze toestellen worden pas na de zomer verwacht. U kan deze dan gerust bij ons bestellen. OR Good afternoon, These units are expected after the summer. You can order them form us at that time... We'll just have to wait! T

### Re: hp 35s News Too Early?

Message #3 Posted by [Thomas Radtke](#) on 31 May 2007, 8:25 a.m.,  
in response to message #2 by [Tadeyev](#)

Not before autum... :-(

### Re: hp 35s News Too Early?

Message #4 Posted by [John](#) on 31 May 2007, 10:00 a.m.,  
in response to message #3 by [Thomas Radtke](#)

This happens to HP all the time. Some stupid distributor leaks information long before HP is ready. Has happened consistently over the last 6-7 years.

You'd think it would have been addressed by now.

### Re: hp 35s News Too Early?

Message #5 Posted by [Chris Roccati](#) on 31 May 2007, 5:58 p.m.,  
in response to message #4 by [John](#)

Everything seems to be gone. I missed it.

Did someone mirror the pages or save the PDFs?

**Re: hp 35s News Too Early?**

Message #6 Posted by **Miguel Toro** on 31 May 2007, 7:27 p.m.,  
in response to message #5 by Chris Roccati

you got mail... :-)

**Re: hp 35s News Too Early?**

Message #7 Posted by **Chris Roccati** on 1 June 2007, 5:07 p.m.,  
in response to message #6 by Miguel Toro

Did you "decode" my obfuscated email address?

**Re: hp 35s News Too Early?**

Message #8 Posted by **Miguel Toro** on 2 June 2007, 1:01 a.m.,  
in response to message #7 by Chris Roccati

The message did not passed. What did I do wrong?

**Re: hp 35s News Too Early?**

Message #9 Posted by **Chris Roccati** on 2 June 2007, 1:33 p.m.,  
in response to message #8 by Miguel Toro

That's probably because the real address is the thing before the @nospam.org, with @ in place of '.ta.' and '.' in place of '.tod.'

**Re: hp 35s News Too Early?**

Message #10 Posted by **Rav** on 2 June 2007, 2:05 p.m.,  
in response to message #5 by Chris Roccati

Quote:

Everything seems to be gone. I missed it.

Did someone mirror the pages or save the PDFs?

Could someone send me a copy too?

Thanks,

Rav.

**Re: hp 35s News Too Early?**

Message #11 Posted by **Donald** on 1 June 2007, 3:00 a.m.,  
in response to message #4 by John

So you don't think it was a deliberate 'leak' to get some community feedback, without a more public launch.

The fact that [Cyrille de Brebisson](#) has a [picture of his baby son's pilot production HP35s](#) shows that there's approval for the unofficial official pre-release.

**Re: hp 35s News Too Early?**

*Message #12 Posted by [John](#) on 1 June 2007, 8:04 a.m.,  
in response to message #11 by Donald*

Quote:

The fact that Cyrille de Brebisson has a picture of his baby son's pilot production HP35s shows that there's approval for the unofficial official pre-release.

Says who? Perhaps he just hasn't had his head handed to him on a platter yet. It was probably a very stupid thing for him to do. Things like that can put one's job at risk.

HP does not give approval for leaks, no matter where they come from.

**Re: hp 35s News Too Early?**

*Message #13 Posted by [Alan](#) on 4 June 2007, 8:34 a.m.,  
in response to message #12 by John*

The data sheet & image for the 35s are on the hpcc.org website: [http://hpcc.org/  
http://hpcc.org/calculators/35s.pdf](http://hpcc.org/http://hpcc.org/calculators/35s.pdf) <http://hpcc.org/calculators/hp35s.jpg>

**Re: hp 35s News Too Early?**

*Message #14 Posted by [Frank Rottgardt](#) on 4 June 2007, 1:35 p.m.,  
in response to message #13 by Alan*

Thanks!

I only got the Google-cache HTML-version of the original PDF. This PDF is much more fun to read!

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## HP Forum Archive 17

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### **He needs to learn to read the ads he is bidding on not just look at the pictures**

Message #1 Posted by [Gonzalo Fernandez \(Spain\)](#) on 31 May 2007, 4:19 a.m.

See Ebay item number 260115586220 and feedback

### **Re: He needs to learn to read the ads he is bidding on not just look at the pictures**

Message #2 Posted by [Howard Owen](#) on 31 May 2007, 4:31 a.m.,

in response to message #1 by [Gonzalo Fernandez \(Spain\)](#)

So he wriggled out of it. Figures.

### **Re: He needs to learn to read the ads he is bidding on not just look at the pictures**

Message #3 Posted by [Bruce Bergman](#) on 31 May 2007, 11:06 a.m.,

in response to message #1 by [Gonzalo Fernandez \(Spain\)](#)

I really dislike saying things about other people, especially negative things. I've even kept out of all the other eBay wars on here... But, I must say that I hope "he" realizes there's such a thing as karma, and it may finally be catching up to him. "he" is such a slimeball; I find him very distasteful in many ways.

thanks, bruce

*Edited: 31 May 2007, 11:07 a.m.*

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## HP Forum Archive 17

[ [Return to Index](#) | [Top of Index](#) ]**Runge-Kutta-Verner method with error-estimate**Message #1 Posted by [JMBaillard](#) on 30 May 2007, 4:09 p.m.

Hi!

I've found on the web the coefficients of a Runge-Kutta-Verner method of order 8 embedded within 9th-order.  
Here is a program that uses these formulae for the HP-48:

```
----- 'RKV8E9' -----
<< OVER 1 SWAP
  START DUP 5 PICK ->NUM 4 PICK * DUP 12 / 3 PICK + 6 PICK ->NUM
5 PICK * 2 * OVER + 27 / 3 PICK + 6 PICK ->NUM 5 PICK * DUP2 3 *
+ 24 / 4 PICK + 7 PICK ->NUM 6 PICK * DUP 2.23331697733 * ROT
-2.39805710715 * + 3 PICK .624672095524 * + 4 PICK + 7 PICK ->NUM
6 PICK * DUP .245675793931 * 3 PICK .273953453873 * + 4 PICK
4.36700683814E-2 * + 5 PICK + 8 PICK ->NUM 7 PICK * DUP
7.02490360993E-3 * ROT 1.34776896111E-2 * - ROT .181531822412 * +
3 PICK 6.16216474034E-2 * + 4 PICK + 7 PICK ->NUM 6 PICK * DUP
.341657217459 * 3 PICK .250935375134 * + 4 PICK 7.40740740741E-2 *
+ 5 PICK + 8 PICK ->NUM 7 PICK * DUP -.03515625 * 3 PICK
.340504422039 * + 4 PICK .120433077961 * + 5 PICK .07421875 * +
6 PICK + 9 PICK ->NUM 8 PICK * DUP -.296296296296 * 3 PICK 16 / -
4 PICK .310705427943 * + 5 PICK .305035312798 * + 6 PICK
7.63888888889E-2 * + 7 PICK + 10 PICK ->NUM 9 PICK * DUP
-.26063186736 * 3 PICK 7.27205419732E-2 * + 4 PICK .011746330035
* - 5 PICK .37852828889 * + 7 PICK 7.11293665317E-2 * + 8 PICK +
11 PICK ->NUM 10 PICK * DUP -328.691358025 * 3 PICK 241.543474144
* - 4 PICK 626.941484898 * + 5 PICK 113.719201869 * + 6 PICK
413.485511011 * + 7 PICK 574.436392562 * - 8 PICK 8.14163971388
* - 9 PICK + 12 PICK ->NUM 11 PICK * DUP 1.80288461538E-3 * 3 PICK
2.49192782526 * + 4 PICK 7.69118880716E-2 * - 5 PICK .690428248367
* - 6 PICK .228863388685 * + 7 PICK 1.9030978898 * - 8 PICK
.69337350173 * + 9 PICK .087803759282 * + 10 PICK + 13 PICK ->NUM
12 PICK * DUP 1.77777777778 * 3 PICK 2.35042735043E-2 * - 4 PICK
4.86229819563 * - 5 PICK 4.88888888889 * - 6 PICK 2.27160493827 *
+ 7 PICK 6.22916666667 * - 8 PICK 7.48550699458 * + 9 PICK
5.5746781906 * + 10 PICK .105709876543 * - 11 PICK + 14 PICK ->NUM
13 PICK * OVER 26.25 / 4 PICK 1920 / - 5 PICK .564373897707 * +
6 PICK .867950955719 * - 7 PICK .701048612636 * + 8 PICK
.125460177737 * - 9 PICK 7.51961665302E-2 * + 10 PICK
.272718881509 * - 11 PICK 5.46035999955E-2 * + 12 PICK + 15 PICK
->NUM 14 PICK * DUP 5.40772532189 * 4 PICK .422317596567 * + 5
PICK 2.87223506108E-3 * - 6 PICK 18.706283702 * - 7 PICK
7.80529021378 * + 8 PICK 3.73079546162 * + 9 PICK 1.38102723196
* + 10 ROLL 6.81524922033 * + 10 ROLL 5.45684741856 * - 10 PICK
.396401690533 * - 11 PICK + 14 PICK ->NUM 13 PICK *
-5.54761904762E-2 * SWAP .36 * - OVER 3.21428571429E-2 * + 3 PICK
.12 * + 4 PICK 5.76923076923E-4 * + 5 PICK 1.05025641026 * + 6
PICK 1.05 * - 7 PICK .56 * + 8 PICK .315 * - 9 PICK .0175 * +
1 0 PUT 'ERROR'
  IFERR STO+
  THEN STO
  END
3.21428571429E-2 * SWAP .342857142857 * + SWAP 4.12087912088E-4 *
+ SWAP .750183150183 * + SWAP .717857142857 * - SWAP .72380952381
* + SWAP .192857142857 * - SWAP 6.13095238095E-2 * + +
NEXT
>> ( 2368.5 bytes / #57545d )
```

\*\*\* PURGE 'ERROR' before the first execution.

4 inputs are needed:

level 4: a program ( or its name ) that computes the derivative  
of the (n+1)-vector [ x y1 ... yn ]  
Since  $dx/dx = 1$  the first component is always 1

level 3: the stepsize h

level 2: the number of steps N

level 1: the initial value [ x y1 ... yn ]

-For example, to solve the system

$$\begin{aligned} dy/dx &= -yzu & y(0) &= 1 \\ dz/dx &= x(y+z-u) & z(0) &= 1 \\ du/dx &= xy-zu & u(0) &= 2 \end{aligned}$$

with h = 0.1 , N = 10:

```
<< OBJ-> DROP -> X Y Z U
<< 1 Y Z U * * NEG
   Y Z + U - X *
   X Y * Z U * - 4 ->ARRY
>>
>> ENTER
0.1 ENTER
10 ENTER
[ 0 1 1 2 ] and press the [RK8E9] key
```

-It yields ( in 137 seconds ) in level 1

```
[ 1 0.258207906449 1.15762398084 0.842178311722 ]
```

and 'ERROR' contains [ 0 2.7631E-11 3.27392E-11 7.636E-11 ]

Regards,  
JMB.

## Re: Runge-Kutta-Verner method with error-estimate

Message #2 Posted by [Les Wright](#) on 2 June 2007, 10:32 p.m.,  
in response to message #1 by [JMBaillard](#)

JM, this is an excellent bit of work as usual.

Your sample problem is somewhat faster on my 49G+, and I would expect similar performance on the 50G.

I find in some examples I have worked with that the error estimate is a little optimistic. This is understandable--users will know that the error estimates of the Runge-Kutta methods are based on the higher derivative terms of Taylor series expansions, and the assumption that these derivative values remain roughly the same across each subinterval is often not a reasonable one. Moreover, the estimated error is typically used in more sophisticated routines to adjust stepsize--do better than a desired tolerance at the step, increase the stepsize, do worse, decrease it.

Your routine raises some interesting questions about the pros and cons using higher order methods vs. repeated application of lower order methods. In which case is the computational work load best balanced by the performance? I believe that the 48 and 49 series calcs use RKF45 as the basis of an adaptive stepsize routine.

One day, perhaps after all of the hubbub regarding the 35s dies down , I will post some thoughts on this, and perhaps issue a challenge on how to best find results to some challenging nonstiff IVPs.

**Re: Runge-Kutta-Verner method with error-estimate**

*Message #3 Posted by **JM Baillard** on 4 June 2007, 5:37 p.m.,  
in response to message #2 by Les Wright*

Hi,

the error-estimates are algebraically added after each step.  
Adding the magnitudes could be a less optimistic alternative:

```
Simply add      OBJ-> EVAL ->LIST ABS OBJ-> ->ARRY
```

```
just before    1 0 PUT 'ERROR' near the end
```

I was worried when I saw that some coefficients of this Runge-Kutta-Verner method were of the order of 600: I thought it was going to produce great roundoff errors, but fortunately, the corresponding k-value ( namely k12 ) is weighted with a small 3/7280 and indeed, the results are usually satisfactory, even in the last decimal:

For instance:  $y' = -2xy$  ,  $y(0) = 1$

```
h = 0.1 gives y(1) = 0.367879441185
h = 0.05 ----- y(1) = 0.367879441171 ( exact )
h = 0.025 ----- y(1) = 0.367879441171 ( still exact! )
```

At least, 'RKV8E9' gives an idea of the obtained accuracy with 16 evaluations of the function per step, instead of  $11+2*11=33$  evaluations if one uses 'RK8' with h and then with h/2. This may be an advantage if the functions are complicated.

In "Numerical Recipes" they don't seem to like high-order Runge-Kutta formulas. On the other hand, they praise Bulirsch-Stoer methods ( "Runge-Kutta is for ploughing the fields, Bulirsch-Stoer is a high-strung racehorse" ) and it is a little contradictory: though quite fantastic, these methods require more than 11 evaluations per step to achieve an 8th-order formula! Moreover, roundoff errors are also greater.

I've always been fascinated by Runge-Kutta methods, especially if they are compared to the Taylor's method and the huge amount of calculus they require! And the size of the non-linear systems that must be solved to find high-order formulae! It seems like a touch of magic!

Of course, the classical 'RK4' is probably enough for an HP-41, but we can try more accurate formulae with a 49G or 50G.

In fact, I wrote 'RK8' and 'RKV8E9' for completeness, perhaps it will be useful. However, I must say that, even now, I still prefer the HP-41 programming language with its direct arithmetic in the 4-level stack, and all the trickeries we can ( must? ) find to create neat programs.

Speed may be a problem, but thanks to Warren Furlows and his excellent V41, HP-41 programs can run faster than HP-49 programs!

But I stop here my "philosophical" point of view...

Regards,  
JMB.

---

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## HP Forum Archive 17

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### HP 71B - HP41 Emulator Module

Message #1 Posted by [Alexander Wassermann](#) on 30 May 2007, 7:41 a.m.

Hi Forum, my first post here but hopefully not my last as I am slowly blending into where I could not afford to be 30 years ago when calculators by HP were just a dream...

I am owner of the HP41 Emulator for the HP71B. I have also the overlay card. Apart from starting the program, and removing it from memory I have not been able to emulate anything near to a 41C. Is there a place to get a copy or scan of the manual. On my copy of the Museum DVD I cannot find one and from what I have found elsewhere on the net neither.

Any suggestions welcome. Alexander

### Re: HP 71B - HP41 Emulator Module

Message #2 Posted by [Karl Schneider](#) on 30 May 2007, 1:57 p.m.,  
in response to message #1 by Alexander Wassermann

Quote:

Hi Forum, my first post here but hopefully not my last as I am slowly blending into where I could not afford to be 30 years ago when calculators by HP were just a dream...

Welcome! Your story is similar to mine and many others here. I had only a HP-15C from 1983-2002, when I started collecting.

Quote:

Is there a place to get a copy or scan of the (*HP41 Emulator for the HP71B*) manual. On my copy of the Museum DVD I cannot find one and from what I have found elsewhere on the net neither.

Look for the file "71-41TR.PDF" (10544 kB) on your MoHPC DVD.

I just bought one of those ROM's myself more than a week ago. (In fact, we might have bought from the same seller.) Its official identifier is the "5061-7269 HP-71 41 Translator".

-- KS

### Re: HP 71B - HP41 Emulator Module

Message #3 Posted by [Alexander Wassermann](#) on 31 May 2007, 8:53 a.m.,  
in response to message #2 by Karl Schneider

Interesting, seems like not only a similar but nearly identical story. My first was a 15C too in 1984. Then a 48SX from 1990. I've gone back using the 15C again and started collecting 2 years ago. Thanks for the tip on the manual, I will see if I can find it on my version of the Museum DVD (it is not the last one

available). Alexander

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## HP Forum Archive 17

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**10yrs Emu48**

Message #1 Posted by [Mike \(Stgt\)](#) on 30 May 2007, 5:36 a.m.

With all the ballyhoo about the HP-35S, who remarked the [10th anniversary of Emu48](#)? Congratulations to Sebastien Carlier to publish the source and thank you very much to Christoph Gießelink to care for its usability. I had a lot of fun with it and enabled me to help colleagues at work to maintain their real machines.

Thank you.....Mike

**Re: 10yrs Emu48**

Message #2 Posted by [Egan Ford](#) on 30 May 2007, 9:18 a.m.,  
in response to message #1 by [Mike \(Stgt\)](#)

I use it everyday and have been for as long as I can remember.

Perhaps a 10th anniversary edition is in order, perhaps (please) with Linux/GTK support.

**Re: 10yrs Emu48**

Message #3 Posted by [Mike \(Stgt\)](#) on 1 June 2007, 4:13 a.m.,  
in response to message #2 by [Egan Ford](#)

I never cared much about Linux only for Cygwin back in the days when [Hercules](#) was not available for Windows native. But just have a look at [Nonpareil](#) if one of those elder models fits your needs. BTW, I did like Linux as Knoppix Rescue CD when Windows did not find the build-in HDD of my Laptop any more. Now I try to get [DSL](#) installed as alternative OS but failed up to now. Yep - I know ... subject-drift ... wrong forum...

Ciao.....Mike

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## HP Forum Archive 17

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### **Mr.Hurd viz-a-viz the forthcoming HP-35s**

Message #1 Posted by [Trent Moseley](#) on 29 May 2007, 10:52 p.m.

I find it interesting that with the turnover at Hewlett-Packard of top management positions we have this return to its past roots. I hope it bodes well.

tm

### **Re: Mr.Hurd viz-a-viz the forthcoming HP-35s**

Message #2 Posted by [Antonio Maschio \(Italy\)](#) on 30 May 2007, 1:17 p.m.,  
in response to message #1 by Trent Moseley

yep, I agree.

But undoubtly, we should wait until the renewal of the economic branch of HP calculators (say the present HP-9S series). Once, the minor and less powerful Hp calculator was the HP-10C!

-- Antonio

### **Re: Mr.Hurd viz-a-viz the forthcoming HP-35s**

Message #3 Posted by [Eric Smith](#) on 30 May 2007, 4:39 p.m.,  
in response to message #1 by Trent Moseley

I could be wrong, but I doubt that the 35s is even on the radar of HP's upper management. What I do credit HP upper management for is creating (or allowing the creation of) the current calculator operation, after having pulled the plug on ACO. That happened a few years before Hurd took over, though.

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## HP Forum Archive 17

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### HP 33s "best seller scientific programmable calculator"

Message #1 Posted by [Miguel Toro](#) on 29 May 2007, 10:25 p.m.

...According to the NPD Group. Is this the reason why this new attention from HP to the calculator market? I think the 35s will be the new best seller. At least, I will buy three, one for me and the others for my daughters ;-)

[http://www.hp.com/hpinfo/newsroom/press\\_kits/2007/mobilitysummit/bg\\_calculator35yanniv.pdf](http://www.hp.com/hpinfo/newsroom/press_kits/2007/mobilitysummit/bg_calculator35yanniv.pdf)

### Re: HP 33s "best seller scientific programmable calculator"

Message #2 Posted by [Tim Wessman](#) on 30 May 2007, 12:44 a.m.,  
in response to message #1 by Miguel Toro

I wonder if the reason for that is because it is the ONLY current programmable scientific. Are there any others?

TW

### Re: HP 33s "best seller scientific programmable calculator"

Message #3 Posted by [kdv](#) on 30 May 2007, 4:33 a.m.,  
in response to message #2 by Tim Wessman

Casio fx-5800p. Decent calc, except: - complex math is incomplete. No complex matrices, no roots of complex numbers, for instance. - the serial port can be used to transfer programs only. This makes it less suitable for surveyors etc., who wish to transfer data to a pc.

### Re: HP 33s "best seller scientific programmable calculator"

Message #4 Posted by [Norris](#) on 30 May 2007, 11:46 a.m.,  
in response to message #3 by kdv

According to [Casio](#), the "selling area" of the FX-5800P is "Europe , International (Asia , Oceania , Central & South America , Mid-East & Africa)". It is apparently not distributed in North America. In the US market, the 33S is probably the only player in the "scientific programmable" niche.

In the US, the term "programmable calculator" is now virtually synonymous with "graphing calculator". The major niche for the 33S, as a "scientific programmable", is on professional licensing exams where "graphing calculators" are prohibited.

*Edited: 30 May 2007, 12:17 p.m.*

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## HP Forum Archive 17

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### Correct VAC Output for HP-97 AC Adapter?

Message #1 Posted by [Dan W](#) on 29 May 2007, 9:22 p.m.

I have an HP-97 but no AC Adapter/Charger. So I'll probably make one. I am not sure of the correct output voltage. The HP Museum says 8 VAC, but the Service Manual says it is 12.8 VAC (Section 2-42 pg 2-5).

Can someone with an adapter perhaps measure it for me and tell me what it really is?

Thanks

-- Dan W.

### Re: Correct VAC Output for HP-97 AC Adapter?

Message #2 Posted by [Les Wright](#) on 29 May 2007, 9:44 p.m.,  
in response to message #1 by Dan W

I don't have a voltmeter, but I have three 82059 adapters.

The all have engraved on them 8VAC 3W MAX.

Does this help?

### Re: Correct VAC Output for HP-97 AC Adapter?

Message #3 Posted by [Egan Ford](#) on 29 May 2007, 11:50 p.m.,  
in response to message #1 by Dan W

I have the same adapter as Les. Printed is 8 VAC. However I measured the output as 12.7 VAC. Hope this helps.

### Re: Correct VAC Output for HP-97 AC Adapter?

Message #4 Posted by [db \(martinez, ca.\)](#) on 30 May 2007, 12:31 a.m.,  
in response to message #3 by Egan Ford

Egan: Your 12vdc would be the unloaded value. In series with a battery it would probably be more like the nominal 8vdc.

Dan: Making that plug is going to be a drag. I have a spare. Do you live near me?

*Edited: 30 May 2007, 12:31 a.m.*

### Re: Correct VAC Output for HP-97 AC Adapter?

Message #5 Posted by [Dan W](#) on 30 May 2007, 1:24 a.m.,  
in response to message #4 by db (martinez, ca.)

I live in Phoenix AZ. A bit of a drive. Would you be willing to sell one?

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## HP Forum Archive 17

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### HP 33s "best seller scientific programmable calculator"

Message #1 Posted by [Miguel Toro](#) on 29 May 2007, 6:44 p.m.

...According to the NPD Group. Is this the reason why this new attention from HP to the calculator market? I think the 35s will be the new best seller. At least, I will buy three, one for me and the others for my daughters ;-)

[http://www.hp.com/hpinfo/newsroom/press\\_kits/2007/mobilitysummit/bg\\_calculator35yanniv.pdf](http://www.hp.com/hpinfo/newsroom/press_kits/2007/mobilitysummit/bg_calculator35yanniv.pdf)

### Re: HP 33s "best seller scientific programmable calculator"

Message #2 Posted by [Norris](#) on 29 May 2007, 9:22 p.m.,  
in response to message #1 by Miguel Toro

Quote:

The HP 33s Scientific Calculator is rated the "Best Seller" in the Scientific Programmable Calculator category in both units and dollar share

This is probably true, but only because there is no competition. Companies like TI, Casio, and Sharp don't bother to sell "scientific programmable calculators" anymore, at least in the US. The market for "graphing calculators" is far larger and more lucrative.

In the US, the primary market for the 33S is probably among engineers and surveyors taking professional licensing exams. People favor the 33S in this situation, but only because "graphing calculators" are explicitly banned.

This leads to the question of whether NCEES will approve the 35S for use on FE/PE and FS/PS exams. They are scheduled to announce a new list of "approved" calculators for 2008 in November.

*Edited: 29 May 2007, 9:27 p.m.*

### Re: HP 33s "best seller scientific programmable calculator"

Message #3 Posted by [Thomas Okken](#) on 30 May 2007, 4:10 p.m.,  
in response to message #2 by Norris

Quote:

This leads to the question of whether NCEES will approve the 35S for use on FE/PE and FS/PS exams.

One hopes that HP have been working with the NCEES to make sure the 35s will be approved. The machine sure looks like it could replace the 33s in terms of functionality, but if it can't be used on licensing exams, it's hard to see who would buy one, apart from us HP Forum nerds.

(I'm really curious about what kind of support it has for named variables and named labels!)

- Thomas

**Re: HP 33s "best seller scientific programmable calculator"**

*Message #4 Posted by [Norris](#) on 30 May 2007, 5:05 p.m.,  
in response to message #3 by Thomas Okken*

In theory, the 35S should be acceptable to NCEES. The 33S is OK because it lacks I/O and significant alphanumeric capabilities. I don't see any reason to suppose that the 35S would be any different.

In practice, though, I could see a couple of potential issues.

First, NCEES wants to keep their list of approved models to a minimum, to simplify enforcement. So they might be reluctant to add the 35S to the "approved" list, as long as the 33S is still available.

Second, NCEES is seriously considering a plan to standardize on a single calculator model, and to issue the selected calculator in the exam room. If this occurs, it seems possible that they might prefer to standardize on an "approved" Casio or TI model, given their low cost (\$10 - \$20) relative to HPs (~ \$50 for the 33S, ? for the 35S).

*Edited: 30 May 2007, 5:05 p.m.*

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## HP Forum Archive 17

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### Where is HP Going in the Calculator Marketplace?

Message #1 Posted by [Howard Owen](#) on 29 May 2007, 3:39 p.m.

With the new calculators being revealed, we can see that HP is continuing the change in direction that was hinted at with the release of the 50g. That machine restored some degree of the old attention to detail in the manufacturing process. What that produced was a machine whose look and feel, while not identical to older machines, was at least reminiscent of the past, and most importantly, one that didn't suck.

The new calculator appears to have been the result of at least some degree of additional engineering on HP's (or a contractor's) part. The functionality has evolved to some (as yet only hinted at) extent over the 33s, and in a direction many here (hi Karl!) have asked for. The large enter key may be a feature intended only for this anniversary machine, or it may regain its place as the default for RPN machines. But in any case, it's a visible symbol of HP's recognition of the value in their calculator legacy. That message is sure to warm the hearts of people around here.

But my question now is, to what degree do you think these changes will help HP in selling calculators? Besides warming the cockles of the vintage HP calculator enthusiast's heart, how will a large enter key, for example, convince people to buy a 35s and not one of the many alternatives from TI, Casio and others? A related question: what should HP do to keep the ball rolling? How can they combine innovation with the preservation of traditional values to produce machines that can win in the marketplace? Finally, what about the new machine from TI? It appears to be a radical - and very interesting - departure from the traditional idea of a calculator. Does HP need to respond to that in order to have a chance of gaining credibility?

Awaiting you collective wisdom.

Regards,  
Howard

### Re: Where is HP Going in the Calculator Marketplace?

Message #2 Posted by [Donald](#) on 29 May 2007, 4:49 p.m.,  
in response to message #1 by [Howard Owen](#)

Good question:

The early calculators were the 'killer application' of their day.

I was doing circuit analysis on my 41CX and 48SX at the time when there were no Personnel Computers - only a couple of shared workstations.

The symbolic+graphics calculator was the 'killer app' for maths students. Now laptops must be as common as the high end graphics calculators. Laptops have the color and user-interface advantage.

So HP need to reinvent themselves, and find a market niche with high ROIC.

Do they continue to follow the high volume competitive, low margin ?, student-teacher market.

This will catch students, who will hopefully keep using HP in later years ( remember how we used to aspire to owning super expensive professional HPs).

The traditional market, was us ( mathematical recreational users ) with a professional background or aim in life. They now seem to be tackling quality necessary for this market.

Now I feel they need to target applications and features that will add value to the end user. These must be something that's truly done better off the cluttered PC screen.

In the past we had the superb application books to learn from. These showed us how our jobs could be easier using a HP calculator.

I would like HP to re-discover the technical manual.

## Re: Where is HP Going in the Calculator Marketplace?

Message #3 Posted by **Wayne Brown** on 29 May 2007, 5:18 p.m.,  
in response to message #1 by Howard Owen

Quote:

Besides warming the cockles of the vintage HP calculator enthusiast's heart, how will a large enter key, for example, convince people to buy a 35s and not one of the many alternatives from TI, Casio and others?

Well, for one thing, it might help influence some of us to stop telling our friends and acquaintances, "Get a TI, or a Casio, or *anything* except an HP. HP hasn't made anything but overpriced junk in years."

## Re: Where is HP Going in the Calculator Marketplace?

Message #4 Posted by **Alain** on 29 May 2007, 6:44 p.m.,  
in response to message #3 by Wayne Brown

It may be that HP as a whole has realized the importance of quality industrial design and looks. They have announced recently a new line of PCs (a quick search gave me this link:

<http://h50043.www5.hp.com/ENP5/Public/Content.aspx?contentID=21070&portalID=367&pageID=1>) that emphasizes industrial design, and a black finish.

Apple is using the black color for the "high end" stuff, e.g. with the 8GB iPod Nano or the top of the line MacBook

The 35s is black, and looks professional. The 33s looks like a gadget. I know which one I'm going to buy ;-)

-- alain.

## Re: Where is HP Going in the Calculator Marketplace?

Message #5 Posted by **Wayne Brown** on 29 May 2007, 9:29 p.m.,  
in response to message #4 by Alain

Quote:

The 35s is black, and looks professional. The 33s looks like a gadget. I know which one I'm going to buy ;-)

There's no question, the 35s is **far, far** better-looking than the 33s. I hope it *buries* the 33s in the



market quickly.

### **Re: Where is HP Going in the Calculator Marketplace?**

*Message #6 Posted by **Bob** on 30 May 2007, 1:53 p.m.,  
in response to message #5 by Wayne Brown*

Quote:

I hope it *buries* the 33s in the market quickly.

I don't. I hope that the 33S fills a niche and enjoys continued success. Professional engineering exams are one example where the 33S is approved and additional features would likely knock it off of the list. It might make sense if a less robust RPN scientific is brought out to fill the niche, but I would not drop it until then.

I also hope that the new calc finds a robust and profitable market waiting for it.

If a sibling product get buried in the marketplace, it reduces the chance that they would take a chance on another. It could also reduce the cash flow which will fund additional future models.

Besides, we all need more than one calc. :-)

### **Re: Where is HP Going in the Calculator Marketplace?**

*Message #7 Posted by **Howard Owen** on 30 May 2007, 3:31 p.m.,  
in response to message #6 by Bob*

Quote:

Professional engineering exams are one example where the 33S is approved and additional features would likely knock it off of the list.

The sales brochure for the 35S says that it is approved for the following exams:

Quote:

SAT<sup>®</sup> Reasoning and SAT<sup>®</sup> Subject Tests<sup>™</sup> in Math 1 & 2, ACT,  
PSAT/NMSQT, AP Chemistry/Physics, PLAN, EXPLORE<sup>®</sup>

I don't know if the exam you are thinking of is on that list, but they have at least expended some effort to certify it up to that point. (Or maybe not. The flier was obviously not meant to be released. It may be that those are the certifications planned for the release, not ones they have actually obtained.)

The product lineup on calculators-hp.com also was missing the 33S, but included the 35S. (I haven't checked to see if its the same today or not.) I think that means that the 35s is planned to replace the 33S. But if that's so, and if the speculation that HP's leadership in that niche (which surprised me, btw) is due to exam acceptability is correct, then they'd be crazy not to ensure that the same exams would continue to accept the 35S.

Quote:

Besides, we all need more than one calc. :-)

This is not a problem for most of us here. 8)

Regards,  
Howard

**Re: Where is HP Going in the Calculator Marketplace?**

*Message #8 Posted by **Bob** on 30 May 2007, 4:32 p.m.,  
in response to message #7 by Howard Owen*

There is a similar, parallel discussion just a few lines up regarding this very subject...

**Re: Where is HP Going in the Calculator Marketplace?**

*Message #9 Posted by **w** on 31 May 2007, 9:51 p.m.,  
in response to message #7 by Howard Owen*

Actually, it doesn't take that much effort to "certify" it. Almost any scientific/graphing calculator without a qwerty keyboard, stylus, electrical outlet, etc. is approved.

**Re: Where is HP Going in the Calculator Marketplace?**

*Message #10 Posted by **ECL** on 31 May 2007, 12:26 p.m.,  
in response to message #6 by Bob*

Some comments on the place of the new 35s in the market:

1. There's no saying that the 35s reflects a new direction (it's an anniversary edition, essentially-no?). Although, the 50g also made similar improvements over the 49g+...

2. If the 35s remains in production (which makes business sense), then it will replace the 33s. From the PDF documentation:

Quote:

The 35s Scientific Calculator includes all of the features of the 30s, plus the following:

3. Being as yet unreleased, I wouldn't expect the NCEES to have pre-approved the 35s. Thus they (HP) can't advertise it. But, I'd bet that it will be approved (since HP has already stopped the inflow of 33s machines at Fry's and Walmart longsince). Either that, or NCEES will permit only Casio and Ti (hope not...)

4. I certainly expect that SOME of the text on the marketing brochure will be polished/revised before we see it in the stores. Consider this statement:

Quote:

Simplify physics with 42 built-in physical constants...

I don't ever recall working a physics problem while cursing the darn constants. It was more like 'why can't this be an ODE instead of a system of PDEs?!'

I'm not coming down hard on HPs engineers, (I'm very grateful and excited about the new machine!) I just find (as an engineer myself) some of those bullet points to be humorous:

Quote:

Handle the heaviest workloads with ease using 31kb of memory...

Ipods' are about 1/4th the size, and have 4GB, and furthermore, my PC at work sometimes balks at the heavy workloads (input cases) that we submit! ;)

Just some eager rantings. Looking forward!

ECL

## Re: Where is HP Going in the Calculator Marketplace?

Message #11 Posted by **Howard Owen** on 29 May 2007, 7:05 p.m.,  
in response to message #1 by Howard Owen

I know stuff like this has been discussed before, but I think it's worth mentioning in the context of these questions.

- I'm looking right now at the HP-97 sitting on my desk. I just love this calculator. The "springy" keyboard notwithstanding, it's the easiest calculator to use in my collection. It has nice big keys, so "fat fingers" are less of a problem. And of course it has that gorgeous LED display, with digits big enough for my old eyes. It works great as a simple RPN adding machine, yet it has all sorts of advanced mathematical and programming features. Like I say, I love this machine.
- Technical professionals no longer use calculators for serious mathematical work. The processing capability, generous displays and wide software selection of the PC trump portability in most cases.
- Portable calculation power still has some utility, nonetheless. Field data collection is also an application the calculator can (\*ahem\*) excel at.
- What else that's essential is missing from the PC mathematical picture that the calculator is strong in? Duh, *it's the keyboard.*

I want to use my HP-97, or something like it, to drive the math applications on my PC. Someone else might prefer a voyager style keyboard, or a pioneer, or a 41C or..

So here's my ideal "futurecalc."

- It's a portable computing module with the very best compromise between mathematical power and electrical power consumption available at the time of its creation.
- It's designed with standard keyboard and display interfaces.
- It has removable storage on board
- *It has wireless networking.* It speaks a standard math application protocol over TCP/IP and the wireless network
- It plugs in to a wide variety of casings and docks, each optimized for a particular purpose
- It *rocks* around the **clock!**

The use cases for this thing are too numerous to cover here. But a few of the really interesting ones are:

- Plugged in to a PC mathematical input device shaped like an HP97. 8)

- Plugged in to a portable calculating device shaped like a [Pioneer|Voyager|Clamshell|41C|67|TI89|\*]
- Plugged in to a total station, collecting and reducing survey data.
- Plugged into a [Gas Chromatograph|NMR|Mass Spectrometer|\*] collecting data
- et *cetera!*

The economic model would be like the PC: build a standard hardware platform and give away the specs. Make a killing doing higher level engineering on the platform, both hardware and software.

- There's no reason I can see this thing couldn't power a PDA or phone as well..

Regards,  
Howard

*Edited: 29 May 2007, 9:59 p.m. after one or more responses were posted*

## **Re: Where is HP Going in the Calculator Marketplace?**

*Message #12 Posted by [e.young](#) on 29 May 2007, 8:34 p.m.,  
in response to message #11 by Howard Owen*

I have access to all sorts of high end structural design software which I use all of the time. I also use my 42s all of the time, including its programing capabilities. I use the 42s to verify software output, for preliminary design, and to design small projects. I don't know how you define serious mathematical work, but I definitley use my calculator to perform useful mathematical work. I see a continued use for number crunching calculators, and it seems to me that your idea of a futurecalc may be too complicated. Actually, meaning no disrespect, it sounds like you are describing a tricorder from Star Trek.

## **Re: Where is HP Going in the Calculator Marketplace?**

*Message #13 Posted by [Howard Owen](#) on 29 May 2007, 10:21 p.m.,  
in response to message #12 by e.young*

Quote:

.. it sounds like you are describing a tricorder from Star Trek.

I get what you mean from one perspective. But the description could also apply to a laptop or small PC. That isn't what I'm talking about, but reread the descriptions with that in mind, and see if you don't agree.

I think the science fiction aspect of my proposal is not in the technology itself, but in the economic model. In order to establish an "ecosystem" for that sort of device, a very large company, or consortium of companies, would have to make very large long-term investments in technology they would be giving away to all comers. And despite the example of the PC, I don't think there's a directly analogous story in the history of computing that has succeeded. The story of the PC differs in at least two respects from what I have in mind, First, it was "given away" by IBM by accident, in the case of the hardware, and by reverse engineering on the part of Compaq in terms of firmware. Second and most important, the PC platform gained its success in the face of very little competition, at least in comparison with what a proposal like this would face today.

As far as the utility of calculators, I absolutely agree they are still useful. My point (and it's been made earlier, and better, by others in this forum and elsewhere) is that they are far less *essential* than they were in HP's calculator heyday. I do think that portable computing power in general has a great future. My proposal is aimed at preserving use cases like yours, where calculators continue to offer unique advantages. But I would give you the option of extending the utility of what you do. For example, you

could take the results of your ad-hoc calculation at your lab bench or desk, and upload it to compatible software on the PC. that in turn could utilize local resources, or even the power of a computational grid, if necessary, to continue the work you started on the calc. It would work the other way too. Software on the PC could produce programs for the calc to allow it to participate, as appropriate, in a system design. Finally, you could do quite a bit of community grid stuff with these things. Yes, *do* imagine what a beowulf cluster of these would be like. 8)

Regards,  
Howard

*Edited: 29 May 2007, 10:31 p.m.*

### **Re: Where is HP Going in the Calculator Marketplace?**

*Message #14 Posted by [e.young](#) on 31 May 2007, 10:32 p.m.,  
in response to message #13 by Howard Owen*

Howard, you make good points, and I wouldn't be surprised if calculators evolved in a manner similar to what you describe. Star Trek predicted small portable storage media (floppies, etc) and communicators, so why not tricorders?

### **Re: Where is HP Going in the Calculator Marketplace? (e.young - it sounds like we do similar work)**

*Message #15 Posted by [ECL](#) on 31 May 2007, 12:02 p.m.,  
in response to message #12 by e.young*

e.young,

From your post, it sounds like you are a structural designer or analyst. Structures is my focus too. While I lean toward the analytical side (finite elements, boundary elements, etc.) I also make frequent use of CAD software including CATIA and Femap.

I do make use of my calculator on a daily basis, and am very enthusiastic about the new 35s. Particularly, I am hoping for multialpha labels, and matrix support. The keyboard is looking very promising. I do wonder, however, about the marketing...the bullet points on the PDF don't make much sense:

Quote:

\_\_\_\_\_

Get accurate results with edit, undo, delete capability

\_\_\_\_\_

I would have phrased that something like:

Gain more control over your operations with edit, undo, and delete capability

Well, I'm glad to hear of another structures person here!

ECL

### **(deleted post)**

*Message #16 Posted by [deleted](#) on 29 May 2007, 8:36 p.m.,  
in response to message #11 by Howard Owen*

This Message was deleted. This empty message preserves the threading when a post with followup(s) is deleted. If all followups have been removed, the original poster may delete this post again to make this placeholder disappear.

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## HP Forum Archive 17

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**HP-34C**

Message #1 Posted by [Larry Fox](#) on 29 May 2007, 2:36 p.m.

I have seen an HP-34C that appears to produce the number 3.141492653 for pi rather than 3.141592654. Does anyone know if there is a known bug in some models of the HP-34C, or is this more likely to be a malfunction in this particular device? Thanks.

**Re: HP-34C**

Message #2 Posted by [Massimo A. Santin](#) on 29 May 2007, 5:51 p.m.,  
in response to message #1 by Larry Fox

On my (loved) HP-34C I obtain 3.141592654. It is a 1980 model (S/N begins with \*2045S... and I bought it in 1980).

Edited: 29 May 2007, 5:59 p.m.

**Re: HP-34C**

Message #3 Posted by [Mike T.](#) on 29 May 2007, 6:45 p.m.,  
in response to message #1 by Larry Fox

What does the self test return..?

(STO, ENTER)

Mike T.

**Re: HP-34C**

Message #4 Posted by [Larry Fox](#) on 30 May 2007, 7:49 p.m.,  
in response to message #3 by Mike T.

The self-test returned normal results, and as it turned out, the pi key also returned 3.141592654 according to the owner. Therefore, I have to agree with the respondents that suggested either hand key-in of the number or the results of a calculation. It was not seller's concern, but a prospective buyer's paranoia. Thank you, all!

**Re: HP-34C**

Message #5 Posted by [Don Shepherd](#) on 29 May 2007, 7:29 p.m.,  
in response to message #1 by Larry Fox

Larry, I noticed that readout in the EBay auction. I thought they just keyed the digits in that way, mistaking it for Pi. I don't think it is a failure (except in the seller's mind!).

**Re: HP-34C**

Message #6 Posted by [Gerson W. Barbosa](#) on 29 May 2007, 8:01 p.m.,  
in response to message #5 by Don Shepherd

It's also possible the seller has keyed this in:

```
[h] [pi] [f] [->H.MS] [g] [->H]
```

On my HP-34C this returns 3.141592653 :-)

Regards,

Gerson.

**Re: HP-34C**

Message #7 Posted by [Jimi](#) on 30 May 2007, 2:35 p.m.,  
in response to message #1 by Larry Fox

I would guess that the seller just keyed in 3.14159265358, rather than hit the PI key, and the calculator display stopped at the ...53. My 34 returns 54 as the last digits, I would be surprised if any of the 34s returned something other than this with the PI key.

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## HP Forum Archive 17

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**HP-42s Display repair?**

Message #1 Posted by [MikeG](#) on 29 May 2007, 2:35 p.m.

I recently picked this unit up on an impulse (ebay) thinking that I could clean up the display, but I should of checked here a little more carefully and paid more attention to the repair link stating the concerns in regards to opening these units.

Anyway, I'm wondering if all hope is lost or has anybody been successful in accessing the display on these units. From what I can make out is that the specks appear above the LCD, giving the impression that they can be removed.

Thanks

[Photo 1](#)

[Photo 2](#)

**Re: HP-42s Display repair?**

Message #2 Posted by [Nelson M. Sicuro \(Brazil\)](#) on 29 May 2007, 2:44 p.m.,  
in response to message #1 by [MikeG](#)

This black spots are impossible to remove, they are some type of leak or contamination inside the LCD's glass. The only source for that display is another HP-42S, a HP-17B or BII or 27S of the same year (same type of display bezel). I fixed mine with a 17B's, but the fix isn't trivial.

Good luck!

Nelson

**Re: HP-42s Display repair?**

Message #3 Posted by [Leroy](#) on 31 May 2007, 12:13 p.m.,  
in response to message #2 by [Nelson M. Sicuro \(Brazil\)](#)

Hi I also had a problem with my HP Screen, But I was lucky, an expert from a tech support site help me fix it. I didn't have the same problem as yours but maybe you can find some answers there.

Here is the page for [HP support](#)

Good luck

Lee

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### **Anybody attends MedPi in Monaco?**

Message #1 Posted by [Juergen \(CH\)](#) on 29 May 2007, 2:06 p.m.

I would like to see real pictures of the new HP 35s and a first review! ;-)

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## HP Forum Archive 17

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### **WHY THERE'S NO MENTION OF THE HP-35S ON THE HP SITE?**

Message #1 Posted by [Antonio Maschio \(Italy\)](#) on 29 May 2007, 11:21 a.m.

-- Antonio

### **Re: WHY THERE'S NO MENTION OF THE HP-35S ON THE HP SITE?**

Message #2 Posted by [Jim Creybohm](#) on 29 May 2007, 11:26 a.m.,  
in response to message #1 by Antonio Maschio (Italy)

Antonio, I found this one the HP site that Luis mentioned a couple of messages earlier.

<http://www.calculatrices-hp.com/35s.html>

If it looks like this, I will buy at least two. It almost looks to have the same kind of keys as the old 35.

\*feh\* I'll believe it when I see it.

### **Re: WHY THERE'S NO MENTION OF THE HP-35S ON THE HP SITE?**

Message #3 Posted by [Tim Wessman](#) on 29 May 2007, 11:40 a.m.,  
in response to message #1 by Antonio Maschio (Italy)

Same reason there was no mention of the 50G on hp's site until 3 months after people ALREADY had them. Distributors often leak info early, and often have the info up way before large companies due to size.

TW

### **Re: WHY THERE'S NO MENTION OF THE HP-35S ON THE HP SITE?**

Message #4 Posted by [Antonio Maschio \(Italy\)](#) on 29 May 2007, 11:55 a.m.,  
in response to message #3 by Tim Wessman

I hope so, and I also hope the site reported above is not fake. I'm afraid it's a \*BIG\* joke, because HP recently has showed a completely different feeling towards calculators (see Kynpo's models).

So today, while enthusiastic, I must hit the brakes and wonder if it's too early to enjoy such news. I don't want to regret later.

Anyway, thanks... and let's hope the news is right and that we'll have our models before Christmas....

-- Antonio

*Edited: 29 May 2007, 11:56 a.m.*

### **Re: WHY THERE'S NO MENTION OF THE HP-35S ON THE HP SITE?**

*Message #5 Posted by **Jim Creybohm** on 29 May 2007, 12:12 p.m.,  
in response to message #4 by Antonio Maschio (Italy)*

I am trying to convince myself that I am being unrealistically optimistic - building up to expectations that can't be met.

However after reading the website, and grokking the pictures as best I could, I do have only one complaint that has not yet been addressed by the other discussions; the decimal point looks very small, much like the 33's decimal point.

I wouldn't buy the 33 because of the enter key, the goofy keyboard, and the dinky decimal system which kind of capped off the lame factor for me. Hopefully, HP will graft the 9s display (or something similar) to the calc and give old eyes a break.

However, the chrome trim, (I am soooo 70's) the tall keys and the BIG ENTER KEY are all reasons enough for me to get antsy.

Please HP, I promise not to complain about the dinky decimal point too much.

**Re: WHY THERE'S NO MENTION OF THE HP-35S ON THE HP SITE?**

*Message #6 Posted by **Walter B** on 29 May 2007, 12:26 p.m.,  
in response to message #5 by Jim Creybohm*

Jim,

how about using a comma instead? Old Europe knows what old eyes need ;-) )

**Re: WHY THERE'S NO MENTION OF THE HP-35S ON THE HP SITE?**

*Message #7 Posted by **Jim Creybohm** on 29 May 2007, 4:32 p.m.,  
in response to message #6 by Walter B*

Of course Walter, I was being geocentric.

However, given the size of the comma in the 33, I am not sure that there is a lot of difference - maybe not enough for my eyes.

**Re: WHY THERE'S NO MENTION OF THE HP-35S ON THE HP SITE?**

*Message #8 Posted by **Walter B** on 29 May 2007, 5:45 p.m.,  
in response to message #7 by Jim Creybohm*

Hi, Jim,

don't get me wrong: you are just delivering more examples for US-centric views and language, pushing the rest of the world in the orbit d:-). End of kidding, back on earth: IIRC, "geocentric" means to put the whole (planet) earth in the center of the universe, which was the dominant ideology before Kepler (based on his observations) postulated the heliocentric picture, i.e. the planets revolving around the sun. IMHO, that's a totally different story than point and comma as decimal separators in separate parts of the world on earth. Hope I didn't confuse you d;-)

Back to calculators: commas on HP's calc LCDs are usually at least twice the size of points,

so this may support their visual detection in an aging society.

**Re: WHY THERE'S NO MENTION OF THE HP-35S ON THE HP SITE?**

*Message #9 Posted by [Jim Creybohm](#) on 29 May 2007, 11:31 p.m.,  
in response to message #8 by Walter B*

Darn, you're right. I should have said ethnocentric I guess. Seeing as I am in Canada, the US comparison is valid, but not technically correct.

You are right with the comma comment as well. I haven't actually seen the 9s or the 33 with the radix changed. I am still trying to adapt to the idea of grouping zeros without commas (or in the case you presented, decimals).

**It's Real, Antonio**

*Message #10 Posted by [Howard Owen](#) on 29 May 2007, 12:06 p.m.,  
in response to message #1 by Antonio Maschio (Italy)*

Message #13 in the [original HP-35s thread](#) contained [this deep link](#) into an HP site. The document is a regulatory filing for the 35s, confirming that a calculator by that name is about to be produced by HP.

Regards,  
Howard

**Re: It's Real, Howard**

*Message #11 Posted by [Antonio Maschio \(Italy\)](#) on 29 May 2007, 3:34 p.m.,  
in response to message #10 by Howard Owen*

Right.

Thanks.

-- Antonio

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**HP 29C**

Message #1 Posted by [Roberto \(Italy\)](#) on 29 May 2007, 9:31 a.m.

Hello. I have a two HP 29C,(Buy in Qatar 1978) one no working at all, one still working but I don't have a battery and charger 'cose is broken. can you help me to solve all this problems ? thanks for your attention. all the best.

Roberto

**Re: HP 29C**

Message #2 Posted by [Giancarlo \(Italy\)](#) on 29 May 2007, 9:43 a.m.,  
in response to message #1 by Roberto (Italy)

Ciao Roberto.

First of all, I strongly suggest to browse some of the very good stuff you can find on this very same site - for example:

<http://www.hpmuseum.org/collect.htm#batts>  
<http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/articles.cgi?read=267>  
<http://www.hpmuseum.org/batts/battery.htm>  
<http://www.hpmuseum.org/disasm.htm>

Then, if you're still in need of further info, I'd suggest to google with the following search string:

HP29C site:www.hpmuseum.org

It'll bring up lots of information, where you can hopefully find the most helpful and suitable for your needs.

Hope this helps.

Saluti.

Giancarlo

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## HP Forum Archive 17

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### **35s: Thanks HP, I'll Buy At Least Two!!!!**

Message #1 Posted by [Happy HP User](#) on 29 May 2007, 9:15 a.m.

It looks great! Love that ENTER key...

### **Re: 35s: Thanks HP, I'll Buy At Least Two!!!!**

Message #2 Posted by [Bill Wiese](#) on 29 May 2007, 12:42 p.m.,  
in response to message #1 by [Happy HP User](#)

Yep, 2 or 3 here myself, also.

Quite a few of its design cues do give it a bit of 65/67 flavor...

Good job overall, HP...

Bill Wiese  
San Jose, CA

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## HP Forum Archive 17

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### HP10S: Is it new, too?

Message #1 Posted by [Vieira, L. C. \(Brazil\)](#) on 29 May 2007, 6:54 a.m.

HP10S; announced to arrive in June 2007. Have not heard of it. Is it new for you, too?

I feel as if I'm out for a while...

Cheers.

Luiz (Brazil)

Edited: 29 May 2007, 6:55 a.m.

### Re: HP10S: Is it new, too?

Message #2 Posted by [DaveJ](#) on 29 May 2007, 8:10 a.m.,  
in response to message #1 by [Vieira, L. C. \(Brazil\)](#)

Yes the 10S is new, we only heard about it at the same time as the 35S. It is being "announced" along with the 35S in the next few days.

Dave.

### Emulators for the new calcs?

Message #3 Posted by [Mike \(Stgt\)](#) on 29 May 2007, 9:22 a.m.,  
in response to message #2 by [DaveJ](#)

The HP-35S' CPU is a SPLB31A. Sounds like 12C-platinum or HP-17B2, IMHO. Any emulators around for it? For sure, but where?? TIA!

Ciao.....Mike

BTW: currently I play with ancient MacOS using [Mini vMac](#) - great fun 2 find 10 yrs old solutions of todays man-machine-interfaces 4 PCs. <G>

### Re: Emulators for the new calcs?

Message #4 Posted by [Eric Smith](#) on 29 May 2007, 5:48 p.m.,  
in response to message #3 by [Mike \(Stgt\)](#)

Same CPU as the 33s. The 35s is almost certainly an evolution of the 33s design. Fortunately, it is obvious that HP has been listening to what users have been asking for!

### Evolution of Design

Message #5 Posted by [Mike \(Stgt\)](#) on 30 May 2007, 5:04 a.m.,

*in response to message #4 by Eric Smith*

Hi Eric!

HP tries to make money with those calcs so they need to get back the reputation of "enduring quality" and "fits exactly your needs". The catch up by re-design (HP-50G et al) and now by \_retro-design\_. Let's see if the preamble about care for quality shows up again in the new manuals.

One more word about design: some years ago I assumed the future of pocket calculators will be in emulators (or simulations) running on a PDA. I was wrong. Users still like to have those High Price (=high value, highly specialized) devices as real hardware. What leads me to an other approach: one hardware (display, keys, ...) and task-specific software from the Internet or on a flash card from your dealer. Something like -- wasn't it yours?? -- the prototype of a 'most-classics-simulator' with keyboard overlays as Matthias showed me in Allschwil. Future will show what users buy.

Best regards, Mike

### **Re: HP10S: Is it new, too?**

*Message #6 Posted by **Massimo A. Santin** on 29 May 2007, 6:34 p.m.,  
in response to message #1 by Vieira, L. C. (Brazil)*

Look at Casio fx-350MS (I have one). It seems identical.

[http://world.casio.com/edu/product/eu/closeup/up\\_fx350ms.html](http://world.casio.com/edu/product/eu/closeup/up_fx350ms.html)

I have seen some low cost chinese clones of this calculator.

*Edited: 29 May 2007, 7:11 p.m.*

### **Re: HP10S: Is it new, too?**

*Message #7 Posted by **Bruce Bergman** on 30 May 2007, 1:09 p.m.,  
in response to message #6 by Massimo A. Santin*

The new HP-10s is most likely a rebadged Casio. HP did this with the HP-8s (a very interesting looking device, for sure), so it's not like they're breaking new ground here. I suspect the HP-10s won't be available in the USA; just EMEA. It's been almost impossible to find an HP-8s in the USA, even on eBay.

It doesn't stir me like an RPN model, or especially the new HP-35s, but it still kinda neat looking. I'd rather use THAT than the HP-6s (the other solar-powered model) which -- while very thin and small -- kinda sucked. ;-)

thanks, bruce

### **Re: HP10S: Is it new, too?**

*Message #8 Posted by **Massimo A. Santin** on 30 May 2007, 7:48 p.m.,  
in response to message #7 by Bruce Bergman*

[quote] It's been almost impossible to find an HP-8s in the USA, even on eBay. [quote]

It is impossible to find it in Italy, too.

### **Re: HP10S: Is it new, too?**

*Message #9 Posted by [Massimo Gnerucci \(Italy\)](#) on 31 May 2007, 1:49 a.m.,  
in response to message #8 by Massimo A. Santin*

Quote:

---

It is impossible to find it in Italy, too.

---

Not a problem... I got mine from an aussie ;)

Greetings,  
Massimo

---

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## HP Forum Archive 17

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### Scan / PDF / text file of HP41 application pac program listings?

Message #1 Posted by [Gene](#) on 28 May 2007, 9:11 p.m.

If this is on the Museum DVD, let me know and I'll dig mine out.

I'm looking for the program listings to the programs on the HP41 application ROMs. The manuals are available, but are the listings?

If I want the listing to the standard pac blackjack program, or any other program on a 41c rom from HP, are those listings available anywhere?

### Re: Scan / PDF / text file of HP41 application pac program listings?

Message #2 Posted by [Dave Hicks](#) on 28 May 2007, 10:04 p.m.,  
in response to message #1 by Gene

Some but not all of the modules have text files associated with them on the DVD.

After the next version of the DVD (actually 2 DVDs now) goes to the factory and after I start whittling down my in-box, I was planning to ask for scans of more software. I have a few dozen user's library programs here but hopefully we can find many more. Depending on whether it turns into dozens or thousands of scans, these could go on-line or on another DVD.

### Re: Scan / PDF / text file of HP41 application pac program listings?

Message #3 Posted by [Gene](#) on 28 May 2007, 10:17 p.m.,  
in response to message #2 by Dave Hicks

Ok, I'll check my copy of the DVD.

If the standard pac, math pac, and others aren't there, then I'll drop another note.

Thanks Dave...see you in San Diego in September?

### Re: Scan / PDF / text file of HP41 application pac program listings?

Message #4 Posted by [Dave Hicks](#) on 28 May 2007, 11:42 p.m.,  
in response to message #3 by Gene

Yes, I plan to be there. I haven't actually booked yet but it's on the TODO list.

### Nope - no 41c math pac program listing on DVD

Message #5 Posted by [Gene](#) on 29 May 2007, 9:55 a.m.,  
in response to message #4 by Dave Hicks

I found the text files containing program listings, but there wasn't one for the math pac. Does

anyone have this in electronic form so I don't have to recreate the wheel by finding my thinkjet printer and generating the listing?

I'm particularly looking for the listing to the MATRIX program.

Could it be generated by the emulator on a palm?

?

**Re: Nope - no 41c math pac program listing on DVD**

*Message #6 Posted by [Meindert Kuipers](#) on 29 May 2007, 4:11 p.m.,  
in response to message #5 by Gene*

In the software for the MLDL2000 is a ROM disassembler that also decompiles user code, it will work with the MATH ROM. Only disadvantage is that it will not yet decompile the XROM numbers to its function name. This software can be downloaded from [hp41.kuipers.to](http://hp41.kuipers.to)

Go to Tools -> ROM/SR Handler and Open the MATH ROM file (only .ROM format supported) in the ROM tab. Then press DisAsm ....

Copy and paste the resulting listing in whatever you like ....

I just tried it, "MATRIX" it is 603 lines, otherwise I would post it here (but maybe I would violate copyrights???)

Meindert

**Re: Nope - no 41c math pac program listing on DVD**

*Message #7 Posted by [Werner](#) on 30 May 2007, 3:25 a.m.,  
in response to message #6 by Meindert Kuipers*

? It's 566 lines, 983 bytes. MATH-1C version. I have a listing (painstakingly copied by hand..), but only of the MATRIX program. I can email it, if you want.

Cheers, Werner

**Re: Nope - no 41c math pac program listing on DVD**

*Message #8 Posted by [Meindert Kuipers](#) on 30 May 2007, 4:17 a.m.,  
in response to message #7 by Werner*

You're totally right. The disassembler counts the line numbers a bit different (this is a limitation in the decompiler). For numeric entries each digit is decompiled in a separate line, sorry for the confusion.

Meindert

**Re: Nope - no 41c math pac program listing on DVD**

*Message #9 Posted by [Les Wright](#) on 30 May 2007, 6:55 p.m.,  
in response to message #5 by Gene*

Gene, I think the best, albeit somewhat time-consuming, way to generate a listing is this:

1. Get the Math Pac MOD file from TOS--it comes with V41.
2. Convert the MOD file to ROM format using the modfile.exe utility, also from TOS.
3. Convert the ROM file to \*.raw format using the rom2raw utility from Thomas Okken's Free42 site.
4. Using a clean instance of Free42 (i.e. back up and move any existing state files, since the menu will fill up with labels and we don't want to get confused), import the resultant \*.raw file into Free42.
5. In Free42, PRP the "MATRIX" program from the menu, making sure that in Free42's preferences the "print to text file" or, on Palm, "print to Memo" options, whatever you desire, are selected.

Do all of this correctly, you get, voila, a text listing.

I already created the RAW file some time ago, so it took me just a moment to print and cut and paste the following for you. Please keep in mind that some of the commands are in their 42S versions (e.g. ISG ST X instead of ISG X and Rv instead of RDN), but this is easy enough to clean up if you ever want to. Also, since the program listing has just one END in it, I think that Leo Duran's hp41uc utility can be used to generate a text listing from the RAW listing in original HP41 format and nothing should be missed. I find that if a RAW file includes several routines with internal "END"s, the hp41uc decompiler will only convert up to the first END it hits. I also believe the issue occurs in the reverse situation of compiling a text to RAW file using hp41uc. Hence, I prefer to use PRP in Free42.

```
00 { 1032-Byte Prgm }
01>LBL "MATRIX"
02 2.01
03>LBL 15
04 CF IND ST X
05 ISG ST X
06 GTO 15
07 SF 04
08 SF 21
09 CF 29
10 "ORDER=? "
11 PROMPT
```

<snip>

```
551>LBL 32
552 SF 06
553 XEQ 18
554 STOP
555 FC?C 22
556 GTO 31
557 STO IND ST Y
558 GTO 32
559>LBL 02
560 FS?C 08
561 SF 05
562 GTO 19
563>LBL 14
564 1E3
565 ÷
566 END
```

Is this sort of thing what you are looking for?

Les

P.S. If you have the "paid" version of P41CX, you can load the Math Pac ROM with the P41CXR utility, then go into P41CX, set the program pointer to MATRIX with GTO ALPHA MATRIX ALPHA, then print the program listing to the Memo application with XEQ PRP ALPHA ALPHA, just as you would on the real calculator with printer or IR module attached-- make sure that MAN is selected in the printer options menu. This will print out the 566 steps to two memos, which are easy enough to find on the Palm. Hotsync with your PC and you can cut and paste the listing right out of Palm Desktop.

*Edited: 30 May 2007, 9:52 p.m. after one or more responses were posted*

## **Re: Nope - no 41c math pac program listing on DVD**

*Message #10 Posted by [Les Wright](#) on 30 May 2007, 7:26 p.m.,  
in response to message #9 by Les Wright*

Quote:

Please keep in mind that some of the commands are in their 42S versions (e.g. ISG ST X instead of ISG X and Rv instead of RDN), but this is easy enough to clean up if you ever want to. Also, since the program listing has just one END in it, I think that Leo Duran's hp41uc utility can be used to generate a text listing from the RAW listing in original HP41 format and nothing should be missed.

Using Export Program from the Free42 menu, I was able to export MATRIX and its subroutines, up to the END at step 566, to its own separate RAW file, which I call simply MATRIX.RAW. Then, with the command hp41uc /r=MATRIX /t /n, I get the following MATRIX.TXT:

```
01 LBL "MATRIX"  
02 2.01  
03 LBL 15  
04 CF IND X  
05 ISG X  
06 GTO 15  
07 SF 04  
08 SF 21  
09 CF 29  
10 "ORDER=? "  
11 PROMPT
```

<snip>

```
551 LBL 32  
552 SF 06  
553 XEQ 18  
554 STOP  
555 FC?C 22  
556 GTO 31  
557 STO IND Y  
558 GTO 32  
559 LBL 02  
560 FS?C 08  
561 SF 05  
562 GTO 19  
563 LBL 14  
564 1 E3  
565 /  
566 END
```

This time, the desire HP41 format of the commands is preserved.

Also, just for fun, I was able to generate barcode. But this is not efficient--the program takes up 148 registers. I think ideally the program should be run from the module so that as many registers as possible are available to store matrix elements.

Les

*Edited: 30 May 2007, 9:53 p.m.*

### **Re: Nope - no 41c math pac program listing on DVD**

*Message #11 Posted by [Les Wright](#) on 30 May 2007, 9:56 p.m.,  
in response to message #9 by Les Wright*

In respect to concerns about copyright I snipped the innards of my listings. The point was really not to provide a full listing--rather, to demonstrate that a text listing could be readily reproduced with freely available software and utilities--no painstaking hand transcription required!

Les

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## HP Forum Archive 17

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### A MoHPC's 9114 Repair Manual?

Message #1 Posted by [PeterP](#) on 28 May 2007, 8:01 p.m.

Hi,

I (and my 9114) have tremendously benefited from the collective knowledge around the 9114 that can be found in the archives here as well as active contributors (in particular Tony Duell in my case). Given that the 9114 is a subject that appears a few times every year I thought of trying to create a document that combines at least a large set of the knowledge found here. It could provide a starting point for most questions with regards to the 9114. Please find a first rough draft of this document [at this link](#) . I have tried to cover the subjects which appear most often. For each tid-bit of collected information I have provided a foot-note with a link to the thread where the information was gleaned from. Naturally it has a section at the end giving credit to the people who provided those tid-bits (or truck-loads) of information over the years.

One question in particular to Tony Duell: I have a reference to your datafile article on how to clean the 9114. Yet as it is your article I was unsure if you would want it included in the document, so I have not included its contents as of now (and a link to it is AFAIK not available). It has been invaluable to my cleaning efforts yet if you prefer to not have it as part of a larger document, maybe the articles section of this site might be a very good place as well (that is how I have linked in the information from Steve's article into the document. Via a link to the article section here)

If the community thinks that this is a worth-while undertaking I would greatly appreciate some feedback and error detection on the document. After it went through a few iterations and the community thinks it is a useful document we could send it to David and suggest to add it to the article section.

Thoughts?

Cheers

Peter

### Re: A MoHPC's 9114 Repair Manual?

Message #2 Posted by [Vieira, L. C. \(Brazil\)](#) on 28 May 2007, 9:22 p.m.,  
in response to message #1 by [PeterP](#)

Hi, Peter;

I opened the document and it looks perfectly fine, well organized and consistent. I just missed the links in some references, e.g., p.02 , item 'i', were one reads [this store](#). I could not find where it points to. Other references, with complete www address, work fine.

I opened the pdf with Acrobat Reader 7. Should I use another, upgraded version?

Congrats! I think that this sort of document, written by members, should become a common sense.

Best regards and thanks. (I was gifted a complete, perfect 9114B by one of our contributors about two years

ago, and it is working pretty fine, so far... cannot help expressing him my thankfulness every time I mention this fact).

Luiz (Brazil)

*Edited: 28 May 2007, 9:25 p.m.*

## **Re: A MoHPC's 9114 Repair Manual?**

*Message #3 Posted by **Tony Duell** on 29 May 2007, 4:39 a.m.,  
in response to message #1 by PeterP*

Quote:

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One question in particular to Tony Duell: I have a reference to your datafile article on how to clean the 9114. Yet as it is your article I was unsure if you would want it included in the document, so I have not included its contents as of now (and a link to it is AFAIK not available). It has been invaluable to my cleaning efforts yet if you prefer to not have it as part of a larger document, maybe the articles section of this site might be a very good place as well (that is how I have linked in the information from Steve's article into the document. Via a link to the article section here)

---

I have no objection to the article appearing in the document, provided I get credit for it. Perhaps as a separate section (appendix?) with 'Tony Duell's DataFile article' as a title.

How you get the article is another matter. I can easily provide you with the plain text version of the textual part (just e-mail me). But I don't have a fast net connection, so I can't do the photos. Perhaps Bruce Horrocks (HPCC editor) can provide you with the article.

I have now discovered there's a second version of the eject mechanism, which seems to have come in about the time of the FC16 PCB (old drives have an FC9 PCB). It doesn't come apart so completely, the linkages are rivetted to the chassis parts. So there's less to take off, but cleaning the old grease out is harder.

I have no idea if it ever turned up in the 9114A, though.

I did take one of these apart and photograph it, and was planning on writing a second article covering that. Unfortunately, due to, how shall I say, disagreements withing HPCC, I don't know if/when I'll bother to write it, or indeed if it will ever be published.

## **Re: A MoHPC's 9114 Repair Manual?**

*Message #4 Posted by **PeterP** on 30 May 2007, 12:59 a.m.,  
in response to message #3 by Tony Duell*

Hmm, yes I gathered from some in-between-the-lines reading some slight discontent, I'm very sorry.

I have included your article as an apendix, it is also mentioned in the opening paragraph

Quote:

---

The appendix contains the full document from Tony Duell with pictures on how to clean the 9114.

---

The watermark for a test-version is there only temporary, before sending it on its way I will have found a

way to remove it :-)

Luiz, thank you for your kind information with regards to the links, I believe I have fixed that. My appologies for this.

Please let me know what you think and if you believe it is a worth while submission to the article section.

Cheers

Peter PS: The link is still the same. [The MoHPC 9114 Repair Manual](#)

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## HP Forum Archive 17

[ [Return to Index](#) | [Top of Index](#) ]**hp 35s arrived***Message #1 Posted by [ssf](#) on 28 May 2007, 4:11 p.m.*

Finally hp 35s!

<http://www.calculators-hp.com/pdf/35s.pdf>**ENTER key is back and in the right place***Message #2 Posted by [Gene Wright](#) on 28 May 2007, 4:32 p.m.,  
in response to message #1 by [ssf](#)*

Note that the BIG ENTER key is back and in the proper place.

**Re: ENTER key is back and in the right place***Message #3 Posted by [Thibaut.be](#) on 28 May 2007, 4:39 p.m.,  
in response to message #2 by [Gene Wright](#)*

Seems they've been reading this forum...

Looking forward to seeing this calc.

**Re: ENTER key is back and in the right place***Message #4 Posted by [marais](#) on 28 May 2007, 4:44 p.m.,  
in response to message #3 by [Thibaut.be](#)*

holy shit, they listened! They even put on the silver strip as a reference to the 35. It's all there, look at the feature list. I jsut can't believe it. Anybody know when this wonder will be available in Europe?

**Re: ENTER key is back and in the right place***Message #5 Posted by [Walter B](#) on 28 May 2007, 5:22 p.m.,  
in response to message #4 by [marais](#)*

That exceeds my expectations, even some of my dreams. Seems we have some more readers than we did know so far. Where and when can I order one?

**Re: ENTER key is back and in the right place***Message #6 Posted by [Hugh Evans](#) on 28 May 2007, 8:45 p.m.,  
in response to message #5 by [Walter B](#)*

Don't you mean two? That's what I'm buying, and since hearing my fathers response this news he will be doing the same.

**Re: ENTER key is back and in the right place***Message #7 Posted by [Walter B](#) on 29 May 2007, 2:51 a.m.,  
in response to message #6 by [Hugh Evans](#)*

Hugh,

so far, I'm content with one sample of each scientific HP model. I don't see a need to change this policy, also since I hope for more models of similar kind and design. I've got some models aged >30, and they are still going strong :-)

And HP won't stop production of this new 35s after some months, I guess, based on all the resonance seen here.

BTW, this buying policy saves some money for other expenses, too...

## HP-35S and the significance of "E.M.E.A."

Message #8 Posted by [Karl Schneider](#) on 28 May 2007, 8:45 p.m.,  
in response to message #4 by marais

Quote:

Anybody know when this wonder will be available in Europe?

Perhaps sooner than in North America. After not finding anything about the HP-35s at HP's official website ([www.hp.com/calculators](http://www.hp.com/calculators)), I decided to browse the site originally provided (<http://www.calculators-hp.com>), and found the following:

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*www.calculators-hp.com is the official hp partner site for EMEA.*

*In 2007, Solution Micro System (SMS) has become the official importer and distributor for hp calculators for **Europe, Middle East & Africa**. SMS is more seeking for resellers & partners in each available countries.*

*In 2006, SMS has become the official partner and importer for HP Calculators for EMEA\*. In 2007, SMS is setting up a complete network of exclusive distributor per country.*

*www.sms.fr*

*\* SMS has distribution for all Europe, Middle East Africa excluding Spain, Portugal, Germany, Austria and Italy.*

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My nearest full-service retailer (in Wilsonville, Oregon) did not have any HP-35s in stock.

I would hope that the HP-35s is the replacement for the HP-33s.

I'm still wondering about a few things on the HP-35s, but the answers will have to wait until it's available. I, too, noticed the square brackets and the new "(j)". Yes, square brackets are how matrices are denoted on RPL-based models; "(i)" and "(j)" could serve as matrix indices. Matrices would also be the best use of "800+ independent storage registers". However, I'm just not seeing any commands that would provide matrix functionality. (Consider the HP-15C, with function keywords MATRIX, DIM, RESULT, and a number-coded set of useful functions.)

Remember also that the indirect pointer-containing register was denoted "i" on the HP-33S, and that "(i)" provided access to the pointed register. Lower case was used to prevent confusion with the lettered register "I". On the HP-35S, however, there is an "i" that enters the basis of imaginary-valued numbers. So, "(j)" could be used to provide access to the pointed register now specified in "(i)".

Just curious: Where are "IP" and "FP"? I also don't see polar<->rectangular conversions, which might now reside under "ARG".

UNDO is a good use of RPL functionality to exploit the 31 kB of memory. However, the HP-32/33 paradigm and apparent lack of I/O will still render all that RAM difficult to fully utilize.

As far as I can tell, the HP-35s is still not an HP-15C, but it's a vast improvement over the HP-33s.

-- KS

*Edited: 29 May 2007, 12:55 a.m. after one or more responses were posted*

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## Re: HP-35S and the significance of "E.M.E.A."

Message #9 Posted by [Howard Owen](#) on 28 May 2007, 9:20 p.m.,  
in response to message #8 by Karl Schneider

I wonder if they will continue to be HP's EMEA partner after leaking this news. HP hates that sort of thing. Does the site have product in stock? I'm betting they don't. Outpost.com (owned by Fry's Electronics) is still selling the 33s as of this evening, so I think we are dealing with a prerelease announcement.

IP and FP do appear to be missing. These are very basic programming functions, so that leads me to wonder if there isn't more to this calculator than meets the eye. Perhaps there are functions only accessible through menus? (Or perhaps "XEQ" is more like it's namesake on the 41C/42S?) Good catch on UNDO, also.

Regards,  
Howard

*Edited: 28 May 2007, 9:24 p.m.*

**Re: HP-35S and the significance of "E.M.E.A."**

Message #10 Posted by [Tim Wessman](#) on 28 May 2007, 10:02 p.m.,  
in response to message #9 by Howard Owen

LOGIC seems like a good place to lump tests and looping. . .

TW

**Re: HP-35S and the significance of "E.M.E.A."**

Message #11 Posted by [Tim Wessman](#) on 28 May 2007, 10:04 p.m.,  
in response to message #10 by Tim Wessman

Ignore that. I was obviously not reading that correctly and thinking of something else.

TW

**Re: HP-35S and the significance of "E.M.E.A."**

Message #12 Posted by [Ivan Nejgebauer](#) on 30 May 2007, 3:15 a.m.,  
in response to message #9 by Howard Owen

Quote:

IP and FP do appear to be missing.

I suppose that all integer functions were moved to a menu under INTG. IP and FP are not the only two functions missing; there are also INT/ and Rmdr.

i.

P.S. Very, very nice looking calculator. It looks like a HP device should: unassuming but powerful.

**Re: HP-35S and the significance of "E.M.E.A."**

Message #13 Posted by [db \(martinez, ca.\)](#) on 29 May 2007, 1:27 a.m.,  
in response to message #8 by Karl Schneider

Karl; ARG might be a function to run pirated software ;-)

I don't recognize nCr or nPr. Could that be another way of saying polar<>rectangular?

I won't be giving up my 41, but i'm buying one. I hope that it has the great battery handling system of the 33s.

**Re: HP-35S and the significance of "E.M.E.A."**

Message #14 Posted by [Les Bell](#) on 29 May 2007, 1:31 a.m.,  
in response to message #13 by db (martinez, ca.)

Quote:

I don't recognize nCr or nPr. Could that be another way of saying polar<>rectangular?

I'm betting Combinations and Permutations.

Best,

--- Les

[<http://www.lesbell.com.au>]

**Re: HP-35S and the significance of "E.M.E.A."**

Message #15 Posted by [Egan Ford](#) on 29 May 2007, 1:37 a.m.,  
in response to message #13 by db (martinez, ca.)

Quote:

I don't recognize nCr or nPr. Could that be another way of saying polar<>rectangular?

Combination, <http://upload.wikimedia.org/math/f/2/5/f25728f3f1e9a444d13a7a61d507145f.png>

Permutation, <http://upload.wikimedia.org/math/d/c/9/dc9ebca2704bffee110d8260ed7d1666.png>

**Re: HP-35S and the significance of "E.M.E.A."**

Message #16 Posted by [db \(martinez, ca.\)](#) on 29 May 2007, 1:57 a.m.,  
in response to message #15 by Egan Ford

Les & Egan: Statistically speaking; you guys have a good chance of being right. All i learned about stats when i was in college in Nevada was to stay out of the casinos.

Hard to believe they left off p<>r & r<>p. I think that hp invented that. Oh well; no better way to get to know a new calc than writing two programs for it.

**Re: HP-35S and the significance of "E.M.E.A."**

Message #17 Posted by [Howard Owen](#) on 29 May 2007, 2:14 a.m.,  
in response to message #16 by db (martinez, ca.)

Quote:

All i learned about stats when i was in college in Nevada was to stay out of the casinos.

I don't know whether to say "Hah" to that, or "ARG". 8)

Regards,  
Howard

**Re: ENTER key is back and in the right place**

Message #18 Posted by [Gerson W. Barbosa](#) on 28 May 2007, 8:51 p.m.,  
in response to message #4 by marais

Quote:

Anybody know when this wonder will be available in Europe?

Have you read the French version?

"du 29 mai au 1<sup>er</sup> juin 2007  
Monaco  
Hall Apollinaire  
Stand W58"

<http://www.calculatrices-hp.com/>

Regards,

Gerson.

**Surmised availabilty of the HP-35S**

Message #19 Posted by [Karl Schneider](#) on 29 May 2007, 12:45 a.m.,  
in response to message #18 by Gerson W. Barbosa

Hi, Gerson --

After reviewing the French-language version website (with a little on-line translating), it seems to me that the HP-35S

and HP-10S will be *exhibited or introduced* at this "MEDPI" electronics fair in Monaco during 29 May - 1 June, but the models will not be available for retail until sometime in Summer. I don't know if US/Canada introduction will be concurrent with 'foreign' introduction.

Note that "ete" (e's are 'accented') means "summer", and "juillet" means "July".

-- KS

### Re: Surmised availability of the HP-35S

Message #20 Posted by [Walter B](#) on 29 May 2007, 2:24 a.m.,  
in response to message #19 by [Karl Schneider](#)

Karl,

on the home page (ACCUEIL) of this company, you can even choose an English version (e.g. for 'foreigners'), and you'll find "where to buy" with [the following information for UK, Ireland, The Netherlands etc.](#) In France, fnac is one of their distributors. No information for Germany, so I will continue checking.

Regards, Walter

### Re: Surmised availability of the HP-35S

Message #21 Posted by [DaveJ](#) on 29 May 2007, 8:12 a.m.,  
in response to message #19 by [Karl Schneider](#)

I have heard from a local Australian dealer that the 35S has not even gone to mass production stage yet, so don't expect it anytime soon.

Dave.

### New HP-35S

Message #22 Posted by [Karl Schneider](#) on 28 May 2007, 6:12 p.m.,  
in response to message #3 by [Thibaut.be](#)

Hi, all --

Quote:

Seems they've been reading this forum...

Looking forward to seeing this calc.

Quote:

holy s\*\*t, they listened!

I'll say! Yes, I strongly suspect that HP has been reading this Forum, because it seems that practically every item that I and others have posted about -- and more -- has been addressed. For example:

- The yellow-and-blue colors on a dark background with rectangular beveled keys for a neat arrangement is immediately noticeable.
- The one-line complex-number display with "i" key and blue-shifted angle is present, and I hope it works as I've advocated.
- HYP is adjacent to the trigonometric keys.
- The logical grouping is much improved.
- The minimally-useful cube root and cube ( $x^3$ ) functions seem to be absent, despite what the ad copy says.

Yes, fundamentally it's a redesigned HP-33S, but the effort at first glance is very impressive.

I'll get one ASAP.

-- KS



*Edited: 28 May 2007, 8:55 p.m.*

**Re: ENTER key is back and in the right place**

Message #23 Posted by **Andrés C. Rodríguez** on 29 May 2007, 7:31 a.m.,  
in response to message #2 by Gene Wright

Alas, R/S and E+ are swapped... but I can live with this for sure!!!!

**Re: ENTER key is back and in the right place**

Message #24 Posted by **BruceH** on 30 May 2007, 10:02 a.m.,  
in response to message #23 by Andrés C. Rodríguez

Quote:

Alas, R/S and E+ are swapped... but I can live with this for sure!!!!

Arse to you to ;-)

**Re: ENTER key is back and in the right place**

Message #25 Posted by **Gerson W. Barbosa** on 3 June 2007, 11:35 a.m.,  
in response to message #2 by Gene Wright

I'd like to use both the HP-50g and the HP-35s, but the lack of a keyboard standard might be a problem. I particularly appreciated the row above the ENTER key, as it almost matches the one on the HP-48G/GX keyboard. If only there were an HP-50g version with this key pattern...

**keyboard standards**

Message #26 Posted by **bill platt** on 3 June 2007, 12:06 p.m.,  
in response to message #25 by Gerson W. Barbosa

When I grew from being a mere HP user to being a collector, one of the 1st awakenings I went through was the keyboard variations. After 4 years of collecting, I can now quite good at going back and forth. It is rather similar to going from the workplace computer to the home computer--you just switch gears as it were.

I think a keyboard "standard" would be rather constricting to good design; on the other hand certain functions certainly do belong near each other.

One other anecdote:

I used an 11c for 13 years non-stop--and then had to replace it with the 32sii. I quickly adapted to that machine, appreciating its similarities with the 11c, along with the changes generally all for the better. Nevertheless when I finally bought an 11c again to begin my collection, I was amazed at how I was instantly back home. I found I even remembered the keycodes from programming it!

**Re: keyboard standards**

Message #27 Posted by **Gerson W. Barbosa** on 3 June 2007, 2:43 p.m.,  
in response to message #26 by bill platt

Of course the keyboard standard would apply only to a small subset of keys: [0]..[9], [ENTER],[/],[\*],[-],[+],[+/-],[EEX],[SIN],[COS],[TAN],[SQRT],[HYP],[y^x],[1/x], the shift keys, the shifted functions LN/e^x, LOG/10^x, x^2 and xSQRTy, for instance. This would make things easier for the user when switching from the graphic to the scientific calculator. Anyone who uses the HP-50g and the HP-33s on a regular basis knows what I mean :-)

**Re: hp 35s arrived**

Message #28 Posted by **Donald** on 28 May 2007, 4:42 p.m.,  
in response to message #1 by ssf

It seems to very sorted : It is real isn't it ?

<http://www.calculators-hp.com/img/35s.jpg>

Okay where can I buy one - it's not on the HP site

Don't want to sound ungrateful, but Please Sir, does it come in a Voyager version.

**Re: hp 35s arrived**

*Message #29 Posted by [Don Shepherd](#) on 28 May 2007, 4:48 p.m.,  
in response to message #1 by [ssf](#)*

Wow!

Now, everyone who promised to buy 2 or 3, put your money where your mouth is.

**Re: hp 35s arrived**

*Message #30 Posted by [Paul Dale](#) on 28 May 2007, 5:19 p.m.,  
in response to message #1 by [ssf](#)*

Looks amazingly like a 33s with a rearranged keyboard and a handsome case.

I want one too.

- Pauli

**Re: hp 35s arrived**

*Message #31 Posted by [Howard Owen](#) on 28 May 2007, 5:43 p.m.,  
in response to message #30 by [Paul Dale](#)*

At a glance. the features do indeed look very similar to a 33s. I have hope for the programming model. The mention of "800+" registers means they've put some thought into how to use the ~32K of memory, much of which went to waste in the 33s. Perhaps you can have 800+ labels now, too.

It sounds like they listened carefully to the feedback they got at last year's HHC.

Regards,  
Howard

**Re: hp 35s arrived**

*Message #32 Posted by [Paul Dale](#) on 28 May 2007, 6:13 p.m.,  
in response to message #30 by [Paul Dale](#)*

I notice (i) and (j) down the bottom. It might have improved indirect register access capabilities, kind of needed if it does have 800+ registers...

- Pauli

**Note the domain**

*Message #33 Posted by [Howard Owen](#) on 28 May 2007, 5:33 p.m.,  
in response to message #1 by [ssf](#)*

Looks like a dealer. There's nothing on HP's site as yet.

Domain: calculators-hp.com

Created: 2005-06-08 16:07:16.90 CET  
Expires: 2007-06-08 16:07:16.90 CET  
Changed: 2006-05-30 16:36:12.15 CET

Owner-id: SMS3  
Owner-name: Solution Micro System (SMS)  
Owner-organization: Solution Micro System (SMS)  
Owner-street1: 90-92 rue Baudin  
Owner-city: Levallois Perret  
Owner-postcode: 92300  
Owner-countrycode: FR  
Owner-phone: (Redacted)

**EMC certificate is on HP site - so it must be real :-)**

Message #34 Posted by **Donald** on 28 May 2007, 5:37 p.m.,  
in response to message #33 by Howard Owen

[http://h40047.www4.hp.com/certificates/media.php/doc/computers/handhelds\\_and\\_calculators/CE\\_35s\\_Scientific\\_Calculator\\_HSTNJ-KN01.pdf](http://h40047.www4.hp.com/certificates/media.php/doc/computers/handhelds_and_calculators/CE_35s_Scientific_Calculator_HSTNJ-KN01.pdf)

**Re: EMC certificate is on HP site - so it must be real :-)**

Message #35 Posted by **Howard Owen** on 28 May 2007, 5:45 p.m.,  
in response to message #34 by Donald

Just a tad deep, that link. 8) How did you drill down to it?

Regards,  
Howard

P.S.  
Yippe!

**Re: hp 35s arrived**

Message #36 Posted by **Dan W** on 28 May 2007, 5:34 p.m.,  
in response to message #1 by ssf

Not only a big ENTER key, but a slightly modernized "tall key" design. Excellent! Lets hope these are solid hinged keys, not the wobbly rubber keys. And RPN keystroke programming, not RPL. I'm in!

**Re: hp 35s arrived**

Message #37 Posted by **Norris** on 28 May 2007, 5:51 p.m.,  
in response to message #36 by Dan W

Based on the keyboard, the available functions seem very similar to those on the 33S, although cosmetically the 35S is much superior.

The question is whether or not the 35S has better programming capabilities than the 33S. The 33S, like its predecessors the 32S and 32SII, had very limited numbers of variables and labels, which hindered programming. Basically, the 33S is limited to single-letter, non-repeating variables and labels ("A", "X", "T", etc.).

The brochure indicates that the 35S has "800+ Memory Registers", so something must be different. No indication about the number of labels. There doesn't appear to be an alpha-lock key, which suggests that the 35S still may not support long variable names.

Apparently no I/O.

*Edited: 28 May 2007, 5:52 p.m.*

**Re: hp 35s arrived**

Message #38 Posted by **Dave Shaffer** on 28 May 2007, 5:45 p.m.,  
in response to message #1 by ssf

Any indication of a price anywhere?!

Has the same weight as my 33s (which is about half that of my 35), so construction is probably similar.

**Re: hp 35s arrived**

Message #39 Posted by **Howard Owen** on 28 May 2007, 5:55 p.m.,  
in response to message #38 by Dave Shaffer

I just got my first 35, and I was surprised by its weight. The keyboard looks so similar to later TI models, all of which were lightweights, that the heft was disconcerting. I weighed it just now on my questionably accurate postal scale, and came up with 8.5 Oz. However, taking out the battery dropped it down to 6.5 Oz. My 33s weighs in at 4.4 Oz, so that cuts the difference in half.

Regards,

Howard

**Re: hp 35s arrived**

Message #40 Posted by [Peter A. Gebhardt](#) on 28 May 2007, 6:06 p.m.,  
in response to message #1 by [ssf](#)

Congrats to all of you patient HP RPN fellows!

Looks like a beautiful product worth to be added to my HP calculator line as well - although my daily work is focussed more on using the financial line of HPs calculators.

For us Europeans one questions comes up after reading through the announcement of SMS (claiming to be the new EMEA distributor) - will Moravia Consulting still honor their extended 3 years warranty for the HP49G+ ???

Best regards

Peter A. Gebhardt

*Edited: 28 May 2007, 7:15 p.m.*

**Re: hp 35s arrived**

Message #41 Posted by [DaveJ](#) on 28 May 2007, 6:09 p.m.,  
in response to message #1 by [ssf](#)

And to think you guys tried to beat my enthusiasm into submission! :-P I will accept appologies ;-)

It's not up on the HP website yet. Doesn't look fake though, and it's past April fools, must be the real thing!

I wonder if in RPN mode you get both X and Y regs displayed on the two line display like the 42S? Presumably the firmware would come from the 33S?

I do hope it's got proper rubber feet on the bottom!

I'm surprised there is no special 35th anniversary marking on the case.

Things I like: - It's got the right "look" deserving of the 35s title. - Traditional key placement including the large ENTER key - Separate exponent, 1/x, and sqrt keys, the most used keys IMHO (they could have goofed this one) - The colour contrast on the keys looks good. - Appears to strike a good balance of features in order to keep it a basic scientific but make it marketable to the general public. - Raised edges to protect the keys.

(Selfish) Things I dislike: - The arrow keys. A basic scientific shouldn't need them. - It's too powerful for my needs, and the result is having shifted keys that I would have preferred to have as dedicated. - It's too big and thick, I would have preferred something a bit smaller -Battery life could be longer.

Of course the negatives are quite minor and personal, overall I think they have done a supurb job, my hat is off to the people at HP, it appears they really do care! I think they are on a winner.

Just hope the quality is there.

Dave.

**Re: hp 35s arrived**

Message #42 Posted by [Steve Borowsky](#) on 28 May 2007, 6:20 p.m.,  
in response to message #41 by [DaveJ](#)

OMG this is beautiful! Is it real? Really??

**Re: hp 35s arrived**

Message #43 Posted by [Howard Owen](#) on 28 May 2007, 6:39 p.m.,  
in response to message #42 by [Steve Borowsky](#)

See Donald's post (#13) above. 8)

Regards,

Howard

**Re: hp 35s arrived**

Message #44 Posted by [Howard Owen](#) on 28 May 2007, 7:17 p.m.,  
in response to message #41 by DaveJ

Quote:

- The arrow keys. A basic scientific shouldn't need them.

Think "matrix editing." 8)

One can certainly make a case that matrices are an advanced feature, too. But I think that's why the navigation keys are there. (They were there on the 33s, too, with less justification.)

Regards,  
Howard

**Re: hp 35s arrived (cursor keys)**

Message #45 Posted by [Andrés C. Rodríguez](#) on 29 May 2007, 1:00 p.m.,  
in response to message #41 by DaveJ

I would have preferred traditional keys instead of the "cursor diamond", but please see that the up and down keys may be used to navigate menus and programs... something we used to do with SST and BST, which doesn't appear in the 35s. Left and right allow for editing, more convenient than just backspace... but, by the way, at its time we welcomed backspace as more convenient than just CLx...

**Re: hp 35s arrived (cursor keys)**

Message #46 Posted by [Steve Borowsky](#) on 29 May 2007, 1:57 p.m.,  
in response to message #45 by Andrés C. Rodríguez

I actually prefer the cross-configuration of the cursor keys. I find it more intuitive or ergonomic.

**Re: hp 35s arrived (cursor keys)**

Message #47 Posted by [Wayne Brown](#) on 29 May 2007, 2:35 p.m.,  
in response to message #46 by Steve Borowsky

Quote:

I actually prefer the cross-configuration of the cursor keys. I find it more intuitive or ergonomic.

I think it makes the 35s look like a game controller or a TV remote control. However, it's a big improvement over anything HP's done for a long while. It's just not *quite* good enough yet for me to want one.

**Re: hp 35s arrived (cursor keys)**

Message #48 Posted by [Steve Borowsky](#) on 29 May 2007, 2:49 p.m.,  
in response to message #47 by Wayne Brown

Quote:

I think it makes the 35s look like a game controller or a TV remote control.

If you say so, but it seems to me that's a matter of conditioning rather than an inherent resemblance. The cross layout is logically valid for moving a cursor on a screen intuitively in two dimensions.

**Re: hp 35s arrived (cursor keys)**

Message #49 Posted by [Wayne Brown](#) on 29 May 2007, 3:12 p.m.,  
in response to message #48 by Steve Borowsky

Quote:

The cross layout is logically valid for moving a cursor on a screen intuitively in two dimensions.

Perhaps, but those keys have a different size, shape, color and layout than all the other keys, which I find visually distracting. I'd like them to be just like all the others in their section of the keyboard, such as on the HP48. In fact, I'd prefer that *all* the keys were exactly the same size, shape and color (except the [ENTER] key) and that they were laid out in even rows, with the same number of keys on each row and the [ENTER] key exactly twice the size of the others, so that the keys formed a perfect grid, and the only way to tell them apart would be by reading what's printed on them.

**Re: hp 35s arrived (cursor keys)**

Message #50 Posted by [John](#) on 29 May 2007, 3:30 p.m.,  
in response to message #49 by Wayne Brown

Well, ta di da.

How nice that you have appointed yourself king of all standards.

You want them all the same size except the ENTER key? How consistent of you.

Be consistent and have all of them the same size.

I bet HP is crying that you won't be buying one.

**Re: hp 35s arrived (cursor keys)**

Message #51 Posted by [Wayne Brown](#) on 29 May 2007, 4:33 p.m.,  
in response to message #50 by John

You might have noticed that I said I'd *prefer* they all be the same size. There are a lot of other things I'd prefer, too: Like perfectly straight sides, knife-sharp edges and corners (no curves or rounding of any surface) on the cases, etc. But no calculator -- even my all-time favorite, the HP-41 -- had those features. I'd like to have those things, but they aren't essentials. The only flaw that keeps me from wanting a 35s -- the only "deal-breaker" for me -- is the cursor-key issue.

Yes, I'm sure HP doesn't care whether I buy one or not. They probably don't even care about the tens of thousands of dollars my employer spent on Sun equipment after I recommended against HP-UX servers, but it made *me* feel better.

**Re: hp 35s arrived (cursor keys)**

Message #52 Posted by [Eric Reclin](#) on 29 May 2007, 6:21 p.m.,  
in response to message #51 by Wayne Brown

Quote:

There are a lot of other things I'd prefer, too: Like perfectly straight sides, knife-sharp edges and corners (no curves or rounding of any surface) on the cases, etc.

I know, I know, you would prefer to have blood gushing down your arm if you squeeze the calculator too tightly, and you'd want holes in your shirt pocket if you put the calculator in your pocket. Last time you said you wanted the knife-sharp edges I thought you were exaggerating, but now I'm not so sure. Somehow I don't think anyone else would be interested in something so impractical. I carry a knife on my keychain so I don't have to use my calculator to cut things.

Rounded edges make it much more comfortable to hold and prevent it from causing excess wear on its case (or anything else it touches -- I don't want my wood tabletop dented because I dropped the calculator a few inches onto it). Plus, sharp edges chip more easily, so rounding the edges makes the calculator itself more durable.

Something you need to realize is that *not all change is bad*. Sometimes changes, perhaps through improvements in manufacturing technology, make things more usable. For example, it makes sense to make all buttons the same size and color if you are trying to save money when manufacturing the product, but I want a premium calculator, and therefore I am willing to pay extra to have buttons of different sizes

and colors to improve usability.

**Re: hp 35s arrived (cursor keys)**

Message #53 Posted by **Wayne Brown** on 29 May 2007, 10:08 p.m.,  
in response to message #52 by Eric Reclin

Quote:

I know, I know, you would prefer to have blood gushing down your arm if you squeeze the calculator too tightly, and you'd want holes in your shirt pocket if you put the calculator in your pocket. Last time you said you wanted the knife-sharp edges I thought you were exaggerating, but now I'm not so sure. Somehow I don't think anyone else would be interested in something so impractical. I carry a knife on my keychain so I don't have to use my calculator to cut things.

Some of my slide rules have sharp edges and corners, but I've never cut myself on any of them, even the metal ones. In particular, my aluminum Pickett N600-ES has such sharp corners and edges on the slide that it probably could be used as a weapon. (I've always found it amusing that airport security lets me carry it on planes while forbidding less "dangerous" items.) The leather case protects both the rule itself and my pockets from damage.

My coffee table also has corners that would draw blood if I bumped a knee against it, but somehow I've survived it all these years.

Quote:

Something you need to realize is that not all change is bad. Sometimes changes, perhaps through improvements in manufacturing technology, make things more usable. For example, it makes sense to make all buttons the same size and color if you are trying to save money when manufacturing the product, but I want a premium calculator, and therefore I am willing to pay extra to have buttons of different sizes and colors to improve usability.

But what I'd really like *is* a change. None of the HP calculators with which I'm familiar has all the buttons the same size and shape; the number buttons generally are larger than the others. And even the HP-41 has slightly curved sides; plus, it's thicker at one end than the other. What I *really* would like is a calculator that is a geometrically perfect rectangle, with uniform thickness and everything laid out to be perfectly symmetrical with nothing but arrow-straight lines meeting in perfect right angles. The more it resembled a precision-cut slab of polished black marble, in appearance, surface texture, and weight, the better I'd like it. I'd be willing to pay extra for *that*.

**Re: hp 35s arrived (cursor keys)**

Message #54 Posted by **Gene Wright** on 29 May 2007, 10:15 p.m.,  
in response to message #53 by Wayne Brown

Quote:

The more it resembled a precision-cut slab of polished black marble, in appearance, surface texture, and weight, the better I'd like it. I'd be willing to pay extra for *that*.

Gene: But no one else would, or certainly not enough people.

I hope you find what you're looking for. The 48gx has curves, BTW.

I agree with Eric.

**Re: hp 35s arrived (cursor keys)**

Message #55 Posted by **Wayne Brown** on 30 May 2007, 1:01 a.m.,  
in response to message #54 by Gene Wright

Quote:

I hope you find what you're looking for. The 48gx has curves, BTW.

Yes, I know. I already said HP has never made a calculator with all the design features I'd like (and neither has anyone else, as far as I know). I don't expect anyone ever will, either. That's why I might be willing to settle for a 35s, *if* they would replace those cursor keys with the HP48 arrangement.

**Re: hp 35s arrived (cursor keys)**

Message #56 Posted by **Les Bell** on 29 May 2007, 10:29 p.m.,  
in response to message #53 by Wayne Brown

Quote:

What I *really* would like is a calculator that is a geometrically perfect rectangle, with uniform thickness and everything laid out to be perfectly symmetrical with nothing but arrow-straight lines meeting in perfect right angles. The more it resembled a precision-cut slab of polished black marble, in appearance, surface texture, and weight, the better I'd like it. I'd be willing to pay extra for *that*.

Cue recording of "Also Sprach Zarathustra".

And would the edges be in the ratio of 1:4:9?

How would you distinguish the keys and read the display, if the whole thing is featureless black?

Don't *ever* set foot inside the cockpit of a plane. All the controls are different colours and shapes, for perfectly valid usability reasons. You'd *hate* it.

Best,

--- Les

[<http://www.lesbell.com.au>]

**Re: hp 35s arrived (cursor keys)**

Message #57 Posted by **Wayne Brown** on 30 May 2007, 1:36 a.m.,  
in response to message #56 by Les Bell

Quote:

Cue recording of "Also Sprach Zarathustra".

And would the edges be in the ratio of 1:4:9?

I've used the Monolith before as an example of the sort of thing I have in mind. Yes, I'd love a calculator that looked like that.

Quote:

How would you distinguish the keys and read the display, if the whole thing is featureless black?

I never said it had to look *exactly* like a slab of marble. I said "The more it resembled" such a thing, "the better I'd like it."

Quote:

Don't ever set foot inside the cockpit of a plane. All the controls are different colours and shapes, for perfectly valid usability reasons. You'd hate it.

Too late. I've flown with a pilot friend in small planes on a number of occasions, and used those controls myself. (He handled the take-offs and landings, and let me fly between airports, "fly the pattern" and make the approaches.) I like aircraft gauges and controls (especially those



in large planes) for one reason: They look insanely complicated to the uninitiated. That's another thing I like in a calculator, too. I like any sort of equipment that looks cryptic and intimidating to those who haven't taken the time to master it; hence my extreme dislike of things like the 33s that try to look "cool" or "friendly" to non-technical people. Dark, somber colors, and a heavy, solid, industrial appearance that says, "Watch out, you need a great deal of expertise before you even *think* of trying to use me!" are what I prefer.

**Re: hp 35s arrived (cursor keys)**

Message #58 Posted by **Gene Wright** on 30 May 2007, 8:36 a.m.,  
in response to message #57 by Wayne Brown

Quote:

Dark, somber colors, and a heavy, solid, industrial appearance that says, "Watch out, you need a great deal of expertise before you even *think* of trying to use me!" are what I prefer.

Gene: Oh, that would be a big seller.

Only Wayne and about 6 others would buy such a thing. Amortizing the cost, I'd expect it to be \$30,000 each at least.

**Re: hp 35s arrived (cursor keys)**

Message #59 Posted by **Walter B** on 30 May 2007, 1:17 a.m.,  
in response to message #53 by Wayne Brown

Quote:

What I really would like is a calculator that is a geometrically perfect rectangle, with uniform thickness and everything laid out to be perfectly symmetrical with nothing but arrow-straight lines meeting in perfect right angles. The more it resembled a precision-cut slab of polished black marble, in appearance, surface texture, and weight, the better I'd like it. I'd be willing to pay extra for that.

Are you thinking of that monolith in "2001", some 5 years before HP35A? Anyway, HP's key history (sic!) is a line of cost cutting: starting with 4 groups of individual keys in different colors on HP35A, running through all black individual keys on the Voyagers (but still colored prefixes), down to a grid of all black keys on the Pioneers and 48s. So, the line *was* running towards your target!

**Re: hp 35s arrived (cursor keys)**

Message #60 Posted by **Wayne Brown** on 30 May 2007, 1:39 a.m.,  
in response to message #59 by Walter B

Quote:

Are you thinking of that monolith in "2001", some 5 years before HP35A?

Yes, I was.

**Re: hp 35s arrived (cursor keys)**

Message #61 Posted by **BruceH** on 30 May 2007, 10:10 a.m.,  
in response to message #53 by Wayne Brown

Quote:

The more it resembled a precision-cut slab of polished black marble, in appearance, surface texture, and weight, the better I'd like it.

Plus it would match your kitchen ;-)

**Re: hp 35s arrived (cursor keys)**

Message #62 Posted by [Steve Borowsky](#) on 29 May 2007, 4:16 p.m.,  
in response to message #49 by Wayne Brown

Quote:

Perhaps, but those keys have a different size, shape, color and layout than all the other keys, which I find visually distracting.

I can appreciate that, but for some reason I don't find it annoying. The fact that the cursor keys are unique in their function of navigation vs. command execution justifies their unique appearance. It's sort of like a keyboard and mouse combination on a pc. The cursor keys serve as a sort of mouse, so their inconsistent appearance is consistent with their purpose.

*Edited: 29 May 2007, 4:19 p.m.*

**Re: hp 35s arrived (cursor keys)**

Message #63 Posted by [Howard Owen](#) on 29 May 2007, 3:08 p.m.,  
in response to message #46 by Steve Borowsky

Quote:

I actually prefer the cross-configuration of the cursor keys. I find it more intuitive or ergonomic.

It's certainly a huge improvement over the travesty on the 33s. The stupid keys at the top of the machine are among its worst features, in my opinion.

Regards,  
Howard

**Re: hp 35s arrived (cursor keys)**

Message #64 Posted by [Howard Owen](#) on 29 May 2007, 3:06 p.m.,  
in response to message #45 by [Andrés C. Rodríguez](#)

Quote:

.. but please see that the up and down keys may be used to navigate menus and programs...

That's the way they are used on the 33s - and the 42s, btw.

Regards,  
Howard

**One Keyboard Difference**

Message #65 Posted by [Howard Owen](#) on 28 May 2007, 6:20 p.m.,  
in response to message #1 by [ssf](#)

Probably not the only one, but the following key appears to have open and close parens, as well as square brackets.

<http://retrocalculator.com/images/NewKey.png>

It's hard to tell from this blowup from the PDF. The bottom one could be a capital pi. But coupled with the parens in white, I think it's likely square brackets.

Regards,  
Howard

*Edited: 28 May 2007, 6:20 p.m.*

**Re: One Keyboard Difference (Plus One More)**

Message #66 Posted by **Walter B** on 28 May 2007, 6:30 p.m.,  
in response to message #65 by Howard Owen

My impression, too. Round brackets on top, square brackets in blue. If you do not allow implicit multiplication, then you need just one key for ALG-mode parentheses:

If pressed after an operation (+, -, \*, /, y^x), it will open a new parenthesis.

If pressed after a number, it will close a parenthesis.

Please also note the red print on the keys "0" and ".": there seem to be two index registers, i and j.

Edited: 28 May 2007, 6:48 p.m. after one or more responses were posted

### Matrices??

Message #67 Posted by **Howard Owen** on 28 May 2007, 6:48 p.m.,  
in response to message #66 by Walter B

So it's interesting to speculate what the square brackets might be about. There's this mention of 800 memory registers. Do you suppose they've added a matrix implementation? That's where my money is.

Regards,  
Howard

Edited: 28 May 2007, 6:49 p.m.

### Re: Matrices??

Message #68 Posted by **Gerson W. Barbosa** on 28 May 2007, 6:54 p.m.,  
in response to message #67 by Howard Owen

I was about to ask this, but you were faster :-)

Regards,

Gerson.

### Check This Out

Message #69 Posted by **Howard Owen** on 28 May 2007, 7:00 p.m.,  
in response to message #68 by Gerson W. Barbosa

<http://retrocalculator.com/images/indirect.png>

I believe that's an old friend, indirect i, on the left. On the right is what looks like *indirect j!*

Regards,  
Howard

### Re: Check This Out

Message #70 Posted by **Walter B** on 28 May 2007, 7:03 p.m.,  
in response to message #69 by Howard Owen

Please read my post above ;-)

### Re: Check This Out

Message #71 Posted by **Howard Owen** on 28 May 2007, 7:08 p.m.,  
in response to message #70 by Walter B

Right, Walter. I see you mentioned that. 8) I missed it in my excitement about a matrix implementation.

regards,  
Howard

**Re: Check This Out**

Message #72 Posted by **Paul Dale** on 28 May 2007, 7:23 p.m.,  
in response to message #71 by Howard Owen

I mentioned it above too (& earlier :-)) I don't see a 'j' key though so this might be a deviation from the 32s way.

- Pauli

**Re: Check This Out**

Message #73 Posted by **Howard Owen** on 28 May 2007, 11:26 p.m.,  
in response to message #72 by Paul Dale

Yup, Pauli. I formally recognize your claim to be the first one to post about this new feature. 8)

Regards,  
Howard

**Re: Check This Out**

Message #74 Posted by **Gerson W. Barbosa** on 28 May 2007, 7:32 p.m.,  
in response to message #69 by Howard Owen

So no 15C replacement for the time being. One could always implement some matrix operations, but it's not the same thing as having them built-in. Let's wait for the HP-45S :-)

Regards,

Gerson.

**Re: Check This Out**

Message #75 Posted by **Howard Owen** on 28 May 2007, 7:50 p.m.,  
in response to message #74 by Gerson W. Barbosa

I don't think an indirection by j key precludes a matrix implementation. Or did I misunderstand you?

Regards,  
Howard

**Re: Check This Out**

Message #76 Posted by **Gerson W. Barbosa** on 28 May 2007, 8:01 p.m.,  
in response to message #75 by Howard Owen

Quote:

Or did I misunderstand you?

I misunderstood you, sorry!

So, what might have been implemented? Matrix inversion could be invoked by the 1/x key, for instance, but I don't see where a simultaneous equation solver might be hiding...

Regards,

Gerson.

**Re: Check This Out**

Message #77 Posted by **Howard Owen** on 28 May 2007, 8:45 p.m.,  
in response to message #76 by Gerson W. Barbosa

There's a SOLVE key, which could have more capability than the solver on the 33S.

I don't know for a fact that matrices are implemented on the new machine. But taking the square brackets,

the two indirection operators and the 800 registers together, I'm guessing that some sort of matrix solution is in there. the evidence is a little thin, I'll admit.

The other unknown operator I notice is the ARG key. (It is definitely "ARG" and not "ALG".) Any guesses as to what that is?

Regards,  
Howard

### Re: Check This Out

Message #78 Posted by [Gerson W. Barbosa](#) on 28 May 2007, 9:12 p.m.,  
in response to message #77 by Howard Owen

Quote:

(It is definitely "ARG" and not "ALG".) Any guesses as to what that is?

Same as on the 48G, Argument, I think...

Regards,

Gerson.

P.S.: But *theta* is already on the same key...

*Edited: 28 May 2007, 9:14 p.m.*

### Re: Check This Out

Message #79 Posted by [sjthomas](#) on 28 May 2007, 10:05 p.m.,  
in response to message #77 by Howard Owen

It would certainly be nice if matrix functionality is included, but I'm skeptical since it is not mentioned in the datasheet -- and matrix functions would be more noteworthy than cube root! But, here's to hoping.

The measurements indicate that the 35s is about the same size as the 33S in length and width, albeit somewhat thicker. I would really like something thin like the 6s.

### Re: Check This Out

Message #80 Posted by [Howard Owen](#) on 29 May 2007, 12:06 a.m.,  
in response to message #79 by sjthomas

Quote:

It would certainly be nice if matrix functionality is included, but I'm skeptical since it is not mentioned in the datasheet -- and matrix functions would be more noteworthy than cube root! But, here's to hoping.

Ugh. Good point.

Regards,  
Howard

### Re: Check This Out

Message #81 Posted by [Werner](#) on 29 May 2007, 2:51 a.m.,  
in response to message #76 by Gerson W. Barbosa

The same place it's 'hiding' on a 42S: /

### Re: One Keyboard Difference

Message #82 Posted by [Paul Dale](#) on 28 May 2007, 6:47 p.m.,  
in response to message #65 by Howard Owen

Pi is on the COS key so square brackets seems likely.

- Pauli

### **RPN By Default?**

*Message #83 Posted by [Howard Owen](#) on 28 May 2007, 7:11 p.m.,  
in response to message #1 by [ssf](#)*

I see evidence of this in that brochure. The headline is

Quote:

Get professional performance from the ultimate RPN scientific programmable calculator. Switch between RPN\* and algebraic entry-system logic at any time.

It's "The ultimate RPN scientific .." And you can "[s]witch between RPN and algebraic" as you like. Note the order. Finally, the picture has the RPN annunciator lit.

Regards,  
Howard

### **Re: hp 35s arrived**

*Message #84 Posted by [Hugh Evans](#) on 28 May 2007, 7:17 p.m.,  
in response to message #1 by [ssf](#)*

I had to give this a good long look to make sure it wasn't a cruel joke. That looks like a REAL Hp calculator.

-Hugh

### **Re: hp 35s arrived**

*Message #85 Posted by [Walter B](#) on 28 May 2007, 7:19 p.m.,  
in response to message #1 by [ssf](#)*

OK, the first one discovering the owner's manual online will receive 95 points! d:-)

### **Re: hp 35s arrived**

*Message #86 Posted by [Hugh Evans](#) on 28 May 2007, 8:31 p.m.,  
in response to message #1 by [ssf](#)*

This should be enough proof that it's authentic:

[http://h40047.www4.hp.com/certificates/media.php/doc/computers/handhelds\\_and\\_calculators/CE\\_35s\\_Scientific\\_Calculator\\_HSTNJ-KN01.pdf?jumpid=reg\\_R1002\\_USEN](http://h40047.www4.hp.com/certificates/media.php/doc/computers/handhelds_and_calculators/CE_35s_Scientific_Calculator_HSTNJ-KN01.pdf?jumpid=reg_R1002_USEN)

### **Re: hp 35s arrived**

*Message #87 Posted by [Steve Borowsky](#) on 28 May 2007, 8:49 p.m.,  
in response to message #86 by [Hugh Evans](#)*

So now the question is when and where can we buy it. I'd add and for how much, except I don't care how much!

### **Why do you want this so much?**

*Message #88 Posted by [John](#) on 28 May 2007, 8:55 p.m.,  
in response to message #87 by [Steve Borowsky](#)*

What is it that makes you go crazy over this small picture?

### **Re: Why do you want this so much?**

*Message #89 Posted by [Randy](#) on 28 May 2007, 9:03 p.m.,  
in response to message #88 by [John](#)*

If you have you ask, you've been under a rock for the last five plus years. Or perhaps a bridge, so: Please don't feed the trolls...

### Re: Why do you want this so much?

Message #90 Posted by [Steve Borowsky](#) on 28 May 2007, 11:54 p.m.,  
in response to message #88 by John

Quote:

What is it that makes you go crazy over this small picture?

What makes you care?

### Re: hp 35s arrived

Message #91 Posted by [Namir](#) on 28 May 2007, 9:15 p.m.,  
in response to message #1 by ssf

Well I guess I was wrong by thinking that HP will ONLY slap a 35th anniversary logo onto an existing model. The new little machine looks very nice and well designed (love that ENTER key). What's the price and when will it be available???

Namir

### Re: hp 35s arrived

Message #92 Posted by [Gerson W. Barbosa](#) on 28 May 2007, 9:22 p.m.,  
in response to message #91 by Namir

Quote:

when will it be available???

It appears this one and the new 10S will be presented tomorrow, in Monaco:

<http://www.calculatrices-hp.com/>

Regards,

Gerson.

### Re: hp 35s arrived

Message #93 Posted by [DaveJ](#) on 28 May 2007, 10:27 p.m.,  
in response to message #1 by ssf

Anyone else notice that the Left and Right shift keys don't actually make sense, as the functions aren't listed Left/Right on the keys, but Up and Down?

Colour coding is consistent though.

And what's with the red "Ab/c" mark below the "." key, it sticks out like a dogs hind leg!

Dave.

### Re: Check This Out

Message #94 Posted by [sjthomas](#) on 28 May 2007, 11:06 p.m.,  
in response to message #93 by DaveJ

Quote:

Anyone else notice that the Left and Right shift keys don't actually make sense, as the functions aren't listed Left/Right on the keys, but Up and Down?

Colour coding is consistent though.

---

Just as much sense as 'f' and 'g' (and sometimes 'h') meant!

Interesting that there are both ARG and LASTx (shifted) functions, as well as both INTEG and Integralsign.

Keep in mind that the actual released 33S had some different key placements than depicted in pre-release photos.

In addition to the apparently missing polar/rectangular conversions, I don't see how to change modes between RPN and algebraic -- perhaps buried in the FLAGS menu?

Since [if?] this is to be officially announced soon, then those who have been playing with it and bound by NDA will soon be able to answer our questions (and we know who you are!!).

*Edited: 28 May 2007, 11:57 p.m. after one or more responses were posted*

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**Re: Check This Out**

Message #95 Posted by [Howard Owen](#) on 28 May 2007, 11:35 p.m.,  
in response to message #94 by [sjthomas](#)

Quote:

---

In addition to the apparently missing polar/rectangular conversions, I don't see how to change modes between RPN and algebraic -- perhaps buried in the FLAGS menu?

---

Ot maybe in the MODE menu.

Regards,  
Howard

---

**Re: Check This Out**

Message #96 Posted by [sjthomas](#) on 28 May 2007, 11:58 p.m.,  
in response to message #95 by [Howard Owen](#)

Quote:

---

Ot maybe in the MODE menu.

---

D'Oh!

---

**Re: Check This Out**

Message #97 Posted by [Steve Borowsky](#) on 28 May 2007, 11:59 p.m.,  
in response to message #95 by [Howard Owen](#)

Quote:

---

Ot maybe in the MODE menu.

---

Regards,  
Howard

---

I assumed that's what the shifted LOGIC key does.

---

**Re: Check This Out**

Message #98 Posted by [Howard Owen](#) on 29 May 2007, 12:04 a.m.,  
in response to message #94 by [sjthomas](#)

See my post below. 8)

The terms of the NDA state that we are free to discuss that which has been publicly revealed by others, not necessarily just by HP.



Regards,  
Howard

**Re: hp 35s arrived**

Message #99 Posted by **Howard Owen** on 28 May 2007, 11:33 p.m.,  
in response to message #93 by DaveJ

Quote:

And what's with the red "Ab/c" mark below the "." key, it sticks out like a dogs hind leg!

That's the fraction entry function, same as on the 33s. It looked like it was pasted on as an afterthought on the 33s, too. Only with the 35s, the color contrast is better, so it's even more obvious. 8) The reason it's stuck on is that it is neither a main, left or right shifted key. Its fraction input function is enabled in context. So

1 . 2 . 3

is one and two thirds, the second period changing the meaning of the preceding and following digits.

Regards,  
Howard

**Re: hp 35s arrived**

Message #100 Posted by **Egan Ford** on 29 May 2007, 1:40 a.m.,  
in response to message #93 by DaveJ

Quote:

Anyone else notice that the Left and Right shift keys don't actually make sense, as the functions aren't listed Left/Right on the keys, but Up and Down?

Fix for the right shift key.

<http://sense.net/~egan/rs.jpg>

Edited: 29 May 2007, 1:41 a.m.

**Re: hp 35s arrived**

Message #101 Posted by **Hal Bitton** on 29 May 2007, 1:56 a.m.,  
in response to message #100 by Egan Ford

Also, notice that the arrows aren't even the same font for the two shift keys. It looks like what is pictured is an early prototype with a few cosmetic issues still to be addressed.

My only question is where can I buy one?

Hal.

**Re: hp 35s arrived**

Message #102 Posted by **kdv** on 30 May 2007, 11:06 a.m.,  
in response to message #101 by Hal Bitton

Quote:

Also, notice that the arrows aren't even the same font for the two shift keys. It looks like what is pictured is an early prototype with a few cosmetic issues still to be addressed.

My only question is where can I buy one?

Hal.

I notice the HP35s has disappeared from both <http://www.calculators-hp.com> and <http://www.calculatrices-hp.com/>.

From <http://www.calculators-hp.com/pdf/35s.pdf> : "Rely on HP quality and award-winning support"

Award-wining support...  
Wonder whether it's red wine or champagne :)

**Re: hp 35s arrived**

Message #103 Posted by **Bruce Bergman** on 30 May 2007, 1:22 p.m.,  
in response to message #102 by kdv

Oooh, someone got their hand slapped!! :-)

I personally am thankful to SMS that they screwed up and we have a chance to drool for a few months. But I imagine the guys at HP are pretty pissed...

I wonder how long, in hours, the actual link was up there??

thanks, bruce

**Re: hp 35s arrived**

Message #104 Posted by **ssf** on 30 May 2007, 8:32 p.m.,  
in response to message #103 by Bruce Bergman

I don't think HP have problems with the information shown at calculators-hp.com HP announce a few months ago a contest for the 35yrs of HP-35 and a new anniversary calculator. Also see HP-35 photos in comp-sys48 posted by cyrille (nice photos).

**Re: hp 35s arrived**

Message #105 Posted by **Walter B** on 31 May 2007, 2:19 a.m.,  
in response to message #104 by ssf

Took me some minutes to find them. To make it easier for you, the links are [here](#) and [here](#).

Edited: 31 May 2007, 2:42 a.m.

**???????**

Message #106 Posted by **Namir** on 31 May 2007, 6:17 a.m.,  
in response to message #105 by Walter B

Walter!!!

**How did you do that??? Does your child have a calculator supplier we don't know?**

Namir

Edited: 31 May 2007, 6:23 a.m.

**Re: ????????**

Message #107 Posted by **Hugh Evans** on 31 May 2007, 10:27 a.m.,  
in response to message #106 by Namir

Cyrille (hpmad) is one of HP's calculator developers.

**Re: ????????**

Message #108 Posted by **Howard Owen** on 31 May 2007, 11:35 a.m.,  
in response to message #107 by Hugh Evans

Quote:

Cyrille (hpmad) is one of HP's calculator developers.

Make that "HP's *only* calculator developer," as of last year, at any rate.

You met him at HHC, Namir.

Regards,  
Howard

**Re: hp 35s arrived**

Message #109 Posted by **Les Wright** on 31 May 2007, 9:28 p.m.,  
in response to message #105 by Walter B

the little guy is scowling in the second pic.  
perhaps he is displeased with the keypad layout?

Les

**Re: hp 35s arrived**

Message #110 Posted by **DaveJ** on 29 May 2007, 9:07 a.m.,  
in response to message #100 by Egan Ford

Quote:

Fix for the right shift key.

<http://sense.net/~egan/rs.jpg>

Thanks, I'll order mine with one of those keys please!

Perhaps there will be a "limited edition" model with a corrected upside down key?

Dave.

**Re: hp 35s arrived**

Message #111 Posted by **Trent Moseley** on 28 May 2007, 10:40 p.m.,  
in response to message #1 by ssf

Maybe Mr. Hurd has heard at last!

tm

**Re: hp 35s arrived**

Message #112 Posted by **Alain** on 28 May 2007, 11:50 p.m.,  
in response to message #1 by ssf

And for those who can read french .... [http://www.calculatrices-hp.com/pdf/35s\\_anniv.pdf](http://www.calculatrices-hp.com/pdf/35s_anniv.pdf)

It sure looks great.

The end reads:

Rooted in a challenge defined personally by Bill Hewlett, HP's co-founder, HP's handheld calculators are a cornerstone of HP innovations.

After committing to innovation in calculators, HP will continue in the future to define the technological landscape of calculators.

There's hope, it seems.

*Edited: 29 May 2007, 12:27 a.m.*

**Last Year's NDA**

Message #113 Posted by **Howard Owen** on 28 May 2007, 11:51 p.m.,  
in response to message #1 by ssf

Since this has been publicly revealed, I'm free to state that we were shown a layout like this (keys only, no function labels) at last year's

HHC conference. They were very closed lipped on the details other than the fact that they were working on a machine, and that it was shaped like you see, with a big ENTER key. We saw a small amount of other stuff that *hasn't* been revealed, so I have to remain quiet about that.

In particular, we were not given any information with regard to the implementation of the calculator. But Richard and Wlodek presented papers regarding what needed fixing in the 33s, and what "nice to have" features they wanted. All of the attendees gave HP an earful on the same subjects as well. They seem to have listened to at least some of the advice they were offered then. To be fair, with a guy like Sam Kim guiding product generation, they may have come up with most of the ideas themselves. Without touching this calc, I can tell you I am 99% certain the build quality will be up to snuff in the eyes of this community, since Sam, an old time PPC member and "calculator geek" was involved. Kudos to him, and to everyone else at HP involved in bringing this machine to market.

There's just one problem I can see. My expectations of what you will produce next have been raised considerably. Of course, that's my problem, not yours. Way to go!

Regards  
Howard

### HP-35S: Last Year's NDA

Message #114 Posted by [Karl Schneider](#) on 29 May 2007, 1:31 a.m.,  
in response to message #113 by Howard Owen

Quote:

But Richard and Wlodek presented papers regarding what needed fixing in the 33s, and what "nice to have" features they wanted. All of the attendees gave HP an earful on the same subjects as well. They seem to have listened to at least some of the advice they were offered then.

Hi, Howard --

"...presented papers?" Heck, the following thread from August 2004 would have (and actually seems to have) covered most of it! Oh well, whatever it took...

- "Forgotten Fundamentals: the HP-33S" at <http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv014.cgi?read=62029#62029>

Now, if the complex-number functionality is implemented substantially as outlined in the September 2004 thread below, I'll demand consultant's fees and formal acknowledgement! (*Just kidding*).

- "User-friendly complex numbers" at <http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv014.cgi?read=63415#63415>

-- KS

*Edited: 29 May 2007, 1:42 a.m.*

### Re: HP-35S: Last Year's NDA

Message #115 Posted by [Howard Owen](#) on 29 May 2007, 1:59 a.m.,  
in response to message #114 by Karl Schneider

That is a pretty thorough analysis of what is wrong with the 33s, Karl. I don't know what processes Richard Nelson and Włodek Mier-Jędrzejowicz followed to arrive at the contents of their papers. They may well have read your post, or maybe not. The papers covered similar ground, of course, but with perhaps different emphases and styles. At any rate, the papers were indeed presented at the conference, and framed the discussion there regarding the 33s.

I'd be very interested to see you revisit your critique, comparing the new machine, once you get your hands on one.

Regards,  
Howard

### What else is in the pipeline then ?

Message #116 Posted by [Donald](#) on 29 May 2007, 3:56 p.m.,  
in response to message #113 by Howard Owen

Quote:

---

... at last year's HHC conference... We saw a small amount of other stuff that *hasn't* been revealed, so I have to remain quiet about that.

---

I think the HP 35s is a fantastic step forwards, for which HP must be congratulated - it will sell a whole lot better than anything they have had on the books lately.

However, I showed the datasheet to a work colleague who I know prefers RPN calcs. He was not that impressed, saying 'I like the small ones they used to make'  
- like this ? ( my HP15c ) 'yes'.

Given the very middle road status of the older HP33S, and considering there are 4 financial models: This model seems like a #3 in the line model. Can we expect an even more up market position #4 model before too long?

So, even though the dust hasn't settled on this one, any thoughts on the nature of, and which market segment the still to be 'revealed' items will fall ?

A premium professional, direct HP15C replacement, a la HP12C platinum.  
or for the student market: a color competitor to the TI-NSPIRE uber-PDA with keys.

Has the HP48S ... HP50G line reached the natural end of it's development ?

### **Re: What else is in the pipeline then ?**

*Message #117 Posted by [Howard Owen](#) on 29 May 2007, 5:54 p.m.,  
in response to message #116 by Donald*

Quote:

---

So, even though the dust hasn't settled on this one, any thoughts on the nature of, and which market segment the still to be 'revealed' items will fall ?

---

I feel free to speculate on this because we weren't given anything to chew on in that regard other than what I've already talked about.

My guess is they won't come out with a Voyager style machine. The reason is twofold. First in terms of features, the 35s seems to cover quite a bit more than the 15c in many respects. Where it is lacking in comparison with the 15c, it ought to be possible to make up for it with programming. (I.e., matrices, possibly.) That means there would be little to differentiate a Voyager form-factor calculator from the 35s. Of course, HP would be free to implement even more functions on such a machine, but that brings me to my second point. The 50G stands as a barrier to any midrange scientific in terms of adding features. If you enhance the midrange too much, it will start to cannibalize sales from the 50g. I think that's one reason you won't see USB or serial I/O on a midrange scientific. But oh, some removable flash would be nice! (BTW, I've noticed a fairly steep drop off in 48GX prices lately. I wonder if that's due to the 50g and its available enhancements?)

As far as the RPL models go, I think there's lots of room for improvement there. Memory prices continue to drop, and power efficiency per unit CPU cycle continue to rise, so hardware trade-off calculations will change over time. With 64 MB of RAM and a 1GHz processor, say, you could do quite a lot of interesting portable mathematics. (Mathematica/Maple/what have you in your palm?) At the interface of hardware and software, there's the whole issue of Saturn emulation. A native ARM implementation or a greatly enhanced emulation could lead to big performance gains. At the operating system level, there's the whole "port" architecture, which is a kludge to get around the limits of the Saturn address bus. Well, if you aren't emulating a Saturn, you can do away with that. SysRPL, like UserRPL is a magnificent language, fully general, and fun to use once you get over the steep learning curve. I'm sure that despite that, both dialects could be improved, and this offers another avenue for progress.

Regards,  
Howard

### **Re: hp 35s arrived i j**

*Message #118 Posted by [htom](#) on 29 May 2007, 1:10 a.m.,  
in response to message #1 by ssf*

My guess is that it's i, indirect access and j, imaginary part of a complex number.

### **Re: hp 35s arrived i j**

Message #119 Posted by [k](#) on 29 May 2007, 1:55 a.m.,  
in response to message #118 by htom

Maybe prices on the classic HPs will be more reasonable on that auction site.

- k

### Re: hp 35s arrived i j

Message #120 Posted by [Thomas Okken](#) on 30 May 2007, 6:07 p.m.,  
in response to message #118 by htom

Quote:

My guess is that it's i, indirect access and j, imaginary part of a complex number.

Or maybe like IJ on the HP-42S, for matrix indexing?

### Re: hp 35s arrived i j

Message #121 Posted by [Valentin Albillo](#) on 30 May 2007, 6:35 p.m.,  
in response to message #120 by Thomas Okken

Hi,

Self-quoting from [this message](#) I posted a few days ago:

*"[...]ARG" (yellow), and "Theta" (blue), over and on the "i" key are obviously the functional equivalents of the R-P/R rectangular/polar conversions, as they probably input/return/display the components of a complex number either in rectangular form or polar form. Also "i" itself must surely be the way to specify the imaginary part in rectangular form, so all three related functions are very ergonomically placed on the same key.*

*This being so, "(i)" and "(j)" must surely be used for indirect addressing, and they do correspond to 2 separate special registers which are both used to independently specify indirect addresses, Register (i) and Register (j).*

*This would be very convenient, as having more than one register for indirect addressing is pretty useful in matrix programming, say. That's why the HP-41C/42S would support any register from 00 to 99 (and more using synthetic means) to be used for indirect addressing, while regrettably the HP-15C was limited to just one, the "(i)" register."*

i.e., (i) and (j) I are just two special registers mainly used for indirect addressing, instead of just one. I don't think the HP35s has any built-in matrix functions or matrix-specific capabilities.

Best regards from V.

### Re: hp 35s arrived i j

Message #122 Posted by [Paul Dale](#) on 30 May 2007, 7:00 p.m.,  
in response to message #121 by Valentin Albillo

I too tend to favour this interpretation.

- Pauli

### Re: hp 35s arrived i j

Message #123 Posted by [Thomas Okken](#) on 31 May 2007, 12:06 a.m.,  
in response to message #121 by Valentin Albillo

Quote:

i.e., (i) and (j) I are just two special registers mainly used for indirect addressing, instead of just one. I don't think the HP35s has any built-in matrix functions or matrix-specific capabilities.

Yes, you're probably right. The 35s looks like it has at least *some* functions hidden in menus (the shifted functions on the cursor keys look like menus to me, and the flyer mentions menu and softkey functionality, too)... but there are no signs of any significant matrix support on that keyboard. *\*sigh\** It's too bad... Having two index registers is better than having just

one (implementing matrix code on the HP-67/97 and HP-19C/29C could be pretty painful because of this) but then again, having only 2 index registers is seriously lame compared to having 100 of them like on the HP-41 and 42S (never mind the TI-58/59 that started this trend!).

Awww, shucks.

- Thomas

*Edited: 31 May 2007, 12:07 a.m.*

**Re: hp 35s arrived i j**

*Message #124 Posted by [Egan Ford](#) on 31 May 2007, 12:32 a.m.,  
in response to message #123 by Thomas Okken*

Perhaps you can address that in Free35. Got an ETA?

**Re: hp 35s arrived i j**

*Message #125 Posted by [Thomas Okken](#) on 31 May 2007, 12:35 a.m.,  
in response to message #124 by Egan Ford*

Quote:

Perhaps you can address that in Free35. Got an ETA?

About 6 months after hell freezes over. I ain't doing no ALG mode nor no fractions! ;-)

- Thomas

**Re: hp 35s arrived**

*Message #126 Posted by [Hal Bitton](#) on 29 May 2007, 1:50 a.m.,  
in response to message #1 by ssf*

Fantastic!!

I think HP is finally tapping into their heritage...part of which is the superior keyboard layout that Bill Hewlett and his original team put so much thought into. It's about time.

Now Mr. Hurd, take this concept across the board and make true HP's out of the entire model line.

Hal

**Re: hp 35s arrived**

*Message #127 Posted by [Les Wright](#) on 29 May 2007, 1:52 a.m.,  
in response to message #1 by ssf*

Wow!

This seems almost too good to be true.

It looks like it extends the number of registers beyond the 26 lettered ones on the 33S (plus the stats registers that can be indirectly addressed). Lets hope that the number of program labels is correspondingly increased, ideally by alphanumeric strings for globals and numbers for locals, as in the 41C and 42S.

If the picture is to be believed, we have single line complex numbers, like with the 42S. And the keyboard layout and colours are most attractive.

I wonder what the pricing will be? Probably a bit more than the 33S, but I would expect not much more.

Maybe this will be the thank you gift at HHC2007?

Les

**Re: hp 35s arrived (My Darling 33s...)**

*Message #128 Posted by [ECL](#) on 29 May 2007, 2:24 a.m.,  
in response to message #1 by ssf*

Dearest HP33s calculator, (a bit of humor)

I've met something new. It's a little older, and refined...but goodness, it's sleek! I can't stop thinking about it... Unlike you, it's comfortable with who it is- No! You know exactly what I'm talking about! For the last two years I feel like I've been dating a cellphone or...gasp- a PDA! I don't like the looks I've been getting from people since we've been together.

Don't take this the wrong way...I need more than 30-some REGisters! I feel like you've been holding out on me, what with all that MEMory. I won't be teased any longer! There's really nothing to ARGue about.

Sure we had some good times...but I'm often confused when I look at your face. There's too much going on there...besides, that shade of green (turquoise?) is all wrong for you. Don't frown at me like that! You always were a bit edgy... To be honest, I knew from the moment we ENTERed into this that it wouldn't really LAST. We'll always have final exams! :)

I won't even mind if the packaging features a couple of engineering students huddling over a desk that has a superimposed image of a 35s on it, lol :)

Whoo-hoo! The return of HP Calculators is here!

**Re: hp 35s arrived**

Message #129 Posted by [Vincent Guilbault](#) on 29 May 2007, 3:48 a.m.,  
in response to message #1 by ssf

The French part of the SMS's website is claiming availability in Summer 2007 (and July '07 for the HP10S).

Regards  
--Vincent

**Re: hp 35s arrived**

Message #130 Posted by [Antonio Maschio \(Italy\)](#) on 29 May 2007, 3:56 a.m.,  
in response to message #1 by ssf

Finalmente!

This comment in Italian shows that I waited too long for this new calculator. I hope it will satisfy us all.

I plan to buy 2. Just in case.

-- Antonio

**Re: hp 35s arrived**

Message #131 Posted by [Thomas Radtke](#) on 29 May 2007, 4:05 a.m.,  
in response to message #130 by Antonio Maschio (Italy)

Quote:

I plan to buy 2. Just in case.

Excellent idea to get a second 35s after the bugs are all out ;-).

Anyone remember my 35s design a couple of years ago? I never thought HP could beat it :^). I'm glad they did.

Will buy one for sure.

BTW, when it's out, eB\*y prices for the 32S(II) will drop by 50% at least in the first few month I bet.

**Re: hp 35s arrived**

Message #132 Posted by [Giancarlo \(Italy\)](#) on 29 May 2007, 5:03 a.m.,  
in response to message #131 by Thomas Radtke

Whew, I was bidding just yesterday for a 32SII around 100 EUR, but I was outbid...

What a lucky day ;-)

Giancarlo



**Re: hp 35s arrived**

Message #133 Posted by **Gerson W. Barbosa** on 29 May 2007, 9:20 a.m.,  
in response to message #132 by Giancarlo (Italy)

And I was about to put my spare 32SII and sealed manual on eBay yesterday...

Should I do it right now or wait a little longer? :-)

Regards,

Gerson.

**Re: hp 35s arrived**

Message #134 Posted by **Alex L** on 29 May 2007, 12:17 p.m.,  
in response to message #133 by Gerson W. Barbosa

Neither... set a reasonable price and sell it in the classifieds here on the MoHPC site. :)

**Re: hp 35s arrived**

Message #135 Posted by **Steve Borowsky** on 29 May 2007, 12:31 p.m.,  
in response to message #134 by Alex L

Quote:

Neither... set a reasonable price and sell it in the classifieds here on the MoHPC site. :)

What's a reasonable price? I might be willing to part with one of my 32's because of the 35s.

**Re: hp 35s arrived**

Message #136 Posted by **Alex L** on 29 May 2007, 2:38 p.m.,  
in response to message #135 by Steve Borowsky

Quote:

What's a reasonable price?

I wish that question had an easy answer.

Consider the condition and whether you'll be including a manual or case. Look at recently ended auctions/sales for the same item. Consider how much you value knowing that by selling it here you will probably bring someone joy.

In the last month, I've seen them go for nearly \$200, I've seen them go for \$50.

Maybe wait until the price of the 35s is revealed, and sell it for that amount plus shipping & a small profit. If I were to find one today at a garage sale for a buck, that's probably what I'd do.

Best wishes,

Alex

**Re: hp 35s arrived**

Message #137 Posted by **Howard Owen** on 29 May 2007, 3:15 p.m.,  
in response to message #135 by Steve Borowsky

Quote:

What's a reasonable price? I might be willing to part with one of my 32's because of the 35s.

I'd happily pay \$100.00. I'd swallow hard and pay up to \$300.00. I doubt they will go that high, considering the competitive landscape. (They are the underdog, needing to convince users of an entrenched competitor's product

to switch if they want to gain share.) The 33s lists for \$50.00, and the 50g for \$150.00. So \$100.00 list would split that difference down the middle.

Regards,  
Howard

**Re: hp 35s arrived**

Message #138 Posted by [Andrés C. Rodríguez](#) on 29 May 2007, 12:52 p.m.,  
in response to message #133 by Gerson W. Barbosa

Has your 32Sii the orange/blue shift keys, or the teal/white keys?

**Re: hp 35s arrived**

Message #139 Posted by [Steve Borowsky](#) on 29 May 2007, 2:06 p.m.,  
in response to message #138 by Andrés C. Rodríguez

Quote:

Has your 32Sii the orange/blue shift keys, or the teal/white keys?

Mine are orange/blue; vintage 1993.

**Re: hp 35s arrived**

Message #140 Posted by [Gerson W. Barbosa](#) on 29 May 2007, 5:09 p.m.,  
in response to message #138 by Andrés C. Rodríguez

Hola Andrés,

Just to answer your question, mine is the brown bezel model, that is, the one with orange and blue shift keys.

Best regards,

Gerson.

*Edited: 30 May 2007, 7:09 p.m.*

**Re: hp 35s arrived**

Message #141 Posted by [Walter B](#) on 29 May 2007, 6:35 a.m.,  
in response to message #131 by Thomas Radtke

Quote:

Anyone remember my 35s design a couple of years ago? I never thought HP could beat it :^). I'm glad they did.

Thomas, feel free to lay down our mutual design work for a while! d;-)

**Re: hp 35s arrived**

Message #142 Posted by [Thomas Radtke](#) on 29 May 2007, 6:50 a.m.,  
in response to message #141 by Walter B

Quote:

Thomas, feel free to lay down our mutual design work for a while! d;-)

I knew there was something left to do! ;-)

**Re: hp 35s arrived**

Message #143 Posted by [DaveJ](#) on 29 May 2007, 8:21 a.m.,  
in response to message #131 by Thomas Radtke

Quote:

Excellent idea to get a second 35s after the bugs are all out ;-).

Anyone remember my 35s design a couple of years ago? I never thought HP could beat it :^). I'm glad they did.

Was that a hardware design? Details please?

I'm glad HP didn't scoop my new calculator design! Coincidentally I just got my PCB's back today, glad I didn't just have to toss them straight in the bin!

Dave.

### Re: hp 35s arrived

Message #144 Posted by [Thomas Radtke](#) on 29 May 2007, 8:43 a.m.,  
in response to message #143 by [DaveJ](#)

Quote:

Was that a hardware design?

Can't find it right now, sorry. It was simply a (private) case design study. I tried to keep it as simple as possible, retaining classic design elements only where they don't interfere function.

In the end, I've chosen to place the LCD in topmost position and to bevel the bottom edge, placing the HP logo there.

The actual 35s is way more related to the classics in terms of design. I like it :-).

[Here's an image](#)

Edited: 29 May 2007, 8:47 a.m.

### Re: hp 35s arrived

Message #145 Posted by [DaveJ](#) on 29 May 2007, 9:02 a.m.,  
in response to message #144 by [Thomas Radtke](#)

Quote:

[Here's an image](#)

Cute! I really like the slim shape and the button style. Although I'm afraid it wouldn't get my money, it doesn't have a dedicated EXP key. If the HYP and Ab/c keys were changed to EXP and SQRT then we're talking. Oh, bugger it, I'll have one anyway, it's sexy :->

Why couldn't the real HP35S have cursor keys like that?

Dave.

### Re: hp 35s arrived - we can change it if we don't like it

Message #146 Posted by [Bill Wiese](#) on 29 May 2007, 4:39 a.m.,  
in response to message #130 by [Antonio Maschio \(Italy\)](#)

Gee, they must've rehired the guy that designed the HP65/67 - lotsa design cues there.

My compliments, HP, for listening to folks here and bringing back Big Enter and losing the 'chevron' layout.

And at the very least we have a physical platform that can be changed.

We could put a 41/42S emulator inside - the actual key legends are not too crazy for this purpose, and a new, quality overlay for shifted function legends could readily be manufactured in small quantities.

Whee! It's a pretty good calc, and we have the mechanical handiwork done for us so all we need to do is new firmware if we want a certain style of calc.

BTW, the Sunplus SPLB31 is a flavor of a 65C02...

Bill Wiese  
San Jose, CA

**Re: hp 35s arrived - we can change it if we don't like it**

Message #147 Posted by [Walter B](#) on 29 May 2007, 6:21 a.m.,  
in response to message #146 by Bill Wiese

Quote:

We could put a 41/42S emulator inside - the actual key legends are not too crazy for this purpose, and a new, quality overlay for shifted function legends could readily be manufactured in small quantities.

Please note standard overlays will hide the golden print only, leaving the blue visible. Using slightly more flexible material, however, simple overlays may be made also covering the slanted key fronts with something like a flap, one flap per key. Then, we are really free to change the shifted functions.

But let's get the original first at least once before changing it! I'm really looking forward to this model d:-)

Any information about prices yet?

*Edited: 29 May 2007, 7:40 a.m.*

**Re: hp 35s arrived - we can change it if we don't like it**

Message #148 Posted by [Bill \(Smithville, NJ\)](#) on 29 May 2007, 7:14 a.m.,  
in response to message #146 by Bill Wiese

Hi Bill,

Quote:

We could put a 41/42S emulator inside

Is there I/O capability - I don't see any reference to either IR or RS-232 connection or Memory Card Slot.

Quote:

BTW, the Sunplus SPLB31 is a flavor of a 65C02...

I'm assuming you're referring to the CPU. Where'd you get that info.

Me thinks you have some inside info..... :)

Can't wait to see the actual unit. As Carly Simon says "Anticipation" ...

Bill

**Re: hp 35s arrived - we can change it if we don't like it**

Message #149 Posted by [Valentin Albillo](#) on 29 May 2007, 7:27 a.m.,  
in response to message #148 by Bill (Smithville, NJ)

Hi, Bill:

Bill posted:

*""BTW, the Sunplus SPLB31 is a flavor of a 65C02... I'm assuming you're referring to the CPU. Where'd you get that info.""*

If you mean the "SPLB31", it's actually specified in the brochure whose link is provided in the very first post of

this thread, under "HP35s Specifications" -> "CPU" -> SPLB31A.

That's the same CPU as the HP33S, by the way, and you can find further technical info on it [here](#).

Best regards from V.

**Re: hp 35s arrived - we can change it if we don't like it**

Message #150 Posted by **Bill (Smithville, NJ)** on 29 May 2007, 8:07 a.m.,  
in response to message #149 by Valentin Albillo

Hi Valentin,

Quote:

it's actually specified in the brochure

Just looked and it's the second line right after the HP Part Number. Don't know how I missed it. Gotta get that second cup of coffee.

Now - can anyone confirm whether there is any I/O capability?

Bill

**Re: hp 35s arrived - we can change it if we don't like it**

Message #151 Posted by **Jeff O.** on 29 May 2007, 3:26 p.m.,  
in response to message #150 by Bill (Smithville, NJ)

Quote:

Now - can anyone confirm whether there is any I/O capability?

Well, I'd say *confirmation* will have to wait until someone gets hardware in their hands, or HP puts up some additional information. So for now, you'll have to settle for *pure speculation*:

Evidence and/or factors suggesting it **will** have I/O:

- One giant drawback to the 33s is lack of I/O, and HP seems to have listened to most of the suggestions/demands for improvements to the 33s. So maybe HP might also provide I/O in the 35s.
- I/O functions could easily be included in a menu accessed by the MEM function (e.g., Archive and Restore commands)
- no mention of NCEES on the "Permitted for use on" line.
- Surveying is listed on the "Subject suitability" line. My understanding is that surveying is data intensive and there has historically been a vibrant industry in developing programs, both of which would certainly benefit from I/O.

Evidence and/or factors suggesting it **will not** have I/O:

- no mention of I/O on the spec sheet. I/O is a pretty major feature to leave off of the list.
- no mention of an I/O cable on the "What's in the box" line.
- I/O might be the feature that is the "line in the sand" between the scientific models and graphing models.

**Re: hp 35s arrived - we can change it if we don't like it**

Message #152 Posted by **DaveJ** on 29 May 2007, 8:33 a.m.,  
in response to message #149 by Valentin Albillo

Quote:

Hi, Bill:

Bill posted:

*""BTW, the Sunplus SPLB31 is a flavor of a 65C02... I'm assuming you're referring to the CPU. Where'd you get that info."*

[ul]If you mean the "SPLB31", it's actually specified in the brochure whose link is provided in the very first post of this thread, under "HP35s Specifications" -> "CPU" -> SPLB31A.

That's the same CPU as the HP33S, by the way, and you can find further technical info on it [here](#).

It does not say it has Flash ROM, and even if it did it would not surprise me if HP ordered a Mask ROM version. That means the code can't be changed. But it would still be possible to hack the machine with an equivalent flash ROM processor to run custom software for those who are that keen on changing things, if there is space inside that is. Should be enough room though, it's thick enough!

Dave.

**Re: hp 35s arrived - we can change it if we don't like it**

Message #153 Posted by [Eric Smith](#) on 29 May 2007, 6:28 p.m.,  
in response to message #152 by DaveJ

Quote:

But it would still be possible to hack the machine with an equivalent flash ROM processor

Not easily. Assuming that it is constructed similarly to other recent HP calculators, the processor is mounted using Chip-on-Board (CoB) assembly, where the die is attached directly to the PCB, wire-bonded, and covered with a blob of epoxy. It's not possible to simply desolder the chip and solder in a replacement.

Once upon a time, I asked someone at HP about the possibility of buying an OEM version of the HP 49G with no HP logo and no key legends, and was told that it was probably possible even in relatively low volumes (e.g., quantity 1000). If someone is serious about selling a calculator with custom firmware, this might be worth pursuing for a newer model such as the 50g or 35s. For the 35s, though, such an OEM model would presumably be delivered with \*no\* processor, and the volume would probably have to be significantly higher.

**Re: hp 35s arrived - we can change it if we don't like it**

Message #154 Posted by [Hugh Evans](#) on 29 May 2007, 9:56 a.m.,  
in response to message #146 by Bill Wiese

Well, I'm planning to buy at least two of these anyways. But, I think we owe it to ourselves to make modification kits by replacing the PCB, popping in a more powerful CPU, emulating the 41c, adding USB support, and then dealing with key labels.

I strongly doubt HP will be molding the key legends, which leaves them open to stripping and silk screening. Judging by the thickness of the enclosure, it should be possible to fit in some much higher capacity batteries.

Or judging by how well they've done with this 35s, we could just ask HP if they're already planning something along these lines as well as a 15s. :-)

-Hugh

**Re: hp 35s arrived**

Message #155 Posted by [Gerson W. Barbosa](#) on 31 May 2007, 5:39 p.m.,  
in response to message #130 by Antonio Maschio (Italy)

Quote:

Finalmente!

This comment in Italian...

To yours I will add the equivalent comment in Portuguese:

*Finalmente!*

[fee.now.'menchy], as it's pronounced here :-)

I will buy only one. I hope the keys will last long enough and the trig bug is fixed... unless they want to commemorate that as well :-)

Regards,

Gerson.

## HP35s: A few assorted observations

Message #156 Posted by [Valentin Albillo](#) on 29 May 2007, 5:26 a.m.,  
in response to message #1 by [ssf](#)

Hi all:

Very nice-looking machine, and what a surprise, I was also expecting some existing calc relabeled as "35th Anniversary" !

I'll certainly get a couple of them (or more if the price's right, to present them to selected people), if only for writing programs for it and articles about it. As it seems some of the nastiest software and hardware annoyances of the HP33S (which prevented me from buying it in the first place) have been corrected, this surely will be both interesting and enjoyable.

Some random thoughts, after inspecting the keyboard and brochure:

- The 800+ storage registers might be addressed like this:

```
Register 00 to Register 99 = 100 registers
Register A to Register Z = 26 registers
Register AA to Register ZZ = 676 registers
Register (i) and (j) = 2 registers
-----
                        804 registers
```

This would cater for 800+ registers, all of them *\*directly\** addressable (as well as indirectly, of course), and would provide compatibility both for classic calculator's programs (R00-R99) as well as HP33S' programs (RA-RZ).

If this addressing scheme is indeed used for direct storage register addressing, it seems to me quite possible that it's also used for label addressing, so it would support up to 802 labels, namely LBL 00 to LBL 99, LBL A to LBL Z, LBL AA to LBL ZZ. This would be more than enough for 32 Kb worth of program code.

- Even 800+ registers only take 6.5 Kb, at 8 bytes per register. As 32 Kb seem to be available, that would mean that most of it can only be used for program storage but not for data storage, unless the 800+ register count only refers to *\*directly addressable\** registers, as outlined above, but you can have nearly 4,000 of them *\*indirectly\** addressable and this is simply not mentioned in the add because 800+ is more than enough and mentioning indirect addressing would incur in too much specific technical details for such a simple brochure.
- "ARG" (yellow), and "Theta" (blue), over and on the "i" key are obviously the functional equivalents of the R-P/P-R rectangular/polar conversions, as they probably input/return/display the components of a complex number either in rectangular form or polar form. Also "i" itself must surely be the way to specify the imaginary part in rectangular form, so all three related functions are very ergonomically placed on the same key.
- This being so, "(i)" and "(j)" must surely be used for indirect addressing, and they do correspond to 2 separate special registers which are both used to independently specify indirect addresses, Register (i) and Register (j).

This would be very convenient, as having more than one register for indirect addressing is pretty useful in matrix programming, say. That's why the HP-41C/42S would support any register from 00 to 99 (and more using synthetic means) to be used for indirect addressing, while regrettably the HP-15C was limited to just one, the "(i)" register.

I don't think that "(i)" and "(j)" have anything to do with built-in matrix functionality, which I think is absent, but sure I would like to be proved wrong on this.

- INTG seems to me to be "Integer Part", as the INTEGRAL functionality seems to be the "integral" character over the EQN key. If that's so, it might be possible that the square-brackets symbol "[ ]" is actually the "Fractional Part" operation, though perhaps it might be used for additional purposes depending on the context or mode.
- LOGIC must surely be a menu, including such logical operators as AND, OR, XOR, NOT, etc., while BASE is obviously another menu including base-n operations/conversions.

Now, let's hope the physical quality is adequate, most specially the keyboard if nothing else, and we're all set up for an interesting ride again ! This is what the HP33S should have been !! :-)

Best regards from V.

*Edited: 29 May 2007, 6:07 a.m.*

**Re: HP35s: A few assorted observations**

Message #157 Posted by [Andrés C. Rodríguez](#) on 29 May 2007, 7:30 a.m.,  
in response to message #156 by Valentin Albillo

Excellent news!!!!

I would only regret that R/S and E+ have they traditional positions swapped..

I think I will buy at least three: one for keeping, one for regular use, and one to replace an aging 32Sii my daughter uses all the time at her engineering school. Only hope the price will be not too high (specially in my country).

From now on, the 33S will remain at my office, on an unlocked desk drawer.

**Re: HP35s: A few assorted observations**

Message #158 Posted by [Les Wright](#) on 29 May 2007, 11:30 p.m.,  
in response to message #156 by Valentin Albillo

Quote:

\_\_\_\_\_

If this addressing scheme is indeed used for direct storage register addressing, it seems to me quite possible that it's also used for label addressing, so it would support up to 802 labels, namely LBL 00 to LBL 99, LBL A to LBL Z, LBL AA to LBL ZZ. This would be more than enough for 32 Kb worth of program code.

\_\_\_\_\_

Valentin, I really hope your analysis is correct, but I must admit I am not going to rush out and buy one until I start seeing some reviews here in the months to come.

It would break my heart to have 31KB of memory and 800 storage registers yet still a measly 26 labels, as in the 33s. I really hope that the number of labels is generous, and, ideally labels can be reused in different programs, just as they can on the 41C and 42S.

I do like the look of it--its slight curves on the side are certainly reminiscent of Classics, Woodstocks, and the 41 series. If the unit is a bit thicker at the top vs. the bottom, I will enjoy that classic profile too.

Les

**side view**

Message #159 Posted by [Gerson W. Barbosa](#) on 30 May 2007, 9:48 p.m.,  
in response to message #158 by Les Wright

Quote:

\_\_\_\_\_

If the unit is a bit thicker at the top vs. the bottom, I will enjoy that classic profile too.

\_\_\_\_\_

Les, I hope this can give you an idea:

<http://www.geocities.com/gwbarbosa/HP-35s.GIF>

For the original picture, look for Cyrille's post at the related [www.comp.sys.hp48](http://www.comp.sys.hp48) thread.

Best regards,

Gerson.

*Edited: 30 May 2007, 9:56 p.m.*

**Re: side view**

Message #160 Posted by [Howard Owen](#) on 31 May 2007, 12:06 a.m.,  
in response to message #159 by Gerson W. Barbosa

Yup, good ol' wedge shape. At the risk of a terrible irreverence to the memory of Bill Hewett and all the other great souls of early HP calculator lore, I always thought those machines would make great door stops if they ever stopped working. But of course, they seldom did ..

8)



Regards,  
Howard

P.S. The original picture Gerson refers to shows a novel and innovative use of the 35s. I can't think of any precedent for it, in fact. Quite an unusual machine, indeed.

**Re: side view**

*Message #161 Posted by [Steve Borowsky](#) on 31 May 2007, 12:12 a.m.,  
in response to message #160 by Howard Owen*

Quote:

P.S. The original picture Gerson refers to shows a novel and innovative use of the 35s. I can't think of any precedent for it, in fact. Quite an unusual machine, indeed.

Little cuty has no idea how lucky he is!

**Re: side view**

*Message #162 Posted by [Ren](#) on 31 May 2007, 12:36 p.m.,  
in response to message #159 by Gerson W. Barbosa*

Inre: photo showing side of 35s

What's the piece of tape doing there?

Have you already peeled off the back label to look inside?

Have you dropped it? !!!!!

Have you already lost the battery cover?

Ink Wiring Mines Juan Two No! (Inquiring minds want to know)

B^)

Ren

dona nobis pacem

**Re: side view**

*Message #163 Posted by [Jeff O.](#) on 31 May 2007, 1:54 p.m.,  
in response to message #162 by Ren*

The picture in Gerson's post was extracted from the one found [here](#)  
I think the tape is holding it to the colorful plastic pieces suspending the calculator above the lucky infant.

*Edited: 31 May 2007, 4:22 p.m.*

**Re: side view**

*Message #164 Posted by [Ren](#) on 3 June 2007, 11:09 p.m.,  
in response to message #163 by Jeff O.*

Oh...

So, I guess that means the 35s doesn't have a caribiner attach point?

B^)

Ren

dona nobis pacem

**Re: HP35s: A few assorted observations**

Message #165 Posted by **Karl Schneider** on 31 May 2007, 3:05 a.m.,  
in response to message #156 by Valentin Albillo

Hi, Valentin --

You've posted some insightful thoughts. I'll elaborate a bit with some of my own considerations.

I've believed (and posted here) that the ideal mid-range (*i.e., less sophisticated than the HP-42S*) non-graphing scientific calculator would combine the best of the HP-32SII and the HP-15C. The HP-32SII paradigm provided a great starting point, but the immediate challenge is to incorporate the missing functionality that is present in the HP-15C: Matrix calculations, mathematically-complete and convenient complex-number functions, and INTEG-within-SOLVE and vice-versa.

I've thought about how all that would be done, and have failed to devise satisfactory resolutions that would provide consistent and intuitive usage. This is why I'm eager to see the finalized HP-35s.

Matrix functionality:

Quote:

*I don't think that "(i)" and "(j)" have anything to do with built-in matrix functionality, which I think is absent, but sure I would like to be proved wrong on this.*

The basic problem within the HP-32SII paradigm is the *identification* of matrices. Consider that the HP-15C offers only numbered registers for scalars, while matrices are identified with a single-letter A-E. Thus, there is no confusion between scalars and matrices. The HP-42S offers full alphanumeric naming capability, and a flexible stack with plenty of free RAM that accommodates different kinds of objects.

The HP-32SII/HP-33S, on the other hand, offer storage registers denoted by single letters without full alphanumerics or an ALPHA mode. Another dimension is the equation functionality that was lifted from the algebraic HP-22S.

- How would a scalar be distinguished from a matrix?
- Could matrices be utilized in equations?

These questions have ramifications about how functions work, consistency, and breadth of capability. For example, if a single-letter variable had been redimensioned as a matrix, programs and equations could fail to execute for unobvious reasons. Simple commutativity of multiplication would not hold, leading to possibly erroneous results. (Granted, the same kind of pitfalls could occur on an HP-42S, but that's more sophisticated, and equations would not be an issue.)

Expanded registers and labels:

Quote:

*(...Register 00 to Register 99 ... Register AA to Register ZZ... LBL 00 to LBL 99 ... LBL AA to LBL ZZ)*

Numbered registers and numeric labels, as well as two-letter labels, have been requested in the name of additional capability and fuller usage of RAM. In fact, why not, for example, A1 and T9 as registers and labels? The questions are:

- How to provide these without employing an ALPHA mode or requiring extra keystrokes for single-letter variables?
- If ALPHA mode must be provided, why impose a limit of two characters?
- How to utilize 0-9 when their keys are assigned to letters?

For example, how would a value be stored to, or recalled from, variable "TA" under the existing paradigm -- 'RCL T RCL A' couldn't be distinguished from 'RCL T' followed by 'RCL A' unless something else was done.

As for the last question, a trick from the HP-41 could be borrowed, with STO or RCL being followed by either shift key to access 0-9.

Complex numbers, angles and polar<->rectangular:

Quote:

*"ARG" (yellow), and "Theta" (blue), over and on the "i" key are obviously the functional equivalents of the R-P/P-R rectangular/polar conversions, as they probably input/return/display the components of a complex number either in rectangular form or polar form.*

You may be right, but the ARG function on RPL models is essentially an "ATAN2" function that provides only the angle of a complex number given in rectangular form. The magnitude is calculated separately using ABS (unless a switch to POLAR mode is made on HP-48 and above, in which case the entire stack of complex numbers is converted).

It would be a shame if the only way to perform a full conversion is to enter the number as complex-valued. This would be unintuitive to many users, and would represent a reduction of functionality from the HP-15C and HP-42S, for which P->R and R->P would work on two real-valued inputs or one complex-valued input. Oftentimes, the components must be separated or be calculated separately prior to "assembly", which brings me to the next point:

Will the RPL functions C->R and R->C be available on the HP-35s? The HP-15C offers R->C as "f I"; the HP-42S kludges the two functions together as the "COMPLEX" function printed on the faceplate. ("COMPLEX" on the HP-42S, incidentally, works quite differently from the way "COMPLEX" works on the HP-33S and predecessor HP-32S/SII -- a "Simon says" command prefix that I hope is gone for good on the HP-35s.)

#### Modification/extraction of floating-point numbers:

Quote:

*INTG seems to me to be "Integer Part", as the INTEGRAL functionality seems to be the "integral" character over the EQN key. If that's so, it might be possible that the square-brackets symbol "[ ]" is actually the "Fractional Part" operation, though perhaps it might be used for additional purposes depending on the context or mode.*

The INTG function on the HP-33S returns the *next lower* integer, as opposed to the *closest* one. It is separate from IP, INT/, and integration. It's possible that INTG (and maybe ARG ?) could represent menus. One detail from the HP-42S, HP-32S, and HP-32SII is that the faceplate legends denoting menus were highlighted by a darker background. This detail was lost on the HP-33S.

It's important to remember that the HP-35s illustration looks like a virtual image, not a photo of a physical calculator. There may be further changes before it is publicly available, and I'm very curious what the end result will be.

-- KS

*Edited: 4 June 2007, 1:38 a.m. after one or more responses were posted*

### **Re: HP35s: A few assorted observations**

Message #166 Posted by [Walter B](#) on 31 May 2007, 10:28 a.m.,  
in response to message #165 by Karl Schneider

Karl,

as usual, you posted quite some valuable input. Based on the questions you (and others in this thread) have raised, let me point out that there is a big amount of speculation and/or phantasy in whatever is written about those operations of the HP35s being not really evident. So far, nobody (except the guys of HP) *knows* all of the acronyms visible on the picture, or which one represents a menu or a single command, we can only *guess* extrapolating our knowledge of earlier models.

The only facts we know are those written in the ad sheet (showing some differences between the English and French version already). And we *think* we know many of the prints we see on the keys and plate of the new calc.

1. The probability is almost 100% that e.g. SIN will be the well known trigonometric function again. EQN, MODE, DISPLAY, FLAGS, MEM and CONST will probably be menus as well as LOGIC, BASE, L.R., SUMS,  $x^y$ ,  $x^?0$ , and the shifted operations of "+" and EQN. But, to start with something very basic, how are you going to select a menu item easily without menu keys (or some keys you can use instead like the top row on 42s and more Pioneers)? There are only 4 candidates for such a task in the top row of HP35s, and that's too less IMHO. I hope they do not follow the CASIO-approach to menus, but who knows? And how shall you exit a menu called erroneously without EXIT?
2. There are a number of commands we miss, like INT and FRAC, RECT and POLAR, or EXIT, as just mentioned. And the English text mentions explicitly a cube root I do not see anywhere on the picture.
3. And furthermore, there are a number of ambiguous items, at least for me, where I am not sure about their meaning and what they represent (menus or commands), like INTG, blue-shifted SIGMA+, gold-shifted "0", the brackets etc. Even "i" may be used for complex number input and indirect addressing, for example, plus who-knows-what.

One final example: I would guess HYP is a menu, because IMO it's painful to be forced to press "<- SIN "->" SIN (i.e. HYP ASIN) for ASINH, but that's only an educated guess.

Exactly that was the reason why - in an earlier post of this thread - I offered 95 points for the person discovering the owner's manual (and making it accessible online, of course :) Until then, I regard lengthy speculations about the functionality of this new

calc not being very effective.

Regards, Walter

**Re: HP35s: A few assorted observations**

Message #167 Posted by [Antonio Maschio \(Italy\)](#) on 31 May 2007, 11:39 a.m.,  
in response to message #166 by Walter B

Well, I remember the HP-33S, when it was shown the first time, had a different keyboard than the marketed model. I guess the same could be for the HP-35S. And so, some uneasy combination could be modified for the final assembly.

The model shown in the English pdf seems complete, but surely, as you observed, it could be bettered.

-- Antonio

**Re: HP35s: A few assorted observations**

Message #168 Posted by [John](#) on 31 May 2007, 11:51 a.m.,  
in response to message #166 by Walter B

The 33s method for selecting menu items may be used. It did not use menu keys but numbered choices for items in a menu.

**Re: HP35s: A few assorted observations**

Message #169 Posted by [Howard Owen](#) on 31 May 2007, 11:51 a.m.,  
in response to message #166 by Walter B

Quote:

.. how are you going to select a menu item easily without menu keys ..

The 33s uses the stupid 4-way directional toggle at the top center. The 35s no doubt uses the arrow keys for this.

Quote:

And how shall you exit a menu called erroneously without EXIT?

The 33s uses the ON key (labeled "C") for this. I'm 95% sure the 35s will use the same key.

Quote:

Until then, I regard lengthy speculations about the functionality of this new calc not being very effective.

Ah, but that ignores the fact that for many of us, such speculation is *fun*. 8)

Regards,  
Howard

**Re: hp 35s arrived**

Message #170 Posted by [Vieira, L. C. \(Brazil\)](#) on 29 May 2007, 7:00 a.m.,  
in response to message #1 by ssf

[This brief](#) is somehow enthusiastic. It has a small chronology for the 35 years.

In time: this is going to be the first celebrating model everyone can have for a, say, affordable price.

Cheers.

Luiz

PS: I have never seen so too many posts and followups about the same subject in such a short time... Do we have a new record here?

**Re: hp 35s arrived**

Message #171 Posted by **Walter B** on 29 May 2007, 7:50 a.m.,  
in response to message #170 by Vieira, L. C. (Brazil)

Ola Luiz!

Quote:

\_\_\_\_\_

This brief is somehow enthusiastic. It has a small chronology for the 35 years.

\_\_\_\_\_

IMO a big part of it is a translation of [this article](#).

Cumprimentos, Walter

### Re: hp 35s arrived

Message #172 Posted by **Vieira, L. C. (Brazil)** on 29 May 2007, 9:42 a.m.,  
in response to message #171 by Walter B

Olá, Walter;

Obrigado, eu não soube desse artigo (Thanks, I did not know about this article). I've been so running-out-of-time I can't tell...

Cumprimentos, Luiz (Brazil)

### Re: hp 35s arrived

Message #173 Posted by **GE** on 29 May 2007, 12:58 p.m.,  
in response to message #172 by Vieira, L. C. (Brazil)

The Time Line is impressive but wrong on two counts :

- 1979 : the HP41 is not the first alphanumeric programmable calculator, the Sharp EL5100 predates it (at least), there were certainly others.
- 2007 : It is merely impossible that the HP10S be the first scientific calculator with both solar and battery power. Even the HP6S predates it, not to mention vintage Toshiba (and others).

### Re: hp 35s arrived

Message #174 Posted by **GE** on 29 May 2007, 1:01 p.m.,  
in response to message #173 by GE

BTW I am buying 3 of this one.

It seems metal faceplate, classic RPN, build quality and all such much liked features are back.  
I wish there is some 42S lineage showing in this beast. We'll see.

### Re: hp 35s arrived

Message #175 Posted by **Massimo Gnerucci (Italy)** on 29 May 2007, 1:16 p.m.,  
in response to message #173 by GE

Not sure but [here](#) the el-5100 is listed as from 1981 vintage.

Greetings,  
Massimo

P.S. But [here](#) is marked as from 1979... who knows for sure its intro date?

Edited: 29 May 2007, 1:20 p.m.

### Re: hp 35s arrived

Message #176 Posted by **Wayne Brown** on 29 May 2007, 7:37 a.m.,  
in response to message #1 by sf

It looks a lot better than I expected, but they still had to spoil it with those ugly cursor keys. :-(

### Re: hp 35s arrived

Message #177 Posted by **DaveJ** on 29 May 2007, 8:50 a.m.,  
in response to message #176 by Wayne Brown

Quote:

It looks a lot better than I expected, but they still had to spoil it with those ugly cursor keys. :-(

Yes, shame about the cursor keys. They could have put in 4 regular looking keys with exactly the same functionality. Perhaps marketing stood firm on this one and the design engineers had to cave in on something to keep them happy?

Dave.

### Re: hp 35s arrived

Message #178 Posted by **Hugh Evans** on 29 May 2007, 9:58 a.m.,  
in response to message #177 by DaveJ

How about we wait and see what they do before we complain too much

### Re: hp 35s arrived

Message #179 Posted by **Wayne Brown** on 29 May 2007, 2:39 p.m.,  
in response to message #178 by Hugh Evans

Quote:

How about we wait and see what they do before we complain too much

If anyone from HP is reading this thread, perhaps they'll take the complaints to heart before they put this into production. As it stands right now, though it's a big improvement over their other current models, I still wouldn't buy one.

### Re: hp 35s arrived

Message #180 Posted by **someone** on 30 May 2007, 4:08 a.m.,  
in response to message #179 by Wayne Brown

Let's be honest here, realistically you are never going to be happy.

### Re: Explain this one...

Message #181 Posted by **DaveJ** on 29 May 2007, 9:12 a.m.,  
in response to message #1 by ssf

Why is there a Backspace key? Couldn't the left arrow key have done the same job?

I propose changing the Backspace key to a Log key. Any objections?

Dave.

### Re: hp 35s arrived

Message #182 Posted by **Hugh Evans** on 29 May 2007, 10:16 a.m.,  
in response to message #1 by ssf

Overall, the 35s looks better than anything HP has made in at least 15 years. My only wish is that before production they will swap the positions of sqrt, y^x, 1/x, with RCL, ROLL, SWAP.

### Re: hp 35s arrived

Message #183 Posted by **Bill (Smithville, NJ)** on 29 May 2007, 11:09 a.m.,  
in response to message #182 by Hugh Evans

Hi Hugh,

Quote:

swap the positions of sqrt, y^x, 1/x, with RCL, ROLL, SWAP

When I took look at this, I noticed the STO is a shifted function - OUCH! And it's a Blue Shift, not a Yellow Shift as I would think it would be. For everyday calculations, I use the STO/RCL keys very heavily. Have the STO as a Shift would be a real pain.

I guess to make up all happy, what is really needed is a fully re-assignable keyboard. Then we could each configure it how we like. Of course, would need some way to re-label them.

Still, I'm looking forward to giving it a test drive.

Bill

*Edited: 29 May 2007, 11:11 a.m.*

### Re: hp 35s arrived

Message #184 Posted by **Gerson W. Barbosa** on 29 May 2007, 9:16 p.m.,  
in response to message #183 by Bill (Smithville, NJ)

Quote:

Have the STO as a Shift would be a real pain.

Have you read Paul Guertin's opinion here, just a few days ago (22 May 2007, 8:18 p.m.)?

<http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/forum.cgi?read=114508#114508>

His point makes a lot of sense to me.

Regards,

Gerson.

*Edited: 29 May 2007, 9:18 p.m.*

### Re: hp 35s arrived

Message #185 Posted by **Walter B** on 29 May 2007, 12:44 p.m.,  
in response to message #182 by Hugh Evans

Hugh,

may I quote yourself?

Quote:

How about we wait and see what they do before we complain too much

P.S. You can imagine I have some \*scary\* wishes for keyboard modifications, too, but (1) there is quite some guessing in the discussion still, (2) I would like to give it a try first (see above), (3) I agree with Bill in the matter of a fully assignable keyboard.

### Re: hp 35s arrived

Message #186 Posted by **Ron** on 29 May 2007, 2:15 p.m.,  
in response to message #1 by ssf

Size (L x W x D) 15.8 x 8.2 x 1.82 cm (6.22 x 3.23 x 0.72 in)

Seems a little big for my shirt pocket's taste. Perfect for my desk top though. My 32S is about 1/2" shorter, 3/16" narrower, and 1/4" thinner (didn't want to look up the real numbers).

### Re: hp 35s arrived

Message #187 Posted by **ECL** on 29 May 2007, 2:55 p.m.,  
in response to message #186 by Ron

On the size issue, it IS an anniversary model...but then again, we wouldn't cheer if it had a '70-era chip set either :)

On the SHIFTEd STO key, I use this frequently as well, but it doesn't compare to my dismay as I left my college bookstore and noticed the  $x^3$ , as well as the  $x^2$  not being a SHIFTEd root(x) key. That was painful!

This new machine looks beautiful, and brings back the clear color scheme and the large ENTER key. YES!

ECL

**Re: hp 35s arrived**

Message #188 Posted by [ECL](#) on 29 May 2007, 3:00 p.m.,  
in response to message #187 by ECL

Another thing on the thickness:

I recall the older HPs had a slight tilt built in, so the user could clearly see/read it on the desk without having to hunch over the keyboard...could this be part of the reason for T=0.73"?

Also, this is just the thickest part. It doesn't necessarily mean that the whole machine is that thick, right?

Hoping for something awesome! Did anyone else notice the notes in the PDF: Something to the effect of "Be confident that every calculation is reliable...etc."

Sounding better by the minute!

ECL

**Re: hp 35s arrived**

Message #189 Posted by [Dave Boyd](#) on 29 May 2007, 4:18 p.m.,  
in response to message #188 by ECL

Quote:

Also, this is just the thickest part. It doesn't necessarily mean that the whole machine is that thick, right?

I think you're probably right. It's probably shaped to recall the classic Woodstocks, without being identical to them. I note many of the design cues: the "bare metal" strips on the sides, the color scheme, the keys, etc. So, probably, the shape as well, if not the weight -- it only takes two lithium coin cells, like the 33S, so it will probably weigh approximately the same as a 33S. Ah well, we can open it and put some weight inside. ;)

I also note that it appears that the sides rise above the plane of the keypad, which is welcome; that will serve to partially protect the keys from accidental presses and wear.

**Re: hp 35s arrived**

Message #190 Posted by [Howard Owen](#) on 30 May 2007, 1:52 a.m.,  
in response to message #189 by Dave Boyd

Quote:

I also note that it appears that the sides rise above the plane of the keypad, which is welcome; that will serve to partially protect the keys from accidental presses and wear.

The sales brochure linked to at the top of this thread calls this out as a feature twice.

Regards,  
Howard

**Re: hp 35s arrived**

Message #191 Posted by [Wayne Brown](#) on 29 May 2007, 3:18 p.m.,  
in response to message #187 by ECL

Quote:



...we wouldn't cheer if it had a '70-era chip set either :)

I would. For an anniversary edition, I'd rather they made an exact replica of the original HP-35, with the limitations, bugs and all, so that the only way anyone could tell them apart would be by the serial numbers. But the 35s is a step in the right direction for what I'd like the *new* (non-anniversary-edition) HP calculators to be.

### Re: hp 35s arrived

Message #192 Posted by [someone](#) on 30 May 2007, 4:11 a.m.,  
in response to message #191 by Wayne Brown

Right. They'd really spend a huge amount of R&D to redesign something long obsolete that no-one would buy. That makes great business sense.

### Re: hp 35s arrived

Message #193 Posted by [Wayne Brown](#) on 30 May 2007, 1:51 p.m.,  
in response to message #192 by someone

Quote:

Right. They'd really spend a huge amount of R&D to redesign something long obsolete that no-one would buy. That makes great business sense.

I know they wouldn't do that. That's why I dislike HP so much: They care more about making "business sense" and money than about upholding their own traditions. I don't expect anything better from most companies, but HP should be better than that. I expect more from them than from any other company on earth -- even though I know they're never going to live up to either my own expectations or their own past.

### Re: hp 35s arrived

Message #194 Posted by [bill platt](#) on 30 May 2007, 7:39 p.m.,  
in response to message #193 by Wayne Brown

Dude,

I am afraid you are becoming nonsensical. Traditions? It is a business, and no business survives on traditions--all survive on profit. Traditions are utilized only when they foster profit.

Why on earth do you hold HP to this artificial unrealistic religious standard? Perhaps you forget that not all that long ago, both Hewlett and Packard were in the top 5 on the Forbes 400 list of the wealthiest Americans. Clearly they put profit right at the top of their thinking. You can't survive in any business if you put profit after tradition.

### Re: hp 35s arrived

Message #195 Posted by [Wayne Brown](#) on 31 May 2007, 10:17 a.m.,  
in response to message #194 by bill platt

Years ago (in the '70s and '80s) I used to see lots of articles in trade magazines criticizing HP's lack of "business sense." Business analysts complained about how HP put too much emphasis on engineering and not enough on sales and marketing. HP was depicted as being run by engineers who were in love with technology for its own sake and who cared more about impressing other engineers with "neat and cool" features than about profits. (One of these writers described someone taking an old car and turning it into a hot rod with all kinds of unnecessary "bells and whistles" that did nothing to make the car more practical for street use. He said, "That's an HP engineer's dream car.") Many of the HP people I came into contact with during that period (mostly HP support technicians for their minicomputer systems) fit into that image quite well. (One of them gave me the source code to a "practical joke" program to run on the system consoles. It masqueraded as the standard command interface and confused the heck out of our operators by giving all sorts of bizarre responses to ordinary commands. When they reported problems to me, I would hit a keystroke combination that disabled the program and say, "What's your problem? It works fine when I do it." Then I'd re-enable it and leave the room. I really had them going for awhile until one of them figured it out. :-)

Criticism of that sort helped cement my loyalty to HP. That cement was chipped away over the last decade or two by HP's "new" attitude.

Quote:

Traditions are utilized only when they foster profit.

If that's what you believe, then there's no point in us discussing this any further. For me, tradition outweighs nearly everything else in nearly every aspect of life.

Quote:

You can't survive in any business if you put profit after tradition.

I respect and admire stubborn determination to maintain one's principles and traditions at any cost, even at the cost of survival, far more than I value so-called "success." But then, I've always considered those who take valiant stands in lost causes, and those who "go down with the ship" rather than admit defeat, to be superior to the rest of us.

### Re: hp 35s arrived

Message #196 Posted by **Pascal** on 30 May 2007, 2:43 a.m.,  
in response to message #1 by ssf

I wonder if they will release a limited "anniversary edition" with a special logo because I would hate to buy 2 hp-35s when they come out and 2 months later discover the release of an anniversary edition. Does anyone know anything about this ?

### Re: hp 35s arrived

Message #197 Posted by **Jeff O.** on 30 May 2007, 8:00 a.m.,  
in response to message #196 by Pascal

The accepted date of introduction for the HP-35 is February 1, 1972, although there seems to be some indication that some within HP think it was July 1, 1972. Either way, it is doubtful that the 35s will hit the streets before July 1, 2007, so the actual 35th anniversary date will have passed. It would not make sense to then introduce a 35th Anniversary Special Edition at a still later date. However, that does not mean that they won't do it. Maximizing potential sales would suggest that they do just that.

### Re: hp 35s arrived

Message #198 Posted by **Kevin Kitts** on 30 May 2007, 11:40 a.m.,  
in response to message #197 by Jeff O.

Just curious. Is there any way to save programs entered into the HP-33s? Infra-red? Do you lose the programs when you change batteries? It has always bugged me that when I customize a program that it gets lost when changing batteries - I'd like to have a way to refer to work that I did earlier.

Will the HP-35s, since it seems to be somewhat derivative of the HP-33s, also likely have no way to save the programs one may write? Seems a shame not to be able to backup that 32K of memory. ;-)

### Re: hp 35s arrived

Message #199 Posted by **Jeff O.** on 30 May 2007, 12:58 p.m.,  
in response to message #198 by Kevin Kitts

Quote:

Just curious. Is there any way to save programs entered into the HP-33s?

Nope. A much discussed, much bemoaned shortcoming.

Quote:

Do you lose the programs when you change batteries?

The 33s has two batteries. If you change them one at a time, you are not *supposed* to lose any programs or data.

Quote:

Will the HP-35s, since it seems to be somewhat derivative of the HP-33s, also likely have no way to save the programs one may write?

Unknown at this time. See [this message](#) and others for further discussion.

### Re: hp 35s arrived (UK price and availability)

Message #200 Posted by [SteveH](#) on 30 May 2007, 1:13 p.m.,  
in response to message #1 by [ssf](#)

I just enquired about one of these and was advised that availability may be as late as September (possibly sooner) and the price between £54.99 and £59.99, although maybe a little cheaper online.

This is the first HP calculator in *years* that has been even remotely tempting and I will almost certainly go for one (subject to reviews here of course) as a replacement for the 'classic' machines I currently use.

*Edited: 1 June 2007, 3:10 p.m.*

### Re: hp 35s arrived (UK price and availability)

Message #201 Posted by [Norris](#) on 1 June 2007, 8:52 p.m.,  
in response to message #200 by [SteveH](#)

Quote:

the price between £54.99 and £59.99

Isn't this approximately the same as the current UK price for the 33S ?

If so, then perhaps the 35S will be priced comparably to the current price of the 33S in the US and other countries as well.

*Edited: 1 June 2007, 8:53 p.m.*

### It's a hoax, isn't it?!

Message #202 Posted by [Tizedes Csaba \[Hungary\]](#) on 1 June 2007, 7:44 p.m.,  
in response to message #1 by [ssf](#)

Is it a game, isn't it?! All of the links aren't works and pics seems to me a low quality rendered pics from an older release of AutoCAD (a pics the calc on a writed paper VERY POOR: shadows and texture of the surface without ANY reality - like a home work from a low-end design-school).

### No, Csaba, it's for real. [NT]

Message #203 Posted by [Valentin Albillo](#) on 1 June 2007, 8:26 p.m.,  
in response to message #202 by [Tizedes Csaba \[Hungary\]](#)

Best regards from V.

### Re: It's a hoax, isn't it?!

Message #204 Posted by [Frank Rottgardt](#) on 2 June 2007, 10:41 a.m.,  
in response to message #202 by [Tizedes Csaba \[Hungary\]](#)

Hi,

my first post here.

Certainly its not a hoax! Already in april when HP launched a customer video-contest in order to honour the HP-35 launch 35 years ago, there was a statements from a HP-spokesman that they will launch a new calculator.

<http://www.computerworld.com/blogs/node/5323>

At the same time the HP-33s becomes somewhat rare at certain US-discounters. Coincident ???

Also, as other forum members already mentioned, at the time when the new HP-35s data sheet has been displayed on the european distributors page, the HP-33s was taken away.

Since HPs strategy to design a simple programable scientific calculator (33s) specially for the US exams w/o any I/O proved to be successful, it is logical to come up with a successor dealing with all shortcomings the HP-33s has. I guess the critics from students about the limited number of registers must have been loud enough to be heard even by HP. And here the new model comes with 800+ registers. In my eyes this is by far the most important improvement over the HP-33s. Beside the more old-HP-like design and improved keyboard layout I cant see much better specs compared to the HP-33s. What I really can't understand is the fact that the HP-35s still seems to lack a build-in function to deal with matrices! Calculating with matrices has been one of the most frequent tasks when I was student (mechanical engineering) back in the the 90's. My faithful HP-28s saved me hours of manual work on paper when I had to solve huge equation-systems. I still have this HP-28s and will never ever give it away. He served me so well and earned his retirement (lying in the drawer with removed batteries).

Half a year ago when I decided to buy a new RPN-HP I thought I could get a kind of HP-42s for more daily number crunching without the need of graphics and a better scale factor. I really was surprised when I had to learn that there was only one calculator left in the HP-range which matched my specs: the HP-33s. I had not been following what happened to HP calculators since I bought my HP-28s back in 1991! But since RPN was a Must for me, the HP-33s was the only calculator left to buy. And I must confess it is not THAT bad. OK, HP is still far far away from its quality design it ones used to come up with. And I guess it never will get back there. The old design teams and with them the HP-spirit vanished for good. But lets give the new HP calcaultor division a fair chance to show what the can go for. The HP-35s is a step in the right direction. I will buy one!

Greetings, Frank

### Re: It's a hoax, isn't it?!

Message #205 Posted by [GE](#) on 5 June 2007, 5:47 a.m.,  
in response to message #204 by Frank Rottgardt

> He served me so well...

Is it a "HE" ? Mine are "IT"s...

### Re: It's a hoax, isn't it?!

Message #206 Posted by [Walter B](#) on 5 June 2007, 6:04 a.m.,  
in response to message #205 by GE

Quote:

> He served me so well...

Is it a "HE" ? Mine are "IT"s...

IMHO as long as he writes better English than you German, I propose to neglect some errors if they do not distort the meaning.

### You Go Frank! You Go Walter! :-)

Message #207 Posted by [Matt Kernal \(US\)](#) on 5 June 2007, 12:51 p.m.,  
in response to message #206 by Walter B

Quote:

as long as he writes better English than you German, I propose to neglect some errors if they do not distort the meaning.

I couldn't have said it better! I am constantly amazed and impressed with the excellent writing skills of the people on this forum. Being well-aware of the diverse nationalities behind many of these posting, it is amazing (to me anyway) how crystal-clear the meaning and intent of the messages come through, especially from those friends here whose primary language isn't English. I'm not kidding, it makes me try harder to make sure my writing is understandable. My sincerest compliments to you.

I have some German colleagues that, when we need to troubleshoot different control systems or understand the interactions between automated equipment, will often refer to one machine as "him" or the other as "he". This really simplifies the understanding of the communication signals that are being exchanged between each other (as though they

were people having a conversation). I find it refreshing to discuss these technical details in such a "human-like" manner.

Take care, Matt

**Re: You Go Frank! You Go Walter! :-)**

Message #208 Posted by [Howard Owen](#) on 5 June 2007, 1:42 p.m.,  
in response to message #207 by Matt Kernal (US)

I also use "he" or "she" sometimes when referring to machines, and I'm a native English speaker.

Of course I'm also a technophilic weirdo who spends more time with computers than with people, but that's beside the point. 8)

I actually use personal pronouns occasionally when explaining technical issues in computer systems. Something like "I'm the mail server and you are the mail client. First you connect to my port 25, then .." is the pattern. (It's actually less suggestive than it sounds. 8)

I'm ignorant about German, but I know Romance languages have gender for nouns and adjectives. Thus it isn't surprising to me hear a French, Spanish or Portuguese native speaker use pronouns like "he" or "she" in English conversation when referring to objects other than human beings. Is German the same in that respect?

Regards,  
Howard

**Re: You Go Frank! You Go Walter! :-)**

Message #209 Posted by [Walter B](#) on 5 June 2007, 3:37 p.m.,  
in response to message #208 by Howard Owen

Quote:

it isn't surprising to me hear a French, Spanish or Portuguese native speaker use pronouns like "he" or "she" in English conversation when referring to objects other than human beings. Is German the same in that respect?

German features 50% extra: it has 3 genders for nouns like Latin or Greek. So there is male, female and neutral. It's pretty hard for foreigners to learn which noun carries which gender. E.g. locomotive is female, lake is male, and girl is neutral d:-)

**Re: You Go Frank! You Go Walter! :-)**

Message #210 Posted by [Wayne Brown](#) on 5 June 2007, 5:11 p.m.,  
in response to message #209 by Walter B

Quote:

German features 50% extra: it has 3 genders for nouns like Latin or Greek. So there is male, female and neutral. It's pretty hard for foreigners to learn which noun carries which gender. E.g. locomotive is female, lake is male, and girl is neutral d:-)

English was that way once, like the other Germanic languages. For instance, *stan* (stone) was masculine, *sunne* (sun) was feminine, and *scip* (ship) was neuter. But we've lost most of that, except for personal pronouns like he, she, and it.

**Linguistic gender**

Message #211 Posted by [James M. Prange \(Michigan\)](#) on 6 June 2007, 1:52 a.m.,  
in response to message #209 by Walter B

English can be rather strange with regards to the "genders" too.

"Gender" in language, at least originally, referred to which "kind" a word was, not necessarily to which sexual characteristics were associated with it, which may perhaps explain some seeming oddities in linguistic genders.

But of course, which sexual characteristics (masculine or feminine) something seems to have, or the lack of sexual characteristics (neuter), seems a natural way of classifying into which "kind" it is too, and the modern usage of "gender" is usually understood to mean which "sex" something is.

English started out as a west Germanic dialect, so modern English does share a lot with modern German and the other modern "Germanic" languages, but English has been extensively modified (and, in some ways, simplified) by the use of Latin by the church and the learned, intermingling with the "Danes" (Vikings) and the Norman French, and many of its speakers being familiar with and rather freely borrowing from other languages. Remember that English was once a rather obscure language usually used only in a part of the island of Great Britain.

Of course, sometimes a language is modified just for the fun of it, or to identify the speakers with a particular group.

In modern English, for the personal pronouns and adjectives, only the third person singulars "he", "him", "his", "she", "her", "hers", "it", and "its" have any gender. Plural and first and second person pronouns and adjectives are "genderless".

For the most part, a "person" is either masculine or feminine, and a "non-person" is neuter.

The feminines are always used for a definitely female person, but the "masculines" are used both for a definitely male person and for a "person of unknown gender".

Some seem to find using the masculine for a person of unknown gender rather uncomfortable or downright objectionable, as if the "masculine" should be used only for a male, and not for either a male or a female, whichever the person happens to be.

Sometimes, to avoid using a masculine for a person of unknown gender, a plural is resorted to. For example, the plural "they" is sometimes used with the singular "everyone", and the plural "their" is sometimes used with the singular "anyone". This seems to be pretty much accepted English usage, but the disagreement in number rather jars on my ears.

Similarly, constructions such as "he or she" or even "he/she" are sometimes resorted to, but they seem clumsy and just don't "sound right" to me.

Those who object to English using the "masculine" for a person of unknown gender sometimes seem to make it a point to use the feminine for such cases, but that sounds very stilted and unnatural. "Making a point" about one of the oddities of standard English language rather distracts me from whatever other communication is being attempted.

A human is almost always treated as either masculine or feminine, but an infant is sometimes treated as neuter, as though not really a "person" yet.

Sometimes it's ambiguous which sex a person is, and in such cases, it's rather debatable which gender to use.

An animal may be treated as masculine or feminine (a "person"), even if it has been physiologically "neutered", but may be treated as neuter (a "non-person").

Inanimate nouns are usually neuter, but sometimes an inanimate noun is "personified", in which case it's treated as either masculine or feminine, depending on tradition or on which characteristics seem most important. For example, the sun is neuter, but the Sun is male; the earth is neuter, but of course Mother Earth is feminine. A ship is feminine (even if it has a "masculine" name) or occasionally neuter, and automobiles and other machines (things that males "fall in love with", I suppose) are often feminine. An oak may be treated as masculine due to its sturdiness (even though its acorns may seem a feminine characteristic), and a willow may be treated as feminine due to its suppleness.

I'm often impressed by how clearly those in this forum who (I guess) don't have English as their mother tongues communicate in English, sometimes better than those of us who (I guess) do have English as our native language. Maybe those who use English as a second language tend to be particularly careful in how they use it.

Regards,  
James

*Edited: 6 June 2007, 2:16 a.m.*

### **Re: Linguistic gender**

*Message #212 Posted by **Walter B** on 6 June 2007, 3:29 a.m.,  
in response to message #211 by James M. Prange (Michigan)*

Thanks for the long explanation.

Quote:

For example, the sun is neuter, but the Sun is male;

Another interesting observation: in Romance languages, the sun is male and the moon is female, in Germanic languages (if not simplified) the sun is female and the moon is male. May depend on whether you long for the sun in the north or you long for the shade in the south?

### **Re: Linguistic gender**

*Message #213 Posted by **Les Wright** on 7 June 2007, 1:42 a.m.,  
in response to message #211 by James M. Prange (Michigan)*

Quote:

(things that males "fall in love with", I suppose)

Don't you mean "things with which males fall in love"?

Ending a phrase with a preposition is so common place that it is not even considered bad English anymore--you see it here even in the esteemed Globe & Mail, the Toronto-based newspaper that is about the closest we get here in terms of erudition and prestige to the New York Times or Washington Post. But it still drives me bananas.

And also don't you mean "things with which men fall in love?" Male and female are, I thought, properly used as adjectives. Particularly fussy and inflexible grammarians of a former age may snarkily inquire "but what do you mean? a male sheep? a male cat? a male frog?"

This all said, I am reminded that present day linguists would remind us that language is organic and changes continually (notice I said continually and not continuously) and would advise that notions of "properness" and "correctness" are all relative to social and historical norms and expectations of the day and as such are scarcely absolute.

So, with apologies to GBS, there are some annoying things in spoken and written English today up with which I just have to put!

Les

### **Re: Linguistic gender**

*Message #214 Posted by **Howard Owen** on 7 June 2007, 5:54 a.m.,  
in response to message #213 by Les Wright*

Irregardless of our sensibilities, language won't stand still. The word I began that sentence with is a good example. It actually means "regardless," so the negating prefix "ir-" is nonsensical when combined with the negating suffix "-less." But I remember that the then President of the United States, a Nuclear Engineer by the name of Jimmy Carter, used the word in a televised press conference, which generated howls of outrage from my English professor father. The word now appears in most dictionaries of American English, although it's an even bet whether it will make it into the O.E.D. this century.

English is a particularly supple language. I think that is partly America's fault. We tend to be contemptuous, ignorant or at least unmindful of most traditions, linguistic or otherwise. But we Americans didn't originate the tendency to borrow from other languages. The Romans, Vikings and Norman French all brought distinct influences to bear on the then parochial English language. Another factor contributing to the current rate of change in English is its widespread use around the world. The British Empire spread English all over the globe in the 18th and 19th Centuries, and the American ascendancy in cultural, economic, military and political terms in the last half of the 20th Century greatly expanded on that base. The Internet, invented in the US, and mostly text based even today,

contains many English pages. (I don't know if Chinese has caught up yet. I read somewhere that it is predicted to do so.) All of these non-native English speakers contribute their idioms and vocabulary too.

So IMHO, I think y'all should jes' sit back and enjoy the diversity. It ain't a big deal if'n a body caint speak like a banker or a lawyer. LOL!

Regards,  
Howard

**Re: Linguistic gender**

*Message #215 Posted by [Antonio Maschio \(Italy\)](#) on 7 June 2007, 6:24 a.m.,  
in response to message #214 by Howard Owen*

Does still the verb "to bobbit" exist, after some Lorena Bobbit did what she did long time ago?

An Italian tv news journal, then, affirmed how fast was English to create new words, but I wonder

- a) if they are widely accepted and
- b) if they last enough to be put into a dictionary.

-- Antonio

**Re: Linguistic gender**

*Message #216 Posted by [Ren](#) on 14 June 2007, 11:44 p.m.,  
in response to message #213 by Les Wright*

Quote:

Don't you mean "things with which males fall in love"?

Ending a phrase with a preposition is so common place that it is not even considered bad English anymore--you see it here even in the esteemed Globe & Mail, the Toronto-based newspaper that is about the closest we get here in terms of erudition and prestige to the New York Times or Washington Post. But it still drives me bananas.

[JOKE]

Hank, a Texan, is spending his first day at Harvard as a Freshman. He asks someone he encounters, "Say, could you tell me where the Library is at?"

The other person haughtily replies, "This is Cambridge, we do not end our sentences with a preposition."

Hank then says, "I'm sorry, that is the way we talk back in Texas. Please allow me to rephrase the question."

"Say, could you tell me where the Library is at, asshole?"

[/JOKE]

(Ducking, running and grinning!)

**Re: You Go Frank! You Go Walter! :-)**

*Message #217 Posted by [Vieira, L. C. \(Brazil\)](#) on 5 June 2007, 6:55 p.m.,  
in response to message #208 by Howard Owen*

Hi, Howard;

Quote:

Thus it isn't surprising to me hear a French, Spanish or Portuguese native speaker use pronouns like "he" or "she" in English conversation when referring to objects other than human beings.



There are neither neutral articles nor pronouns in Portuguese, we have 'ele' for 'he', 'ela' for 'she', and 'eles' or 'elas' for 'they'. Articles, by their own, are 'o' for 'male' objects and 'a' or 'female', both replacing 'the'. Like:

'o' livro (the book) or 'a' cadeira (the chair).

The problem is that there is no way to 'signify' an object as male or female, and in some cases, their gender 'shift' from one language to another. I know German has the three possibilities: an object may be neutral, female or male. AFAIK, english officially defines one female object: ship. They are all 'she'. Is that correct?

Also, there is no direct replacement for 'it', completely new for us, Portuguese speakers. If someone sees a dog and wants to ask if it belongs to someone, it would be:

'Ele é seu?' (Is HE yours?)

There is no portuguese word for 'it'. We have some instances that allow us to believe that we had the chance to have some neutral references, because in Portuguese we have 'esse', 'essa' and 'isso', being them the equivalent to 'this' as for male, female and neutral. (same for 'aquele', 'aquela' and 'aquilo', equivalent to 'that' the same way)

Again, this forum rules!

Cheers.

Luiz (Brazil)

*Edited: 5 June 2007, 8:06 p.m. after one or more responses were posted*

### **Re: You Go Frank! You Go Walter! :-)**

*Message #218 Posted by [bill platt](#) on 5 June 2007, 7:37 p.m.,  
in response to message #217 by [Vieira, L. C. \(Brazil\)](#)*

'Tis true: a ship is feminine--is "she."

And yet, just to keep the consternation factor high, it is of course perfectly acceptable to name a ship after a man, E.G. the "Harvey Gamage."

### **Re: You Go Frank! You Go Walter! :-)**

*Message #219 Posted by [Howard Owen](#) on 5 June 2007, 9:24 p.m.,  
in response to message #217 by [Vieira, L. C. \(Brazil\)](#)*

Quote:

AFAIK, english officially defines one female object: ship. They are all 'she'. Is that correct?

That's just a matter of customary usage, not language structure. English lacks gender qualified articles, so "the ship" is the neutral translation of the gender qualified Spanish "el barco." Wikipedia's article on grammatical gender contains [a section on English](#). It points out that English retains a few gender qualified nouns. The suffix "-ess" is used for some nouns to indicate the "natural" gender of the object. So we have "actor" and "actress," for example. But the referenced article states that ".. these are insignificant features compared to a typical language with grammatical gender." Usage of the "-ess" ending is on the decline in American English, at least, primarily due to the influence of Feminism. (And, no doubt, to the well established trend in English to wring out redundancy in the language.)

Regarding the use of the gender qualified pronoun "she" used in speaking of a ship, the Wikipedia article says this: "The pronoun "she" is sometimes used to refer to countries, ships *or machines*, and in poetic personalizations, though this is considered a stylistically marked, optional figure of speech. This usage is furthermore in decline and advised against by most journalistic style guides such as the Chicago Manual of Style." (Emphasis added.) So the complaint about referring to a calculator as "he" has even less basis than I thought. 8)

Regards,  
Howard

**Re: It's a hoax, isn't it?!**

Message #220 Posted by **Frank Rottgardt** on 5 June 2007, 6:26 a.m.,  
in response to message #205 by GE

Hi,

always keen to learn something new. But maybe not that public if you know what I mean. BTW I think anyone else would get bored if a quarter of all messages would try to spread correct english across the globe.

I am a foreigner living outside the US/UK. So by definition I am allowed to write english in a funny style 8)

More over I live in Sweden talking swedish all the time. So not enough with bad english, I even have a hard time with keeping my native german alive!

Med vänlig hälsning / Mit freundlichem Gruß / best regards

Frank

**Re: It's a hoax, isn't it?!**

Message #221 Posted by **Howard Owen** on 5 June 2007, 1:47 p.m.,  
in response to message #220 by Frank Rottgardt

You are welcome here, without any requirements that you write perfectly in any language, Frank. I understood you completely.

Regards,  
Howard

**Re: It's a hoax, isn't it?!**

Message #222 Posted by **Frank Rottgardt** on 5 June 2007, 2:10 p.m.,  
in response to message #221 by Howard Owen

Hello Howard,

thanks for the warm welcome! I actually started to post here only some days ago. But I have been following this excellent forum for more than a year and found it always to be a first class information source when it comes to HP calculators.

If you ask me this language issue is past now and I am looking forward to enjoy the further calculator discussion.

Frank

**Re: It's a hoax, isn't it?!**

Message #223 Posted by **bill platt** on 5 June 2007, 7:40 p.m.,  
in response to message #222 by Frank Rottgardt

Well, you are welcome here but as you have probably surmised upon further reflection, the language thing is hardly past--we seem to relish the language thing around here--almost as much as maths (perhaps even more sometimes).

P.S. is the Blossipor and Tussilago past yet?

**Re: It's a hoax, isn't it?!**

Message #224 Posted by **Frank Rottgardt** on 6 June 2007, 5:56 a.m.,  
in response to message #223 by bill platt

Moi Bill,

yes. The typical spring flowers are almost gone. And after a week with much rain the summer has arrived. Hopefully we will have such a fine weather around midsummereve when the swedes enjoy their "sill" (pickled herring) and "nubbar" (schnapps). Not to forget the famous dance around the midsummerpole when everybody sings "little frogs is what we are, no ears, no ears, no tails we have" A strange sight for non-swedes.

BTW, your name does not sound very finnish. Do you use a pseudonym when posting?

Näkemisiin!

**Re: It's a hoax, isn't it?!**

*Message #225 Posted by [GE](#) on 6 June 2007, 6:55 a.m.,  
in response to message #224 by Frank Rottgardt*

Frank and all, I was not criticizing your English at all (not natively "spoken" here either), just stressing the fact that you may be putting a little too much affection in your relationship with something which is essentially just plastic and other components (cleverly) put together.

I know I have the exact same problem but \*try\* to hide this by never using 'he' or 'she'...

And welcome aboard !

**Re: It's a hoax, isn't it?!**

*Message #226 Posted by [Matt Kernal \(US\)](#) on 6 June 2007, 5:13 p.m.,  
in response to message #223 by bill platt*

Quote:

\_\_\_\_\_  
--almost as much as maths  
\_\_\_\_\_

Did you say "maths"? Is that how they say it in the North-East, or are you spelling it that way out of courtesy to our European neighbors? I'm assuming the latter, because pronouncing that t-h-s sound just doesn't roll off the tongue easily for most americans.. kind of sounds like somebody letting the air out a tire (or tyre :-).

I think I just confirmed your statement that "we seem to relish the language thing around here".

Matt

p.s. I realize "maths" an abbreviation of "mathematics".. I'm just messing with you <8^)

**Nail on the head**

*Message #227 Posted by [bill platt](#) on 7 June 2007, 7:27 a.m.,  
in response to message #226 by Matt Kernal (US)*

:-D

**Re: "Maths"**

*Message #228 Posted by [Paul Brogger](#) on 7 June 2007, 10:14 a.m.,  
in response to message #226 by Matt Kernal (US)*

BTW, is it "Matt" or "Matts"?

;->

**Re: "Meta"**

*Message #229 Posted by [Matt Kernal \(US\)](#) on 7 June 2007, 12:06 p.m.,  
in response to message #228 by Paul Brogger*

Well it's a good thing my first name isn't "Meta".. that would be just too wierd (unless I was the author of it, I guess).

Matt

p.s. I get a kick out of Les Wright's name, this being a calculator forum and all :D

p.p.s. Paul, it would sure be nice if you and your wife could make it to San Diego this September for the HHC2007 conference. I flew down to San Jose for \$103 RT from Portland for last year's get together. I mention this because my wife just gave me the go-ahead to go again since I told her it was a big year (and possibly because she got a neat 12C anniversary edition when I got home last year -

she fell in love with the case actually and had to learn to use RPN as requirement to keep it (-mwahahaha - evil laugh - that).

**Re: HHC 2007**

Message #230 Posted by [Paul Brogger](#) on 7 June 2007, 2:31 p.m.,  
in response to message #229 by Matt Kernal (US)

It's in my Outlook, and I've already broached the subject. I'm counting upon being there, but who really knows? (I'm signed up to pull my boat out of the water that Monday for its winter refit, so I'll be busy . . .)

My wife may come along, but not because of any calculator! I don't think she finds *any* piece of technology less compelling than she does "office equipment". (And RPN? Forget it!)

For us, the MoHPC & etc. don't fall under the category of "shared interests".

**Re: "Meta"**

Message #231 Posted by [Ron](#) on 7 June 2007, 3:03 p.m.,  
in response to message #229 by Matt Kernal (US)

I know of a realtor named Sue Moore. She should have been a lawyer. But yeah, for this site, Les Wright is a good name.

Edited: 7 June 2007, 3:18 p.m.

**Re: It's a hoax, isn't it?!**

Message #232 Posted by [bill platt](#) on 5 June 2007, 7:38 p.m.,  
in response to message #220 by Frank Rottgardt

Terve!

Sweden isn't so far from Finland.

**Is it you, Bill? (was: Re: It's a hoax, isn't it?!)**

Message #233 Posted by [Antonio Maschio \(Italy\)](#) on 6 June 2007, 8:19 a.m.,  
in response to message #232 by bill platt

(  
Are you [this](#) Bill Platt?  
)

-- Antonio

Edited: 6 June 2007, 11:58 a.m.

**Re: Is it you, Bill?**

Message #234 Posted by [bill platt](#) on 7 June 2007, 7:30 a.m.,  
in response to message #233 by Antonio Maschio (Italy)

Nope.

**Re: Is it you, Bill? (was: Re: It's a hoax, isn't it?!)**

Message #235 Posted by [Ren](#) on 7 June 2007, 12:12 p.m.,  
in response to message #233 by Antonio Maschio (Italy)

If he was, do you think he'd admit to being a phantom writer?

:^P

Ren

dona nobis pacem

Quote:

Are you this Bill Platt?

-- Antonio

### Re: hp 35s arrived

Message #236 Posted by **Jan Vanden Bossche** on 1 June 2007, 9:39 p.m.,  
in response to message #1 by ssf

Quote:

Finally hp 35s!

<http://www.calculators-hp.com/pdf/35s.pdf>

Sorry, I can't see it. Every site I visit quotes the HP 33s, not the 35s, the above link is broken, the only thing that seemed to work was the declaration of conformity.

[http://h40047.www4.hp.com/certificates/media.php/doc/computers/handhelds\\_and\\_calculators/CE\\_35s\\_Scientific\\_Calculator\\_HSTNJ-KN01.pdf](http://h40047.www4.hp.com/certificates/media.php/doc/computers/handhelds_and_calculators/CE_35s_Scientific_Calculator_HSTNJ-KN01.pdf)

Are you guys high on something ? Where can I see an announcement and a picture. Sorry if I seem dense, but I do want some more confirmation than a thread on a forum.

### Re: hp 35s arrived

Message #237 Posted by **Don Shepherd** on 1 June 2007, 9:59 p.m.,  
in response to message #236 by Jan Vanden Bossche

Looks like they took down that site also.

If anyone at HP is reading this forum, how about some feedback regarding this product. There is too much speculation, and some official word would be appreciated.

### Re: hp 35s arrived

Message #238 Posted by **John** on 2 June 2007, 12:07 a.m.,  
in response to message #237 by Don Shepherd

Why would HP do anything of the sort if, as appears likely, it was an unofficial leak that they are not happy with?

I presume HP won't give any information out until they are ready, regardless of what a distributor seems to have done.

### Re: hp 35s arrived

Message #239 Posted by **Gerson W. Barbosa** on 1 June 2007, 10:00 p.m.,  
in response to message #236 by Jan Vanden Bossche

An HTML version of the pdf in Google cache, no pictures though:

<http://72.14.205.104/search?q=cache:yZTzMESrQeQJ:www.calculators-hp.com/pdf/35s.pdf+www.calculators-hp.com/pdf/35s.pdf&hl=en&ct=clnk&cd=2>

### Re: hp 35s arrived

Message #240 Posted by **kdv** on 3 June 2007, 7:29 a.m.,  
in response to message #239 by Gerson W. Barbosa

Note the HP35s flyer says:

"Choose between RPN or algebraic entry-system logic—no other scientific calculator offers both"

As the HP33s has RPN and algebraic data entry, this seems to imply the HP33s will disappear from store shelves once the HP35s is available.

regards,

koen

**Re: hp 35s arrived**

*Message #241 Posted by **Walter B** on 3 June 2007, 8:51 a.m.,  
in response to message #240 by kdv*

That will not cause me headaches d:-)

**Re: hp 35s arrived**

*Message #242 Posted by **Howard Owen** on 1 June 2007, 11:17 p.m.,  
in response to message #236 by Jan Vanden Bossche*

Cyrille's photos are still up.

<http://hpmad.homeip.net/nicolas/2007-3-27-8-3/My%20dady%20gave%20me%20the%20coolest%20toys.JPG>

Search back in this thread for "hpmad" to find the other link.

Hmm. Looking at this photo in full resolution for the first time, it seems to confirm what I thought I saw before. That calc has a broken LCD. It would seem that "hpmad" isn't quite *that* crazy after all 8)

Regards,  
Howard

*Edited: 1 June 2007, 11:20 p.m.*

**Re: hp 35s arrived**

*Message #243 Posted by **Bruce Bergman** on 2 June 2007, 12:03 a.m.,  
in response to message #242 by Howard Owen*

Actually, the LCD is fine; it's not broken. What you're seeing in there is the reflection of the giraffe's foot. Orange leg, black hoof on a yellow background. I've seen that baby blanket print before. ;-)

thanks, bruce

**Re: hp 35s arrived**

*Message #244 Posted by **Howard Owen** on 2 June 2007, 1:36 a.m.,  
in response to message #243 by Bruce Bergman*

That's plausible.

So I think we should view this picture as part of a field stress test, which to judge by the subject's expression, seems to have gone very well! That old HP quality is back for sure!

8)

Regards,  
Howard

## HP Forum Archive 17

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### HP-9G programming bug

Message #1 Posted by [Xerxes](#) on 28 May 2007, 9:54 a.m.

I tried to program the N-Queens Problem on the HP-9G for benchmarking and get a "NEST Er" without a plausible reason. After investigating the problem, I have found the following:

```
N=3
S=0
Lb1 0:
S=S+N
IF(--N)THEN{GOTO 0}
PRINT S
```

This simple program for the sum of 1..n works only to N=3. The reason seems to be the jump out of the IF block more than 3 times.

Is it possible to avoid this problem?

### Re: HP-9G programming bug

Message #2 Posted by [Raymond Del Tondo](#) on 28 May 2007, 11:12 a.m.,  
in response to message #1 by [Xerxes](#)

Hi,

did you try other variable names?

Did you try with discrete operations,  
like N=N-1 instead of '--N' ?

What does the doc say about that 'GOTO 0' construct ?  
Or about the error message?

A nesting error indicates that either calling the  
subprogram would exceed the the allowed nesting depth,  
or maybe you forgot the correct return statement.

Raymond

### Re: HP-9G programming bug

Message #3 Posted by [Xerxes](#) on 28 May 2007, 11:43 a.m.,  
in response to message #2 by [Raymond Del Tondo](#)

I have tried N=N-1 or other variables too. The "NEST Er" is discribed in the manual for the GOSUB statement with a maximum of 3 nesting depth.

Another example:

```
N=0
Lb1 0:
```

```
IF(1) THEN { N=N+1 }  
GOTO 0
```

```
N=0  
Lb10:  
IF(1) THEN { N=N+1 ; GOTO 0 }
```

The first example works but the second gives a "NEST Er".

---

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## HP Forum Archive 17

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### Which mathematical functions live out in the suburbs?

Message #1 Posted by [Bob Wang](#) on 27 May 2007, 11:12 p.m.

Call me a masochist, but Ron's question about Lorentz transforms brought back fond memories of tackling DEQ, in the days before calculators ;-)

Also brought back memories of a BAD joke:

Which mathematical functions live out in the suburbs?

Why, commuting derivatives, of course.

### Re: Which mathematical functions live out in the suburbs?

Message #2 Posted by [Ron Allen](#) on 28 May 2007, 1:03 a.m.,  
in response to message #1 by Bob Wang

Sorry people, my use of DEQs has to be LIMITED since I am self-taught, (sort of a self-made masochist). Hey! That's not only cheating on yourself (kinky), but, it's unnecessarily redundant. I'll try this pun thing anyway.

Ron

Edited: 28 May 2007, 1:11 a.m.

### Re: Which mathematical functions live out in the suburbs?

Message #3 Posted by [Ron Allen](#) on 28 May 2007, 3:19 a.m.,  
in response to message #2 by Ron Allen

WHY did you get me started? We'll have plenty of competition before noon!

"Hey, Juan! You understand that stuff about Relativity?"

"C"

\*\*\*\*\*

"Should we buy the new surrey from Mr. Newton or Mr. Einstein Dear?"

"Well, I asked Mr. Heisenberg for advice but he was uncertain."

"And, you remember what an imagination Mr. Eienstein had when we bought from him last year? Went to all that trouble to get us to "visualize" ourselves in that surrey we had already decided to buy. I like him, but I don't understand him as well as I do Mr. Newton."

"That settles it then! It's his turn this year. The new ones all look alike anyway. Besides, with Mr. Newton it is always -

WHAT YOU SEE IS WHAT YOU GET!

\*\*\*\*\*

"This boy needs to get to sleep before space-time wakes me up. Why don't we visit with Lorentz for a few weeks? He's still a little depressed over the outcome of that M&M thing he was involved with. Be a good time to try out that new surrey. Maybe he has some ideas about the reconciliation I need."

**Re: Which mathematical functions live out in the suburbs?**

*Message #4 Posted by **Walter B** on 28 May 2007, 7:40 a.m.,  
in response to message #3 by Ron Allen*

"Surrey" = ??

**Re: Which mathematical functions live out in the suburbs?**

*Message #5 Posted by **Les Wright** on 28 May 2007, 7:54 a.m.,  
in response to message #4 by Walter B*

It's a type of horse-drawn carriage.

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## HP Forum Archive 17

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### 71B/EMU71 + 9114B error

Message #1 Posted by [Egan Ford](#) on 27 May 2007, 8:41 p.m.

I am testing a 9114B post-repair and get the following error after a successful copy of a specific file (MATHROM.LEX):

```
HPIL ERR:Not LIF Format
```

Once I get this error I cannot read the disk again until I power cycle the drive or initialize the diskette.

I am using EMU71 with an HP-IL ISA adapter and a 9114B.

Session:

```
>INITIALIZE :HP9114B
>COPY MATHROM:HDRIVE2 TO :HP9114B (:HDRIVE2 = lexfl1.lif)
>COPY JPCLEX:HDRIVE2 TO :HP9114B (:HDRIVE2 = lexfl1.lif)
>COPY WB71:HDRIVE2 TO :HP9114B (:HDRIVE2 = lexfl1.lif)
>COPY NIBBLEX:HDRIVE2 TO :HP9114B (:HDRIVE2 = lexfl1.lif)
>COPY LEXOFF:HDRIVE2 TO :HP9114B (:HDRIVE2 = lexfl1.lif)
>CAT :HP9114B
```

| NAME    | S | TYPE | LEN   | DATE     | TIME  |
|---------|---|------|-------|----------|-------|
| MATHROM |   | LEX  | 32745 | 05/02/07 | 00:56 |
| JPCLEX  |   | LEX  | 11173 | 05/02/07 | 01:00 |
| WB71    |   | ROM  | 32768 | 05/02/07 | 01:04 |
| NIBBLEX |   | LEX  | 329   | 05/02/07 | 01:05 |
| LEXOFF  |   | LEX  | 152   | 05/02/07 | 01:05 |

```
>INITIALIZE :HDRIVE1
>COPY JPCLEX:HP9114B TO :HDRIVE1
>COPY WB71:HP9114B TO :HDRIVE1
>COPY NIBBLEX:HP9114B TO :HDRIVE1
>COPY LEXOFF:HP9114B TO :HDRIVE1
>COPY MATHROM:HP9114B TO :HDRIVE1
```

```
HPIL ERR:Not LIF Format (huh?)
```

```
>CAT :HDRIVE1 (file did get copied. I verified with lifget/md5sum, all bits are there)
```

| NAME    | S | TYPE | LEN   | DATE     | TIME  |
|---------|---|------|-------|----------|-------|
| JPCLEX  |   | LEX  | 11173 | 05/02/07 | 01:07 |
| WB71    |   | ROM  | 32768 | 05/02/07 | 01:08 |
| NIBBLEX |   | LEX  | 329   | 05/02/07 | 01:09 |
| LEXOFF  |   | LEX  | 152   | 05/02/07 | 01:09 |
| MATHROM |   | LEX  | 32745 | 05/02/07 | 01:09 |

```
>CAT :HP9114B (cannot read drive)
```

```
HPIL ERR:Not LIF Format
```

Power cycle or initialize and all is well again.

What is special about MATHROM.LEX?

Could this be isolated to EMU71?

Is there any other way to reset the 9114B remotely?

Thanks.

**Re: 71B/EMU71 + 9114B error**

*Message #2 Posted by **Howard Owen** on 28 May 2007, 3:26 a.m.,  
in response to message #1 by Egan Ford*

Quote:

Is there any other way to reset the 9114B remotely?

There are several things you can try. Here's what I can think of, in no particular order.

- If flag -21 is clear (the default) a real 71 attempts to power off all devices on the loop when it is powered off itself. I assume the equivalent operation would be to stop and restart EMU71.
- You could try RESTORE IO, which will readdress the loop, and reset talker/listener status for all devices.
- CLEAR :HP9114B might work. That is supposed to reset the internal state of the addressed device, without touching its interface, i.e. not doing anything RESTORE IO does.
- In case the problem is with EMU71's HPIL state, you can RESET HPIL/RESTORE IO. RESET HPIL does a cold boot and self test of the HP-IL interface. RESTORE IO will recall the PRINTER IS and DISPLAY IS devices, in addition to readdressing the loop. The readdressing will happen before the next I/O operation in any case.
- Finally, you might look up what the HP/IL message sequence is for power down, and send that to the drive. This might work better if you were programming this stuff, instead of sitting with EMU71 or a real 71 in front of you.

That is mighty weird about MATHROM.LEX. I assume you get that result no matter in what sequence you copy the files back from the 9114?

Regards,  
Howard

**Re: 71B/EMU71 + 9114B error**

*Message #3 Posted by **Egan Ford** on 28 May 2007, 10:59 a.m.,  
in response to message #2 by Howard Owen*

Quote:

That is mighty weird about MATHROM.LEX. I assume you get that result no matter in what sequence you copy the files back from the 9114?

Order does not matter. Tried multiple disks as well.

**Re: 71B/EMU71 + 9114B error**

Message #4 Posted by **J-F Garnier** on 28 May 2007, 7:21 a.m.,  
in response to message #1 by Egan Ford

Hi Egan,

Strange. I tried the same procedure using Emu71 and the 2 internal drives, without errors.

It would be interesting to know if this behavior happens using a real HP-71B as controller, doing "CONTROL OFF" on Emu71 side.

I can't do it by myself, my HP9114 battery is out of order, and it's a HP9114A version with a probably older firmware version.

I'm not sure CLEAR :HP9114 can reset the fault condition. Maybe ejecting and inserting the floppy disc again can fix it, just it can't be done remotely...

J-F

*Edited: 28 May 2007, 7:26 a.m.*

**Re: 71B/EMU71 + 9114B error**

Message #5 Posted by **Egan Ford** on 28 May 2007, 11:00 a.m.,  
in response to message #4 by J-F Garnier

Quote:

I'm not sure CLEAR :HP9114 can reset the fault condition. Maybe ejecting and inserting the floppy disc again can fix it, just it can't be done remotely...

Power cycle only, or re init the diskette.

**Re: 71B/EMU71 + 9114B error**

Message #6 Posted by **Egan Ford** on 28 May 2007, 11:04 a.m.,  
in response to message #1 by Egan Ford

More info. I repaired another two 9114Bs. Neither unit exhibits the same behavior.

**Re: 71B/EMU71 + 9114B error**

Message #7 Posted by **Howard Owen** on 28 May 2007, 11:19 a.m.,  
in response to message #6 by Egan Ford

Interesting. I wonder if the firmware levels differ. I have no idea how you could tell.

Regards,  
Howard

**Re: 71B/EMU71 + 9114B error**

Message #8 Posted by **Egan Ford** on 28 May 2007, 2:32 p.m.,  
in response to message #1 by Egan Ford

Update. I swapped system boards. The problem follows the drive. I cleaned it and the problem went away. Well sort of...

I cannot reproduce the problem with a 71B, only with EMU71. EMU71 will read it once without error, the 2nd read of only MATHROM (no other file) yeilds a "New Medium" error after the copy. The copies are complete.

*Edited: 28 May 2007, 2:39 p.m.*

**Re: 71B/EMU71 + 9114B error**

*Message #9 Posted by **Howard Owen** on 28 May 2007, 3:04 p.m.,  
in response to message #8 by Egan Ford*

Huh.

Assuming there are no firmware bits outside the main board, then there must be a physical flaw/quirk that copying the MATHROM sets up. It's probably independent of head position, unless the file ends up in the same sectors each time. So it has to be in the electromagnetic state of the system. That seems bizarre, but I can't think of another angle. The particular bit patterns in the deadly file must set up magnetic flux that jiggers the read mechanism somehow.

Anyone have a less UFO-like explanation?

Regards,  
Howard

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## HP Forum Archive 17

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**HP 01 prototype? with pictures....**

Message #1 Posted by [geoff quickfall](#) on 27 May 2007, 7:28 p.m.

HP 01 prototype?

Posted by Geoff Quickfall on 27 May 2007, 7:24 p.m.

Looking for more info on the HP-01. I now have restored 3, two to NOS condition and one almost, see pictures.

GROUP:

[http://i45.photobucket.com/albums/f96/geoff\\_q/closegroup.jpg](http://i45.photobucket.com/albums/f96/geoff_q/closegroup.jpg)

GROUP WITH PAPERS:

[http://i45.photobucket.com/albums/f96/geoff\\_q/groupa-1.jpg](http://i45.photobucket.com/albums/f96/geoff_q/groupa-1.jpg)

BEFORE AND AFTER:

[http://i45.photobucket.com/albums/f96/geoff\\_q/beforeafterbrown.jpg](http://i45.photobucket.com/albums/f96/geoff_q/beforeafterbrown.jpg)

The one of interest is an HP-01 with US case and strap. The keyboard is a heavy rough bakelite type unlike the polished black and bronze keyboards the other Swiss cases have. The D, A, M, T keys are very low, i.e. don't project far above the keyboard as the Swiss case ones do.

Two more points, no name on the crystal, not even a trace and the condition of the crystal, scratched and chipped precludes a polishing to remove the name. The second odd point was the lack of a serial number (see picture).

The provenance of the watch is that it came from the son of an HP employee who worked in Corvallis on the watch team. The owner has passed on and the history other than what you have here is all I know.

In summary:

US made case and strap,  
no Hewlett Packard name on original crystal (not polished off),  
no serial number on case back,  
low projecting D, A, M, T keys, much lower than the Swiss,

Any thoughts or ideas. Also looking for a bracelet stylus if anyone will part with a spare!!!!

The watch pictured has a hand made crystal by me from an old derelict HP calculator that was cut, fitted and polished by hand:

BEZEL:

[http://i45.photobucket.com/albums/f96/geoff\\_q/hp01proto.jpg](http://i45.photobucket.com/albums/f96/geoff_q/hp01proto.jpg)

CASE BACK:

[http://i45.photobucket.com/albums/f96/geoff\\_q/caseback.jpg](http://i45.photobucket.com/albums/f96/geoff_q/caseback.jpg)

*Edited: 27 May 2007, 9:46 p.m.*

### **anyone?**

*Message #2 Posted by [geoff quickfall](#) on 29 May 2007, 3:02 a.m.,  
in response to message #1 by geoff quickfall*

nt

### **Re: anyone?**

*Message #3 Posted by [Frank Boehm](#) on 31 May 2007, 3:06 a.m.,  
in response to message #2 by geoff quickfall*

Well, you said it all, didn't you? No serial number means pre-production prototype (production prototypes usually have at least odd serial numbers). The non-standard keyboard hints towards being an early prototype as well.

### **Thanks**

*Message #4 Posted by [Geoff Quickfall](#) on 31 May 2007, 10:12 a.m.,  
in response to message #3 by Frank Boehm*

Thanks, Frank

I was looking for some type of confirmation. That's, what I thought, even the module keyboard has a different key pad contact spring system to the others.

I will replace the quartz crystal with one of a similar vibration and fabricate the ground battery clip to see if I can resurrect the original module.

Right now all it does is display a zero for 6 seconds then turnoff.

Cheers, Geoff

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**Hp-67 Card reader**

Message #1 Posted by [Tim](#) on 27 May 2007, 6:06 p.m.

I have done a repair on the card reader. The calculator pulls the card through the calculator now. However it keep telling me error. Any suggestions?

**Re: Hp-67 Card reader**

Message #2 Posted by [Randy](#) on 27 May 2007, 6:45 p.m.,  
in response to message #1 by Tim

Reading or writing failures?

**Re: Hp-67 Card reader**

Message #3 Posted by [Dan W](#) on 27 May 2007, 10:45 p.m.,  
in response to message #1 by Tim

More or less what I do, in this order:

Make sure you have a known good card. Helps to have a working 67.

Double check all 5 of the wires from the r/w head. These can come loose easily and it's easy to miss.

Also check all the other wires attached to the PCB.

Be sure the PCB is correctly connected to the mainboard.

If that fails, open it up and check that all 4 tiny balls and the roller are in place, and also the two metal leaf springs are in place.

Try writing instead of reading to isolate the problem.

-- Dan

**Re: Hp-67 Card reader**

Message #4 Posted by [Tim](#) on 27 May 2007, 11:03 p.m.,  
in response to message #3 by Dan W

It fails on reading only.

**Re: Hp-67 Card reader**

Message #5 Posted by [David Smith](#) on 30 May 2007, 10:53 a.m.,  
in response to message #4 by Tim

A card reader that writes but does not read is almost always a bad tantalum filter capacitor (usually a small blue dipped tantalum) on the card read power line.

### **Re: Hp-67 Card reader**

*Message #6 Posted by **Tony Duell** on 29 May 2007, 4:30 a.m.,  
in response to message #3 by Dan W*

Do you have another 67, 97 or 41 (that is, something that can read a 67 card)? If so, try writing a card on the faulty machine and see if you can read it on the good one.

If you can't, check the head wiring, and check the head windings for continuity. There are 2 windings, IIRC, one has red and yellow wires, the other blue and orange wires (but I would have to check that in the schematics). If one winding is open, you can neither read nor write a card, and you're looking for a new head assembly (yes, I have had them fail).

The other thing to check are the decoupling capacitors on the various power lines. If one is defective, you get noise in the read amplifier from the motor. This will stop the machine from reading (although it will normally write OK).

### **Re: Hp-67 Card reader**

*Message #7 Posted by **Tim** on 30 May 2007, 8:18 p.m.,  
in response to message #6 by Tony Duell*

What is the value of the tantalum? Does anyone have the schematic?

### **Re: Hp-67 Card reader**

*Message #8 Posted by **Randy** on 30 May 2007, 8:55 p.m.,  
in response to message #7 by Tim*

It's the only 6.8uf on the reader board.

Schematics of the 67 and others are available from <http://www.hpcc.org/cdroms/> and are well worth the \$. Thank you Tony...

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## HP Forum Archive 17

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### HP OmniGo 100 Question

Message #1 Posted by [Maximilian Hohmann](#) on 27 May 2007, 6:41 a.m.

Hello!

Yesterday, I found an hp OmniGo 100 on the flea market. Not that I'm interested much in PDAs and suchlikes, but it is from hp and over 10 years old (and has an hp-12C emulator in its ROM!), and therefore I paid the 20 Euros for it, that the guy would accept as lowest bid.

I understand, that this thing can run DOS applications and also, that it accepts CF-cards through a PCMCIA-memorycard-adapter.

What I haven't found out yet, is how to get a DOS-prompt so that I can launch DOS-programs from the memorycard... Has anybody got an idea about that maybe?

Greetings, Max

*Edited: 27 May 2007, 6:41 a.m.*

### Re: HP OmniGo 100 Question

Message #2 Posted by [DaveJ](#) on 27 May 2007, 7:32 a.m.,  
in response to message #1 by Maximilian Hohmann

The OmniGo 100 has limited DOS functionality, it is not a true DOS machine like the 200LX. See: <http://www.palmtoppaper.com/PTPHTML/24/pt24001e.htm> <http://www.daniel-hertrich.de/og100/>

Dave.

### Re: HP OmniGo 100 Question

Message #3 Posted by [Raymond Del Tondo](#) on 27 May 2007, 1:06 p.m.,  
in response to message #1 by Maximilian Hohmann

Hi,

the OG100 holds some questionable records.

It has the display with lowest possible contrast,  
the smallest display compared to the other LX based machines,  
and the shortest possible battery life.

Actually you can virtually watch the battery go flat.  
Of course the OG 100 was the first LX based device  
\*without\* an AC adapter option...

The GEOS and the switchable display are the most interesting things on the OG,  
other than that the OmniGo was designed to avoid success;-)

The OG 120 has some \*minor\* improvements over the OG 100,

such as a better battery life, and a so-called 'holographic' display.

Actually the display is much better readable than on the OG 100, but still way substandard, even at the time of introduction.

I paid more than 500 DM for my first OG 100 when it was new, and regretted it shortly after...

OMHO

Raymond

### **Re: HP OmniGo 100 Question**

*Message #4 Posted by [Eric Smith](#) on 27 May 2007, 9:31 p.m.,  
in response to message #3 by Raymond Del Tondo*

Quote:

\_\_\_\_\_

the OG100 holds some questionable records.

\_\_\_\_\_

More of an OmniWent?

### **Re: HP OmniGo 100 Question**

*Message #5 Posted by [Raymond Del Tondo](#) on 27 May 2007, 9:41 p.m.,  
in response to message #4 by Eric Smith*

Right,

I forgot that it also had one of the shortest life cycles;-)

Raymond

---

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## HP Forum Archive 17

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**OpenRPN**

Message #1 Posted by [DaveJ](#) on 26 May 2007, 11:14 p.m.

So what happened to the OpenRPN website (www.openrpn.org)?

Last update I can find in the web archives is Aug 28th, 2005.

I'm curious to see all the details people have been talking about but can't find anything.

Also, from what details of the proposed hardware I could find, it seems not that dissimilar to the 50G (e.g ARM processor, graphic screen (colour? - why??), AAA batteries etc) Has anyone given any thought to simply writing custom firmware for the 50G? (probably possible given that it has FLASH memory). Or does the 50G hardware suck so much that the point is for the project to be just as much a hardware project as a software project?

Dave.

**Re: OpenRPN**

Message #2 Posted by [Thomas Okken](#) on 27 May 2007, 1:04 a.m.,  
in response to message #1 by [DaveJ](#)

Quote:

So what happened to the OpenRPN website (www.openrpn.org)?

You should probably try [the OpenRPN SourceForge site](#) instead.

- Thomas

*Edited: 27 May 2007, 1:18 a.m.*

**Re: OpenRPN**

Message #3 Posted by [DaveJ](#) on 27 May 2007, 2:11 a.m.,  
in response to message #2 by [Thomas Okken](#)

Quote:

You should probably try [the OpenRPN SourceForge site](#) instead.

I have, and all I can see is some C code, a screen shot, and a link to the non-functioning documentation site at doc.openrpn.org

Dave.

**Re: OpenRPN**

*Message #4 Posted by **Walter B** on 27 May 2007, 2:56 a.m.,  
in response to message #3 by DaveJ*

IIRC, Hugh Evans will reopen an OpenRPN site soon, i.e. within some weeks.

What I remember being published in the old site:

- Dimensional specs for housings, keys, LCDs including CAD drawings (or sketches, since no dimensions were given there)
- Electronic specs for LCDs, processors, I/O interfaces
- Keyboard layouts (some published also in this forum)
- Function sets
- Software specs and sets as Paul mentioned

plus a lot of discussions about these topics.

Being a project initiated in the USA, an elaborated vision and mission statement and more marketing stuff seemed to be inevitable, though not supporting the progress too much. IMHO, however, the specs were neither complete nor completely consistent at the time I last looked at them. Maintaining the project documentation was a topic with space for improvement, though not the only one. Nobody is perfect.

I've got some of the specs copied and all of the layouts, but Hugh is the project head, so your request should be addressed to his attention.

*Edited: 27 May 2007, 3:09 a.m.*

**Re: OpenRPN**

*Message #5 Posted by **Hugh Evans** on 27 May 2007, 6:02 p.m.,  
in response to message #1 by DaveJ*

OpenRPN.org will be coming back online. I'm back in touch with my old cohort Chad regarding this.

In response to your question, I have considered porting \*fix to the 49G+/50g although I have determined that it is too much work and too far from our actual goals.

Ummm... Graphical FSTN reflective LCD, but not color. Just the best grayscale available.

The overall point is that people want something close a voyager or pioneer, they already have the 50g for graphing. As I said in an earlier post, people would like classic calculators with improved modern electronics.

Send me an email for any more discussion on this. The people around here have heard far too much of it already.

**Re: OpenRPN**

*Message #6 Posted by **DaveJ** on 27 May 2007, 9:05 p.m.,  
in response to message #5 by Hugh Evans*

Quote:

OpenRPN.org will be coming back online. I'm back in touch with my old cohort Chad regarding this.

In response to your question, I have considered porting \*fix to the 49G+/50g although I have determined that it is too much work and too far from our actual goals.

Ummm... Graphical FSTN reflective LCD, but not color. Just the best grayscale available.

The overall point is that people want something close a voyager or pioneer, they already have the 50g for graphing. As I said in an earlier post, people would like classic calculators with improved modern electronics.

That's what I thought. It's just that I stumbled across an old post of yours that mentioned a colour graphics screen as being one of the goals. I believe you would be right to stick with the classic model. I believe many people would even be happy with a non-programmable model.

Dave.

### Re: OpenRPN

Message #7 Posted by **Paul Dale** on 27 May 2007, 9:16 p.m.,  
in response to message #6 by DaveJ

Quote:

I believe many people would even be happy with a non-programmable model.

I'm leaning more to this view over time.

I've come to the conclusion that an RPL based device is overkill and probably unwarranted. RPN is good enough for most purposes even if it lacks the *elegance* of an RPL model. Internally, I've no objection to RPL/\*fix, that is a different matter entirely.

What is important is a rich enough function set (whatever that means) and numerical stability and accuracy (i.e. **all** functions accurate to at worst 1 ULP).

- Pauli

*Edited: 27 May 2007, 9:20 p.m.*

### Re: OpenRPN

Message #8 Posted by **Bill Wiese** on 28 May 2007, 2:54 a.m.,  
in response to message #7 by Paul Dale

Another 48/49 clone with RPL and non-4-level stack will not be warmly received. At least going back and doing Woodstock or Pioneers will address a replacement market for the fervently loyal.

Why buy such a 48/49-like product when there's new & used ones available? Who (other than starving students) really uses a CAS system when they have PC software available? It's overkill.

This "project" has grown into creeping featurism - heavyduty ARM CPU, etc.

If someone gave me a 48/49 calc, I might use it for a wheel chock for my truck. I've given away two 48s - they're useless to me: too much in too small of a box.

Many others here probably feel the same - 48/49 is overkill, if we need that much functionality we

can go use Matlab, Maple, etc. on a PC.

A nicely-done 41CX/42S/15C (or some combination thereof) - with XYZT+L stack and a large Enter key - is the functionality that I think many or most here want. An alternate idea might be to support 71B BASIC programmability with a regular RPN calc 'front end' for direct-mode use.

In any case, it appears everyone is worried about which CPU or which LCD, etc. All these are relatively trivial decisions, and which are academically fun to make but which are kinda useless since any HP calc can be emulated on any reasonable 8-bit microcontroller these days.

Y'all are thinking like EEs, where all problems are electronic-related - which they often aren't. Packaging is key, and no one has addressed this for any manufacturability.

It will cost about the same to get a 40 key calc produced whether or not it has a fancy CPU.

The real issue in making this come to fruition is packaging and keytop issues. These require a chunk of money for NRE, and since no one rationally will drop \$50K min to get this started, choice of CPU is irrelevant as it's all an academic exercise.

Bill Wiese San Jose CA

### Re: OpenRPN

*Message #9 Posted by [hugh steers](#) on 28 May 2007, 7:45 a.m.,  
in response to message #8 by Bill Wiese*

hi bill,

i agree with your points, probably all of them except that i have a slightly different take on the CPU. i have forgotten where my 48 is, but still use my 15c daily.

because CPUs are now cheap, makers think we want CAS, as you point out, this is mistaken because for anything even slightly complicated people will use their PC. i am typing this message on a PC only about twice the size of a 48 - but it can run a full up CAS and can display results in hires. this is not the realm for calculators.

my take on the CPU is that cheap performance should be deployed in other ways for pocket devices. this october, i plan to give a talk at the HPCC conference in london UK, on a new way to calculate. right now i have only some rough notes, but i do have some working software.

without giving too much away at this time, i want to show how you can go right back to basics with arithmetic itself and redo it another way. the result is a pocket calculator (im using the 50g platform as my example HW) that performs numerical calculation, not at all a CAS, without error. for example, punch in  $\sin(60!)$ , it displays, 0.949360891195. im also hoping to show how to perform numerical integration without error which would be interesting.

its what i think calculators shoule be like rather than simply piling on more and more features.

### Re: OpenRPN

*Message #10 Posted by [Hugh Evans](#) on 28 May 2007, 2:34 p.m.,  
in response to message #9 by hugh steers*

That sounds like a very interesting project. Yet another reason why I think many people will buy the OpenRPN hardware to develop ideas like your own and have a platform that will



run it.

-Hugh Evans

## Re: OpenRPN

*Message #11 Posted by [Gerry Schultz](#) on 28 May 2007, 2:48 p.m.,  
in response to message #9 by hugh steers*

I've been reading this thread about a better HP calculator and what pops in my head is how complex the RPL machines have become. I'm not a programmer but I can't get my head around all the things a 49g+ or a 50g can do.

If I were to design a calculator, I would want it to have different layers a functionality. The first layer would be a simple scientific calculator without programmability that would give a beginner easy access to just what he needs.

The second layer would have simple programming included so that when a user is ready, they can experiment with that. The final layer would contain the full functionality of the calculator for the user who is ready for that.

I know this sounds rather simplistic, but I think the first step in a new calculator is to make it very useful to a new owner right from the start. The steep learning curves of present calculators make it difficult for a beginner to find the calculator useful. It also doesn't help that HP's documentation is so poor.

----- for example, punch in sin(60!), it displays, 0.949360891195. -----  
-

Here's an example. I punched sin(60!) into my 49g+ (Revision #2.09) and got 0.342020143326. I don't have my 50g (also #2.09) with me to check but why the difference? I tried both in RPN and ALG and got the same answer.

I find that very frustrating.

Gerry

## Re: OpenRPN

*Message #12 Posted by [Howard Owen](#) on 28 May 2007, 3:30 p.m.,  
in response to message #11 by Gerry Schultz*

I made this suggestion to HP at the last HHCC conference. RPL is too complex for the average user, but it is darned nice for the calculator geek. So have an interface that "unfolds" in front of the user. The first layer is a basic scientific or financial, perhaps, with somewhat limited functionality. Unfold that, and you have keystroke programmability, ala the 42S, but updated. Next you have User RPL, or something like it. Each of these layers can interact with the one below it, or the one above if it is enabled. So, for example, the RPN programming can call the RPL if that is turned on.

But the points made by others in this thread are well taken. It's hard for me to see how to implement that without switching keyboards. The new TIs do that, so it isn't impossible. But it's very likely to add to the baseline cost. Since nobody can come up with the costs projected for simpler designs, it's doubtful this pipe dream would be feasible.

I'm fascinated by hugh steer's teaser, however. A reinvention of the calculator is more likely to come from that direction than from any hardware innovations.

Regards,  
Howard

### **sin (60!) [Updated with insight]**

*Message #13 Posted by **Karl Schneider** on 28 May 2007, 5:13 p.m.,  
in response to message #11 by Gerry Schultz*

Quote:

It also doesn't help that HP's documentation is so poor.

----- for example, punch in sin(60!), it displays,  
0.949360891195.-----

Here's an example. I punched sin(60!) into my 49g+ (Revision #2.09) and got 0.342020143326. I don't have my 50g (also #2.09) with me to check but why the difference? I tried both in RPN and ALG and got the same answer.

I find that very frustrating.

I don't have an HP-49G+ or its documentation available, but that's a really bad example. First of all, the angular mode makes a difference in the result. Secondly, "60 factorial" has more than 12 digits that precede the string of 14 trailing zeroes. So, the correct result is theoretically achievable only in exact mode.

My HP-49G in exact mode will return 0.34202014333 as the sine of "60 FACT" degrees. However, so do all my Saturn-based 12-digit HP's lacking exact mode.

The HP-49G correctly returns 0 in exact mode for MOD(60!, 360), as  $60! = 60 \cdot 6 \cdot [\text{an integer product of the remaining terms}]$ . So, zero is the correct answer for sine, which is achievable if MOD were internally performed in degree mode using 360. Either the internal MOD or the SIN calculation does not utilize the full precision of exact-mode integers.

The HP-42S, lacking exact mode, returns 160 for MOD(60!, 360), which must be based upon the limit of precision available:

$(60! / 1E68) / 360$  yields a full 12-digit integer (231,138,530,909); MOD (60!, 360) yields a result of 160, which does not change as 60! is divided by powers of 10 that are lower than 68. The sine of 160 degrees is indeed 0.342020143326.

Please see this thread:

<http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv017.cgi?read=109071#109071>

*Edited: 31 May 2007, 1:35 a.m. after one or more responses were posted*

### **Re: sin (60!)**

*Message #14 Posted by **GE** on 30 May 2007, 5:22 a.m.,*

*in response to message #13 by Karl Schneider*

This is very interesting. I wonder what mathematical trick you use to calculate  $\sin(60!)$  apart from having PI in ROM (or recalculating it) to lots of significant digits. I understand that if we can do  $\sin(N)$  with N a big integer the case of  $\sin(X)$  with X a big real number is simple. Thanks for sharing if possible.

**Re: sin (60!)**

*Message #15 Posted by **Thomas Okken** on 30 May 2007, 4:26 p.m.,  
in response to message #14 by GE*

My guess would be that, in exact mode, there are a few special-case checks for numbers like 60 degrees (mod 360); that check would have to be performed \*before\* converting the angle to radians.

Free42 performs such checks, but only for multiples of 90 degrees or 100 grads (SIN, COS, ->REC), and for multiples of 45 degrees or 50 grads (TAN).

However, note that getting cases like  $\sin(60!)$  right requires arbitrary-precision math.

- Thomas

**Re: sin (60!)**

*Message #16 Posted by **GE** on 1 June 2007, 3:32 a.m.,  
in response to message #15 by Thomas Okken*

60! is not 60 degrees or a multiple thereof, it is exactly  $(60! * 180 / \pi)$  degrees. The fractional part of this number is very hard to find with only 15-digits PI. The trick is was I was asking for.

**Re: sin (60!)**

*Message #17 Posted by **Paul Dale** on 30 May 2007, 4:51 p.m.,  
in response to message #13 by Karl Schneider*

I suspect Hugh was talking radians in his original message. Using wcalc, I get his answer in radians and 0 in degrees mode.

- Pauli

**Re: sin (60!)**

*Message #18 Posted by **hugh steers** on 31 May 2007, 5:45 a.m.,  
in response to message #17 by Paul Dale*

indeed!

my point is simply that there should be a handheld calculator for manual calculation that has no exact mode or non-exact mode, whatever, which is simple to use and doesn't have special modes that either gives the right answer or tells you it can't do it with no wrong answers.

i think that's a reasonable thing to ask.

**Re: sin (60!) [Updated with insight]**

Message #19 Posted by **Rodger Rosenbaum** on 31 May 2007, 3:18 p.m.,  
in response to message #13 by Karl Schneider

Quote:

I don't have an HP-49G+ or its documentation available, but that's a really bad example. First of all, the angular mode makes a difference in the result. Secondly, "60 factorial" has more than 12 digits that precede the string of 14 trailing zeroes. So, the correct result is theoretically achievable only in exact mode.

My HP-49G in exact mode will return 0.34202014333 as the sine of "60 FACT" degrees. However, so do all my Saturn-based 12-digit HP's lacking exact mode.

The HP-49G correctly returns 0 in exact mode for MOD(60!, 360), as  $60! = 60 \cdot 6 \cdot [\text{an integer product of the remaining terms}]$ . So, zero is the correct answer for sine, which is achievable if MOD were internally performed in degree mode using 360. Either the internal MOD or the SIN calculation does not utilize the full precision of exact-mode integers.

My HP-49G has old firmware, version 1.05; I've never updated it.

When I calculate 60 FACT on it in exact and degrees mode, I get 8320987...00000; when I then press SIN, I get SIN(8320987...000000). I have to then do ->NUM to get it to return .342020143326. It's apparently converting the many digits of 60! to approximate mode before calculating SIN.

I get the same behavior in exact and radians mode. If I do 60 FACT SIN, I get SIN(8320987...000000). Doing ->NUM then returns 8.40001652835E-2.

On the other hand, on the HP49g+, in exact and degrees mode, if I do 60 FACT SIN, I get 0. The HP49g+ is apparently doing a 360 MOD in exact mode before passing the result to the SIN function.

If I do 60 FACT SIN in exact and radians mode, I get SIN(8320987...000000), the same as the HP49G.

If I switch to degrees mode with SIN(8320987...000000) still on the stack and do ->NUM, I get .342020143326. In this case, the 360 MOD isn't done in exact mode before executing the SIN function; apparently the SIN function's own internal, approximate mode 360 MOD is done.

**Re: OpenRPN**

Message #20 Posted by **Hugh Evans** on 28 May 2007, 2:29 p.m.,  
in response to message #8 by Bill Wiese

Amen. The electronics are the easy and cheap part to produce, since tooling costs, etc. don't exist. The bulk of the work I do on OpenRPN is finding and in some cases developing manufacturing processes to cut down on startup costs.

If we wanted to just get these things into production immediately, it would cost at least \$50k to get the ball rolling. My goal is to cut that number drastically, or produce a few prototypes and license it to a bigger company that thinks the product is worthwhile (this could be one of the smartest moves HP was made in decades).

-Hugh

**Re: OpenRPN**

*Message #21 Posted by **Bill Wiese** on 28 May 2007, 4:24 p.m.,  
in response to message #20 by Hugh Evans*

Frankly,

We should just talk to Kinpo and do a 'prototype' run for 'market investigation'.

Use an existing kinpo calc and we do our own firmware - just port over 41C emulator etc.

Frankly a nonprogrammable shirt-pocket sized TI25X with 4-level RPN, large enter key, hex/binary/dec conversion & logic functions and PV/FV/i/PMT/n functionality would be a very useful device.

Bill Wiese San Jose CA

**Re: OpenRPN**

*Message #22 Posted by **Hugh Evans** on 30 May 2007, 2:28 a.m.,  
in response to message #21 by Bill Wiese*

Actually, I may give that idea a shot. If they can produce machines using my designs and specifications that's all that matters.

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## HP Forum Archive 17

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**Hp-67**

Message #1 Posted by **TIM** on 26 May 2007, 10:43 p.m.

Does anyone know the order of the wires from the magnetic head to the circuit board? Does anyone have a picture?

**Re: Hp-67**

Message #2 Posted by **Randy** on 27 May 2007, 10:36 a.m.,  
in response to message #1 by TIM

There are two different board patterns, the early version where the wires where soldered in, the later version where they where in small sockets.

The soldered:

```
org
blk
yel
red blu
```

The socketed:

```
blu
  blk
yel
  red  org
```

Beware of older units with the wires exiting the head that are covered by a blob of RTV. Too much stress and or flexing and the wires can break off at the head.

*Edited: 27 May 2007, 10:39 a.m.*

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## HP Forum Archive 17

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### quick mini-challenge for 12c

Message #1 Posted by [Don Shepherd](#) on 26 May 2007, 5:37 p.m.

All right, write the shortest possible program for the 12c that does this: You input the sum of 2 numbers, the difference of the same 2 numbers, and the program calculates and displays the 2 numbers.

### Re: quick mini-challenge for 12c

Message #2 Posted by [Gerson W. Barbosa](#) on 26 May 2007, 8:54 p.m.,  
in response to message #1 by Don Shepherd

```
01- STO 0
02- +
03- 2
04- /
05- ENTER
06- ENTER
07- RCL 0
08- -
```

Too many steps?

### Re: quick mini-challenge for 12c

Message #3 Posted by [Don Shepherd](#) on 26 May 2007, 8:59 p.m.,  
in response to message #2 by Gerson W. Barbosa

Gerson, your program displays the smaller of the two numbers, but not the larger (if I entered it correctly).

### Re: quick mini-challenge for 12c

Message #4 Posted by [Gerson W. Barbosa](#) on 26 May 2007, 9:06 p.m.,  
in response to message #3 by Don Shepherd

Sorry, I forgot to mention the other number is in register Y.

### Re: quick mini-challenge for 12c

Message #5 Posted by [Don Shepherd](#) on 26 May 2007, 9:07 p.m.,  
in response to message #4 by Gerson W. Barbosa

Yes, I saw that after I replied. I've got a 7 line program that pauses after the first number then displays the second.

### Re: quick mini-challenge for 12c

Message #6 Posted by [Gerson W. Barbosa](#) on 26 May 2007, 9:23 p.m.,  
in response to message #5 by Don Shepherd

Something like this?

```
01 -  
02 LSTx  
03 x<>y  
04 2  
05 /  
06 PSE  
07 +
```

### **Re: quick mini-challenge for 12c**

*Message #7 Posted by [Don Shepherd](#) on 26 May 2007, 9:27 p.m.,  
in response to message #6 by Gerson W. Barbosa*

Actually, more like your first one, except a little different:

```
01 STO 1  
02 -  
03 2  
04 /  
05 PSE  
06 RCL 1  
07 +
```

But yours works too. It's always great to see another mind at work!

### **Re: quick mini-challenge for 12c**

*Message #8 Posted by [Gerson W. Barbosa](#) on 26 May 2007, 9:37 p.m.,  
in response to message #7 by Don Shepherd*

I'm glad I didn't submit my first try at your mini-challenge. A very long 9-step program :-)

Regards,

Gerson.

### **Re: quick mini-challenge for 12c**

*Message #9 Posted by [Don Shepherd](#) on 26 May 2007, 11:28 p.m.,  
in response to message #8 by Gerson W. Barbosa*

Gerson, don't feel bad! My first try was 14 steps, but I knew it could be improved. My goal was to get to 8 or fewer steps, since the first 8 steps are "free" (that is, you don't lose any registers). Being a minimalist, I am intrigued by fitting a program in 8 steps on the 12c, if possible.

Thanks for your example.

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## HP Forum Archive 17

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### OT: Forth on Sharp PC-1500 question

Message #1 Posted by [Klaus1500](#) on 26 May 2007, 2:57 p.m.

Hello, sorry if it's OT, but I don't know another place to ask. I recently got an device for testing data-transfer via radio for the Sharp pc-1500, and included is the PC-Forth from RVS. I also have a manual as pdf, but it's OCR'd, hence my problem: According to the manual:

Quote:

Due to technical reasons, PC-Forth always uses " instead of "

Apparently the OCR misinterpreted the String delimiter. I tried using the quotes, but

```
. "Test "
```

does not work, and on its keyboard, the PC-1500 does not have that many signs that look similar to the quotes.

So does anyone know how to use Strings in PC-Forth?

Have a nice weekend! Klaus

### Re: OT: Forth on Sharp PC-1500 question

Message #2 Posted by [Garth Wilson](#) on 26 May 2007, 5:27 p.m.,  
in response to message #1 by [Klaus1500](#)

I don't know what "RVS" or "OCR" stand for in your post, but to enter a quoted string literal in Forth, you need to put a space after the first quote mark. Otherwise it'll look for a word with a 7-character name called ".Test" and say it's not found. Remember there's no punctuation in Forth. Everything is a word, including "." (pronounced "dot-quote"). For the command-line interpreter to see it and know what to do with it, it has to have a space between it and your first string character T. ". " will look for the final quote mark as a delimiter.

Garth

E-mail: wilsonmineszdslextremezcom (replace the z's with @ and .)

### Re: OT: Forth on Sharp PC-1500 question

Message #3 Posted by [Klaus1500](#) on 27 May 2007, 11:56 a.m.,  
in response to message #2 by [Garth Wilson](#)

Hi Garth, thank you for your answer. I don't get that to work. Since the manual explicitly mentions that the quote-sign (") from fig-Forth is written as something else in PC-Forth, I think there must be another character starting a String. Would this character be mentioned in the vocabulary (listed with VLIST in PC-Forth)?

RVS = The company that ported Forth to the Sharp PC-1500 With OCR I mean converting the images

from the scanner to text

**Re: OT: Forth on Sharp PC-1500 question**

Message #4 Posted by [Dave Shaffer](#) on 26 May 2007, 5:28 p.m.,  
in response to message #1 by Klaus1500

Just a guess, but how about a single quote: ' (instead of ")

**Re: OT: Forth on Sharp PC-1500 question**

Message #5 Posted by [Klaus1500](#) on 27 May 2007, 11:57 a.m.,  
in response to message #4 by Dave Shaffer

That might be the solution, but I don't know how to input that character (it is a PC-1500 keyboard legend).

**Re: OT: Forth on Sharp PC-1500 question**

Message #6 Posted by [Antonio Maschio \(Italy\)](#) on 28 May 2007, 10:39 a.m.,  
in response to message #5 by Klaus1500

Hi, where can I find the forth program for the PC1500 (I got one)?

Thanks in advance.

-- Antonio

**Re: OT: Forth on Sharp PC-1500 question**

Message #7 Posted by [Klaus](#) on 29 May 2007, 2:35 a.m.,  
in response to message #6 by Antonio Maschio (Italy)

"Klaus1500" was my alias in my new webbrowser, because I didn't have the login information at hand...

Hi Antonio,

The Forth program is stored in the device I acquired. To run it, you have to type in a command, then it is copied to the CE-161 ram card. Please note that this version of Forth has some special commands to communicate with the device, apart from that, it seems to be the standard version 1.1 of PC-Forth from RVS. I did not find any information about it on the internet, but I have seen it appear once on TAS as a cassette version.

**Re: OT: Forth on Sharp PC-1500 question**

Message #8 Posted by [Bill \(Smithville, NJ\)](#) on 29 May 2007, 2:29 p.m.,  
in response to message #7 by Klaus

Hi Klaus,

Forth on the PC-1500 sounds pretty neat.

Quote:

\_\_\_\_\_

The Forth program is stored in the device I acquired

\_\_\_\_\_

By this do you mean it is stored in the PC-1500 memory? Or do you load it from a separate module?

If it's in the memory, it should be possible to save it to a cassette tape or as a sound file on the PC. If it can be saved, then I'd like a copy so I could play around with it.

I have several PC-1500A with the plotter. Great little computer.

Bill

### **Re: OT: Forth on Sharp PC-1500 question**

*Message #9 Posted by **Klaus** on 30 May 2007, 4:27 a.m.,  
in response to message #8 by Bill (Smithville, NJ)*

Yes, you can use the forth in your PC-1500A (provided you also have a CE-161 ram-card).

The device I acquired ( a BMC datalogger) has the forth built-in. To use it, you use a special command for the datalogger, then it is copied on you 16K ram card (CE-161). Now the forth can be used without the datalogger (it contains some commands to control the datalogger, but they won't bother you).

Currently I am building a RS-232 cable, so I might be able to copy an image to my PC.

If you can write a program that PEEKs all the memory of the CE-161, and saves it on a cassette tape, I could produce a cassette image (or a .wav file) now. (According to the manual, all information is stored on the CE-161 and not in the memory of the PC-1500).

### **Re: OT: Forth on Sharp PC-1500 question**

*Message #10 Posted by **Bill (Smithville, NJ)** on 30 May 2007, 8:14 p.m.,  
in response to message #9 by Klaus*

Hi Klaus,

If I understand you, the datalogger is a device that probably plugs into an expansion port and it has the Forth language in it. I'm wondering if it actually copies the entire Forth to the CE-161 or if it just sets up the data structure on the CE-161 and then makes calls to the rom of the datalogger.

One way to find out would be to initialize the forth from the datalogger, then remove the datalogger and see if the forth still works without the datalogger being attached.

From reading the CE-161 manual, it can be set up several diferent ways, depending upon the switch setting and some poke commands.

I'm not not sure if the module can be peeked by a basic program. I'll have to get my module out and play around with it this weekend.

Please do the test of removing the datalogger and seeing if the forth still works. If it doesn't then making a copy of the forth could be difficult.

If you want to take this off-line, you can reply through yo my hpmuseum e-mail link.

Thanks,

Bill

**Re: OT: Forth on Sharp PC-1500 question**

*Message #11 Posted by [Klaus](#) on 31 May 2007, 2:30 a.m.,  
in response to message #10 by [Bill \(Smithville, NJ\)](#)*

Quote:

\_\_\_\_\_

If I understand you, the datalogger is a device that probably plugs into an expansion port

\_\_\_\_\_

Yes, it plugs into the connector on the top of the CE-150 Plotter

Quote:

\_\_\_\_\_

One way to find out would be to initialize the forth from the datalogger, then remove the datalogger and see if the forth still works without the datalogger being attached.

\_\_\_\_\_

Yes, this was the first thing I did. It works without the device.

**Re: OT: Forth on Sharp PC-1500 question**

*Message #12 Posted by [Bill \(Smithville, NJ\)](#) on 31 May 2007, 7:29 a.m.,  
in response to message #11 by [Klaus](#)*

Quote:

\_\_\_\_\_

It works without the device.

\_\_\_\_\_

Fantastic!! Then it should be possible to dump it out of the CE-161. I'll try some playing around with the PC-1500 and CE-161 this weekend to see what it might take to dump the memory to tape.

I did get your e-mail message and will be taking this further off-line with you.

Bill

*Edited: 31 May 2007, 7:30 a.m.*

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## HP Forum Archive 17

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### Lorentz transformations

Message #1 Posted by **Ron Allen** on 26 May 2007, 4:19 a.m.

One of you mathematical specialists could help me probably. I have recently renewed my interest in theoretical physics. As a result, the Lorentz transformations worry me again.

Would you be willing to point me to some gentle reading on that history? For example, did they precede Einstein's search for solutions of relativity or devised to make the theory work? Not being a math or physics major in school, I had developed a certain suspicion about the need to explain why kinetic energy,  $E=Mc^2$  instead of the integration of momentum,  $1/2Mc^2$ . I can see how Lorentz makes the difference when the velocity of the relative frames is near the speed of light and that they would not change Newton's perspective at the speed of a horse race or a steam engine, even a shooting star.

I am not working on a challenge, certainly not a 100 years after the fact. Better reason - I'm not qualified. Probably my ignorance that allows me to question things like this anyway. Lots of things about math seem a little convenient to me anyway, like we do indeed "manage the errors" when doing numerical analysis, calculus for sure. What about regression, especially if we use it for cause and effect or extrapolated predictions (HP instructions and menus for regression even use keys for "Pred" which is an extrapolated projection of some curve, not telling what R is, or which is implied cause or effect.

We are sometimes too inventive about creating an explanation (hypothesis) for things we leave outside the box or sphere like dark matter. Ether served scientists of Einstein's time, even him. Why isn't the prevailing explanation for too much mass that we can't see the other side of galaxies, even our own? Didn't we find a bulge in the moon when we finally saw it?

I just want to understand Einstein a little better before this old frame passes on, hopefully with some recognition of the truth.

Ron

### Re: Lorentz transformations

Message #2 Posted by **Giancarlo (Italy)** on 26 May 2007, 10:59 a.m.,  
in response to message #1 by Ron Allen

Hi Ron.  
Not being a:

Quote:

\_\_\_\_\_

One of you mathematical specialists

\_\_\_\_\_

I am not entitled for helping :-)) but I just thought you could look at:  
[http://en.wikipedia.org/wiki/Lorentz\\_transforms](http://en.wikipedia.org/wiki/Lorentz_transforms)

and especially at the section "External links", which might provide you with some helpful information.  
 Hope this helps.  
 Best regards.  
 Giancarlo

### **Re: Lorentz transformations**

*Message #3 Posted by **Ron Allen** on 27 May 2007, 5:49 a.m.,  
 in response to message #2 by Giancarlo (Italy)*

THANKS TO ALL OF YOU WHO RESPONDED WITH SUCH SPLENDED ADVICE AND INVITATIONS TO DEBATE ANY ISSUES I MIGHT WISH TO ENGAGE.

The subject is fraught with traps, but it also loaded with serious thinkers with plenty of room for amateurs like me. I took a quick look at some of the references you shared and can see that they should measure up to the challenge while some might not pass the threshold for "gentle." I'm certain that you all are familiar with the fact that "amateur" means something like "lover of the activity, the game, the endeavor, " etc. An amateur in photography, for example, could very well perform much better than his professional neighbor measured for quality versus quantity.

Whoah, Sam, I didn't mean to step on a nerve. Maybe I should not have been too quick to draw a conclusion of my own by asserting that too many people have access to some pretty powerful stuff in these calculators. Correct me if I am wrong, but isn't a regression analysis a quick study of the existing relationship between or among pairs or groups of historical data, optimized by fitting them in a linear or quasi linear fashion to a group of curves from which to see the historical relationships and to suggest a lead with variable significance of the results. No doubt there are many examples of "winners" in regression curves that qualifies the method to be joined with other methods of reaching good leads into solid trouble-shooting type activities. As I understand it the residuals have meaning also, which is one of the reasons I believe that regression has its limited place. I am more inclined to push the idea that the dice have no memory, especially after hearing of so many stories from Las Vegas about sure fire betting schemes. I do believe that regression has its place but that statement was made to point out the fact that even a respected company like the one we buy from, makes the published error in a user document that implies a definite cause and effect relationship by labeling it "Pred." I think some trouble-shooters who trust their instincts can abandon an existing problem after losading their logical engine with data and then go into a rest mode like a cup of coffee and talking about football or some other distraction and suddenly experience brilliance when their subconscious returns the answer. That probably describes you in which you have included some regression statistics for final analysis. Foolish question - if predictive nature is prevalent in the model, why do they throw out the "outliers?"

Not sure I understand, "REPLACE THIS TEXT WITH YOUR LISTING," But I like the odds that it is a challenge for me to respond with a program to out-perform regression curves in a controlled environment.

Ron

Thanks again to all of you and your stimulus. I have Parkinsons and need all the stimulation I can get.  
 Keeps the fog at sea.

### **Re: Lorentz transformations**

*Message #4 Posted by **Bob Wang** on 26 May 2007, 12:10 p.m.,  
 in response to message #1 by Ron Allen*

Extending Giancarlo: Concise derivation of  $E=mc^2$ :

[Wikipedia Four-Vector entry](#)

**Regression analysis**

Message #5 Posted by [Sam](#) on 26 May 2007, 2:45 p.m.,  
in response to message #1 by Ron Allen

<What about regression, especially if we use it for cause and effect or extrapolated predictions (HP instructions and menus for regression even use keys for "Pred" which is an extrapolated projection of some curve, no telling what R is, or which is impied cause or effect.> There was a problem involving a gas law which has 2 companies stumped. I had a new calculator and entered the data into an exponential analysis. The correlation was 0.384 . I retried it with a power law regression and obtained a correlation of 0.996 . A gas leakage problem that was assumed exponential turned out to be an outgassing of adsorbed helium, I made a log-log plot of the data which fit correctly. There was a point almost off the graph from an unusual data point, but it fit the power law plot extended. With a programmable calculator I made fits to all sorts of difficult curves; thermistors and other electronic curves. It is an addiction of mine. I enjoy reducing intractable data to a formula. Sam

REPLACE THIS TEXT WITH YOUR LISTING

**Re: Lorentz transformations**

Message #6 Posted by [Thomas Okken](#) on 26 May 2007, 2:45 p.m.,  
in response to message #1 by Ron Allen

From what I remember from college, H. A. Lorentz derived his transform to account for the bizarre results of the [Michelson-Morley experiment](#) -- this was the famous experiment that led to the discovery of the invariability of the speed of light. What Michelson and Morley were trying to do is to measure the speed of the Aether (the hypothetical medium through which electromagnetic waves were then thought to travel). Lorentz' assumption was that Michelson's and Morley's negative results were caused by their apparatus being distorted by its own motion through the aether, in such a way as to cancel out the expected differences in the speed of light depending on the relative motion of the observed light source, and his transform described how spacetime would have to be altered for this to account for the observed results. His assumption turned out to be wrong, but he got the transform right, for the Special case of relativity anyway. And, perhaps most importantly, the Lorentz transform reconciled the inconsistencies between Newton's laws of motion and Maxwell's laws of electricity and magnetism.

I don't remember the title of my college textbook for this subject, which is probably just as well, because, while I did ace the test, I was just as confused at the end of the course as at the beginning.

However, for a gentle introduction on just about any subtopic of physics, for people who really want to know the nitty-gritty, you can't beat [The Feynman Lectures on Physics](#). What you're looking for is in Volume 1, Chapter 15, "The special theory of relativity", but I recommend getting the whole set. Great stuff.

- Thomas

*Edited: 27 May 2007, 1:21 a.m.*

**Re: Lorentz transformations**

Message #7 Posted by [Ron Allen](#) on 27 May 2007, 8:00 p.m.,  
in response to message #6 by Thomas Okken

Thomas, I think this is responding to your input. Thank, even if I got the wrong position. I'm referring to the four vector input. Hope it gets me without getting me. Looks good though, thanks again.

Ron

**Re: Lorentz transformations**

Message #8 Posted by [Dave Shaffer](#) on 26 May 2007, 5:23 p.m.,  
in response to message #1 by Ron Allen

re: "Why isn't the prevailing explanation for too much mass that we can't see the other side of galaxies, even our own? Didn't we find a bulge in the moon when we finally saw it?"

We can, in fact, "see" the other side of the galaxies (and our own Galaxy, too). Infrared, X-rays, and radio waves all pass right through. We don't see anything out of the ordinary "on the other side." Plus, the real indicator that there really is "missing mass" (meaning mass we can't "see") is its gravitational effect, which is not affected by lack of transparency in any part of the electromagnetic spectrum.

There's no extra bulge on the other side of the Moon, either. The core of the Moon does seem to be somewhat offset, but that is completely explainable by tidal effects as the molten, newly-formed Moon cooled down under the influence of the Earth's gravity.

**Re: Lorentz transformations**

Message #9 Posted by [Ron Allen](#) on 28 May 2007, 4:45 a.m.,  
in response to message #8 by Dave Shaffer

Dave, thank you so much for responding to my ignorance about Dark Matter. Your straight forward, no nonsense explanation of my misinformation has already awakened me to more discipline in my efforts to understand. It has been a few years since I fell more naturally into the good lab habits. You've been a great help and I look forward to more exchanges.

Hopefully it won't be too long before I start making a contribution in the subject matter, maybe even approach parity, or close enough to carry my side of a decent argument. (If there is ever a "side" beyond a devil's advocate's position in a mock debate.) In the meantime I shall remain content to have people of your qualifications willing (hopefully) to critique my efforts.

Sincerely, Ron

**Re: Lorentz transformations**

Message #10 Posted by [Anthony L. Mach](#) on 27 May 2007, 4:05 a.m.,  
in response to message #1 by Ron Allen

Hi Ron,

You've picked an interesting topic, indeed!

If you are interested in how the transforms are derived, I can scan my derivation and send it to you. The Lorentz equations are surprisingly intuitive when you see them and you'll get a nice moment of clarity! There doesn't seem to be any easily understood algebraic derivations out there on the internet... Unfortunately, many of the science / math Wiki entries tend to confuse many folks that aren't already knee deep in it!

If you want to know where all that mass is, do a search for 3 degree cosmic background radiation.

A searchable online version of Einstein's Relativity can be found here: [Relativity](#)

If you want my opinion, go forth and read my so-called "holy trinity of space, matter, and time." This includes:



...Einstein's "Relativity" ...Martinus Veltman's "Facts and Mysteries in Elementary Particle Physics" ...Steven Weinberg's "The First Three Minutes"

Tony, AB9IO The Plastics Guy

### **Re: Lorentz transformations**

*Message #11 Posted by [Ron Allen](#) on 27 May 2007, 10:08 p.m.,  
in response to message #10 by Anthony L. Mach*

Hi, Plastics Guy - good of you to jump in with your advice. You sound very much like a professor or doctoral candidate at a really good institution with time to inspire thinking. I'm currently enjoying the non-technical biography, "Einstein." I have some time I can use to ask some reasonably pertinent questions that go to the central issues of Relativity, Quantum, String Theories, and other topics within the realm of "Theoretical Physics or possibly philosophy.

It would be ideal if there was a University close by with an honors class I could audit and participate or at least listen to arguments. I don't imagine anything of that nature will be forthcoming in my area soon. I may be relocating to the Huntsville vicinity by fall. There could be such an opportunity sponsored by N.A.S.A near there. Even if not, the chances of creating or joining an existing group or "club" for a subject like that would be the next best thing to having M.I.T. or Cal Tech in my back yard.

Thanks again for your encouragement and your references. I especially appreciate being set straight as to the current status of Dark Matter.

Ron.

### **Re: Lorentz transformations**

*Message #12 Posted by [Anthony L. Mach](#) on 28 May 2007, 4:16 a.m.,  
in response to message #11 by Ron Allen*

Hi Ron,

Thanks for your comments, but I am neither/nor! Actually, I work full-time in a plastics recycling plant and have decided to go back to school to finish my degree and get a minor in physics along the way. My best wishes to you in your journey of knowledge. One can gain a great deal by checking out the modern physics classes at any local university. Of course, you'll find many reasons (excuses?) for using your trusty HP in class!

Have fun!

Tony

### **Re: Lorentz transformations**

*Message #13 Posted by [Ron Allen](#) on 28 May 2007, 7:03 p.m.,  
in response to message #12 by Anthony L. Mach*

Hi, Plastic Guy,

I catch the connection - recycle, guy (male persuasion) well-read in physics and astro physics self educated for the most part. You are the epitome of my definition of a student. That person who somehow realizes that a large part of their education is dependent on a qualified faculty with reasonable resources (library, visiting professors, an inspirational environment all focused on the

customers, the student base. Yet they are more dependent on themselves setting goals, finding ways to make every course interesting, participating in and out of the classroom, socializing with other individuals and groups, taking advantage of what resources they have and expanding resources by access through other means such as the internet. Sure, you'll have to take some structured courses for basic liberal education, but the real student taking the opportunity to become a better-educated individual will study some of Shakespeare's plays along with the English majors instead of survey courses mandated and designed to meet minimum degree requirements. I am a strong advocate for a minimum exposure to liberal arts and science degree at the BS or BA level with graduate study at the professional or specialty level.

A BS will get you a stacks pass at the library, a better chance to audit classes you want to sit for, a chance for graduate school and the opportunity to contribute to the alumni fund along with the chance to get in line for a pair of season tickets. Liberal arts will make you a better Supreme Court Justice, Holistic MD, Teacher, Writer or, as indicated, a well-educated person probably parking cars at your favorite Restaurant.

I have to tell you that like you, I went BACK to college and found it to be a real challenge because of time constraints, but I managed to squeak into first place by something like a hundredth of a point for graduation.

Best of luck, Prof.

Ron

## Re: Lorentz transformations

Message #14 Posted by **Ron Allen** on 28 May 2007, 5:50 a.m.,  
in response to message #10 by Anthony L. Mach

I would be a happy Dude indeed to see the scans of your derivations of the Lorentz transforms. (anything else you care to share). Are they derived through fairly simple 1st or 2nd order linear DEQs? I use Mathcad Release 13.1 which has a few options for DEQs with parameters, initial boundaries plus partials and systems. Several options are included for interpolation. Release 13 of Mathcad changed the solve block design to facilitate solutions with parameters, symbolic in some cases, numeric in every one I have solved. The other major improvement in the solve block design allows you to place a block inside a loop to assist in solving all DEQs.

In case you aren't familiar with the software, it is built around some Maple modules with CAS assistance. Some of the logic is illogical and it can be a hard one to program, but it can interface with scripted controls from C++ or AS An ADDIN WITH EXCEL. I am beginning to sound like a sales person for Mathsoft, not intended. Just wanted you to know that I'm not limited to that one relative weakness of the 50g vs laptop. I use the 50g for integration or differentiation any time I want to show steps. Needless to say, but I am very pleased with my 50g and Mathcad.

Ron

## Re: Lorentz transformations

Message #15 Posted by **Anthony L. Mach** on 29 May 2007, 12:00 p.m.,  
in response to message #14 by Ron Allen

Hi Ron,

Check your mail...

Tony

**Re: Lorentz transformations**

*Message #16 Posted by **Ron Allen** on 27 May 2007, 6:52 p.m.,  
in response to message #1 by Ron Allen*

Giancarlo, thanks for helping me out - excellent referal. I forgot about Wiki. That backup from Bob Wang on the four vector looks promising for accelerated enlightenment involving frames of refernce. Links you provided are going to help me tremendously!

Ron

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## HP Forum Archive 17

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### 15C square root key loose - problem?

Message #1 Posted by [Mike Ingle](#) on 26 May 2007, 3:47 a.m.

I just got a HP15C off Craigslist. It is basically new, except the keys on the left top are looser than the rest. The square root key is most noticeable. It has a lot more movement than other keys before there is any resistance. Hold the calculator upside down and tap the square root key, and it will rattle. Is this keyboard faulty, with a broken heat stake or something? Do other 15Cs feel this way?

Mike

### Re: 15C square root key loose - problem?

Message #2 Posted by [Randy](#) on 27 May 2007, 10:54 a.m.,  
in response to message #1 by [Mike Ingle](#)

The heads (mushrooms) of the heat stakes have failed. If the unit is in great condition, the problem was a manufacturing issue and you're likely to find with just a light touch on the other mushroom heads that they'll just pop right off. I've seen units where every heat stake had failed except for the bottom. If the unit has been well used, the popped heads are due to stress failures.

The generally accepted repair method is to hold the board tightly in place and place a very small amount of super glue on the post. Follow that with drop or two of instant cure and move to the next post. You can also use rubberized super glues, they're flexible, black and work well in this application.

I cannot over emphasize the \*small amount\* disclaimer above. Too much and you'll glue the key hinge, seizing the key and turning your great find into a paperweight.

### Re: 15C square root key loose - problem?

Message #3 Posted by [Mike Ingle](#) on 29 May 2007, 4:22 a.m.,  
in response to message #1 by [Mike Ingle](#)

Two heat stakes fixed with super glue and I have a new HP-15C! Thanks FixThatCalc

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## HP Forum Archive 17

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### Just a thought. Wanna share

Message #1 Posted by **Olivier TREGER** on 25 May 2007, 6:05 p.m.

Sorry to interrupt the flow of mathematical/technical exchanges on this forum.

I just wanted to share a thought: when cruising on <http://www.hpcalculators.net/HP-67/HP-67%20box1.JPG> , I noticed the quality of this HP67 GianMaria found (or maybe it's his own he kept in perfect shape) and especially the leatherette pouch.

It brings back memories of the time I had my very first HP21: I couldn't believe the quality of the pouch, although it came with a low-range calculator. Its softness, smell and much more.

Don't take me wrong: it ain't nothing physical in a politically incorrect way :-)

Just this feeling that you own something special, designed by special people, having the same expectations you have.

This I never forgot and it drove me to always get the top of the cream product if I can afford it. This way I'm sure people did care of me before I have to ask.

Sorry for this long thought but it brought me back in 1974 and I love that...

Good night (midnight over here)

### Re: Just a thought. Wanna share

Message #2 Posted by **Vieira, L. C. (Brazil)** on 25 May 2007, 7:25 p.m.,  
in response to message #1 by Olivier TREGER

Hi;

cannot help adding a few lines here.

I was 13 YO in 1974, but I actually had the chance to see and operate an HP21 my older brother bought. That was the first calculator I saw, and I was killing my braincells in order to try to figure out how could it write numbers and compute them... I was not even aware of what [SIN], [STO] and other keys stood for, but the fact of being able to compute basic operations was... awesome!

In 1982 (I was 20, then) I could buy my first HP, an HP41C. Brand new! So, when I read

Quote:

\_\_\_\_\_

I'm sure people did care of me before I have to ask.

\_\_\_\_\_

I think I know what you mean, and I miss it, too.

Thanks!

Luiz (Brazil)

**Re: Just a thought. Wanna share**

*Message #3 Posted by **Olivier TREGER** on 26 May 2007, 2:40 a.m.,  
in response to message #2 by Vieira, L. C. (Brazil)*

Quote:

\_\_\_\_\_  
I was 13 YO in 1974  
\_\_\_\_\_

So I was... But I had the chance my mother bought me the HP21. It's then been stolen in my school bag. That's the reason why I decided to entreat the bad luck buying one, then 4 others, on the unmentionable web site...

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## HP Forum Archive 17

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### **(OT) Craig engineering calc**

Message #1 Posted by [Ren](#) on 25 May 2007, 3:20 p.m.

Hello Fellow Forum Quorum!

This morning I bought a CRAIG 4512 Engineering Calculator at a garage sale. It has a horizontal format and a fluorescent type screen and leather case (sort of like slide rules came in). Anybody here collect Craig's? I'm willing to part with it. I haven't popped any batteries (4 AA's) into it yet, so I'm not sure if it works. It has been used, some of the finish is worn. No manual, but a hint plate on the back side.

I know there is a separate Classifieds forum but this isn't HP, so it doesn't go there, and it's not like I'm really selling it, more like offering it for cost and shipping (or trade?).

Sincerely (and apologetically) Ren

dona nobis pacem

### **Re: (OT) Craig engineering calc FYI**

Message #2 Posted by [Chuck](#) on 26 May 2007, 12:26 a.m.,  
in response to message #1 by Ren

Here's what one looks like:

<http://home.wavecable.com/~stevensc/mathmuseum/pages/craig4512.htm>

### **Re: (OT) Craig engineering calc FYI**

Message #3 Posted by [Steve Borowsky](#) on 27 May 2007, 6:26 a.m.,  
in response to message #2 by Chuck

That's an interesting calculator, i've never seen one before. It looks like the first Casio's, but i've never seen a Casio scientific in that horizontal format.

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## HP Forum Archive 17

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### Mixing NiMH & NiCd

Message #1 Posted by [Geir Isene](#) on 25 May 2007, 3:46 a.m.

When rebuilding a woodstock battery pack, is it ok to use one NiMH and one NiCd battery?

### Re: Mixing NiMH & NiCd

Message #2 Posted by [Maximilian Hohmann](#) on 25 May 2007, 3:54 a.m.,  
in response to message #1 by [Geir Isene](#)

Hello!

No! They have different internal resistances and also different charging behaviours. This means, that the NiCd cell will always get discharged first and then polarity reversed while the NiMH cells continue to supply current, a process that kills the cell after very few cycles. You are supposed to not even mix different cells of the same kind if possible.

Greetings, Max

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## HP Forum Archive 17

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### **Public Thanks to Randy RE : Teflon or Urethane O-Rings for HP41 card Reader : Where can I find some?**

Message #1 Posted by [Antoine M. Couët](#) ( [Nantes , France](#) ) on 25 May 2007, 1:51 a.m.

As I just received the Urethane O-rings for HP41 Card Reader which Randy offered to me, I would like to take this opportunity of both publicly thanking Randy for his extreme and courteous kindness and also extending my sincere personal regards to all of you since " truly helping one another " is a well established and nice tradition on this Forum.

Congratulations too to M. David Hicks - I mean the one from the US .... - our Moderator for such a Great Job in maintaining such a lively and superb Forum.

Best Regards to you all

Antoine M. Couët ( [Nantes , France](#) )

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## HP Forum Archive 17

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### Casio FX-7500g manual in English? :-)

Message #1 Posted by [gene](#) on 24 May 2007, 10:35 p.m.

Looking for an english manual for the Casio FX-7500g graphing calculator.

I tried here: <http://www.usersmanualguide.com/casio/calculators/fx-7500g>

but the link it gives is dead. Anyone have a link to the PDF or a copy of the PDF they could let me browse? :-)

### Re: Casio FX-7500g manual in English? :-)

Message #2 Posted by [Xerxes](#) on 25 May 2007, 3:05 a.m.,  
in response to message #1 by [gene](#)

Hi,

if you cannot find the manual, the FX-7000G is almost identical to the FX-7500G.

[FX-7000G manual](#)

### Re: Casio FX-7500g manual in English? :-)

Message #3 Posted by [Alex L](#) on 25 May 2007, 9:39 a.m.,  
in response to message #2 by [Xerxes](#)

I can confirm this - I have both the 7000 and 7500 manuals in front of me. Use the fx-7000g manual with confidence. The differences are minor and mostly related to the capacities of the machines, e.g. 7000: max 52 memories, 7500: max 526 memories.

Here is one added feature of the 7500g, transcribed from the manual. This appears at the end of section 3-2. (My 7000g doesn't have batteries in it at the moment; perhaps this exists as an easter egg in the earlier model?)

Quote:

\* Instant factor function

The instant factor function can be used to quickly magnify the size of a graph by  $2^n$  or reduce it by  $1/2^n$ . The change in size is centered at the pointer when it is displayed, and at the center of the graph when the pointer is not displayed.

- Operation

(Shift)( $\times$ ) ... 2X magnification in both  $x$  and  $y$  directions. Pressing (Shift)( $\times$ ) again magnifies by  $2^2$  or 4X, and a third press magnifies by  $2^3$  or 8X.

(Shift)(÷) ... 1/2 reduction in both x and y directions. Pressing (Shift)(÷) again reduces by 1/2 or 1/4, and a third press reduces by 1/2<sup>3</sup> or 1/8.

Since range contents are switched to their inverse proportions, the graphic display is cleared each time the instant factor function is executed.

...Examples...

The following input ranges (p201) are clarified in the 7500g manual:

```
log x, ln x: 10^-99 <= x < 10^100
x^y: When x<0, y=n, 1/2n + 1 (n is an integer)
      x=0 -> y>0
      When x>0, -10^100< y log x < 100
Pol(x,y): sqrt(x^2+y^2) < 10^100
```

With the exception of references to amounts of memory available or free in the text or on sample displays (422 bytes max on the 7000G, 4006 bytes max on the 7500G), some keycap graphics, and some of the physical specs in the back, I could detect no other differences.

Enjoy!

### Re: Casio FX-7500g manual in English? :-)

Message #4 Posted by [Xerxes](#) on 25 May 2007, 11:56 a.m.,  
in response to message #3 by Alex L

I have tested the [Shift] [×] and [÷] on the FX-7000GA and it works like your discription.

### Re: Casio FX-7500g manual in English? :-)

Message #5 Posted by [Antonio Maschio \(Italy\)](#) on 25 May 2007, 4:50 a.m.,  
in response to message #1 by gene

I cannot confirm for the 7XXX series, but I got a fx-8000G and a fx-8500G that are \*totally\* equivalent, being the only difference the RAM memory available (around 1500 for the 8000, over 6000 for the 8500).

So I guess you can use safely the manual for the 7000 which is linked above.

-- Antonio

### Re: Casio FX-7500g manual in English? :-)

Message #6 Posted by [Bill \(Smithville, NJ\)](#) on 25 May 2007, 7:31 a.m.,  
in response to message #1 by gene

Hi Gene,

You could try

[manuals-in-pdf](#)

While not free, the price doesn't seem outrageous.

Disclaimer - I've never bought anything from them, don't know the quality, etc etc etc :)

Bill

**Re: Casio FX-7500g manual in English? :-) FOUND IT!**

*Message #7 Posted by [Valentin Albillo](#) on 25 May 2007, 7:46 a.m.,  
in response to message #1 by gene*

Hi, Gene:

I think I got it some time ago from that same, now defunct link. Right now I'm far from home and can't check but tonight (i.e. within 8 hours from this post's timestamp) I'll do it.

If I do find it (which I think I should), it'll be a large PDF file. I'll upload it somewhere and tell you the download details.

Best regards from V.

**P.S.: Found it !** I'm uploading it right now, will send you a message through the MoHP forum soon.

*Edited: 25 May 2007, 4:07 p.m.*

**Re: Casio FX-7500g manual in English? :-) FOUND IT!**

*Message #8 Posted by [Gene Wright](#) on 26 May 2007, 9:56 p.m.,  
in response to message #7 by Valentin Albillo*

Shoot me that email when you get a chance! :-)

**Re: Casio FX-7500g manual in English? :-) Got it! Thanks!**

*Message #9 Posted by [Gene Wright](#) on 27 May 2007, 8:43 a.m.,  
in response to message #8 by Gene Wright*

Thank you!

**Re: Casio FX-7500g manual in English? :-) FOUND IT!**

*Message #10 Posted by [Leonardo Rota-Rossi](#) on 28 May 2007, 1:45 p.m.,  
in response to message #7 by Valentin Albillo*

Please, Can you send me the manual (maxsize 20MB in Gmail), or the link to download it? TIA.

Leonardo Rota-Rossi leorossi at gmail

**You've got mail ! Enjoy ! :-) [NT]**

*Message #11 Posted by [Valentin Albillo](#) on 28 May 2007, 7:05 p.m.,  
in response to message #10 by Leonardo Rota-Rossi*

Best regards from V.

---

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## HP Forum Archive 17

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### **97 card reader no write**

Message #1 Posted by [Hal Bitton](#) on 24 May 2007, 7:02 p.m.

Hi everyone...

I've just rebuilt the card reader on my 97, and it now reads cards beautifully. Upon attempting to write (programs or data), however, I get an error message after the card runs through. It's more than likely the write protect leaf switch, and that's what I will be checking first. Is there something else I should check while I'm in there?

Thanks and best regards, Hal

### **Re: 97 card reader no write**

Message #2 Posted by [Dan W](#) on 24 May 2007, 7:13 p.m.,  
in response to message #1 by Hal Bitton

Hi Hal,

Next thing I'd check is the bundle of 5 wires coming out of the read/write head. It is very easy for one of these to come loose when working on the card reader, and usually it's easy to miss since they are all bundled together.

Let us know what the problem was!

-- Dan

---

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## HP Forum Archive 17

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### **Reversed keys from factory?**

*Message #1 Posted by [Jimi](#) on 24 May 2007, 5:55 p.m.*

I saw an item (250119359325) on a popular auction site that will remain nameless, but I was not really sure what to make of the fact that the calculator has two keys reversed. It's indicated that it doesn't appear to have been opened, and from my personal experience with 41s, I can believe it. I mangled my original 41C getting it apart.

Has anyone seen a mistake like that before, or is it a sure sign it's been opened? Just curious.

### **Re: Reversed keys from factory?**

*Message #2 Posted by [Ron](#) on 24 May 2007, 7:55 p.m.,  
in response to message #1 by Jimi*

I believe it is possible to remove the feet, disassemble the halves, and reassemble, with no outward signs of having done so.

### **Re: Reversed keys from factory?**

*Message #3 Posted by [bill platt](#) on 24 May 2007, 10:05 p.m.,  
in response to message #1 by Jimi*

The fullnut is easy to take apart and put together. Even I did it successfully the first time. Search the archives (especially back in 2005 or before) and you'll find lots of great stuff written by Luiz, Randy, and a number of others on this topic.

---

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## HP Forum Archive 17

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### HP35 with "the Bug" and the CHS-EEX

Message #1 Posted by [Dan W](#) on 24 May 2007, 11:40 a.m.

Hi all,

I have one HP35 with "The Bug" and one without. The behavior of the CHS key with the EEX key is different with the buggy HP35 than the other. But I haven't found this difference written up anywhere.

On the buggy HP35, if I enter a number, then EEX, I do NOT see two digits off to the right until I type them in. On the non-buggy HP35 I see two zeros to the right as soon as I hit EEX.

On the buggy HP35 I must hit the CHS key immediately after the EEX key to get a negative exponent. When I do this I get -00 displayed, then I can punch in the actual exponent. But after that the CHS key does not do anything - I can't change the (-) to a (+).

On the non buggy, I can enter the EEX digits and hit CHS at will, reversing the EE sign each time.

Is this known behavior of some HP-35's or related to The Bug? Or is this a different problem?

Thx

-- Dan

### Re: HP35 with "the Bug" and the CHS-EEX

Message #2 Posted by [Eric Smith](#) on 24 May 2007, 10:04 p.m.,  
in response to message #1 by Dan W

I think that was a separate change, which occurred in a release before the famous bug fix. There were at least three public releases of the HP-35 firmware.

If you ever have occasion to open them, please note the part numbers on the ROMs (round metal cans, part number 1818-xxxx).

### Re: HP35 with "the Bug" and the CHS-EEX

Message #3 Posted by [Dan W](#) on 25 May 2007, 5:03 p.m.,  
in response to message #2 by Eric Smith

The ROMs for the one with the bugs are:

K7239FC 1818-0020 K7233GJ 1818-0017 K7231BF 1818-0006

The numbers are on the side, not the top.

Is there a document describing in detail the different ROMs sold and the bugs or errata in each set?

Thanks,

-- Dan

**Re: HP35 with "the Bug" and the CHS-EEX**

*Message #4 Posted by [Eric Smith](#) on 26 May 2007, 4:48 a.m.,  
in response to message #3 by Dan W*

There are at least three public releases, and possibly four. There were internal engineering releases, of which it is possible that some prototype units may exist.

Prototypes: combinations including 1818-0001 through 1818-0019

Earliest known release: 1818-0006, 1818-0017, 1818-0020

Intermediate: (unknown, possibly unreleased) combinations including 1818-0021 through 1818-0025

Bug fix: 1818-0024, 1818-0026, 1818-0027

Revision, purpose unknown: 1818-0024, 1818-0026, 1818-0028

Peter Monta has dumped the (6, 17,20) set, and a later release that is believed to be the (24, 26, 27) set, so these can be compared in simulation in Nonpareil. At some point it will be a good idea to dump the sets with 27 and 28 for verification.

**Re: HP35 with "the Bug" and the CHS-EEX**

*Message #5 Posted by [Dan W](#) on 26 May 2007, 10:43 a.m.,  
in response to message #4 by Eric Smith*

Thanks Eric.

This bug affecting the operation of CHS with EEX has much more user impact than the 2.03 ln e^x bug, but is less well known. Was it resolved quickly in an intermediate release before the more famous bug?

---

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## HP Forum Archive 17

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**9114 Controller Board Pic - 12v circuit?**

Message #1 Posted by **PeterP** on 24 May 2007, 3:01 a.m.

Tony (and anyone else who is still listening),

I have used the time away from home to mark a high-res picture of the controller board with the numbers for the individual parts. This might be of use to others as well, please feel free to download from [here](#)

Also, if possible I'd like to confirm that I have correctly identified the 12v PSU circuit with the 'monostable U106', 'MOSFET 105' and the related coils L101 and L102. For better identification I have circled them [here](#) for you. Maybe you can do a quick peek.

I was able to download a datasheet for the NE555N and will try to see if there are any oscillations on the Output pin. The result of which I will report. One thought I had that maybe the 100 Ohm resistor went, because we had so much amp flowing that the pico-fuse went. However via visual inspection the resistor looks fine. Anyway, I feel that over the last few days I have become a tiny bit better oriented on the PCB (yet it still looks like a miracle to me how you have been able to reconstruct the diagrams!)

Thanks a lot and - stay tuned!

Cheers

Peter I will be back home tomorrow night at which point I hope to be in possession of my scope already for an interesting weekend ahead!

**Re: 9114 Controller Board Pic - 12v circuit?**

Message #2 Posted by **Tony Duell** on 24 May 2007, 5:31 a.m.,  
in response to message #1 by PeterP

Yes, I think you've found the right components.

Don't rely on a visual inspection for that resistor. Check it (with an ohmmeter). It's best not to assume anything is OK...

**Re: 9114 Controller Board Pic - 12v circuit?**

Message #3 Posted by **Ronald P** on 24 May 2007, 5:19 p.m.,  
in response to message #1 by PeterP

Hi,

I have a 9114 circuit for spare parts lying somewhere in my "fix it all" box. If there is a special part you need, just say so. (only shipping costs).

Ronald

### **Re: 9114 Controller Board Pic - 12v circuit?**

*Message #4 Posted by **PeterP** on 24 May 2007, 10:42 p.m.,  
in response to message #3 by Ronald P*

Thanks, Ronald, that is super kind. I'll spend the weekend testing and let you know.

Greatly appreciate it!

Cheers

Peter

### **Re: 9114 Controller Board Pic - U106 measurements**

*Message #5 Posted by **PeterP** on 25 May 2007, 11:58 p.m.,  
in response to message #1 by PeterP*

Okay, I admitt of being slowly worn down by this board.

First, my scope did not come because it was sent to the wrong address or something. So it will come some time next week

Second, when I started the thing today, drive did not spin at all! Maybe something broke when I took it outside to take the digital pictures.

Okay, now here the measurement news:

1) As the drive did not spin at all, I re-did the selftest nr 1 and got the same (good) result that all internal chips like Ram, Rom, etc seem to be fine

2) On U106 I measured the following voltages: 1 - GRND - 0 2 - Trigger - 5.24 3 - Out - 2.42 (which is what you expected...) 4 - Reset - 5.90 5 - Ctrl Vol - 3.94 6 - Thresh - 1.30 7 - Discharge - 1.30 8 - Vcc - 6.11

There was no oscillation visible on my Ohmmeter, yet, as I mentioned, the scope was not here so no pic...

3) I measured also on Q105 and got 0 on ground and 6.11 on one side and 0.024(!) on the other

4) I measured the 100 Ohm resistor and it checks out.

5) I also check the amp again and now it draws much less, maybe 0.5 or so. Which I guess makes sense if the motor is not running at all...

Okay, I'm not sure what the next steps are, I'm a bit disenchanted that the drive now does not turn at all anymore...

Anyway, please let me know if all of this still points towards a broken Mosfet Q105 or any other ideas...

Your's faithfully

Peter

### **It is the darkest just before dawn & Tony, the Clairvoyant**

*Message #6 Posted by **PeterP** on 26 May 2007, 1:13 a.m.,  
in response to message #5 by PeterP*

Tony,

You will not believe it, yet the 9114a works again (at least outside of its encasing and with the direct power supply. But all in its own time!)

Having been slightly dinged by the previous tries, I had packed away all the parts. Only to unpack them some 10 minutes later with 'let's have another go at this!'

- 1) I tried to unsolder the existing Q105, which I failed to do due to lack of a) experience b) a proper soldering iron and c) a proper way to hold the PCB in place while I try to unsolder
- 3) So I first built a make-shift way to hold the pcb in place. Then I clipped the existing Q105 and then pushed the stumps through with the iron and a thin tip. (I picture a very painfully cringed face over in the UK right now...)
- 4) I put a new Q105 in place (side-remark: when I had ordered the picofuses I had overlooked the minimum order-size so they canceled my order. When I wanted to re-order you had already mentioned that you think the Q105 is broken so I added that to the pico-fuse order which got me over the minimum order size). It was such a hack-job that I myself felt badly about it. But in the end I had something that looked like connections on the new Q105
- 5) I turned things on now, only to be greeted with a fault light on and no turning of the motor whatsoever. However, I started with the measurements again and this time I did get the 12V where I expected it according to your diagrams. Hmm, something was clearly different (and better) than before. So why still no piep from the drive??
- 5) Then I realised that the HPIL cable and the disk-motor cable both have 4 pins and fit into each others male counterparts on the PCB. Turns out, I had the disk connected to the HPIL plug on the PCB... Dooh. No wonder it did not spin. So I fixed that and connected all to its proper place.
- 6) You can imagine my cry of joy when the drive went on, did it self-test and the fault light went out! Unbelievable!!! I did some more test, like formatting a disk, writing a file to it and reading it back, all successfully. Such simple joy!

Now, I know, I am not fully done yet, I still need to get the cover in place and there was some shorting or the like going on there beforehand. And I have to fix the battery-charging circuit and make it work with the battery. Yet I am quite a happy chap right now.

Let me be clear here, for all intense and purposes, Tony fixed that drive, not me! I merely was the across-the-atlantic-remote-controlled extended arm of yours. And without ever laying eyes on the board, not to speak of making a single measurement yourself, you nevertheless figured out which part was broken!

I learned a great deal about the 9114 and had a lot of fun and now even some good old fashioned satisfaction. Thank you very much indeed!

Now I will happily go to bed.

All the best

Cheers

Peter

**Re: It is the darkest just before dawn & Tony, the Clairvoyant**

Message #7 Posted by **Tony Duell** on 26 May 2007, 1:30 p.m.,  
in response to message #6 by PeterP

Quote:

---

Tony,

You will not believe it, yet the 9114a works again (at least outside of its encasing and with the direct power supply. But all in its own time!)

---

Excellent!

Quote:

---

Having been slightly dinged by the previous tries, I had packed away all the parts. Only to unpack them some 10 minutes later with 'let's have another go at this!'

---

Alas I know that feeling all too well. I leave a repair/design/whatever and go to bed, only to get up 10 minutes later, turn on the soldering iron again, and carry on well into the early morning....

Quote:

---

1) I tried to unsolder the existing Q105, which I failed to do due to lack of a) experience b) a proper soldering iron and c) a proper way to hold the PCB in place while I try to unsolder

---

What have you got against step 2 ;-)

Quote:

---

3) So I first built a make-shift way to hold the pcb in place. Then I clipped the existing Q105 and then pushed the stumps through with the iron and a thin tip. (I picture a very painfully cringed face over in the UK right now...)

---

No painful looks from me, I can assure you. You wanted to save the PCB, that's by far the most valuable part. I've known to clip the pins off a DIL IC and desolder them one at a time to protect the PCB (althought I must say I desolderd all 32 RAMs without clipping the pins when I upgraded the memory in my HP9816 recently...)

Quote:

---

4) I put a new Q105 in place (side-remark: when I had ordered the picofuses I had overlooked the minimum order-size so they canceled my order. When I wanted to re-order you had already mentioned that you think the Q105 is broken so I added that to the picofuse order which got me over the minimum order size). It was such a hack-job that I myself felt badly about it. But in the end I had something that looked like connections on the new Q105

5) I turned things on now, only to be greeted with a fault light on and no turning of the

motor whatsoever. However, I started with the measurements again and this time I did get the 12V where I expected it according to your diagrams. Hmm, something was clearly different (and better) than before. So why still no piep from the drive??

5) Then I realised that the HPIL cable and the disk-motor cable both have 4 pins and fit into each others male counterparts on the PCB. Turns out, I had the disk connected to the HPIL plug on the PCB... Dooh. No wonder it did not spin. So I fixed that and connected all to its proper place.

6) You can imagine my cry of joy when the drive went on, did it self-test and the fault light went out! Unbelievable!!! I did some more test, like formatting a disk, writing a file to it and reading it back, all successfully. Such simple joy!

---

Excellent!

Quote:

---

Now, I know, I am not fully done yet, I still need to get the cover in place and there was some shorting or the like going on there beforehand. And I have to fix the battery-charging circuit and make it work with the battery. Yet I am quite a happy chap right now.

---

I wonder if the short-through-the-cover or whatever is what blew the fuse in the battery pack. I don't think it would have damaged Q105, though. You want to look very carefully for trapped wires on the disk drive mechanism.

Quote:

---

Let me be clear here, for all intense and purposes, Tony fixed that drive, not me! I merely was the across-the-atlantic-remote-controlled extended arm of yours. And without ever laying eyes on the board, not to speak of making a single measurement yourself, you nevertheless figured out which part was broken!

---

To be fair, you made some measurements and reported the results. Without knowing it was certainly a problem in the 12V PSU circuit, I would not have homed in on Q105.

As to why I went for Q105, you can call it 'experience' (with SMPSUs, not the 9114 in particular) or 'good luck' :-).

Quote:

---

I learned a great deal about the 9114 and had a lot of fun and now even some good old fashioned satisfaction. Thank you very much indeed!

---

All I can say is that I am pleased another piece of fine HP calculator hardware is running again!

---

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## HP Forum Archive 17

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### **Battery Charger HP 82144A**

*Message #1 Posted by [Larry Fox](#) on 23 May 2007, 10:57 p.m.*

Does anyone know what device the HP 82144A Charger goes with? Unfortunately, I don't know what kind of plug is on the end.

### **Re: Battery Charger HP 82144A**

*Message #2 Posted by [Eric Smith](#) on 23 May 2007, 11:25 p.m.,  
in response to message #1 by [Larry Fox](#)*

I'm not certain, but it appears to be a DC-input (10-16V) charger for the Spice series (31E, 32E, 33E, 37E, 38E). Might or might not be OK with the continuous memory models (33C, 34C, 38C) as well.

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## HP Forum Archive 17

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### 50G or 48GII?

Message #1 Posted by **Bob** on 23 May 2007, 8:41 p.m.

Since I am in the market for a new calc, I was wondering if the 50G had it all over the 48GII? (in terms of quality, build, feel, bugs, etc)

I have glanced at the features and since both are much more powerful than what I need on a daily basis, I wondered if the 50G was worth the extra few bucks? I assume that both of them have the equation library and solver functions, particularly TVM, of the 48GX in them. (that may not be true of course, just my assumption)

Any and all opinions are welcome.

### Re: 50G or 48GII?

Message #2 Posted by **Vieira, L. C. (Brazil)** on 23 May 2007, 9:40 p.m.,  
in response to message #1 by Bob

Hi;

I have both (one of each) and in terms of 'worth it', I think the HP50G would be the choice because:

it accepts SD cards to increase memory capacity (my H50G has a 1GByte SD card...)  
upgradable operating system, meaning that bugs are ellectable to corrections.  
more lines in the LCD; somehow you can use it to show more data.  
more user RAM in the basic configuration; a bit more than 1MBytes (*377KB RAM and 780KB Flash ROM available to the user*, according to the HP50G datasheet).

About the HP48GII. It has almost all algebraic and math features available with the HP50G (CAS, equation Library, etc), but it has about 81KBytes RAM (*80.7KB available to the user*, according to the datasheet). If we consider that it has a lot of built-in resources, user RAM may not be an issue, I guess.

As a final consideration... I actually think that the HP50G has a better look, with black finishment. It is closer to previous, successful HP calculators, indeed.

Cheers.

Luiz (Brazil)

*Edited: 23 May 2007, 9:42 p.m.*

### Re: 50G or 48GII?

Message #3 Posted by **Bob** on 24 May 2007, 9:54 a.m.,  
in response to message #2 by Vieira, L. C. (Brazil)

Thanks, Luiz. I am leaning toward the 50G. I am hoping that the quality is also getting better as they build more HP models, but who knows? I also like the SD card capability and the black body color better. It just

seems "right".

### Re: 50G or 48GII?

Message #4 Posted by [Hal Bitton](#) on 24 May 2007, 6:50 p.m.,  
in response to message #1 by Bob

Hi Bob,

I've had my 50G since Christmas...the quality and feel are excellent, and as I've said before, the display is fantastic... With the "smaller" font selected, I have up to 7 stack levels on the display. What I really like, though, is that big equations will present on the stack in textbook format...just like in the equation writer (granted it's a minor issue, but I don't like having to decipher a one line representation of a big expression)  
Best regards, Hal

### Re: 50G or 48GII?

Message #5 Posted by [Ron Ross](#) on 24 May 2007, 8:41 p.m.,  
in response to message #1 by Bob

Hp48GII- NO EQ LIBRARY!!! (actually, I do believe someone got it to load but then had only a few K of RAM left!!)

### Oops! My bad... Sorry!

Message #6 Posted by [Vieira, L. C. \(Brazil\)](#) on 24 May 2007, 9:03 p.m.,  
in response to message #5 by Ron Ross

Hi, Ron;

I keyed EQNLIB in my HP49G+ and confused with the HP48GII.

Thanks...

Luiz (Brazil)

### Uh Oh

Message #7 Posted by [Bob](#) on 24 May 2007, 9:39 p.m.,  
in response to message #6 by Vieira, L. C. (Brazil)

Well, if there is no equation library in the 48GII and there is in the 50G, my decision is becoming much clearer.

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## HP Forum Archive 17

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### HP 12C in Technology Review

Message #1 Posted by [Larry Corrado](#) on 23 May 2007, 11:15 a.m.

Hello, All,

I just noticed that Technology Review magazine, published by MIT, has a full-page picture of the HP 12C in its May/June 2007 issue. The main topic of the the issue is well-designed technology, and the 12C is featured, along with about 10 other designs, in a photo essay.

It would be nice to have seen the 15C there, but in terms of number sold and market longevity, I guess the 12C wins. I imagine others would prefer to see the HP 41CX mentioned.

Larry

### Re: HP 12C in Technology Review

Message #2 Posted by [Jeff](#) on 23 May 2007, 12:55 p.m.,  
in response to message #1 by [Larry Corrado](#)

Do you have the link? Thanks.

### Re: HP 12C in Technology Review

Message #3 Posted by [Larry Corrado](#) on 23 May 2007, 2:18 p.m.,  
in response to message #2 by [Jeff](#)

Jeff:

Actually, I found the photo in the paper copy of the magazine in our university library. The link below takes you to the Technology Review log-on page, where you can register if you'd like, and then see the May issue, and presumably the photo. As a general rule, I myself don't register for things like this unless I have ongoing business with the site.

<http://www.technologyreview.com/Infotech/18630/>

Hope this helps.

Larry

### Re: HP 12C in Technology Review

Message #4 Posted by [Jeff](#) on 23 May 2007, 4:20 p.m.,  
in response to message #3 by [Larry Corrado](#)

Thanks, Larry. Good article! I know what you mean about registration. I always use 10-Minute Mail for registrations. The address self-destructs in 10 minutes!

<http://www.10minutemail.com>

**Re: HP 12C in Technology Review**

*Message #5 Posted by [Larry Corrado](#) on 24 May 2007, 6:45 a.m.,  
in response to message #4 by Jeff*

Jeff,

I checked out that 10-minute email site: interesting. I'll keep it in mind.

Thanks. Larry

**Re: HP 12C in Technology Review**

*Message #6 Posted by [Vieira, L. C. \(Brazil\)](#) on 23 May 2007, 2:59 p.m.,  
in response to message #1 by Larry Corrado*

HI;

just to mention that the HP12C in the picture has

[3.14159265]

in the display. Intriguing... the only financial model in the Voyager series, and it shows PI in the LCD. OK, the number in the display may refer to anything BUT trigonometrics and it could be just a coincidence... d8^)

Cheers.

Luiz (Brazil)

**Re: HP 12C in Technology Review**

*Message #7 Posted by [Trent Moseley](#) on 23 May 2007, 11:51 p.m.,  
in response to message #6 by Vieira, L. C. (Brazil)*

Luiz, you are Inspector Clouseau!

tm

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## HP Forum Archive 17

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### HP-70 INT key function

Message #1 Posted by [Dave Smith](#) on 23 May 2007, 5:35 a.m.

Could anyone please help me with the way in which the INT key is used on an HP-70. I have an HP-70 in perfect condition (as far as I know) that I plan to sell, but I don't know how to check fully the INT key function - all the others are OK.

On most (HP) calculators INT means INTEGER but on this one I guess it means INTEREST of some kind. I just don't know which combination of the n, i, PMT, PV & FV entries have to be entered to use this and what calculation is then performed. Most uses of this give me an flashing display illegal operation warning, but on the odd occasion I have got a result but can't remember how I got it!

Thanks for any help received.

### Re: HP-70 INT key function

Message #2 Posted by [Gene](#) on 23 May 2007, 7:31 a.m.,  
in response to message #1 by [Dave Smith](#)

Check the 12c manual, available online free, for it's INT function. Should help you here.

### Re: HP-70 INT key function

Message #3 Posted by [Eric Smith](#) on 23 May 2007, 4:12 p.m.,  
in response to message #2 by [Gene](#)

Note that the HP-80, HP-81, HP-70, HP-22, and HP-27 do not have the same five-variable TVM solver as later models. They only support certain combinations of four TVM variables, and do not use the sign convention for the direction of cash flow. Thus examples for the 12C won't work on the HP-70 without changes.

The HP-80 and HP-81 are even more primitive; they don't actually have registers to store the financial variables, but rather use the stack. If you try to calculate the values you're going to use, you may push some of your values off the four-level stack, and get the wrong answer from the TVM calculation.

### Re: HP-70 INT key function

Message #4 Posted by [Dave Smith](#) on 23 May 2007, 4:16 p.m.,  
in response to message #3 by [Eric Smith](#)

Thanks Eric, and to Gene, too, for his earlier reply. I checked out the 12c manual and realised the convention. The INT key works as it should do. I am most grateful for this prompt help.

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## HP Forum Archive 17

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### HP42S Mini-Challenge : HP17B(II) solution

Message #1 Posted by [lary](#) on 23 May 2007, 5:16 a.m.

I know it's a bit late but here is a solution for the HP17B(II) (hardware clone of the HP42s) :

$$P=\text{sigma}(I:999999:316228:-11:\text{IF}(\text{IP}(I\times I\div 1E6)=\text{sigma}(J:1:5:1:\text{IP}(\text{MOD}(I\times I\div 10^J:10))\times 10^{(5-J)}):I\times I:0))$$

365 bytes (variables included) and 3m30 with EMU42 on 1,5Ghz Centrino

### HP42S Mini-Challenge : HP17B(II) solution

Message #2 Posted by [lary](#) on 23 May 2007, 5:34 a.m.,  
in response to message #1 by lary

Finger check, here is the good one :

$$P=\text{sigma}(I:999999:316228:-11:\text{IF}(\text{IP}(I\times I\div 1E6)=\text{sigma}(J:0:5:1:\text{IP}(\text{MOD}(I\times I\div 10^J:10))\times 10^{(5-J)}):I\times I:0))$$

### Very nice ! :- ) Timing ? [NT]

Message #3 Posted by [Valentin Albillo](#) on 23 May 2007, 5:58 a.m.,  
in response to message #2 by lary

Best regards from V.

### HP42S Mini-Challenge : HP17B(II) solution

Message #4 Posted by [lary](#) on 23 May 2007, 7:52 a.m.,  
in response to message #3 by Valentin Albillo

Estimated time on a real HP17BII = 8 hours 30 min. Unfortunately it can't go out of the loop once the solution found...

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## HP Forum Archive 17

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### Short quadratic solver (HP-15C)

Message #1 Posted by **Gerson W. Barbosa** on 22 May 2007, 7:44 p.m.

Two and a half months ago Allen presented an RPL program and a quadratic formula quite suitable for short programs:

<http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv017.cgi?read=109539#109539>

(scroll past the middle of the thread)

This is a 22-step program based on that formula. It was written then and no further attempt has been made to size-optimize it, so it's still possible someone come up with an even shorter program.

```
001- LBL E
002- ENTER
003- R^
004- /
005- LSTx
006- R^
007- x<>y
008- 2
009- *
010- /
011- CHS
012- ENTER
013- ENTER
014- x^2
015- R^
016- -
017- SQRT
018- +
019- x<>y
020- LSTx
021- -
022- RTN
```

Usage :

```
a ENTER b ENTER c GSB E => x1
                x<>y => x2
```

If flag 8 is set the program will also handle complex roots.

The record for the HP-41 appears to be a 16-step program available in the Software Library. What might be the record for the HP-15C?

Gerson.

P.S.: Of course, on the 33S I prefer to use Mr. Hanson's program available in the link. On my everyday 15C, however, every step counts...

### Re: Short quadratic solver (HP-15C)

Message #2 Posted by **Thomas Klemm** on 23 May 2007, 3:42 a.m.,  
in response to message #1 by Gerson W. Barbosa

Saved one step:

```
001- LBL E
002- ENTER
003- R^
004- /
005- R^
006- LSTx
007- /
008- 2
009- CHS
010- /
011- ENTER
012- ENTER
013- x^2
014- R^
015- -
016- SQRT
017- -
018- x<>y
019- LSTx
020- +
021- RTN
```

### Re: Short quadratic solver (HP-15C)

Message #3 Posted by **Gerson W. Barbosa** on 23 May 2007, 11:48 a.m.,  
in response to message #2 by Thomas Klemm

Quote:

\_\_\_\_\_  
Saved one step  
\_\_\_\_\_

Great job, Thomas!

And I have noticed now the greater root always shows up first, no matter the signs of the constants (on the previous program the lesser root appears first). That's what I would prefer on a two-line display calculator.

I would suggest the author of the shortest program submitted it to the Software Library (HP-15C). You're the winner so far! :-)

Best regards,

Gerson.

### Re: Short quadratic solver (HP-15C)

Message #4 Posted by **allen** on 24 May 2007, 8:46 p.m.,  
in response to message #1 by Gerson W. Barbosa

Beautiful program!!! I think it unfortunate with all of the Visual C++/Basic/... etc languages, the skill of writing efficient code is slowly becoming a niche market, rather than the mainstream. I'll try this out on my 15C once I get home!

### Re: Short quadratic solver (HP-15C)

Message #5 Posted by **Gerson W. Barbosa** on 24 May 2007, 11:23 p.m.,  
in response to message #4 by allen

Hello Allen,

Perhaps it's time to start using the registers. I haven't been able to get anything shorter than the 21 steps Thomas had already obtained, but I think someone can still save one step or two.

```

001- LBL E
002- ENTER
003- R^
004- x<>y
005- Rv
006- /
007- STO 0
008- x<>y
009- LSTx
010- /
011- 2
012- /
013- STO 1
014- x^2
015- RCL- 0
016- SQRT
017- RCL- 1
018- ENTER
019- 1/x
020- RCL* 0
021- RTN

```

Regards,

Gerson.

## Re: Short quadratic solver (HP-12C)

*Message #6 Posted by [Kalevipoeq](#) on 26 May 2007, 1:17 a.m.,  
in response to message #5 by Gerson W. Barbosa*

The quadratic solver on the HP-12C seems to be a real challenge : )

Case 1. Only 4-level stack is used

```

01  ENTER
02  RDN
03  RDN
04  X<>Y
05  ENTER
06  +
07  LST X
08  RDN
09  CHS
10  /
11  ENTER
12  *
13  LST X
14  X<>Y
15  RDN
16  RDN
17  X<>Y
18  /
19  -
20  SQRT
21  -
22  X<>Y
23  LST X
24  +

```

Case 2. Register R0 can be used

```

01  STO 0
02  RDN
03  X<>Y
04  STO/0

```

```

05  ENTER
06  +
07  CHS
08  /
09  ENTER
10  ENTER
11  ENTER
12  *
13  RCL 0
14  -
15  SQRT
16  -
17  X<>Y
18  LST x
19  +

```

Usage: a [ENTER] b [ENTER] c [R/S]

## Re: Short quadratic solver (HP-12C)

Message #7 Posted by [Gerson W. Barbosa](#) on 26 May 2007, 10:17 a.m.,  
in response to message #6 by [Kalevipoeg](#)

Congratulations!

Quote:

\_\_\_\_\_

The quadratic solver on the HP-12C seems to be a real challenge : )

\_\_\_\_\_

I do agree. The lack of  $R^{\wedge}$  is a problem for stack-based programs. Using only the stack allows for slightly faster programs, but this is not an issue in this case.

Your 19-step program (21 on the HP-15C) works also on the HP-33C and on the HP-15C (real and complex roots). In case you don't have a physical HP-15C, you can try a simulated one on [Nonpareil](#) if you wish.

Programs for the HP-12C and other RPN calculators are also welcome.

Regards,

Gerson.

## Re: Short quadratic solver (HP-15C)

Message #8 Posted by [Kalevipoeg](#) on 26 May 2007, 11:14 a.m.,  
in response to message #7 by [Gerson W. Barbosa](#)

This should work on the 11C, 15C, 34C etc. I tested with my 11C. Unfortunately there is no 15C in my collection...

```

001  LBL E
002  STO 0
003  RDN
004  X<>Y
005  STO/0
006  ENTER
007  +
008  CHS
009  /
010  ENTER
011  ENTER
012  x^2
013  RCL 0
014  -
015  SQRT

```



```
016 -  
017 X<>Y  
018 LST X  
019 +  
020 RTN
```

### Re: Short quadratic solver (HP-15C)

Message #9 Posted by [Gerson W. Barbosa](#) on 26 May 2007, 2:34 p.m.,  
in response to message #8 by Kalevipoeg

Quote:

\_\_\_\_\_

This should work on the 11C, 15C, 34C etc.

\_\_\_\_\_

Yes, your 20-step program does work on the HP-15C! Forgot to replace *ENTER* \* with  $x^2$ .  
Sorry!

Regards,

Gerson.

### Re: Short quadratic solver (HP-12C)

Message #10 Posted by [Kalevipoeg](#) on 26 May 2007, 3:25 p.m.,  
in response to message #9 by Gerson W. Barbosa

It's all right.

Back to the HP-12C programs.

Case 1. Only the stack is used (21 steps)

```
01  0  
02  +  
03  RDN  
04  X<>Y  
05  /  
06  2  
07  /  
08  CHS  
09  ENTER  
10  *  
11  LST X  
12  X<>Y  
13  RDN  
14  RDN  
15  /  
16  -  
17  SQRT  
18  -  
19  X<>Y  
20  LST X  
21  +
```

The HP-12C is getting close...

### Re: Short quadratic solver (HP-12C)

Message #11 Posted by [tony \(nz\)](#) on 26 May 2007, 4:07 p.m.,  
in response to message #10 by Kalevipoeg

Hello kalevipoeg! This [educalc post](#) shows we think alike, but don't let this stop

further improvement :-)

Cheers, Tony

### Re: Short quadratic solver (HP-12C)

Message #12 Posted by [Kalevipoe](#) on 27 May 2007, 1:34 a.m.,  
in response to message #11 by tony (nz)

Yes, it looks quite similar to mine. This was a nice "puzzle" anyway. Thanks to Gerson.

### Re: Short quadratic solver (HP-12C)

Message #13 Posted by [Kalevipoe](#) on 27 May 2007, 7:21 a.m.,  
in response to message #11 by tony (nz)

Some further thoughts.

We use RPN (REVERSE Polish Notation) and therefore we could input data in REVERSE order :-). In this case c, b, a.

We can just cut out the lines 01-04 from my first program listing and then we get 20 line program for the HP-12C.

```
01  ENTER
02  +
03  LST X
04  RDN
05  CHS
06  /
07  ENTER
08  *
09  LST X
10  X<>Y
11  RDN
12  RDN
13  X<>Y
14  /
15  -
16  SQRT
17  -
18  X<>Y
19  LST X
20  +
```

Example.  $f(x) = x^2 + 5x + 4$

```
4 [ENTER] 5 [ENTER] 1 [R/S]
running....-1.0000
[X<>Y].....-4.0000
```

What might be the record for the HP-15C by using reverse input?

### Re: Short quadratic solver (HP-12C)

Message #14 Posted by [Gerson W. Barbosa](#) on 27 May 2007, 10:37 a.m.,  
in response to message #13 by Kalevipoe

Quote:

What might be the record for the HP-15C by using reverse input?

At first glance, it appears the optimum input order would be  $b$ ,  $c$  and  $a$ . So, we should delete lines 002 through 005 in my second program and get this:

```
001- LBL E
002- /
003- STO 0
004- x<>y
005- LSTx
006- /
007- 2
008- /
009- STO 1
010- x^2
011- RCL- 0
012- SQRT
013- RCL- 1
014- ENTER
015- 1/x
016- RCL* 0
017- RTN
```

Using your example:

$$f(x) = x^2 + 5x + 4$$

```
5 [ENTER] 4 [ENTER] 1 [GSB] [E]
running.... -4.0000
[X<>Y]..... -1.0000
```

However, this is not the most natural way to enter the constants. Besides, this is not the record for this case, as you still could cut one step or two :-)

---

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## HP Forum Archive 17

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### hp 28s repair

Message #1 Posted by [Adrian](#) on 22 May 2007, 8:07 a.m.

My HP28s is dead. There are a few discrete components on the main board. A resistor marked 102K, is that a 100k resistor? Next to that a capacitor or resistor. It is 0 ohms. Next a glass circular component, possibly a diode. Then a three terminal device with two ports joined, probably a diode. A tantalum capacitor then a 1000uF electro.

Can someone verify these observations.

The case was easy to open and then repair if you have the right tools.

### Re: hp 28s repair

Message #2 Posted by [DaveJ](#) on 22 May 2007, 8:36 a.m.,  
in response to message #1 by [Adrian](#)

Quote:

My HP28s is dead. There are a few discrete components on the main board. A resistor marked 102K, is that a 100k resistor? Next to that a capacitor or resistor. It is 0 ohms. Next a glass circular component, possibly a diode. Then a three terminal device with two ports joined, probably a diode. A tantalum capacitor then a 1000uF electro.

Can someone verify these observations.

The case was easy to open and then repair if you have the right tools.

102K is 1Kohm, the "2" means "2 zero's". That zero ohm component is probably an inductor. If it does not look like the other resistor and it's not marked then it's more likely an inductor than a shorted capacitor. The three terminal device is most likely a diode. Glass circular components are almost always diodes.

I have never opened my 28S, so this is only an educated guess from an electronics designer.

Dave.

### Re: hp 28s repair

Message #3 Posted by [Ron](#) on 22 May 2007, 9:00 a.m.,  
in response to message #1 by [Adrian](#)

Quote:

The case was easy to open and then repair if you have the right tools.

Really?! What tools? I've taken one apart, but how do you get it back together?

### Re: hp 28s repair

Message #4 Posted by **Randy** on 22 May 2007, 9:18 a.m.,  
in response to message #1 by Adrian

The 1000uf cap is the supply bypass/memory backup.

102k is a capacitor, the component next to it, an inductor. Those two form the clock tank circuit. The others are part of a voltage doubler for the LCD display driver.

The usual failure is not electrical but rather mechanical in nature - a loss in contact between the logic board and keyboard due to failed heat stakes around the keyboard connector area.

Quote:

\_\_\_\_\_

The case was easy to open and then repair if you have the right tools.

\_\_\_\_\_

What tools would those be?

### Re: hp 28s repair

Message #5 Posted by **Adrian** on 22 May 2007, 4:28 p.m.,  
in response to message #4 by Randy

Remove the decals, then using a drill bit slightly larger than the plastic pin diameter, drill the tops only of the plastic pins . I have a high speed drill press as used in drilling PCBs. I did not drill very deep just enough to weaken the plastic. The top simply pops off with most of the stakes remaining.

### Re: hp 28s repair

Message #6 Posted by **Adrian** on 22 May 2007, 5:18 p.m.,  
in response to message #4 by Randy

The 102K is 0.1 uF and the inductor ?????mH. Any suggestions as to its value.

Next step remove the 2 active components and test.

### Re: hp 28s repair

Message #7 Posted by **DaveJ** on 22 May 2007, 5:47 p.m.,  
in response to message #6 by Adrian

Quote:

\_\_\_\_\_

The 102K is 0.1 uF and the inductor ?????mH. Any suggestions as to its value.

\_\_\_\_\_

102K for a capacitor would make it 1nF (0.001uF). 0.1uF is 104. K means +/-10% tolerance

Dave.

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### Emmanuel Compes

Message #1 Posted by [Jeff D](#) on 21 May 2007, 7:46 p.m.

I am trying to get in touch with Emmanuel Compes. Can anyone give me an email address? Thanks, Jeff

### Re: Emmanuel Compes

Message #2 Posted by [PeterP](#) on 22 May 2007, 12:04 a.m.,  
in response to message #1 by Jeff D

Not a guru and don't know Emmanuel, but I bought some EPROMS from him a long time ago so I know he has a 41 page. And, a quick google has it as the third hit... [Emmanuel's page](#)

Cheers

Peter

### Re: Emmanuel Compes

Message #3 Posted by [Matthias Wehrli](#) on 22 May 2007, 12:13 a.m.,  
in response to message #2 by PeterP

I know Emmanuel as he was on one of my meetings. I also bought some EPROMS from him I paid 1 year ago!!!! I'm still waiting for the EPROMS... when you got in touch with him please let me know. I'm not quiet shure, but it's his son who manages his ebay account since about 2,5 years as he does not has the time to do this.

Matthias

### Re: Emmanuel Compes

Message #4 Posted by [Jaques Bonameau](#) on 23 May 2007, 4:21 p.m.,  
in response to message #3 by Matthias Wehrli

Hi,

I have his homeadress I could mail to you (or post here) if that helps.

Jaques

### Re: Emmanuel Compes

Message #5 Posted by [JeffD](#) on 22 May 2007, 7:31 p.m.,  
in response to message #2 by PeterP

Thank you for the response. I have sent him an e-mail.

**Re: Emmanuel Compes**

*Message #6 Posted by [JeffD](#) on 22 May 2007, 7:38 p.m.,  
in response to message #5 by JeffD*

I am looking to find any information regarding a ROM Image that I have. It is ASDT UTIL and has the following commands; ROMIN, ROMOUT, KBDOUT, KBDOUT2, CON. Metthias, Do you happen to know what this might be or have any documentation for it? Also, does anyone have an english version of the ROMBOX 32 Documentation?

**Re: Emmanuel Compes**

*Message #7 Posted by [tobie niggli](#) on 24 May 2007, 1:51 a.m.,  
in response to message #6 by JeffD*

You will find infos for this commands (ROMIN, ROMOUT etc) in the SDK41R6 from Warren Furlow. They send and receive ROM's between a PC an the HP41 over HPIL or HPIL-RS232.  
Tobie

---

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## HP Forum Archive 17

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### How to charge a 19C battery pack?

Message #1 Posted by [Walter B](#) on 21 May 2007, 3:06 p.m.

Recently I succeeded in getting such a NOS pack for my 19C. However, I doubt the cells in it are still "good enough" to allow me connecting my 19C to mains to charge them in the calc. On the other hand, I do not want to open the pack unnecessarily. And I lack any sophisticated electronic lab equipment. What do you recommend?

### Re: How to charge a 19C battery pack?

Message #2 Posted by [Vassilis Prevelakis](#) on 21 May 2007, 10:00 p.m.,  
in response to message #1 by [Walter B](#)

Open the pack, even if the cells are still OK, they will not last long, so you'll need to change them sooner or later.

Important advice: BEFORE YOU START! Take a bunch of pictures of the pack as it is with you digital camera, phone, whatever. make sure the pictures are clear (i.e. view them on your computer). Otherwise make a diagram of the orientation of the cells inside teh pack.

MARK the pack with signs showing the cell orientation to be sure you get it right in the future.

The pack is glued together, but you only need to use a shapr razor to split the glue at the seams, and the whole case will simply open.

The pack has four standard AA 1.2 NiCd cells, can't get anything more standard than that.

Take out the old cells and insert the replacements making sure the orientation is correct. The pack has springs on one side pushing the cells against contacts on the 19C mainboard, so you simply insert the cells against the springs and close the pack. No soldering or anything is needed.

Close the pack, using sticky tape to hold the two parts together. Do not glue the pack as you will need to open it again.

Insert the pack inside the 19C and run through the following checklist:

- 1) There is an indentation in the pack on the side of the contacts. If you do not see the indentation, you have inserted the pack upside down and you will not be able to close the cover.
- 2) The two middle tabs (contacts) have notes on them indicating the polarity of the battery next to them (there is even an arrow to tell you that the note applies to the battery on the side of the arrow). Anyway the batteries in the pack should match the polarity notes on the tabs. I.e. looking at the 19C batory compartment (the 19C is face down) with the contacts nearest to you, the polarity of the batteries should be (-), (+), (-), (+).

Close the cover, hope for the best and power on your 19C.

-----



Now to recharge the batteries, my advice is to simply take the batteries out of the pack and charge them on an external battery charger (i.e. never plug your 19C to the mains).

The advantage of this procedure is that you can now use NiMH cells that last much longer.

\*\*vp

*Edited: 21 May 2007, 10:03 p.m.*

## **Re: How to charge a 19C battery pack?**

*Message #3 Posted by **Walter B** on 22 May 2007, 2:14 a.m.,  
in response to message #2 by Vassilis Prevelakis*

Thanks a lot, Vassilis!

I will go out to buy cells today, and keep you informed about the results. Then I propose your advise shall be stored in a more permanent section of the museum, maybe in an article. Since I will take some pictures as you recommended, you may get them from me if you like.

Kalimera sou

## **19C resurrected!**

*Message #4 Posted by **Walter B** on 23 May 2007, 7:14 p.m.,  
in response to message #2 by Vassilis Prevelakis*

This is to let you know a 19C offered for parts some time ago turned out to be fully functional. It was risen from the death using a Swiss army knife, a razor, an old Sting battery pack bought separately, 4 new cells, a strip of household aluminum foil, some scotch tape, and a strip of a recent newspaper d:-)

So, how did I do this? I'll explain it commenting VP's instructions:

Quote:

Important advice: **BEFORE YOU START!** Take a bunch of pictures of the pack as it is ... **MARK** the pack with signs showing the cell orientation to be sure you get it right in the future.

The pictures really helped a lot, mostly by reassuring me I did it right. I skipped the marking. At the bottom line, most important is the orientation of the pack. And this is unambiguously determined by the PCB tabs extending into the compartment, and the indentation of the pack facing the cover of said compartment.

Quote:

The pack is glued together, but you only need to use a shapr razor to split the glue at the seams, and the whole case will simply open.

Well, this "simple" task took me quite some time and controlled brute force. The front and back sides of my pack measure 2.5mm each. Top and bottom halves feature some undercuts and were nicely glued together ... d:-/ and I wanted to use these plastic parts again!

Quote:

The pack has four standard AA 1.2 NiCd cells ... Take out the old cells and insert the replacements making sure the orientation is correct. The pack has springs on one side pushing the cells against contacts on the 19C mainboard, so you simply insert the cells against the springs and close the pack. No soldering or anything is needed.

---

True, almost. The original cells were spot-welded together like an "M". While the intercell contacts on the back side are perfectly established by the 2 springs found there, I needed to connect cell 2 to 3 at the front to reach 5V in total. This was where the aluminum foil came in. Took some fiddling but turned out to work fine.

Quote:

---

Close the pack, using sticky tape to hold the two parts together. Do not glue the pack as you will need to open it again.

Insert the pack inside the 19C and run through the following checklist:

1) There is an indentation in the pack on the side of the contacts. If you do not see the indentation, you have inserted the pack upside down and you will not be able to close the cover.

2) The two middle tabs ***indicate the polarity of the pack*** (there is even an arrow to tell you that the note applies to the battery on the side of the arrow). *I.e.* looking at the 19C battery compartment (the 19C is face down) with the contacts facing you, the polarity of the batteries should be (-), (+), (-), (+).

Close the cover, hope for the best and power on your 19C.

---

(The bold italic text indicates my modifications of VP's advice.) After all, the pressure did not suffice for a good contact in my 19C (though I cleaned the PCB tips). So I folded a paper strip several times and inserted it behind the pack.

Pictures of the different steps are available.

(Edited for better explanation)

*Edited: 24 May 2007, 1:41 p.m.*

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## HP Forum Archive 17

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### Sneek Preview: Anniversary Edition

Message #1 Posted by [Chuck](#) on 21 May 2007, 1:24 a.m.

Here it is...a fantastic 4-function Voyager...

<http://home.wavecable.com/~stevensc/mathmuseum/images/HP4f.jpg>

### Re: Sneek Preview: Anniversary Edition

Message #2 Posted by [Howard Owen](#) on 21 May 2007, 2:02 a.m.,  
in response to message #1 by Chuck

4F? Must be milspec.

Regards,  
Howard

### Re: Sneek Preview: Anniversary Edition

Message #3 Posted by [Bruce H](#) on 21 May 2007, 11:00 a.m.,  
in response to message #2 by Howard Owen

Quote:

4F? Must be milspec.

Regards,  
Howard

Should be HP-4B as in 'four banger'!

### Re: Sneek Preview: Anniversary Edition

Message #4 Posted by [Patrick R](#) on 21 May 2007, 2:46 a.m.,  
in response to message #1 by Chuck

I would buy it :)

### Re: Sneek Preview: Anniversary Edition

Message #5 Posted by [DaveJ](#) on 21 May 2007, 2:50 a.m.,  
in response to message #1 by Chuck

List it on eBay, see if anyone bids!

Dave.

### **Re: Sneek Preview: Anniversary Edition**

*Message #6 Posted by **James M. Prange (Michigan)** on 21 May 2007, 5:34 a.m.,  
in response to message #1 by Chuck*

I really like it, provided that it has a reasonable price and fits comfortably in my shirt pocket.

It seems to me that it would be easy enough to manufacture. After all, shouldn't it be simpler and cheaper to design and manufacture a calculator with an RPN user interface than with an algebraic user interface?

But it seems to me that a "35th Anniversary Edition" model ought to have at least the "scientific" capabilities of the HP-35, and be "shirt pocket-sized".

Regards,  
James

### **Re: Sneek Preview: Anniversary Edition**

*Message #7 Posted by **Antonio Maschio (Italy)** on 21 May 2007, 6:05 a.m.,  
in response to message #1 by Chuck*

Very very beautiful and tiny.

I'd add a big enter horizontal key (where now are the enter and + keys), shifting the four operations one row up, and using the three upper left keys for square root, percentage and reciprocal.

With these add-ons, this could be my most used calculator, since I find myself using these keys the 99% of the time (for trigonometry and exponentiation I could use another calculator, after all).

-- Antonio

P.S. could you update the picture as I suggested? Just for fun!

Edit: I did it for you.

Here's my result:

<http://it.geocities.com/tonibin/images/HP4f-v2.jpg>

... and of course, if a key could be destined to a shift function, a lot of alternate operations could be added! But let's keep it **\*\*very\*\*** simple...

-- Antonio

*Edited: 21 May 2007, 11:28 a.m.*

### **Re: Sneek Preview: Anniversary Edition**

*Message #8 Posted by **Howard Owen** on 21 May 2007, 11:52 a.m.,  
in response to message #7 by Antonio Maschio (Italy)*

I'd buy that one, if it weren't too expensive.

Regards,  
Howard

**Re: Sneek Preview: Anniversary Edition**

*Message #9 Posted by **Wayne Brown** on 21 May 2007, 5:32 p.m.,  
in response to message #8 by Howard Owen*

Quote:

\_\_\_\_\_

I'd buy that one, if it weren't too expensive.

\_\_\_\_\_

So would I -- several, probably.

**Re: Sneek Preview: Anniversary Edition**

*Message #10 Posted by **Howard Owen** on 21 May 2007, 11:58 a.m.,  
in response to message #7 by Antonio Maschio (Italy)*

But I'd exchange the X<>Y and CLx key positions. Having Clx next to the + key invites disaster, particularly with the lack of lastX. X<>Y is inherently reversible.

Regards,  
Howard

**Re: Sneek Preview: Anniversary Edition**

*Message #11 Posted by **Antonio Maschio (Italy)** on 21 May 2007, 2:22 p.m.,  
in response to message #10 by Howard Owen*

Well, you're right.

What to say? If I have time, tomorrow, I'll fix this bug.

In any case, a four-op calculator in pure RPN mode, with a four-levels stack, with 10 or 12 digits (not more) and with that beautiful interface like the one suggested by Chuck, would probably cost around 15-20 dollars, and be the entry-level calculator with RPN input for thousands of algebraic users that cannot even conceive this usage (I'm not speaking of those who use algebraic calculators and know RPN and have chosen the former - I have already done such a mistake that arose a holy war some time ago).

For what about me, I'd buy 5, two for me and one for each member of my family. And maybe others for all my friends and parents for birthdays.

I like the idea.

Chuck, you made a start. Hopefully, HP will gather your suggestion. Who knows? Who cares?

-- Antonio

**Re: Sneek Preview: Anniversary Edition**

*Message #12 Posted by **James M. Prange (Michigan)** on 21 May 2007, 4:20 p.m.,  
in response to message #11 by Antonio Maschio (Italy)*

But for a very simple RPN non-programmable 4-banger calculator, wouldn't just 2 stack registers suffice? After all, each of the available operations always takes 2 arguments and returns 1 result.

Okay, even with just x and y registers,  $x \leftrightarrow y$  and CLx could be useful.

What I might add would be a "memory" register, with M+ and MR keys to use it, a +/- (CHS) key, and maybe a 1/x key, and even "dollar store" "4-bangers" usually seem to include a square root key.

I've never seen a percent key as being particularly useful on a calculator, but it seems that most seem to expect it.

How about an On/Off key to conserve battery power?

Yes, I really think that HP ought to market a low-cost entry-level RPN calculator to introduce algebraic users (and youngsters using a calculator for the first time) to the ease and simplicity of using RPN models.

Regards,  
James

### **Re: Sneek Preview: Anniversary Edition**

*Message #13 Posted by **Antonio Maschio (Italy)** on 22 May 2007, 2:54 a.m.,  
in response to message #12 by James M. Prange (Michigan)*

Here's an **\*\*ugly\*\*** attempt to figure out the calculator after your suggestions.

It's a collection of cut&copy, so the yellow of shifted functions is not the same, but just imagine it is.

What about it?

<http://it.geocities.com/tonibin/images/HP4f-v3.jpg>

Of course, in my mind:

The OFF should be automatic after 5 minutes, the ON happens when you hit any key; the RESET could be a back pencil hole (as in old SHARP calculators), or the batteries removal (there's little chance that this calculator hangs, anyway).

STO 0..9 are ten available memories

STO +/-/÷/x 0..9 work as accumulators (e.g. STO+6 add reg. X to memory 6)

f RCL 0..9 recall ten available memories

RCL +/-/÷/x 0..9 work as accumulators (e.g. RCL+6 add memory 6 to reg. X)

f 1..9 could set the FIX

f 0 could reset FIX

scientific format starts automatically when number doesn't fit the 10/12 digits (if you need to input 1E-25 probably you need a scientific calculator...)

the greek pi is a gift (one could calculate circle areas, right?)

well, that's all. Any need of a manual, for such a calculator?

-- Antonio

P.S. I invite you to find some substitutes for % and pi, since they are really the lesser useful keys of this proposal.

I also invite you to reconsider this: if the available memories were, say, 0..6, there would be three shifted function to add. What do you think could be added to enhance this calculator, without losing the point it must be a **\*\*simple\*\*** calculator?

*Edited: 22 May 2007, 7:25 a.m.*

## **Re: Sneek Preview: Anniversary Edition**

*Message #14 Posted by **DaveJ** on 22 May 2007, 8:19 a.m.,  
in response to message #13 by Antonio Maschio (Italy)*

Quote:

Here's an **\*\*ugly\*\*** attempt to figure out the calculator after your suggestions.

It's a collection of cut&copy, so the yellow of shifted functions is not the same, but just imagine it is.

What about it?

Of course, in my mind:

The OFF should be automatic after 5 minutes, the ON happens when you hit any key; the RESET could be a back pencil hole (as in old SHARP calculators), or the batteries removal (there's little chance that this calculator hangs, anyway).

STO 0..9 are ten available memories

STO +/-/÷/x 0..9 work as accumulators (e.g. STO+6 add reg. X to memory 6)

f RCL 0..9 recall ten available memories

RCL +/-/÷/x 0..9 work as accumulators (e.g. RCL+6 add memory 6 to reg. X)

f 1..9 could set the FIX

f 0 could reset FIX

scientific format starts automatically when number doesn't fit the 10/12 digits (if you need to input 1E-25 probably you need a scientific calculator...)

the greek pi is a gift (one could calculate circle areas, right?)

well, that's all. Any need of a manual, for such a calculator?

-- Antonio

P.S. I invite you to find some substitutes for % and pi, since they are really the lesser useful keys of this proposal.

I also invite you to reconsider this: if the available memories were, say, 0..6, there would be three shifted function to add. What do you think could be added to enhance this calculator, without losing the point it must be a **\*\*simple\*\*** calculator?

Forget "f 1..9" being for FIX, the shift function on all those keys can be used for so many things, heck you could turn it into a very usable scientific. But if it had to stay "non-scientific" I'd add EXP, +ENG, -ENG, X^2, R->P, P->R, and simple base conversion. Would it be asking too much to get a Log key as well? Oh, and my favorite key that should be on every calc, a Parallel key. Only my Casio FX-61F has that.

Software and labels are cheap!

Dave.

### **Re: Sneek Preview: Anniversary Edition**

*Message #15 Posted by **GE** on 22 May 2007, 8:53 a.m.,  
in response to message #14 by DaveJ*

What is a Parallel key ? Is this  $1/(1/X + 1/Y)$  ?  
I feel the stack should be 4 levels deep, not variable size (yuck RPL !).

### **Re: Sneek Preview: Anniversary Edition**

*Message #16 Posted by **DaveJ** on 22 May 2007, 8:59 a.m.,  
in response to message #15 by GE*

Quote:

What is a Parallel key ? Is this  $1/(1/X + 1/Y)$  ?

Yep, that's it. Incredibly handy for electronics guys like me. I only know one calculator that ever had it.

Dave.

### **Re: Sneek Preview: Anniversary Edition**

*Message #17 Posted by **Antonio Maschio (Italy)** on 22 May 2007, 10:15 a.m.,  
in response to message #16 by DaveJ*

I think you missed the point Chuck established. The calculator must be simple.

X^2 can be calculated by

```
<value>  
ENTER  
x
```

and the Parallel key is something too far for simple calculators. The same for LOG and +/- ENG. For those you need a scientific calculator.

for EXP: yes, it may be useful, but then something to manage the SCI format should be added. Since I said that scientific format should activate automatically,



well, I think it's enough.

for the CHS: some guy in an older message suggested its presence, and I agree. I find it useful, like the 1/x key and the fix format (since calculating money or centimeters decimals without having to round by mind is useful).

for time calculation: use decimal format (10:30 as 10.5 and so on)

The feeling of such a calculator should be: keep it simple. Chuck proposed an even simpler calculator, probably not that usable, and the effort of mine reached a (of course as a 'scherzo', if you know the musical notation strings) more usable an not that much complicated calculator.

I guess as HP should do.

-- Antonio

### **Re: Sneek Preview: Anniversary Edition**

*Message #18 Posted by [Maximilian Hohmann](#) on 22 May 2007, 10:33 a.m., in response to message #17 by Antonio Maschio (Italy)*

Hello!

Quote:

\_\_\_\_\_

for time calculation: use decimal format (10:30 as 10.5 and so on)

\_\_\_\_\_

If the world was so easy that there are only half hours, then we would need no calculator at all :-) HP itself has shown long ago that a time function can be very useful indeed: With the hp-01 watch that could perform such calculations...

Saluti, Max

BTW: This is my most useful little Casio time calculator (nearly as difficult to find than the hp-01!):

[http://www.bombie.de/tmp/casio\\_lc\\_403lu.jpg](http://www.bombie.de/tmp/casio_lc_403lu.jpg)

### **Re: Sneek Preview: Anniversary Edition**

*Message #19 Posted by [Antonio Maschio \(Italy\)](#) on 22 May 2007, 2:51 p.m., in response to message #18 by Maximilian Hohmann*

Ok, Max,

you won.

I thought over your proposal a lot, and probably the time function could be a very interesting add-on even for this tiny calculator.

So let's figure that HH.MMSS (or ->HMS à la HP) could be put in the

place of greek pi: after all, digiting 3.1415 is not that difficult, and if somebody doesn't know the pi value at the fourth decimal, probably he doesn't even need it.

Now, let's figure out the help page:

```
digit the hour in decimals (so for instance 10:25:56 becomes
10.2556) and hit f ->HMS
(the display shows the decimal version of the hour, that is
10,1520160000).
Digit another hour in the same way and then operate a + or a
minus....
```

and now? There would need another conversion key like ->HR on the result to restore the hour format. How does your Casio work? I don't see any other time key. We could think to use ->HR in place of the %. This could go.

What about it?

-- Antonio

### **Re: Sneek Preview: Anniversary Edition**

*Message #20 Posted by [Maximilian Hohmann](#) on 22 May 2007, 5:50 p.m.,  
in response to message #19 by Antonio Maschio (Italy)*

Hello!

Quote:

How does your Casio work? I don't see any other time key.

With the Casio, the "HMS"-key is really a mode-toggle: You start your time calculation by pressing "HMS" and from then on, it stays in time mode (until you press "AC") displaying a "-" sign as hour separator and " and ' to separate minutes and seconds (as in the picture above).

To enter values, you digit HHH (yes it can do up to 999 hours, other than some spreadsheets that wont go beyond 24 which is quite useless when you sum-up working hours!), then "HMS" then MM then "HMS" then SS. Of course, minutes and seconds are optional. And it is smart enough to know that when you dont press "HMS" first thing after "AC", you mean "%" instead :-)

Greetings, Max

### **Re: Sneek Preview: Anniversary Edition**

*Message #21 Posted by [Antonio Maschio \(Italy\)](#) on 23 May 2007, 2:09 a.m.,  
in response to message #20 by Maximilian Hohmann*

Aah! So it toggles its mode.

Well, I believe this is too much Casio-oriented. HP ->HR and ->HMS are more common on a (even hypothetical) HP calculator.

Don't you agree?

-- Antonio

## **Re: Sneek Preview: Anniversary Edition (FINAL RESULT)**

*Message #22 Posted by [Antonio Maschio \(Italy\)](#) on 23 May 2007, 9:02 a.m.,  
in response to message #21 by Antonio Maschio (Italy)*

Ok. This is my last effort.

I considered (hopefully) all the requests of this thread, some have been discarded and some kept (for what about the STO/RCL inversion, well, it can be done).

Here's my final result.

<http://it.geocities.com/tonibin/images/HP4f-v4.jpg>

It could a very handy calculator for any common calculation, even professional (if you know your formulae and don't need solving capabilities).

Apart from the display (LED or diods), I remark that if HP took this proposal into consideration (which is *\*always\** an idea of Chuck), the keys should be the ones of the old Voyager of Pioneer series, not the ugly keys of the current HP-9S/9G or HP-33S models. They shouldn't look too back in time: the keys of the HP-12C 25th anniversary I got are the best keys of all the voyager models I own.

Saluti.

-- Antonio

... and let another supercalculator be conceived at the 40th anniversary!

*Edited: 23 May 2007, 9:18 a.m.*

## **Re: Sneek Preview: Anniversary Edition**

*Message #23 Posted by [Maximilian Hohmann](#) on 22 May 2007, 9:28 a.m.,  
in response to message #13 by Antonio Maschio (Italy)*

Hello!

Quote:

What do you think could be added to enhance this calculator, without losing the

point it must be a **\*\*simple\*\*** calculator?

Before talking about adding something, I think there is one item that can easily be removed: The "CHS"-key (or better key label). This can be replaced by pressing the decimal point twice as on some old "Interton" calculators! (But I only found that out by reading the manual, so for a real "simple" calculator it might not be the right thing to do).

To add, I would consider some user-defineable constant-keys (say f-"C1", f-"C2" and f-"C3") that multiply the contents of the x-register with a constant without pressing any further key: Very useful for currency and units conversions!

Saluti, Max

And something else too: A ":" key that allows you to enter time values as hh:mm[:ss] for simple time calculations (working hours spent on a project, or flying time for the not-so-small (see below :-)) fraction of aviators amongst hp calculator enthusiasts). I have a little four-banger Casio calculator that can do exactly that and that probably is the calculator I need most often...

And to repeat myself I still think that a 35years anniversary hp calculator must have LEDs of some kind in its display. Be it a dot-matrix OLED display or a backlit (by red LEDs) inverse LCD.

*Edited: 22 May 2007, 9:36 a.m.*

### **Re: Sneek Preview: Anniversary Edition**

*Message #24 Posted by **GE** on 23 May 2007, 6:25 a.m.,  
in response to message #23 by Maximilian Hohmann*

You can remove the decimal point key as old Sinclair machines used to do. They only had an EE (enter exponent) key.

Also, there was one shift key only but pressing it twice would give a second shift state (IIRC).

But simplicity is probably better than saving one or two keys.

### **Re: Sneek Preview: Anniversary Edition**

*Message #25 Posted by **Paul Dale** on 22 May 2007, 5:02 p.m.,  
in response to message #13 by Antonio Maschio (Italy)*

If you introduce ATAN and SIN as replacements for % and PI you get functional trigonometric capabilities:

PI being  $4 \text{ ATAN}(1)$

COS(x) being  $\text{SIN}(\text{PI}/2 - x)$   
TAN(x) being  $\text{SIN}(x) / \text{COS}(x)$

ASIN(x) is  $\text{ATAN}(x/\text{SQRT}(1-x*x))$   
ACOS(x) is  $\text{PI}/2 - \text{ASIN}(x)$

Things have to be in radians so we can get PI back.

- Pauli

### **Re: Sneek Preview: Anniversary Edition**

*Message #26 Posted by [Paul Guertin](#) on 22 May 2007, 8:18 p.m.,  
in response to message #13 by Antonio Maschio (Italy)*

Nice calculator. I'd switch STO and RCL (that is, have STO be the shifted function and RCL the unshifted one), since RCL will be used at least as much as STO, and often more.

### **Re: Sneek Preview: Anniversary Edition**

*Message #27 Posted by [bhtoeifr](#) on 24 May 2007, 8:25 a.m.,  
in response to message #12 by James M. Prange (Michigan)*

Half of the point of an RPN calc, though, in my opinion... is to have the multi-level stack, so you can queue up numbers.

Now, your "average" "4"-banger has the following functions:

Add/Subtract/Multiply/Divide

Memory (can be implemented the same way as the scientifics, with an S level)

Square Root

Percent

That's what I think an RPN "4"-banger should have, to be competitive. Now, of course, as has been pointed out... why not make it a modern day HP-35?

### **Re: Sneek Preview: Anniversary Edition**

*Message #28 Posted by [DaveJ](#) on 24 May 2007, 9:01 a.m.,  
in response to message #27 by bhtoeifr*

Quote:

---

Half of the point of an RPN calc, though, in my opinion... is to have the multi-level stack, so you can queue up numbers.

Now, your "average" "4"-banger has the following functions:

Add/Subtract/Multiply/Divide

Memory (can be implemented the same way as the scientifics, with an S level)

Square Root

Percent

That's what I think an RPN "4"-banger should have, to be competitive. Now, of course, as has been pointed out... why not make it a modern day HP-35?

---

Exactly. What's the point in making something so deliberately "simple" that's it almost no good for anything. The form factor is its draw card, why not add some real scientific functionality to it? Then it goes from being useful only for adding up your grocery bill, to something which could do 99% of everyday engineering and scientific tasks. All for the sake of adding a few labels to the keys and some extra lines of code.

Dave.

**Re: Sneek Preview: Anniversary Edition (Modern 35)**

*Message #29 Posted by **Walter B** on 24 May 2007, 1:23 p.m.,  
in response to message #28 by DaveJ*

Quote:

\_\_\_\_\_

The form factor is its draw card, why not add some real scientific functionality to it? Then it goes from being useful only for adding up your grocery bill, to something which could do 99% of everyday engineering and scientific tasks.

\_\_\_\_\_

Now you are next to OpenRPN, aren't you? Or what shall be the difference? Waiting for enlightenment ...

**Re: Sneek Preview: Anniversary Edition (Modern 35)**

*Message #30 Posted by **DaveJ** on 24 May 2007, 6:28 p.m.,  
in response to message #29 by Walter B*

Quote:

\_\_\_\_\_

Now you are next to OpenRPN, aren't you? Or what shall be the difference? Waiting for enlightenment ...

\_\_\_\_\_

I don't know too much about OpenRPN, so correct me if I'm wrong, but I get the impression OpenRPN is a "do everything" project? All I want is \*small\* and \*basic\* scientific calculator. By small, I mean smaller than a Voyager.

The proposed "4 banger" seems a perfect size for me, but deliberately crippling it with only 4 functions seems incredibly silly, even as a "what if" argument. Buy hey, if everyone wants to play a theoretical "4 banger" game then by all means continue!

Perhaps it could have a swappable face plate and a switch on the back for "4 banger" or "Scientific"?

Dave.

**Re: Sneek Preview: Anniversary Edition (Modern 35)**

*Message #31 Posted by **Hugh Evans** on 25 May 2007, 2:04 a.m.,  
in response to message #30 by DaveJ*

No, "do everything" is for the big companies to play with. Everything from the 49g on has been grudgingly accepted at best by engineers and scientists at best. To satisfy virtually everyone in this community requires two basic forms of calculators: voyagers and pioneers. Generally speaking, people around here prefer one of the two layouts. Update the electronics to modern levels, keep the source code in the public domain, over-engineer everything, make outstanding documentation, and package the whole thing for \$100 or less.

**Re: Sneek Preview: Anniversary Edition**

*Message #32 Posted by **Howard Owen** on 24 May 2007, 1:49 p.m.,*

*in response to message #28 by DaveJ*

This has been an exercise in minimalist design. I doubt anyone here expects something like this to actually be built. But it was interesting to start from something radically simple, and then add only those features people deemed essential in a basic "four-banger" calculator. I really would buy something like what we came up with - if only for the novelty. But that doesn't mean it would be a viable product.

Regards,  
Howard

### **Re: Sneek Preview: Anniversary Edition**

*Message #33 Posted by **DaveJ** on 24 May 2007, 8:21 p.m.,  
in response to message #32 by Howard Owen*

Quote:

---

This has been an exercise in minimalist design. I doubt anyone here expects something like this to actually be built. But it was interesting to start from something radically simple, and then add only those features people deemed essential in a basic "four-banger" calculator. I really would buy something like what we came up with - if only for the novelty. But that doesn't mean it would be a viable product.

Regards,  
Howard

---

Ok, if you want to talk minimalist design, then there are two keys too many, minimum. The STO and X-Y keys are redundant when you have a function key and all those normal keys. Put all the alternate functions as shift functions and you have saved those two keys.

Then again if you want to get radically minimalist, in theory you could do it all with just 2 keys total. Would suck to use, but that would be minimalist. In fact you could probably do it with just one key, but that would suck an order of magnitude more :->

A minimalist RPN calc would also only have a two level stack, not four IMHO. But of course 4 is much better, and would better deserve the "RPN" title.

Of course, a 4 function RPN calc would never sell in todays market, ever. But that exact same calc with scientific functions *\*would\** most likely sell.

I can design a real one in a few days, if someone can somehow make the buttons and housing!

Dave.

### **Re: Sneek Preview: Anniversary Edition**

*Message #34 Posted by **Bob** on 24 May 2007, 9:50 p.m.,  
in response to message #33 by DaveJ*

I have always thought if HP could make a basic RPN calc, with tactile keys, and

include the basic scientific functions of say, a \$9 TI-30, with a few TVM functions built-in, you would really have something. I would easily pay twice that for an HP with those features. :-)

I don't need hundreds of functions to make it a great daily user.

### **Re: Sneek Preview: Anniversary Edition**

*Message #35 Posted by **DaveJ** on 24 May 2007, 10:46 p.m.,  
in response to message #34 by Bob*

Quote:

---

I have always thought if HP could make a basic RPN calc, with tactile keys, and include the basic scientific functions of say, a \$9 TI-30, with a few TVM functions built-in, you would really have something. I would easily pay twice that for an HP with those features. :-)

I don't need hundreds of functions to make it a great daily user.

---

It is the glaringly obvious model missing from their line-up. They have cheap-n-cheerful algebraics for the school market, they have the 33S as a high end programmable, and the powerful graphic machines, but no normal RPN scientific.

Incidentally, when was their last basic scientific model produced?

Interestingly, in the real world of engineering the only calcs I ever see are basic scientifics, no engineer I know at any company I've ever worked for uses a graphic or other high end programmable on a daily basis. If they do have them I never see them on the desks.

Dave.

### **Re: Sneek Preview: Anniversary Edition**

*Message #36 Posted by **ECL** on 25 May 2007, 12:28 p.m.,  
in response to message #35 by DaveJ*

Dave,

I have had quite the opposite experience. Most nearly every engineer that has a calc on his desk at my work appears to have an HP graphing model. The 48g/x dominates with some 49g and also a gold 49g+ (must've been from the good batch). There's even (cringe) a few Ti-89s'.

Myself, I find myself using my 33s alot, since it is small and I carry it to the shop alot. But, I also keep the 48 on my desk (because I turn out needing it only when I leave it at home).

/ECL



## **Re: Sneek Preview: Anniversary Edition**

*Message #37 Posted by [DaveJ](#) on 25 May 2007, 7:22 p.m.,  
in response to message #36 by ECL*

Quote:

---

Dave,

I have had quite the opposite experience. Most nearly every engineer that has a calc on his desk at my work appears to have an HP graphing model. The 48g/x dominates with some 49g and also a gold 49g+ (must've been from the good batch). There's even (cringe) a few Ti-89s'.

Myself, I find myself using my 33s alot, since it is small and I carry it to the shop alot. But, I also keep the 48 on my desk (because I turn out needing it only when I leave it at home).

/ECL

---

Interesting... What type of engineers are you talking about? I'm an electronics design engineer in Australia and have worked at primarily electronics (including defense) engineering companies with a large amount of mechanical, acoustics and software engineers. It's the same across all 4 disciplines.

I've heard a lot of guys talk about having owned a graphing calc when they were at Uni, but they don't use it any more as it's simply not needed for everyday calcs. Casio, Sharp and TI algebraics get about 90% of the desks, with the rest being oddball units like pocket computers, 4 bangers, or the occasional old HP.

I've had a similar experience while visiting parent companies in Singapore, UK, and Germany.

Age of the owner doesn't seem to be a major factor, although the old HP's and such are owned by the older crowd.

Dave.

## **Re: Sneek Preview: Anniversary Edition**

*Message #38 Posted by [ECL](#) on 25 May 2007, 7:57 p.m.,  
in response to message #37 by DaveJ*

Dave,

I'm an aerostructures guy, although we run the gamut here. There's mechanical designers, analysts, aerodynamicists, electrical too.

I did forget to mention that there's a daily use 15c here too.

The 48/49/50 series' pack a lot of capability, however I don't think that is to their discount. The problem as I see it is that they aren't as powerful as the PC. Memory, and speed included.

If you could carry your PC's functionality around in a 50g case, and USB it to a monitor when you get to your desk, would you turn it down? I just don't see much point to becoming a power user of the 50g, when I can't import/export files from my analysis package at work (and Excel, etc.)

I know this is a bit beyond the friendly chat we were having. Just some thoughts.

### **Re: Calcs used in the real world.**

*Message #39 Posted by **DaveJ** on 25 May 2007, 10:27 p.m.,  
in response to message #38 by ECL*

Quote:

---

Dave,

I'm an aerostructures guy, although we run the gamut here. There's mechanical designers, analysts, aerodynamicists, electrical too.

---

Presumably in the US? Beats me why there is such a big difference!? Perhaps your fields are a bit more theoretical that need custom programs to model stuff?

Quote:

---

I did forget to mention that there's a daily use 15c here too.

The 48/49/50 series' pack a lot of capability, however I don't think that is to their discount. The problem as I see it is that they aren't as powerful as the PC. Memory, and speed included.

If you could carry your PC's functionality around in a 50g case, and USB it to a monitor when you get to your desk, would you turn it down?

---

I believe that would be called a PDA?, and yes, I would turn it down as I don't need it. Frankly I have never really needed anything more than a basic non-programmable scientific calc for almost all of my work, and that's over 20 years in electronics design.

When I have had to do something a bit more complex, excel, Matlab, or other PC tools like a custom BASIC/C program get used as I find they are a much better interface.

The mechanical engineers seem to do everything on their cad packages, with FEA modelling and all that stuff.

Acoustics guys use Matlab all the time.

Production engineers use Excel.

But on the desks it's always the same when I look (and I do take note), I see almost nothing but non-programmable scientific calcs used by all these disciplines.

Quote:

---

I just don't see much point to becoming a power user of the 50g, when I can't import/export files from my analysis package at work (and Excel, etc.)

I know this is a bit beyond the friendly chat we were having. Just some thoughts.

---

Amazing difference isn't it? Anyone else care to share their experiences?

Dave.

### **Re: Calcs used in the real world.**

*Message #40 Posted by **Donald** on 27 May 2007, 4:09 a.m.,*

*in response to message #39 by DaveJ*

Working for the instrument company formerly know as HP, it seems I have a three tier approach to calc use:

I primarily use a HP15C for:

Quick rule of thumb calculations - during initial design and discussions.

Simple arithmetic when creating new layout geometries.

Any from first principles paper work.

I still occasionally dig out my HP49 for:

Conversions : dBm <-> Vpp , RL<->VSWR, dB+ etc.

Pad design: T and PI pads, min-loss pads. T-couplers, Y-Delta etc.

Using legacy code I wrote on a HP48SX in the early '90s.

Anything that more involved, and it's the PC based design tools that get used:

ADS - for circuit and system simulation

Eagleware - for filters

MATLAB for DSP

Analogs PLL tool.

Lots of C++ for instrument control

R - Sweave - Latex for result plotting and reporting ( avoiding Excel and Word as much as possible, except when dealing with managers and production).

Lately, I've resurrected some 2-port network analysis code similar to LNAP on the HP41 and have a HP49 version and soon a HP15 version. This is to quickly see the response of LC filters I find in others schematics ( in less time than firing up ADS ).

I guess my ideal calculator for today's use would have a HP15 style complex stack and basic alpha features from the 41 ( bringing back the 41's extra segment LCD) . Adding basic text prompting and a XEQ key for alpha labeled functions - all in a small voyager styled case.

I should add there seems to be only a few engineers still using HP calculators. Of those who got a HP49 from a batch a few years ago, I can think of only one other who made the effort to program it

Those who did not use RPN HPs in the 80's/90's have never gotten into the habit at all, so tend to use basic TI calcs.

Currently, our IT procurement system does not even have a standard way to buy calculators.

*Edited: 27 May 2007, 4:39 a.m.*

## **Re: Calcs used in the real world.**

*Message #41 Posted by [DaveJ](#) on 27 May 2007, 6:56 a.m.,*

*in response to message #40 by Donald*

Quote:

---

I should add there seems to be only a few engineers still using HP calculators. Of those who got a HP49 from a batch a few years ago, I can think of only one other who made the effort to program it  
Those who did not use RPN HPs in the 80's/90's have never gotten into the habit at all, so tend to use basic TI calcs.

---

I think you've hit the nail on the head there, most people just couldn't be bothered with programing a calculator, and it snow-balls from there: If you don't program it all the time then you forget how to do it and then it's just too much trouble. Next thing you know you have this wizz-bang calculator which is more optimised for programming and other complex graphics stuff than for the basic calcs you do 99% of

the time. Next thing you know you toss it in the draw and replace it with a \$20 non-programmable scientific for everyday use.

I suspect that's why I virtually never see programmable or graphics calcs on engineers desks, yet many will say they have owned one at one stage.

I find I do the same thing myself. I have a HP28S which I really like, but it's just useless for everyday use, so I've gone through several sets of batteries just having it sitting in the draw gathering dust.

Dave.

### **Re: Calcs used in the real world.**

*Message #42 Posted by [db \(martinez, ca.\)](#) on 27 May 2007, 12:13 p.m.,  
in response to message #41 by DaveJ*

OK.

The one major exception to your rule is field surveyors. We have always bought and used RPN (or RPL), and HP in particular. Something on the order of 99% of us have and use an hp programmable daily. The majority use canned programs and most of the rest, like me, just write additions to or throw out unused portions of commercially available packages. Still; the furthest you will usually see a surveyor go from the basic 41/42/48/49/50/32/33 is a 200lx or one of those TDS Rangers, and they both have an onboard RPN calculator too.

One thing we look for in a new calc is a logical progression of use and function, so we don't have to start learning from scratch - and just "toss it in the drawer and replace it with a \$20 non-programmable scientific for everyday use". About 20 years ago Ted Kerber gave my union's apprenticeship a bunch of his HP41 programs - when he was still selling them commercially. I've used his D'zign software on my 41, 42 & 48 and i see others using the software on the 33 & 49/50. The program runs similar enough across the different platforms so the old ones don't always end up "gathering dust" either. Well, not figuratively. In this work; everything gathers dust.

### **Re: Calcs used in the real world.**

*Message #43 Posted by [Maximilian Hohmann](#) on 27 May 2007, 12:37 p.m.,*

*in response to message #39 by DaveJ*

Hello!

Quote:

Amazing difference isn't it? Anyone else care to share their experiences?

I have been working as an engineer in Germany and Italy (for 3 years in the early 90ies) during the last 25-or-so years in the fields of satellite design, radar remote sensing, mobile network planning/wave propagation and CAD/CAM software development. My colleagues were either aerospace engineers like myself, mechanical engineers, electrical engineers, mathematicians, physicists, geographers or IT-people.

I have never ever seen anyone use a graphing calculator (actually, the only graphing calculators I ever saw are the ones in my collection). Not one. During the last 10 years, I have not seen anybody use a scientific calculator of any brand. Before that, they used mostly cheap Casio or Ti calculators that they had already used in school and university before. I probably have seen less than 5 hp RPN calculators being used at work!

Greetings, Max

### **Re: Calcs used in the real world.**

*Message #44 Posted by [bill platt](#) on 27 May 2007, 4:28 p.m.,*

*in response to message #43 by Maximilian Hohmann*

In my last office, with 17 engineers, we had quite a few HP:

Two used 48 series (one a 48s, the other a 48gx) three used 11c and 12c four used the 20s algebraic two used the HP41 one used the 17bii And then there was me: I used every HP!

In my current office, the chief engineer uses a 32sii, and one of the project managers (30 years old) uses a 48Gx and the top finance guy uses a 12c. There are about 10 engineers.

*Edited: 27 May 2007, 4:29 p.m.*

### **Re: Sneek Preview: Anniversary Edition**

*Message #45 Posted by [Howard Owen](#) on 24 May 2007, 11:11 p.m.,  
in response to message #33 by DaveJ*

Quote:

Ok, if you want to talk minimalist design, then there are two keys too many, minimum. The STO and X-Y keys are redundant when you have a function key and all those normal keys. Put all the alternate functions as shift functions and you have saved those two keys.

Fair enough.

Quote:

Then again if you want to get radically minimalist, in theory you could do it all with just 2 keys total. Would suck to use, but that would be minimalist. In fact you could probably do it with just one key, but that would suck an order of magnitude more :->

That ignores the starting point we were given, and is absurd anyway. (Your smiley indicates agreement with that last judgment, I believe. 8)

Quote:

Of course, a 4 function RPN calc would never sell in todays market, ever. But that exact same calc with scientific functions \*would\* most likely sell.

I would buy one each of both. I'm a somewhat narrow demographic, however. 8)

Quote:

I can design a real one in a few days, if someone can somehow make the buttons and housing!

That exact hardware seems to be a bugaboo for every hobbyist and low budget professional project I know about. It's possible to do PCBs relatively cheaply, but housing it all in something that doesn't feel flimsy, and with keys that don't make a mockery of the expectations of the average consumer, let alone HP vintage calculator fans apparently takes too much money. (Talk to Eric Smith for a more informed opinion about this than I can offer.)

Regards,  
Howard

### **Re: Sneek Preview: Anniversary Edition**

*Message #46 Posted by **Howard Owen** on 24 May 2007, 11:18 p.m.,  
in response to message #45 by Howard Owen*

Speaking of Eric, cases and keys, I mentioned here sometime back that I thought an HP-97 shell, display and keys with new "guts" would be a killer hobbyist project. (I happen to have two spare 97s with hardware problems unrelated to the components in question.) Eric, you have your DIY calculator board. Have you given any thought to housing it inside classic HP calculator

shells like the 97? What challenges would you have to overcome to interface the keyboard and display?

Regards,  
Howard

### **Re: Sneek Preview: Anniversary Edition**

*Message #47 Posted by **DaveJ** on 25 May 2007, 1:45 a.m.,  
in response to message #45 by Howard Owen*

Quote:

That exact hardware seems to be a bugaboo for every hobbyist and low budget professional project I know about. It's possible to do PCBs relatively cheaply, but housing it all in something that doesn't feel flimsy, and with keys that don't make a mockery of the expectations of the average consumer, let alone HP vintage calculator fans apparently takes too much money.

So does that mean OpenRPN will never materialise in hardware form?

Dave.

### **Re: Sneek Preview: Anniversary Edition**

*Message #48 Posted by **Paul Dale** on 25 May 2007, 3:06 a.m.,  
in response to message #47 by DaveJ*

From my understanding, the OpenRPN project really stalled over a lack of a hardware engineer to design the electronics. The software was/is coming along nicely (I did commit a fair chunk of source code so I am biased) and the physical design looked quite good. Some of the manufacturing issues had been investigated but I don't have any idea to what extent etc.

- Pauli

### **Re: Sneek Preview: Anniversary Edition**

*Message #49 Posted by . on 26 May 2007, 9:46 a.m.,  
in response to message #48 by Paul Dale*

I disagree. The electronics is pretty easy, really. Even without an EE it's easy to buy a development board and get started on the programming.

OpenRPN's biggest challenge was the case and keyboard, and I don't believe that a solution had been found.

### **Re: Sneek Preview: Anniversary Edition**

*Message #50 Posted by **Hugh Evans** on 26 May 2007, 8:41 p.m.,  
in response to message #49 by .*



No, the case and keyboard are not a big deal. Rather than a development board, I would like to have developers working with at least prototype hardware.

-Hugh

### **Re: Sneek Preview: Anniversary Edition**

*Message #51 Posted by **Paul Dale** on 27 May 2007, 1:32 a.m., in response to message #49 by .*

Quote:

I disagree. The electronics is pretty easy, really. Even without an EE it's easy to buy a development board and get started on the programming.

Getting started without hardware isn't problem, making a prototype is.

I have \*fix running on one of our SnapGear ARM based devices, it works just fine. That is close enough until real prototype hardware is available. My day job involves writing and porting software to embedded devices, I'm not in the slightest bit worried about this phase :-)

- Pauli

### **Re: Sneek Preview: Anniversary Edition**

*Message #52 Posted by **db (martinez, ca.)** on 21 May 2007, 7:27 p.m., in response to message #7 by Antonio Maschio (Italy)*

Several of the old 4 function RPNs [like this one](#) saved valuable key-al estate by using the + and - keys as positive and negative enter keys. They gained a change sign key in the process of loosing an enter key. This one could use the added two keys for a square root and what the hell, let's live dangerously, an ON key.

### **Re: Sneek Preview: Anniversary Edition**

*Message #53 Posted by **Bruce Bergman** on 21 May 2007, 9:14 p.m., in response to message #7 by Antonio Maschio (Italy)*

It's getting closer! I almost busted out my wallet when I saw the revised version. :-)

thanks, bruce

### **Re: Sneek Preview: Anniversary Edition**

*Message #54 Posted by **Thibaut.be** on 27 May 2007, 2:05 p.m., in response to message #7 by Antonio Maschio (Italy)*

This one is my fav.

### Re: Sneek Preview: Anniversary Edition

Message #55 Posted by **Hugh Evans** on 21 May 2007, 6:35 a.m.,  
in response to message #1 by Chuck

Hmmm... So is there a flimsy dip-switch on the back to toggle RPN mode from the factory-set algebraic entry?

Please excuse me while I charge at those giants with my trusty slide rule!

### Re: Sneek Preview: Anniversary Edition

Message #56 Posted by **Thomas Okken** on 21 May 2007, 10:25 a.m.,  
in response to message #1 by Chuck

Kinda awkward, not having X<>Y, Rdown, CLX...

### Re: Sneek Preview: Anniversary Edition

Message #57 Posted by **Maximilian Hohmann** on 21 May 2007, 10:49 a.m.,  
in response to message #56 by Thomas Okken

Hi!

Quote:

Kinda awkward, not having X<>Y, Rdown, CLX...

As for x<>y and Rdown I couldn't care less, but without CLX I would be lost instantly...

And anyway, a real 35th anniversary edition calculator must have one main feature in common with the 35year old hp-35: the LED-display!

Like my Sinclair scientific here, that has got a CLX-Key, but no decimal point instead:

[http://www.bombie.de/tmp/Sinclair\\_scientific.jpg](http://www.bombie.de/tmp/Sinclair_scientific.jpg)

Greetings, Max

### Re: Sneek Preview: Anniversary Edition

Message #58 Posted by **Nelson M. Sicuro (Brazil)** on 21 May 2007, 11:03 a.m.,  
in response to message #1 by Chuck

Very nice Photoshop work ;)

Regards,

Nelson

### Re: Sneek Preview: Anniversary Edition

Message #59 Posted by **Chuck** on 21 May 2007, 4:50 p.m.,  
in response to message #1 by Chuck

Thanks all for taking part in my fun. It's also quite interesting that if we include all the wants and desires of everyone we end up very close to the 11C or 15C. I personally hope HP keeps the size similar to the 15C. I'd love a 15C with 1gig of memory and a jack to dump programs to and from a computer. But a 4+ banger would be pretty cool, too. :) Cheers.

**Re: Sneek Preview: Anniversary Edition**

Message #60 Posted by [Antonio Maschio \(Italy\)](#) on 23 May 2007, 9:49 a.m.,  
in response to message #59 by Chuck

Right! I agree on all the lines!

-- Antonio

**This design is already available.**

Message #61 Posted by [Frank Boehm](#) on 22 May 2007, 2:30 a.m.,  
in response to message #1 by Chuck

<http://www.elektron.net/accuron.jpg>

Well, the "C" key is pointless, as one could use the on/off switch to clear 8)

**Re: Sneek Preview: Anniversary Edition**

Message #62 Posted by [Paul Brogger](#) on 22 May 2007, 3:51 p.m.,  
in response to message #1 by Chuck

Y'know, if they put together a desktop model (something like the HP-97) with LEDs, they could sell that like one of those retro, "Sharper Image" products, and probably make a bundle. It wouldn't even need a printer or magnetic card I/O -- just a big, handsome LED display, with maybe clock & alarm functions to give it a reason to be ON all the time. It would probably be easier nowadays to accurately reproduce the HP-97's tactile feel (springy, adding-machine-like) than that of, say, the HP-15C.

But, of course, they're supposedly going to be celebrating the anniversary of their *pocket* scientific.

**Re: Sneek Preview: Anniversary Edition**

Message #63 Posted by [Paul Dale](#) on 24 May 2007, 10:01 p.m.,  
in response to message #1 by Chuck

[edited in light of subsequent comment by DaveJ and my response to same]

If we're talking improved 4-bangers, how about this as an attempt. Think the bottom five rows of a spice model with a double width ENTER key on a row of slightly narrower keys.

My non-graphical layout is thus:

|       |     |       |     |
|-------|-----|-------|-----|
| ENTER | CHS | X<>Y  | CLx |
| 7     | 8   | 9     | -   |
| 4     | 5   | 6     | +   |
| 1     | 2   | 3     | *   |
| 0     | .   | shift | /   |

and the shifted functions to the same template:

|       |      |       |       |
|-------|------|-------|-------|
| LASTx | EEX  | Rv    | CLreg |
| 1/x   | sqrt | y^x   | HMS+  |
| %     | %chg | %T    | HMS-  |
| STO   | LN   | EXP   | ->HMS |
| RCL   | pi   | shift | ->H   |

Shift-2 and shift-3 aren't defined. Any good suggestions? Likewise, pi isn't a heap of use and could easily be

replaced by something else.

I'd assume that STO/RCL include arithmetic and that there are at least 10 registers: 0 .. 9 & maybe .0 .. .9, although the latter is overkill.

Thoughts anyone?

- Pauli

*Edited: 25 May 2007, 5:56 a.m. after one or more responses were posted*

## Re: Sneek Preview: Anniversary Edition

Message #64 Posted by **DaveJ** on 24 May 2007, 10:55 p.m.,  
in response to message #63 by Paul Dale

Quote:

If we're talking improved 4-bangers, how about this as an attempt. Think the bottom five rows of a spice model with a double width ENTER key on a row of slightly narrower keys.

My non-graphical layout is thus:

| ENTER | CHS | X<>Y | CLx   |
|-------|-----|------|-------|
| -     | 7   | 8    | 9     |
| +     | 4   | 5    | 6     |
| *     | 1   | 2    | 3     |
| /     | 0   | .    | shift |

Thoughts anyone?

- Pauli

I'd have the ENTER key on the bottom right, and the +/-\*/ keys on the right column.

As a right hander it just feels more natural to me to bring my hand back right to perform the last key operation (+/-\*/). With the current arrangement I'd have to move my hand left to push the final button and then bring it all the way back to the naturally resting right side.

I go to the gym to do my lateral exercises, so have no need to perform extra here :->

Dave.

## Re: Sneek Preview: Anniversary Edition

Message #65 Posted by **Paul Dale** on 25 May 2007, 3:03 a.m.,  
in response to message #64 by DaveJ

No objection to shifting the digits to the left and moving the arithmetic operators to the right side. I don't like the idea of moving the enter key to the bottom, looks ugly :-). Also makes the keyboard unlike anything I've ever seen...

For the two missing operations, LN and E^x seem fairly natural. We'd then probably want to ditch the R^ and replace it with EEX. The E^x and y^x we're going to want exponents.

- Pauli

**Re: Sneek Preview: Anniversary Edition**

Message #66 Posted by **Eric Smith** on 28 May 2007, 12:22 a.m.,  
in response to message #65 by Paul Dale

Quote:

LN and E^x seem fairly natural

Yes, but LOG and 10^x are more common.

**Re: Sneek Preview: Anniversary Edition**

Message #67 Posted by **Paul Dale** on 28 May 2007, 6:18 a.m.,  
in response to message #66 by Eric Smith

Touche!

At least somebody read my message and noticed :-)

- Pauli

**Re: Sneek Preview: Anniversary Edition**

Message #68 Posted by **Dave Shaffer** on 25 May 2007, 12:08 p.m.,  
in response to message #64 by DaveJ

I'm a right-hander, too, but I like the arithmetic keys on the left, along with ENTER. I like to look at the keyboard as I am punching away, and this arrangement lets me see what I am doing.

And, appropriately, since this is the "Anniversary Edition," it then also mimics the original '35 key layout!

**Re: Sneek Preview: Anniversary Edition**

Message #69 Posted by **Walter B** on 25 May 2007, 7:01 p.m.,  
in response to message #63 by Paul Dale

Paul,

Quote:

My non-graphical layout is thus:

|       |     |       |     |
|-------|-----|-------|-----|
| ENTER | CHS | X<>Y  | CLx |
| 7     | 8   | 9     | -   |
| 4     | 5   | 6     | +   |
| 1     | 2   | 3     | *   |
| 0     | .   | shift | /   |

and the shifted functions to the same template:

|       |      |       |       |
|-------|------|-------|-------|
| LASTx | EEX  | Rv    | CLreg |
| 1/x   | sqrt | y^x   | HMS+  |
| %     | %chg | %T    | HMS-  |
| STO   | LN   | EXP   | ->HMS |
| RCL   | pi   | shift | ->H   |

Some proposals:

1. Rearrange the arithmetic operations like in Pioneers (/ \* - + from top to bottom). Reason: more logical sequence.
2. Swap the  $x \leftrightarrow y$  and the CHS key. Reason: stack operations are next to each other.
3. Use +/- instead of CHS. Reason: better worldwide understanding.
4. Put HMS+ on + and HMS- on -. Reason: more logical.
5. Put  $y^x$  on \* and  $1/x$  on /. Reasons: more logical and  $1/x$  next to  $y^x$  for roots.
6. ...

Became more than I first thought. For sake of clarity, I propose to arrange the shifted functions like this:

| LASTx | Rv   | EEX   | CLreg |
|-------|------|-------|-------|
| %     | %chg | %T    | 1/x   |
| sqrt  | LN   | $e^x$ | $y^x$ |
| STO   | >HR  | >HMS  | HMS-  |
| RCL   | pi   | shift | HMS+  |

BTW, I do not see the need for %. IMHO, for scientific people, trig functions are far more useful than % (=E-2). So an alternative may look like this:

| LASTx | Rv   | EEX   | CLreg |
|-------|------|-------|-------|
| SIN   | COS  | TAN   | 1/x   |
| ARC   | LN   | $e^x$ | $y^x$ |
| STO   | >HR  | >HMS  | HMS-  |
| RCL   | sqrt | shift | HMS+  |

It will even revive the ARC operation as in HP35 d:-) Of course you will reach ARC SIN with 1 shift only: Shift 4 7

Best regards, Walter

(Edited for error correction and to add the unshifted pattern proposal for sake of completeness:

|       |                       |       |     |
|-------|-----------------------|-------|-----|
| ENTER | $X \leftrightarrow Y$ | +/-   | CLx |
| 7     | 8                     | 9     | /   |
| 4     | 5                     | 6     | *   |
| 1     | 2                     | 3     | -   |
| 0     | .                     | shift | +   |

)

*Edited: 26 May 2007, 5:15 p.m.*

## Re: Sneek Preview: Anniversary Edition

*Message #70 Posted by [Paul Dale](#) on 27 May 2007, 1:47 a.m.,  
in response to message #69 by Walter B*

As usual Walter is way ahead of me in keyboard layouts. I like all the changes.

I too had thought to drop the % functions. I thought of replacing them with  $\gamma/x!$ , permutations and combinations.

I did think about including the trigonometric functions but then it kind of escalated into wanting degrees and radians, conversions of same, PI etc :-)

So the modified shifted layout excluding trig functions and including the ones I mentioned above is:

| LASTx | Rv    | EEX   | CLreg |
|-------|-------|-------|-------|
| $x!$  | $Pxy$ | $Cxy$ | 1/x   |
| sqrt  | LN    | $e^x$ | $y^x$ |

STO >HR >HMS HMS-  
RCL PI shift HMS+

- Pauli

### Re: Sneek Preview: Anniversary Edition

Message #71 Posted by **Hugh Evans** on 27 May 2007, 6:05 p.m.,  
in response to message #70 by Paul Dale

Hahaha, that's why I leave keyboard layouts and menu systems to him on OpenRPN. Walter is downright scary with it.

### Re: Sneek Preview: Anniversary Edition

Message #72 Posted by **Thibaut.be** on 27 May 2007, 2:51 p.m.,  
in response to message #1 by Chuck

Quote:

Here it is...a fantastic 4-function Voyager...

<http://home.wavecable.com/~stevensc/mathmuseum/images/HP4f.jpg>

You start with this one, leave it up to this forum and you end up with a 150 keys calc with f, g h, i and j shift keys.

Good luck !

*Edited: 27 May 2007, 2:52 p.m.*

### Re: Sneek Preview: Anniversary Edition

Message #73 Posted by **Walter B** on 27 May 2007, 5:34 p.m.,  
in response to message #72 by Thibaut.be

Quote:

You start with this one, leave it up to this forum and you end up with a 150 keys calc with f, g h, i and j shift keys.

You are right. Engineers are dominant in this forum. Thus, the very, very slight trend to "over-engineering" you observed is no real surprise.

Speaking for me personally, I may \*perhaps\* buy an RPN 4-banger, but I will \*most happily\* buy an RPN scientific, even a primitive one like one of the above proposals.

*Edited: 27 May 2007, 5:35 p.m.*

### Re: Sneek Preview: Anniversary Edition

Message #74 Posted by **Paul Dale** on 27 May 2007, 6:05 p.m.,  
in response to message #72 by Thibaut.be

Come on why only five shift keys? That only elucidates 55 functions from the remaining eleven keys. The

"optimal" arrangement has eight shift keys producing 64 functions from the remaining 8 keys. For useability's sake, I'd consider six shift keys for 60 functions leaving the digits all unshifted.

: -)

- Pauli

*Edited: 27 May 2007, 7:21 p.m.*

### **Re: Sneek Preview: Anniversary Edition**

*Message #75 Posted by [Antonio Maschio \(Italy\)](#) on 28 May 2007, 2:07 a.m.,  
in response to message #74 by Paul Dale*

... or use multiple shifted function, like f g [key] or f g h i [key]!

-- Antonio

(IT'S A JOKE!)

*Edited: 28 May 2007, 5:07 a.m.*

### **What pocket calc had the most keys ??**

*Message #76 Posted by [GE](#) on 28 May 2007, 7:08 a.m.,  
in response to message #75 by Antonio Maschio (Italy)*

I'm thinking of the Commodore N61 (with 61 keys), anyone has another idea ?  
Of course BASIC pocket computers had a full Qwerty, but did not reach the N61 level however.  
Second prize goes to the desktop with the most keys - but then machines like the 98x0 come into play...

### **Re: What pocket calc had the most keys ??**

*Message #77 Posted by [Maximilian Hohmann](#) on 28 May 2007, 7:41 a.m.,  
in response to message #76 by GE*

Hello!

Quote:

-----  
I'm thinking of the Commodore N61 (with 61 keys), anyone has another idea ?  
-----

The Ti Voyage 200 has 80 keys, if my quick count is correct. Since it is programmable in a Basic-like programming language, it may not count according to your definition, however!  
Of the 2 (I have one of each :- ) , the N61 is much cooler, of course...

Greetings, Max

### **Well, the HP28S (28C, etc) has 72 keys ... [NT]**

*Message #78 Posted by [Valentin Albillio](#) on 28 May 2007, 7:59 a.m.,  
in response to message #76 by GE*

... and it's both ergonomic and quite elegant, IMHO.



Best regards from V.

---

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## HP Forum Archive 17

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**50G ON button**

Message #1 Posted by [martin](#) on 21 May 2007, 12:36 a.m.

I don't know how to express this correctly, but here it goes. Should the ON button be a bit pressed in? I just noticed it last night. It looks shallower than the other keys. It still feels the same when pressed.

**Re: 50G ON button**

Message #2 Posted by [Chuck](#) on 21 May 2007, 12:51 a.m.,  
in response to message #1 by [martin](#)

Yes. The profile of mine is a little lower than the rest, probably to decrease the probability of accidental pressing while in the case (which still happens, so what's the point?)

**Re: 50G ON button**

Message #3 Posted by [martin](#) on 21 May 2007, 7:39 a.m.,  
in response to message #2 by [Chuck](#)

Thanx a lot!!! That's what I also thought, to prevent from accidental pressing. Now I can lay that one to rest :)

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**41Cv**

Message #1 Posted by [Tim](#) on 20 May 2007, 8:39 p.m.

Does anyone have the rechargble battery holder for the HP 41cv?

**Re: 41Cv**

Message #2 Posted by [db \(martinez, ca.\)](#) on 22 May 2007, 8:53 p.m.,  
in response to message #1 by Tim

contact me

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## HP Forum Archive 17

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### HP Classic - battery latches, anyone have broken?

Message #1 Posted by [Don Shaffer](#) on 20 May 2007, 12:20 p.m.

I am wondering if anyone would be interested in buying replacement battery door latches for the hP Classic (35, 45, 55, 65, 67) type calculators. I recently have purchased a used one and it had one door latch snapped off. I think I can make these. I was just wondering if there was anyone else who might be interested if I start fabricating these parts?

### Re: HP Classic - battery latches, anyone have broken?

Message #2 Posted by [Gerson W. Barbosa](#) on 20 May 2007, 1:49 p.m.,  
in response to message #1 by Don Shaffer

All latches are broken in both my HP-35 and HP-45. They stay in place though. Anyway, I'd be interested in four, depending on the price. The rubber feet should be reused.

I rebuilt the HP-35 battery pack:

[http://www.geocities.com/gwbarbosa/HP-35\\_back.JPG](http://www.geocities.com/gwbarbosa/HP-35_back.JPG)

I partially rebuilt the HP-45 battery pack (the case is missing). I wasn't able to find your your packs at eBay.

Now, I would be really happy if someone started fabricating replacement Voyager bezels. I have a very good HP-16C, except for the aluminum bezel...

Regards,

Gerson.

### Re: HP Classic - battery latches, anyone have broken?

Message #3 Posted by [Dan W](#) on 20 May 2007, 2:47 p.m.,  
in response to message #1 by Don Shaffer

I have a bunch of battery doors, with latches, but the retention part of the latches are missing so that they can fall out of the door when the door is not installed.

Not a big deal really but I would consider buying latches that will stay in place.

Couple of other things you could make now that you are a plastics man:

(1) Classic charger cord with plug.

(2) Clear plastic Classic housings - the back side, so the mainboard is visible.

Cheers,

-- Dan

**Re: HP Classic - battery latches, anyone have broken?**

Message #4 Posted by [Don Shaffer](#) on 20 May 2007, 3:55 p.m.,  
in response to message #3 by Dan W

I looked at the latches and they are pretty simple design. I think I could likely CNC mill these out of some type plastic rather than molding them. I will have to look to see what I can get in black. alternatively I could mill them from bronze, or aluminum.

I do not currently have capacity to press an entire back of a calculator. I will look into what I would need to do to make these however.

Also I have kits for a Classic battery repair. These include new pair of molded plastic covers with a set of new Nickel battery terminal straps that you would weld to the batteries. Contact me at [dsmail@earthlink.net](mailto:dsmail@earthlink.net) if interested as this is not in the classified ad section.

**Re: HP Classic - battery latches, anyone have broken?**

Message #5 Posted by [Jonathan Eisch](#) on 20 May 2007, 8:21 p.m.,  
in response to message #1 by Don Shaffer

Hi Don,

Thanks for offering. I had tried to make them out of various things that I had around the house (my last attempt was cut up credit card parts attached with a staple) but nothing worked very well. Anyway, I'd be really happy to get 4.

Thanks again, -Jonathan

**Re: HP Classic - battery latches, anyone have broken?**

Message #6 Posted by [Thomas Okken](#) on 21 May 2007, 10:44 a.m.,  
in response to message #1 by Don Shaffer

I'd buy one. Also, to chime in with the suggestions made by some others for other useful parts: I'd also be very interested in something that lets me charge a Classic battery pack outside the calculator, without having to take the pack apart (I do that for charging the batteries for my HP-25, but that pack is a lot easier to take apart!).

- Thomas

**Re: HP Classic - battery latches, anyone have broken?**

Message #7 Posted by [Don Shaffer](#) on 21 May 2007, 9:11 p.m.,  
in response to message #6 by Thomas Okken

HP made such a product called the external charger. I was a small package just larger than the Classic battery pack and the normal 82002A charger plugged into a connector on the bottom just like the ones on the calculators. i've seen acouple recently on ebay for auction but I do not know the number of the item. The Museum likely has it on the collector listing of items. I think the last time I looked it said very hard to find, but I see them every once in a while on ebay as I said. Work nicely if you have two battery packs you can charge one and use the other in your calculator. I have one that I use all the time. The only strange thing about the external charge is that it does not have any HP part numbers on it. Only marking is the normal HP label on the front just like a calculator Logo plate. I think making the plugs for these chargers

would not be very difficult but the only thing is how to identify the pin sockets they used on the originals. So far I have not found the right size. anyone know what these were originally AMP's or another?

**Re: HP Classic - battery latches, anyone have broken?**

*Message #8 Posted by [Dan W](#) on 21 May 2007, 9:17 p.m.,  
in response to message #7 by Don Shaffer*

I've sold 2 of those on the unmentionable site. One was item 120119716243. They seem to be going for \$40-50 now. I think they're great accessories.

**Re: HP Classic - battery latches, anyone have broken?**

*Message #9 Posted by [GE](#) on 22 May 2007, 5:14 a.m.,  
in response to message #8 by Dan W*

You probably all have a spare machine into which you can charge battery packs. That machine doesn't have to be working. I have a dead HP21 which serves that purpose all right. And dead machines are going for less than \$40. Just a simple idea...

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### **Our curator was not kidding!**

Message #1 Posted by [Namir](#) on 20 May 2007, 9:47 a.m.

A few weeks ago our web site curator, David Hicks, mentioned that he had a snag with a bank or something like that, because his name matched that of a terrorist. I almost fell off my chair when I read [this piece of news!!!](#). Our beloved David was not joking!!! There is a bad guy out there with the same name (and a similar general look to add insult to injury). Personally I will vouch for our David if he ever needs to be cleared of any mistaken identity.

Namir

### **Re: Our curator was not kidding!**

Message #2 Posted by [Gerson W. Barbosa](#) on 20 May 2007, 3:04 p.m.,  
in response to message #1 by Namir

Surely David was not kidding. Shortly before he mentioned here the problem he had at the airport I had seen a short notice on CNN about the other Hicks.

Having only two names, one of them not uncommon, as some of you appear to have, can easily lead to this kind of hassle. That's a trouble I will never have, as my middle name is very uncommon here. As if this was not enough it was misspelled at the notary's office (Washiski instead of Wasicki :-)

My wife, who had a problem of mistaken identity at the bank when she was single, readily appended my two family names to her own. Now her three middle names have to be abbreviated in order to fit in her papers. Nothing comparable to the names of those ladies and gentlemen though :-)

<http://www.archontology.org/nations/portugal/port009/>

Regards,

Gerson.

### **Re: Our curator was not kidding!**

Message #3 Posted by [James M. Prange \(Michigan\)](#) on 20 May 2007, 10:02 p.m.,  
in response to message #2 by Gerson W. Barbosa

Yes, the "Australian David Hicks" has occasionally been in the news for a few years now.

I think it rather ridiculous that "our Dave Hicks" had been on any kind of "watch list" while the other Dave Hicks was securely locked up at Guantanamo, but I could understand having that name "flagged" after the other Dave Hicks has been released. On the other hand, if a "bad guy" knows that law enforcement is watching for him, how likely is it that he'd be using his real name?

Yes, having a fairly common name could well lead to some unfortunate confusion. I know of at least one other person right here in Michigan who has an exact duplicate of my name, and I think a few others around the county, and I wouldn't have thought that my last name was all that common. Fortunately, it

doesn't seem that any of us has ever been in any really serious trouble with the law.

Regards,  
James

**Re: Our curator was not kidding!**

*Message #4 Posted by **Bruce H** on 21 May 2007, 11:24 a.m.,  
in response to message #3 by James M. Prange (Michigan)*

It's a good thing that any al Qaeda terrorists haven't thought of changing their names to George W. Bush otherwise the country could come to a standstill! :-)

I'm told that there is a couple here in the UK who had twins and gave them the same first and second names, calling them by their third names which do differ. So there are two children with the same surname, first name, second name, address, date of birth and sex. Needless to say, computer systems are going to have a lot fun trying to keep up with them.

**Re: Our curator was not kidding!**

*Message #5 Posted by **Ron** on 21 May 2007, 12:57 p.m.,  
in response to message #4 by Bruce H*

That sounds smart... Remind me to do that next time.

**Re: Our curator was not kidding!**

*Message #6 Posted by **James M. Prange (Michigan)** on 21 May 2007, 7:01 p.m.,  
in response to message #5 by Ron*

Quote:

\_\_\_\_\_

That sounds smart... Remind me to do that next time.

\_\_\_\_\_

Do what? Identify yourself as George W. Bush the next time that you do something terrible?

Regards,  
James

*Edited: 21 May 2007, 7:02 p.m.*

**Re: Our curator was not kidding!**

*Message #7 Posted by **Ron** on 21 May 2007, 11:08 p.m.,  
in response to message #6 by James M. Prange (Michigan)*

My bad! I should have noted that I was referring to the oh-so-wise parents, who will have caused significant trouble to their twins by the time they reach adulthood. I try to save my political comments for political forums.

**... on the other hand . . .**

*Message #8 Posted by **Paul Brogger** on 21 May 2007, 6:33 p.m.,  
in response to message #3 by James M. Prange (Michigan)*



. . . he has admitted to visiting *China* in the past. And it is said that he runs a couple of web sites that serve to foster contact among some, well . . . let us say, *interesting* individuals exhibiting very peculiar proclivities, including preferences for an arcane and not-very-widely-understood method of calculation. I think the candidate deserves further watching.

;:-)

**Re: ... on the other hand . . .**

*Message #9 Posted by **Dan W** on 22 May 2007, 12:22 a.m.,  
in response to message #8 by Paul Brogger*

Yes, our own Mr. Hicks. Leading a double life. On the one hand, mild mannered museum curator. On the other, Headmaster of the secret society known as the Knights Cordic. Guardian of the mysterious Secret of the Radix, a secret that could change the universe, known only by those few who know the correct wrong answer to  $\exp(\ln(2.02))$  .....

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### 9114a open pics & strange error msg

Message #1 Posted by [PeterP](#) on 20 May 2007, 12:50 a.m.

Hi,

Following Tony's post, I have found a place to order some picofuses (and have compiled the available information on the forum with regards to those as well, which will go into my summary of this 'repairing the 9114' story)

In the meantime I have built a no-battery power source, using the information from some old posts about a suitable Radio-Shack charger. Carefully observing the polarity, I built a nice new plug directly into the 9114. And, it works!!! Sort of...

1) I do have a 9114b as well, which I had not opened and cleaned as the eject seemed to work just fine. Using this direct power-source I was able to initialize a disk (using brand new 2DD, not HD).

2) However, the 9114a, the one I started working on, is not quite working. Here is what happens: a) when started, it moves the head a bit and then the 'fault' light goes off. If a disk is inserted on power-on, it takes a tad longer, but eventually the 'fault' light goes off as well b) now I can talk from my 71b to the drive just fine. Things like assign, spoll, devaid, devaid\$, etc all work just fine. c) however, when I try to initialize a diskette, it starts spinning, I can see the head moving a couple of steps and then it stops with an error. Error Nr: 255026 Err MSG: Invalid Medium - Data Checksum Error detected. The suggested resolution is to Initialize the disk. Dooh! That's what I am trying to do...

So I have posted a few pictures of the open drive, with and without disk inserted in case I put the thing back together in the wrong way. Also I did some close-ups of the drive head. I can not compare it to the 9114b and I do not have another 9114a to check if my drive head is bent or somewhat out of shape. This would explain that I can talk to the drive as long as I do not want anything from the disk as the head can not read.

Please let me know of any ideas.

Until then

Your faithful student

Peter

[Pic 1](#) [Pic 2](#) [Pic 3](#) [Pic 4](#) [Pic 5](#) [Pic 6](#) [Pic 7](#) [Pic 8](#) [Pic 9](#) [Pic 10](#)

### Re: 9114a open pics & strange error msg

Message #2 Posted by [Tony Duell](#) on 20 May 2007, 6:03 a.m.,  
in response to message #1 by [PeterP](#)

Do you still have problems if you have the metal screening cover on the drive (as you mentioned in the other post)? If so, we need to sort that out first.

Jamming the head movement shouldn't cause the thing to draw excessive current -- the head motor is (as

expected) a stepper motor that draws much the same current whether it's turning or not. Jamming the spindle motor would cause its current to go up, though.

Is it possible you've trapped a wire somewhere, maybe one of the ones going to the stepper motor or the head load solenoid? a short to earth there would cause excessive current.

The fact that the non-disk commands (DEVID\$, etc) work find suggests that most of the controller board is working properly. At least the HPIL interface, processor, ROM, RAM and so on.

I don't see anything wrong with the way the disk holder is assembled, or with the head. If the upper head was slightly out of position, you'd have problems reading disks written on other drives, but it should be able to format its own disks just fine. So I don't think that's the problem.

Another thing to try is to format a 'scratch disk' in the 9114B, write some files to it, and try CAT'ing it in the 9114A and reading the files back. If it fails, try the disk again in the 9114B (I want to see if it's corrupting disks, for example if the write current is always on).

After that, it's time to get into the more complicated stuff. Somewhere I have details of a cable to link the drive mechanism to a PC parallel port, and an MS-DOS program (turbo pascal IIRC) that lets you move the head around, check the track 0 sensor, etc. I used it to do a head alignment (along with a special CE disk) before I got a proper drive exerciser. I can see if I can find that. You'll need a 'scope or a logic probe to do much more on the drive, though.

### **Another thought.**

*Message #3 Posted by **Tony Duell** on 20 May 2007, 6:13 a.m.,  
in response to message #2 by Tony Duell*

If that unit is drawing excessive supply current for some reason, it might be loading your homebrew PSU too much, causing the voltage to drop (or it might be loading one of the internal regulators too much and cause its output to drop). That might cause all sorts of problems.

If you have an ammeter, connect it in series with the power supply (an easy way to do this is to connect it across the power switch on the back of the 9114, with the switch turned off. The circuit is then completed via the ammeter). A good drive will draw a little over 1A when running.

Also check the supply voltage testpoints I mentioned in the first thread when the unit is trying to initialise a disk. Maybe one is low for some reason.

### **Re: Another thought.**

*Message #4 Posted by **PeterP** on 20 May 2007, 11:49 p.m.,  
in response to message #3 by Tony Duell*

Tony,

Your patience is truly amazing and I can't tell you how much I appreciate it. I'm learning a ton here! Okay, I did all that you suggested, please find the results below, it seems we found something that is not as it should be :-)

1) I measured the current the unit is drawing on power-up and selftest and it is a bit less than 1A (BTW - this caused me to buy a better DMM. Fluke was a bit out of my range but I went for a Sperry DM-4400A and it immediately improved my handling of measurements and the like. And it has an amp-meter which my prior 5.95 USD pocket DMM did not have) So that is okay, if a bit low according to your expectations

2) I found a Service manual of the 9114a which has a few self-tests in there. I tried to set the jumpers correctly and execute the various self-tests (1-7). The first one, which tests the RAM, ROM, FDC and PIA, worked flawlessly. This confirms what you suspected already based on the good execution of the standard HP-IL commands

3) Then I also found the TP with the help of your schemata and the PCB (which is nicely labeled I must say). I can only try to imagine how much painstaking work it must have been to draw those schematics!

a) In the post which described the home-made PSU with a charger from Radio-Shack, it was mentioned to run the charger at 6.5V. I did the measurements below at both 6V setting and at 6.5V setting. The values in brackets relate to the test with the 6.5V setting.

a) I tested VC on TP8, which was at 4.97V (4.97V)

b) I tested +5V on TP 10 which was 5.02V (5.02V)

c) ! I tested 12V on TP9. And this one only showed 5.76V (6.22V) ! So there seems to be clearly something wrong here!

d) I also did the test you suggested with 1) writing something on the disk with the 9114, then 2) run a test, startup, initialize etc with the 9114a and 3) try to read the disk in the 9114B again. This test worked. cat :1 showed the very same files I had copied onto it.

So, it seems that something with the 12V circuit is broken. Is there any chance that we can figure out what without the scope/logic probe? It so happens that I was able to find a HP-IL 1631D Logic Analyzer and Digital Scope for rather cheap (I believe), yet i have not used a Scope in ages and never was very good at it at all. This was just the last standard HP-IL device I did not have yet and it was a good bargain.

Anyway, as always this late at night I leave my test-bed here with great excitement about the things I have learned and with great anticipation of the new wonders TD will (hopefully) send me next :-)

All the best

Cheers

Peter

### **Re: Another thought.**

*Message #5 Posted by **Tony Duell** on 21 May 2007, 1:27 p.m.,  
in response to message #4 by PeterP*

Quote:

1) I measured the current the unit is drawing on power-up and selftest and it is a bit less than 1A (BTW - this caused me to buy

Well that's interesting. The picofuse in the HP battery is rated at 2A (early battery packs) and 5A (later ones). So something is causing this unit to draw too much supply current only under specific circumstances.

I assume you were measuring the current while the drive was spinning and/or the head moving during the self-test. That's when the unit draws the highest current

Quote:

---

a better DMM. Fluke was a bit out of my range but I went for a Sperry DM-4400A and it immediately improved my handling of measurements and the like. And it has an amp-meter which my prior 5.95 USD pocket DMM did not have) So that is okay, if a bit low according to your expectations

---

I must admit I tend to go totally OTT when it comes to tools and test gear.

Quote:

---

3) Then I also found the TP with the help of your schemata and the PCB (which is nicely labeled I must say). I can only try to imagine how much painstaking work it must have been to draw those schematics!

---

Actually, the 9114 schematics didn't take that long. The HP9100B was a lot worse. I'll explain. In the 9114, you have a number of 'large chips' that have well-defined functions. There's a 68x09 processor. It can only be used in one way. It needs a clock input, it needs reset, it has address, data, and control buses that go to the other chips on the board, and so on. The only 'inventive' part is the PSU. OK, there were a couple of little bits of logic to sort out, but most of it could realistically have only been wired one way, and was wired that way.

Now think of a board of simple logic chips -- say a board from a 9810. You come across a 7400. It's a quad 2 input NAND gate. Now those NAND gates could be used in many ways, they needn't all be used in the same part of the circuit. Maybe 2 are cross-coupled to make an SR flip-flop. Maybe one is cross-coupled with a NAND gate in another chip to make an SR flip-flop. Get the idea. A lot more to work out.

And now think of the 9100. No chips at all in the logic section. Just boards of transistors and a big board of mostly diodes. Now a transistor could be almost anything -- part of a flip-flop, part of a buffer circuit, even part of a power supply. You've got to do a lot of work to have some idea of the overall stuff on the board.

Quote:

---

a) In the post which described the home-made PSU with a charger from Radio-Shack, it was mentioned to run the charger at 6.5V. I did the measurements below at both 6V setting and at 6.5V setting. The values in brackets relate to the test with the 6.5V setting.

a) I tested VC on TP8, which was at 4.97V (4.97V)

b) I tested +5V on TP 10 which was 5.02V (5.02V)

c) ! I tested 12V on TP9. And this one only showed 5.76V (6.22V) ! So there seems to be clearly something wrong here!

---

The 12V supply is only turned on when needed -- that is when the disk drive is in operation (the 12V line is used for the motors). When it's turned off, TP9 will show the battery voltages less a little bit. Connect the meter to TP9 again and see if the voltage goes up to 12V when it's using the

disk (e.g. during the self test or a CAT operation).

Quote:

---

d) I also did the test you suggested with 1) writing something on the disk with the 9114, then 2) run a test, startup, initialize etc with the 9114a and 3) try to read the disk in the 9114B again. This test worked. cat :1 showed the very same files I had copied onto it.

So, it seems that something with the 12V circuit is broken. Is

---

Given that the thing can read a disk, I think not. The motors must be turning.

More likely it's a problem with the write circuit or the head selection circuit. This is on the PCB attached to the drive itself, and is mostly discrete SMD components. Actually, I've had a 9114A in for repair where a couple of those transistors had failed. I replaced them with pretty generic types and had no problems.

One thing that might not be obvious. On my schematics, a transistor with a circuit round it is just that -- a transistor. One with a square box round it is a 'digital transistor' -- it includes base resistors, etc.

Quote:

---

there any chance that we can figure out what without the scope/logic probe? It so happens that I was able to find a HP-IL

---

Maybe, but it's a lot easier with the test gear.

Quote:

---

1631D Logic Analyzer and Digital Scope for rather cheap (I believe), yet i have not used a Scope in ages and never was very good at it at all. This was just the last standard HP-IL device I did not have yet and it was a good bargain.

---

Oooh very nice. I hate to say this, but the way to get good at using test gear is to use it -- to practice. And this is a fairly good thing to practice on.

## 12v missing when spinning

*Message #6 Posted by [PeterP](#) on 21 May 2007, 2:50 p.m.,  
in response to message #5 by Tony Duell*

Tony,

Thanks for your kind reply. makes a lot of sense why the 9100B were so much worse. yet I am still very very impressed...

Quote:

---

The 12V supply is only turned on when needed -- that is when the disk drive is in operation (the 12V line is used for the motors). When it's turned off, TP9 will show

the battery voltages less a little bit. Connect the meter to TP9 again and see if the voltage goes up to 12V when it's using the disk (e.g. during the self test or a CAT operation).

---

As for the 12V - I did measure it while the drive was spinning (during the selftest on turn-on with a disk in there and during the tried Initialize) and it did not go to the 12V...

Quote:

---

Given that the thing can read a disk, I think not. The motors must be turning

---

Sorry, I was unclear. The thing CAN NOT read the disk! What I did was write to a disk in the 9114b, then try to run some tests on the 9114A and then put it back into the 9114B to see if the 9114B can still read it. Your idea here was that the 9114A has constant power to the head and this would have made the disk non-readable for the 9114B afterwards. Which, alas, is not the case.

Okay, so I will most definitely wait for the 'scope and then try to learn how to use it, maybe there will be some specific tasks related to fixing this 9114A you can think of.

In the meantime, is there anything with regards to the 12V circuit you can think of? As I mentioned, even when the drive is spinning and the head is moving during the self-test and the tried initialize, the voltage does not go to 12V...

Thanks a lot, I know already what I will be doing tonight :-)

Cheers

Peter

### **Re: 12v missing when spinning**

*Message #7 Posted by **Tony Duell** on 22 May 2007, 5:18 a.m.,  
in response to message #6 by PeterP*

Quote:

---

In the meantime, is there anything with regards to the 12V circuit you can think of? As I mentioned, even when the drive is spinning and the head is moving during the self-test and the tried initialize, the voltage does not go to 12V...

---

OK, you have a problem with the 12V step-up converter, this is essentially sheet 2 of the schematics on the Australian Site.

U108d and U107 form an oscillator. It can be controlled by U108c which compares divided-down version of the 12V line with the reference voltage. The oscillator also feeds a monostable U106 via U108b. The output of that drives the switching MOSFET Q105. The 12V supply really comes from the back EMF on L101 when Q105 turns off.

Now, since you have battery voltage at the 12V TP, L101 (switching coil), L102 (output filter coil) and CR103 are most likely fine.

I would start by looking at the output (pin 3) of U106. There should be oscillations here. If you can't use a 'scope, maybe connecting a meter here will show something around half the

battery voltage, but I'd prefer to check it was actually oscillating.

My guess, and it's only a guess, is that Q105 has failed. At least I've given it a standard type number

### **A few more measurements**

*Message #8 Posted by **PeterP** on 21 May 2007, 11:35 p.m.,  
in response to message #5 by Tony Duell*

Tony, made a few more measurements tonight, but nothing big to add to my other post ('12V missing')

- 1) when i do the Amp measurement, the drive does come up and does the self-test (and only draws about 0.75-0.85 amp), the battery led is blinking. I could not find what this means. Also, the fault light does NOT go off in this mode. Other than that, the drive does all the same things.
- 2) I double checked the 12v point and it does not go to 12V when the motor is running and the head is moving. As a matter of fact, it never goes to 12V or even close, no matter what command I send or what the drive does
- 3) I also measured the other TPs but only TP6 and TP7 had a fixed voltage (around 5v, just a tad below around 5.97 or so)

I tried to find the other components of the 12v circuit on the board but did not get very far... One thing that puzzles me - the spindle motor needs 12V (it is even marked on it) yet the 12V TP does not show 12v. How come the motor still spins?

Anyway, I'm awaiting further instructions if at all possible, yet I will be out until Friday next week when I can test them. In the meantime I was able to find the manual and even the service manual of the 1631D online - Agilent is amazingly well organized. I was able to download the manual and service manual for the 3468 A/B DMM as well!

Cheers

Peter

### **Re: A few more measurements**

*Message #9 Posted by **Tony Duell** on 22 May 2007, 5:21 a.m.,  
in response to message #8 by PeterP*

Quote:

Tony, made a few more measurements tonight, but nothing big to add to my other post ('12V missing')

- 1) when i do the Amp measurement, the drive does come up and does the self-test (and only draws about 0.75-0.85 amp), the battery led is blinking. I could not find what this means. Also, the fault light does NOT go off in this mode. Other than that, the drive does all the same things.

A blinking power LED means low battery voltage -- see the lower part of page 2 of the schematics. If the battery voltage is too low (detected by U104A), then Q104 turns on,



connecting C104 in parallel with C105. This slows down U102, so you can see the LED blink (actually, in a 9114A, the power LED is always blinking, it's just normally too fast to see).

Quote:

---

I tried to find the other components of the 12v circuit on the board but did not get very far... One thing that puzzles me - the spindle motor needs 12V (it is even marked on it) yet the 12V TP does not show 12v. How come the motor still spins?

---

Well, it is getting some voltage -- about 6V from the battery. It'll probably run on that, albeit probably too slowly. But it's not suprising the whole thing doesn't work properly without the 12V supply.

---

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## HP Forum Archive 17

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### 35th Anniversary Calc

Message #1 Posted by [DaveJ](#) on 20 May 2007, 12:11 a.m.

Anyone want to hazard a guess as to what the HP 35th Anniversary calc will be and why (realistically speaking) ? Also, does anyone know what the likely release date is?

They way I see it, I think it's most probable it will be either a revamped 33s in a Pioneer casing or a new scientific in Voyager casing.

From a development point of view they probably would want to do as little as possible while leveraging current (or recent) housing and firmware technology. I suspect that would not rule out the Pioneer housing, and the voyager housing is still current of course.

I have read that HP may have lost old firmware like the 11C/15C, if so then a Voyager scientific may need fairly heavily modified firmware from another model?

Would an RPN 20S be out of the question?

Dave.

### Re: 35th Anniversary Calc

Message #2 Posted by [Donald](#) on 20 May 2007, 5:30 a.m.,  
in response to message #1 by [DaveJ](#)

I hope and pray for a revised HP15C.

Even though they have lost the code for the original HP15C, with today's excess computing power and memory, rewriting code in C would be an easy task.

As the hardware already exists for the HP12C, it should be a very low cost project for them to change the firmware, keycaps and overlays. Even a new processor and PCB is a low cost change.

Using my HP15 for some 2-port circuit analysis, has reminded me of the limitation of the first HP15C. So I hope they make handling complex matrices a bit easier, perhaps by allowing one step storage and recall of the complex stack pair. A lot more memory would also be easily achieved. Speeding it up would also be acceptable. Otherwise don't change a thing.

*Edited: 20 May 2007, 5:32 a.m.*

### Re: 35th Anniversary Calc

Message #3 Posted by [Thomas Radtke](#) on 20 May 2007, 7:47 a.m.,  
in response to message #1 by [DaveJ](#)

Probably a 30S with a "35th Anniversary" Sticker and an additional and very innovative blue faceplate.

### **Might be a rebadged 12c again**

*Message #4 Posted by **John** on 20 May 2007, 8:37 a.m.,  
in response to message #3 by Thomas Radtke*

Why not? They did it for the 12c anniversary.

Perhaps they will reintroduce the original 12c platinum and hope that everyone forgot it had been intro'd before?

### **Re: Might be a rebadged 12c again**

*Message #5 Posted by **DaveJ** on 20 May 2007, 5:18 p.m.,  
in response to message #4 by John*

Quote:

Why not? They did it for the 12c anniversary.

Perhaps they will reintroduce the original 12c platinum and hope that everyone forgot it had been intro'd before?

They did it for the 12C anniversary because the 12C is a financial calculator. The 35 was a scientific calculator, so I would expect them to at least slap the anniversary badge on a scientific calculator. And given the 35 was famously RPN, I would also at least expect the badge to be on an RPN scientific calc.

That leaves the 33s or 48/50 series. If not, then they will have to come out with a new scientific RPN. Given that the 35 was also a pocket calculator, that seems to rule out the graphical 48/50. That leaves the 33s the most likely candidate in my book.

I don't think HP are silly enough to use a financial calc like the 12C, or anything other than an RPN scientific.

Dave.

### **Re: Might be a rebadged 12c again**

*Message #6 Posted by **John** on 20 May 2007, 5:24 p.m.,  
in response to message #5 by DaveJ*

You missed the sarcasm in the original comments. You're also assuming that the marketing droids at HP know the difference between a financial and scientific calculator. Be careful of assumptions, especially when they involve marketing droids who work for HP.

The 25th anniversary 12c wasn't much of an anniversary edition to begin with.

Why would you expect anything beyond a sticker on the box or an embossed 35th anniversary stamp next to the battery compartment?

People here get their hopes too high way too quickly. I would figure that would not continue to happen.

### **Re: Might be a rebadged 12c again**

*Message #7 Posted by **DaveJ** on 20 May 2007, 5:54 p.m.,*

*in response to message #6 by John*

Quote:

You missed the sarcasm in the original comments.

Oops, sorry!

Quote:

You're also assuming that the marketing droids at HP know the difference between a financial and scientific calculator. Be careful of assumptions, especially when they involve marketing droids who work for HP.

Likewise you must also be careful assuming the product spec is being driven by marketing this time. The spec may just come from a technical level as someones pet project, who knows?

Quote:

The 25th anniversary 12c wasn't much of an anniversary edition to begin with.

Why do you say that? What's wrong with releasing the original product as-is with a nice badge? Why do there have to be any improvements or changes?

Quote:

Why would you expect anything beyond a sticker on the box or an embossed 35th anniversary stamp next to the battery compartment?

I don't, but I'd expect it to at least be on an RPN scientific calc, not a financial calc or an algebraic. That's where I'd put my money if I was a betting man. The only basic RPN scientific in HP's line-up is the 33S.

[/quote] People here get their hopes too high way too quickly. I would figure that would not continue to happen. [/quote]

Nothing wrong with hoping, and speculating can be fun!

Dave.

### **We're just realists**

*Message #8 Posted by **John** on 20 May 2007, 10:32 p.m.,  
in response to message #7 by DaveJ*

Quote:

Likewise you must also be careful assuming the product spec is being driven by marketing this time. The spec may just come from a technical level as someones pet project, who knows?

Why do you say that? What's wrong with releasing the original product as-is with a nice badge? Why do there have to be any improvements or changes?

Dave.

---

New here, aren't you? Hope springs eternal.

The rest of us are realists.

I do admit, it would be rather hilarious to have you show up, ask what should go into an RPN calculator just a couple of weeks ago, and then you manage to do what this openrpn project has been unable to do for years - create something real.

However, perhaps my own HP65 anniversary edition machines will be back from the fabricators in time to beat you all. Took me a while to decide whether to have 128 or 256MB of ram in them.

**Re: We're just realists**

*Message #9 Posted by [DaveJ](#) on 20 May 2007, 11:03 p.m.,  
in response to message #8 by John*

Quote:

---

New here, aren't you? Hope springs eternal.

---

Yeah, new here, sorry, I'll try to curb my enthusiasm! :->

Quote:

---

The rest of us are realists.

I do admit, it would be rather hilarious to have you show up, ask what should go into an RPN calculator just a couple of weeks ago, and then you manage to do what this openrpn project has been unable to do for years - create something real.

---

Well, I'll have something "real" in about a weeks time when I get my prototype PCB's back, then I'll be able to (hopefully) push buttons and watch an LCD instead of clicking the mouse button on my PC.

Firmware is already doing the basics on my processor simulator (but is far from finished), and I have some good reasons to have a working product to show within the next few months. There is a real deadline for this project.

Just hope it turns out as cool as I think it will be.

Dave.

**Re: We're just realists**

*Message #10 Posted by [db \(martinez, ca.\)](#) on 21 May 2007, 12:20 a.m.,  
in response to message #9 by DaveJ*

Quote:

---

Just hope it turns out as cool as I think it will be.

---

so do we.

### **Re: We're just cynics by another name**

*Message #11 Posted by [Howard Owen](#) on 21 May 2007, 2:08 a.m.,  
in response to message #8 by John*

Quote:

---

New here, aren't you? Hope springs eternal.

---

Translation: How dare you gainsay us old-timer cynics?

Quote:

---

The rest of us are realists.

---

Translation: and don't you dare call us cynics, either!

Regards,  
Howard

### **No, realists**

*Message #12 Posted by [John](#) on 21 May 2007, 7:26 a.m.,  
in response to message #11 by Howard Owen*

Remember, us old timers are the ones that HP foisted the 33s chevron keyboards upon and the horrendous rubber key 49g upon.

### **Re: No, realists**

*Message #13 Posted by [Thomas Radtke](#) on 21 May 2007, 7:36 a.m.,  
in response to message #12 by John*

At least, they tried. I bought the 20S and the 32SII (both Singapour models) when they were new. No way to foist junk on me. I'm quite loyal but not stupid :-).

Edit: Oops, forgot the 30S - but hey, that was just 1 EUR and now serves my girlfriend ;-).

*Edited: 21 May 2007, 7:38 a.m.*

### **Re: No, realists**

*Message #14 Posted by [Howard Owen](#) on 21 May 2007, 12:15 p.m.,  
in response to message #12 by John*

Yes, you are the folks that HP forced into buying a calculator you detested, right?

It's fine with me if you want to express disgust for chevron shaped keys, the lack of build quality, software bugs or what have you. Yes, it's a shame that those machines represented how far HP had fallen from its former heights, when calculators made up the bulk of their revenue. (I use past-tense because they have come back from that nadir to a small degree with the 50g.) But interpreting those shortcomings as personal affronts borders on the paranoid. These are inexpensive consumer products today, not the high end engineering tools of yesteryear. Get over it.

Regards,  
Howard

**Re: No, realists**

*Message #15 Posted by [Wayne Brown](#) on 21 May 2007, 5:07 p.m.,  
in response to message #14 by Howard Owen*

Quote:

But interpreting those shortcomings as personal affronts borders on the paranoid. These are inexpensive consumer products today, not the high end engineering tools of yesteryear.

The fact that they switched from building high end engineering tools to churning out inexpensive consumer products is HP's biggest shortcoming. I certainly *do* see it as a personal affront, not just to customers but to all those who worked for HP during their glory years.

**Re: No, realists**

*Message #16 Posted by [James M. Prange \(Michigan\)](#) on 21 May 2007, 6:05 p.m.,  
in response to message #15 by Wayne Brown*

I agree that it's a real shame that HP stopped producing high-end engineering tools. Of course actually, the high-end engineering tools were split off into the new Agilent, with the "new HP" concentrating on the "consumer products". Too bad that the calculator division didn't go to Agilent, but I can see some logic in keeping it with the computer products, within HP.

To me, it would've made more sense to keep the HP name on the high-end products and split off the "commodity" products into a separate company.

The market for calculators as "consumer" and "educational" products is just too big to ignore; too bad that HP was so late trying to break into it.

I don't see any reason why HP couldn't have kept making a line of high-end engineering calculator models as well as ordinary consumer and educational models.

Inexpensive? Well, I can't think of any electronic device that isn't either much less expensive or else much more powerful than a few decades ago.

What I do object to is the "cheap" look and feel and low quality physical design and construction of the 49 series. That said, it does seem to me that HP has made some efforts to improve things lately. As for the design of the 33S, what were they thinking? It looks more like a child's hand-held video game than a calculator, and this is the model that I'd expect to have the most functional appearance.

I really don't think that HP intended to offend you or me or anyone else, it just made some (bad, in my opinion) business decisions.

Regards,  
James

### **Re: No, realists**

*Message #17 Posted by **Howard Owen** on 21 May 2007, 11:23 p.m., in response to message #16 by James M. Prange (Michigan)*

Quote:

As for the design of the 33S, what were they thinking?

The best guess I've heard is that they were trying to appeal to the educational market. But the other thing that is clear about the 33S is that it had minimal engineering input, just enough to slightly update the 32SII firmware, and a whole lot of marketing and design input. It seems obvious that the team that made the decision to go with the "chevron" design were completely isolated from any sense of the history of calculators at HP. Not that consumer electronics in general is known for respecting tradition. Combine that with the unfortunate production flaws, software bugs and the infamous tiny period and comma, and you have an RPN calculator people around here love to hate.

Myself, I can't quite hate a shipping \$50.00 programmable RPN calculator. I did wait until the fixes for the point and some of the software bugs were in before buying mine. And I also hope for better from HP someday.

Regards,  
Howard

### **Re: No, realists**

*Message #18 Posted by **DaveJ** on 22 May 2007, 8:56 a.m., in response to message #16 by James M. Prange (Michigan)*

Quote:

I agree that it's a real shame that HP stopped producing high-end engineering tools. Of course actually, the high-end engineering tools were split off into the new Agilent, with the "new HP" concentrating on the "consumer products". Too bad that the calculator division didn't go to



Agilent, but I can see some logic in keeping it with the computer products, within HP.

To me, it would've made more sense to keep the HP name on the high-end products and split off the "commodity" products into a separate company.

---

Indeed. HP was known as an electronics test equipment company first and foremost, and that name change was hard on the industry. Most engineers I know still call Agilent gear HP. It would have been much easier to rename the computer and consumer part, as that is common in that industry and hardly anyone would have cared I suspect.

Quote:

---

The market for calculators as "consumer" and "educational" products is just too big to ignore; too bad that HP was so late trying to break into it.

I don't see any reason why HP couldn't have kept making a line of high-end engineering calculator models as well as ordinary consumer and educational models.

---

Simple - money, profit, margin, sales, "lean" processes, product range rationalising and all that other finance and management stuff. Managers love to can stuff that isn't the leading seller, gives them something to put on their monthly report. If sales drop xx% in the last year or two, out it goes, even if it still pulls in \$\$\$\$\$\$\$ per year.

Why did they keep the 12C and drop the scientific models? - you can bet your last dollar that it sold more, \*lots\* more than the scientific ones.

I suspect it would have required someone really high up with a love for the old models to keep them in production.

I suspect sales dropped off on the older models when the graphic units became all the rage. Sales never recovered and they got dropped from the line. That happens in almost every industry.

Quote:

---

Inexpensive? Well, I can't think of any electronic device that isn't either much less expensive or else much more powerful than a few decades ago. What I do object to is the "cheap" look and feel and low quality physical design and construction of the 49 series. That said, it does seem to me that HP has made some efforts to improve things lately. As for the design of the 33S, what were they thinking? It looks more like a child's hand-held video game than a calculator, and this is the model that I'd expect to have the most functional appearance.

I really don't think that HP intended to offend you or me or anyone else, it just made some (bad, in my opinion) business decisions.

---

I greatly doubt it was a \*bad\* business decision, just \*usual\* business for most big companies like that.

Dave.

### **Re: No, realists**

*Message #19 Posted by **Wayne Brown** on 22 May 2007, 4:47 p.m.,  
in response to message #18 by DaveJ*

Quote:

---

Why did they keep the 12C and drop the scientific models? - you can bet your last dollar that it sold more, \*lots\* more than the scientific ones.

I suspect it would have required someone really high up with a love for the old models to keep them in production.

---

That's the problem; no one should be *allowed* into a position "really high up" at HP without a love for the company's traditional product lines. I'm disgusted with HP not only for what they *do*, but even more for they *are* (or rather, for what they've become).

### **Re: No, romantics**

*Message #20 Posted by **Howard Owen** on 23 May 2007, 2:48 p.m.,  
in response to message #19 by Wayne Brown*

Here's the irony of the modern corporation: Motivated people often do what they do for the love of it. Corporations do what they do for money; specifically, for the shareholder's money. Corporations are made up of motivated people, so they often have to deal with love, but they count the results in money. People work for corporations, so they have to deal with the bottom line, but some count their results in how well things work, or how beneficially or beautifully and so forth. In other words, some people judge results by the love content. The irony is that these people tend to be the ones that can take a vision of quality and utility and make it real, if their love is aligned with the corporation's bottom line.

With me so far? OK, so the reality of corporations means that although neither love nor money is enough to get the job done, the ultimate arbiter of whether or not a corporation is successful is the P/L statement. If losses mount year upon

year, shareholders will fire managers, replace directors and officers, and generally make a nuisance of themselves. So love is trumped by money in the modern corporation. This means that "a love for the company's traditional product lines" is not a quality that will ensure continued employment "really high up" in any modern corporation. Taking an extreme example may make this more clear. In 1898, the (fictitious) American Buggy Whip Company was faced with an important personnel decision. They had to replace their VP of product development who had been hired away by Ford. The candidates were the current engineering chief, a 20 year veteran whose innovations in buggy whip design had led to ABW's dominance of the American buggy whip market, and a young whippersnapper (so to speak) fresh out of Harvard who advocated reinvention of the company as an automobile accessory concern.

Which choice would be more likely to lead to ABW's survival?

Regards,  
Howard

### **Re: No, romantics**

*Message #21 Posted by **Donald** on 23 May 2007, 5:11 p.m.,  
in response to message #20 by Howard Owen*

Quote:

---

Here's the irony of the modern corporation: Motivated people often do what they do for the love of it. Corporations do what they do for money; .... The irony is that these people tend to be the ones that can take a vision of quality and utility and make it real, if their love is aligned with the corporation's bottom line.

---

Totally agree with you Howard, so here's my ramble:

It reminds me of Asmiiov's psychohistory concept: the central premise of his foundation series: The path of developments over time are very predictable - groups will react in a uniform way allowing history to be mapped out. But over time, very very occasionally, a key player, a leader, a revolutionary, will arise and cause an unpredictable step change.

Bill and Dave were the revolutionaries with HP, at the right place and right time to set the ball rolling. The current management, are simply custodians, following the rules of the business game evolving in a predictable fashion. As such it's unlikely anything that sets the world on fire will emerge from within. Little sparks occasionally,

but no great fire.

Every so often, new entrepreneurs will decide to go it alone and driven by their convictions, seed new ideas, which will amble along, die or be swallowed. But eventually one will grow into something special ... then over time stagnate and decline.

*Edited: 23 May 2007, 5:16 p.m.*

**Re: No, romantic**

*Message #22 Posted by **Howard Owen** on 23 May 2007, 7:02 p.m.,  
in response to message #21 by Donald*

Quote:

---

Bill and Dave were the revolutionaries with HP, at the right place and right time to set the ball rolling.

---

Another name for those sorts of people are "visionaries." From the point of view of the love/money dichotomy, I think such people are those who both have the talent of seeing undiscovered or unexploited alignments between love and money, and who can compellingly communicate that to others.

I also don't think it's inevitable that companies that sink into complacency and stagnation will remain that way. Two examples from the 1990s are Lou Gerstner's turn around of IBM, and Steve Jobs returning to Apple. A more recent example may be Sun under Jonathan Schwartz, although the jury (in the form of financial results) is still out on that one. In each of those cases, the visionary took on the top job, and shook up and restructured a complacent organization that was heading toward financial disaster.

Regards  
Howard

**Re: No, romantic**

*Message #23 Posted by **Trent Moseley** on 23 May 2007, 11:59 p.m.,  
in response to message #21 by Donald*

Well postulated.

tm

**Re: No, romantic**

*Message #24 Posted by **Gene** on 23 May 2007, 5:49 p.m.,  
in response to message #20 by Howard Owen*

Good point, Howard.

The other thing that people sometimes don't think about is that with a corporation, it really IS the shareholders money. They (essentially) hire the company's officers to make more money for their investment.

If you loaned me money as an investment, you'd want a pretty substantial return, 10, 20, 30% or ?

Would you be happy if I used it to support my "Wacky Packages" hobby? I have made about 0.1% as the return on investment on that hobby over the years.

Or, would you prefer I use your money to make 20% ?

Gene

P.S. Again, great illustration Howard! See you at HHC2007!

### **Re: No, romantics**

*Message #25 Posted by **Howard Owen** on 23 May 2007, 7:06 p.m.,  
in response to message #24 by Gene*

Quote:

Or, would you prefer I use your money to make 20% ?

If you can guarantee that, I think you may be on to something! 8)

Quote:

See you at HHC2007!

Looking forward to it. That ought to be an event purely on the "love" side of the dichotomy, but it takes money to get there. Funny how the world works.

Regards,  
Howard

### **Where the money is**

*Message #26 Posted by **Howard Owen** on 23 May 2007, 7:13 p.m.,  
in response to message #20 by Howard Owen*

For HP, it's in computers, no doubt. [HP Lands \\$5.6 Billion NASA Contract](#)

Regards,  
Howard

**Re: No, realists**

*Message #27 Posted by [bill platt](#) on 21 May 2007, 6:23 p.m.,  
in response to message #15 by Wayne Brown*

If HP hadn't "switched" to inexpensive consumer items, we would have lost all new RPN calculators after the Voyager.

**Re: Might be a rebadged 12c again**

*Message #28 Posted by [Wayne Brown](#) on 21 May 2007, 5:10 p.m.,  
in response to message #7 by DaveJ*

Quote:

\_\_\_\_\_

Likewise you must also be careful assuming the product spec is being driven by marketing this time. The spec may just come from a technical level as someones pet project, who knows?

\_\_\_\_\_

I strongly doubt that anyone at a technical level has any real influence over decisions at the "modern" HP.

**Re: Might be a rebadged 12c again**

*Message #29 Posted by [Howard Owen](#) on 21 May 2007, 11:10 p.m.,  
in response to message #28 by Wayne Brown*

Someone at HP understood the shortcomings of the 49G+ enough to make a comprehensive (and mostly successful) effort to address them in the 50g.

Regards,  
Howard

**Re: "I don't think HP are silly enough to . . . "**

*Message #30 Posted by [Paul Brogger](#) on 21 May 2007, 10:31 a.m.,  
in response to message #5 by DaveJ*

Quote:

\_\_\_\_\_

I don't think HP are silly enough to ...

\_\_\_\_\_

I don't think I'm naive enough to ever begin a sentence like *that* again!

**Re: 35th Anniversary Calc**

*Message #31 Posted by [Namir](#) on 20 May 2007, 1:08 p.m.,  
in response to message #1 by DaveJ*

I think we have to distinguish between the emotional component of celebrating the 35th anniversary of the HP-35 and the reality of **current** HP resources dedicated to calculators. Within these resources one can make a good guess that HP will celebrate the special occasion. Bringing old models back, like the 15C seems to me a no go. Putting a special label on a current calculator might be a more affordable way for HP to celebrate.

We can celebrate our memories and our dedication to outstanding machines like the 67, 41, 15, 11, and so on.

I am celebrating the 35th anniversary by **trying** to design an enhanced version of programmable RPN that can **compete** with RPL. I will implement this programmable enhanced RPN in either VB .Net or C#.

Namir

*Edited: 20 May 2007, 1:10 p.m.*

### Re: 35th Anniversary Calc

Message #32 Posted by **DaveJ** on 20 May 2007, 5:39 p.m.,  
in response to message #31 by Namir

Quote:

I think we have to distinguish between the emotional component of celebrating the 35th anniversary of the HP-35 and the reality of **current** HP resources dedicated to calculators.

Does anyone know exactly what resources are left in the calculator division?

Quote:

I am celebrating the 35th anniversary by **trying** to design an enhanced version of programmable RPN that can **compete** with RPL. I will implement this programmable enhanced RPN in either VB .Net or C#.

All going to plan, my own RPN calc design will be released this year, in time for the anniversary (which never occurred to me actually). Prototype PCB's are being manufactured as I write...

Dave.

### Re: 35th Anniversary Calc

Message #33 Posted by **Donald** on 20 May 2007, 6:56 p.m.,  
in response to message #32 by DaveJ

Quote:

All going to plan, my own RPN design will be released this year, in time for the anniversary (which never occurred to me actually). Prototype PCB's are being manufactured as I write...

Ah.. so you have a vested interest in HP not producing something good :-). Anyway, I will hedge my bets and wish you success.

The 12C platinum data sheet says it has a 6502 based processor: Does anyone know if it's in-circuit programmable via JTAG or similar. Perhaps it's the basis for a re-write project - once the actual

processor and IO mapping is known.

Beyond lack in faith ( i.e. soul-less marketing: color schemes and a new badge), I think, that the biggest unknown surrounding the 'Anniversary Edition', is will HP start to look back to the original market it addressed with the HP35: engineering and science professionals rather than school students. If they do there might be some hope of something nice. I'm not sure how a DIY video competition fits in with this scenario though :-)

At the other end of the possibility spectrum: the phone has killed the gadget-PDA market ( except for GPS displays and MP4 players ), suggesting the anniversary enthused 'Innovation' is unlikely to be a feature packed and resurrected Expander with a color LCD aimed at students ( which they would not be able to use in exams anyway ).

The middle ground, I see is market convergence : A high end classic RPN model with all numeric features (i.e. no alpha or IrDa comms etc.) might best satisfy both the current professional and upper student (restricted exam) markets.

### **Re: 35th Anniversary Calc**

*Message #34 Posted by [DaveJ](#) on 20 May 2007, 7:59 p.m.,  
in response to message #33 by Donald*

Quote:

\_\_\_\_\_  
Ah.. so you have a vested interest in HP not producing something good :-) Anyway, I will hedge my bets and wish you success.  
\_\_\_\_\_

Thanks. Now that would indeed suck if they scooped me on this project, and it wouldn't be the first time that's happened to me with a project like this.

On the other hand though I'd also be seriously happy if they did scoop me!

Dave.

### **Re: 35th Anniversary Calc**

*Message #35 Posted by [Howard Owen](#) on 21 May 2007, 12:37 p.m.,  
in response to message #33 by Donald*

Quote:

\_\_\_\_\_  
The 12C platinum data sheet says it has a 6502 based processor...  
\_\_\_\_\_

The new Power6 CPU from IBM does BCD in hardware. It's also built to trade off performance and power requirements, although I don't think it can go low enough for battery operation. Even if it could, getting HP to use the chip would be .. difficult.

Regards,  
Howard

### **Re: 35th Anniversary Calc**

*Message #36 Posted by [Eric Smith](#) on 21 May 2007, 3:57 p.m.,*



*in response to message #33 by Donald*

The 6502-compatible Sunplus microcontrollers used in several of the current HP calculators including the 12C Platinum and 33S use masked ROM. No possibility of end users changing the code in those; it probably costs HP \$50K in mask charges any time they want to change the code.

### **Re: 35th Anniversary Calc**

*Message #37 Posted by **Donald** on 21 May 2007, 5:05 p.m.,  
in response to message #36 by Eric Smith*

Mask programmed ... oh well - so much for that plan.

It just occurred to me that 1st July 2007 is the 25th anniversary of the HP15C ... probably of no significance to those at HP.

### **Re: 35th Anniversary Calc**

*Message #38 Posted by **Jeff O.** on 22 May 2007, 3:34 p.m.,  
in response to message #37 by Donald*

Quote:

It just occurred to me that 1st July 2007 is the 25th anniversary of the HP15C ... probably of no significance to those at HP.

Probably not significant to HP, but it is to some of us:



I was hopeful for a time that something like the above might possibly happen, based on the 12C Platinum 25th Anniversary model that HP produced last year. However that was before I realized that it is also the 35th anniversary of the HP-35, which has a better ring to it, and for which HP purportedly will be issuing some sort of commemorative model. Probably too much to expect a 35 and a 15C celebration.

### **Re: 35th Anniversary Calc**

*Message #39 Posted by **Donald** on 22 May 2007, 3:55 p.m.,  
in response to message #38 by Jeff O.*

I like it :-)

What's your intended use for the 'IO' function above the ON button ?

### **Re: 35th Anniversary Calc**

*Message #40 Posted by **Jeff O.** on 23 May 2007, 7:45 a.m.,  
in response to message #39 by Donald*

Input and output, of course!

I did not really fully conceive how it might be done. Maybe as simple as putting the calculator in "server" mode to communicate with a PC application that would let you see the contents of memory and drag and drop programs and data from and to the calculator. Or maybe a menu of functions similar to the MATRIX 0..9 and TEST 0..9 functions, where IO 0 might transfer all programs to a PC, IO 1 would transfer all storage registers, etc. The connection would be via the same USB to mini-USB (or whatever it is) cable used by the 50g. A utility program allowing 15c programs to be written and tested on the PC would also be handy.

### Re: 35th Anniversary Calc

Message #41 Posted by [Paul Dale](#) on 22 May 2007, 4:52 p.m.,  
in response to message #38 by Jeff O.

More likely:

- MATRIX will be replaced by RPN
- RESULT will be replaced by ALG
- SOLVE will be replaced by (
- Integrate will be replaced by (

Also the Re<>Im function will likely be omitted entirely.

Maybe I'm being a bit synical :-)

- Pauli

### Re: 35th Anniversary Calc

Message #42 Posted by [Chris Roccati](#) on 21 May 2007, 4:23 p.m.,  
in response to message #33 by Donald

Quote:

The 12C platinum data sheet says it has a 6502 based processor: Does anyone know if it's in-circuit programmable via JTAG or similar. Perhaps it's the basis for a re-write project - once the actual processor and IO mapping is known.

The 6502-like processor is a masked rom part. You can't reprogram it. With enough dedication and patience, you could probably scrape the processor "blob" off the board and re-use the rest of the hardware...

### Re: 35th Anniversary Calc

Message #43 Posted by [Ron Ross](#) on 21 May 2007, 10:36 p.m.,  
in response to message #31 by Namir

To be true to the 35th year concept (and this is really only speculation and wishful thinking), Hp could (and should) revamp/morph an Hp 33s into an Hp 35. Correct the silly layout and provide an old fashion large enter key back in the legacy location (and since you are returning the ENTER key, drop the algebraic option to save a key function, you will need to save another to substitute for a missing key the ENTER displaces).

Re-badge this package as an Hp35 Anniversary ed and I feel you would have a winner. Sadly, this is probably only wishful thinking.

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**Re: 35th Anniversary Calc**

Message #44 Posted by [John](#) on 22 May 2007, 7:58 a.m.,  
in response to message #43 by Ron Ross

Quote:

\_\_\_\_\_

Sadly, this is probably only wishful thinking.

\_\_\_\_\_

A realist at last!

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**Re: 33s as 35th Anniversary Calc -- key count?**

Message #45 Posted by [Paul Brogger](#) on 22 May 2007, 3:57 p.m.,  
in response to message #43 by Ron Ross

... but the 35th anniversary calculator had *better* have only 35 keys! (The 33s has ~48.)

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**Re: 35th Anniversary Calc**

Message #46 Posted by [sjthomas](#) on 20 May 2007, 8:34 p.m.,  
in response to message #1 by DaveJ

Do we know for certain that there is going to be a special 35th Anniversary issue of any kind? Did I miss something?

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**Re: 35th Anniversary Calc**

Message #47 Posted by [DaveJ](#) on 20 May 2007, 8:54 p.m.,  
in response to message #46 by sjthomas

According to here: <http://www.computerworld.com/blogs/node/5323>

A HP spokeswoman said "HP, in the next few months, will also debut a new calculator related to this anniversary"

Dave.

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**Re: 35th Anniversary Calc**

Message #48 Posted by [James M. Prange \(Michigan\)](#) on 20 May 2007, 9:30 p.m.,  
in response to message #1 by DaveJ

I doubt that it will be marketed as an "Anniversary" model, but [CalcPro](#) has been listing a "48GS" together with the 48gII.

CalcPro doesn't say how they differ, and (as far as I know) HP hasn't announced it yet, but from a brief thread on [comp.sys.hp48](#), I gather that we can expect an improved keyboard, flashable "ROM", and a USB port in addition to the serial port (but still no SD card port).

In other words, the 48gs will bear a relationship to the 48gII similar to that of the 50g to the 49g+, a replacement model with some of the shortcomings fixed.

And the relationship of the 48gs will bear a relationship to the 50g similar to that of the 48gII to the 49g+, an

"economy model" for those unable or unwilling to buy the "premium" model.

As for what I'd like to see as a "35th Anniversary" edition, an RPN "scientific" model that fits comfortably in my shirt pocket would seem appropriate.

Regards,  
James

*Edited: 20 May 2007, 9:34 p.m.*

### **48gs**

*Message #49 Posted by **John** on 20 May 2007, 10:33 p.m.,  
in response to message #48 by James M. Prange (Michigan)*

Tried to order one. Seems it is a typo.

### **Re: 48gs**

*Message #50 Posted by **James M. Prange (Michigan)** on 20 May 2007, 10:39 p.m.,  
in response to message #49 by John*

Oh well.

Still, I expect that HP will start marketing some sort of replacement for the 48gII.

Regards,  
James

### **Re: 35th Anniversary Calc**

*Message #51 Posted by **Patrick R** on 21 May 2007, 2:24 a.m.,  
in response to message #1 by DaveJ*

In my view, a 35 year anniversary edition with any of the current production calculators would be a nice way to promote the huge backstep in product quality and feel. As long as HP doesn't manage to build a decent case around a calculator, including decent keys, I wouldn't even mind about releasing anniversary editions.

I want at least the quality of a 32sii or a 48G. Put the 50G in a 48G case, resolve the emulating issues and I will buy one.

Just recently a friend told me that he bought a 33S to replace his 15C. He was so disappointed by the quality of the 33S that it almost immediately went to the dustbin (I won't quote his insults towards the Chinese). Now it is rotting away in a drawer. He now considers buying a Casio.

So let's celebrate this anniversary.

### **Re: 35th Anniversary Calc**

*Message #52 Posted by **Bob** on 21 May 2007, 5:59 p.m.,  
in response to message #51 by Patrick R*

Quote:

Just recently a friend told me that he bought a 33S to replace his 15C. He was so disappointed by the quality of the 33S that it almost immediately went to the dustbin ...Now it is rotting

away in a drawer. He now considers buying a Casio.

I have used the 33S for over a year now and I have to say that I have been pleasantly surprised by its performance. Is it perfect? No, but I also don't have to watch it like a hawk or worry about dropping it like I would my 41CV/42S/48GX models. The chevron pattern is more disturbing in pictures than in use. Besides, it is not bad for \$20 each. (I bought 4)

I certainly wouldn't trade a 33S for a comparable Casio, strictly based on my personal preferences. But, to each his own.

*Edited: 21 May 2007, 6:01 p.m.*

### **Re: 35th Anniversary Calc**

*Message #53 Posted by **bill platt** on 21 May 2007, 6:27 p.m.,  
in response to message #52 by Bob*

Where did you get a \$20 33s?

### **Re: 35th Anniversary Calc**

*Message #54 Posted by **Bob** on 21 May 2007, 7:15 p.m.,  
in response to message #53 by bill platt*

When Walmart had them on clearance last year, I bought them. Two of them have start with 527 and another one starts with 541. I gave one to a friend. I don't know what number it started with for sure, but it was in the 500's too.

I just saw another one on the clearance rack the other day, but I wasn't sure I needed yet another one. When it gets down to \$20, though I might go back and pick it up.

### **Re: 35th Anniversary Calc**

*Message #55 Posted by **Ed Look** on 22 May 2007, 12:19 p.m.,  
in response to message #54 by Bob*

Yow! I saw the Wal-Mart clearance on HP-33Ss- they were charging \$47 USD. I might have considered buying a second 33S, but not at \$47 when I paid just a little more for the first one!

\$20! I'm jealous!!

### **Re: 35th Anniversary Calc**

*Message #56 Posted by **Paul Brogger** on 22 May 2007, 2:12 p.m.,  
in response to message #52 by Bob*

The 33s is *so freakin' beautiful* inside that it's *just* possible to get past its **outside**.

Even with its inherent limitations, that easiest-to-use 32s programming interface combined with essentially unlimited memory makes programming the 33s a sheer joy -- at least to this sub-RPL user.

In something like the old Pioneer or Voyager packaging, it would be fabulous. As it is, I still find it *very* usable.

(But, I repeat myself.)

### Re: 35th Anniversary Calc

Message #57 Posted by **Wayne Brown** on 22 May 2007, 4:53 p.m.,  
in response to message #56 by Paul Brogger

Quote:

The 33s is *so freakin' beautiful* **inside** that it's *just* possible to get past its **outside**.

Not for me. *Nothing* is enough to get me past its outside.

### Re: 35th Anniversary Calc (something like 33s?)

Message #58 Posted by **Walter B** on 22 May 2007, 5:42 p.m.,  
in response to message #56 by Paul Brogger

Quote:

In something like the old Pioneer or Voyager packaging, it (the 33s) would be fabulous.

Fully agree.

Quote:

As it is, I still find it very usable.

Completely disagree. But we had this discussion several times in this forum already, so I won't repeat it.

*Edited: 22 May 2007, 5:49 p.m.*

### Re: 35th Anniversary Calc

Message #59 Posted by **Patrick R** on 23 May 2007, 6:40 a.m.,  
in response to message #56 by Paul Brogger

Quote:

The 33s is *so freakin' beautiful* **inside** that it's *just* possible to get past its **outside**.

I also completely disagree. You shouldn't forget that the (almost) only interaction with the calculator goes via the keyboard (input) and the display (output). As a professional (I am a physics teacher), I use calculators on a daily basis (most of the time a 10 year old 32Sii) for numerical calculations (in exercises and problems, for correcting tests etc.). As I want to work fast, efficiently and flawlessly, I have to trust my hardware to 100%. This is not possible when using confusing keyboards or bad responding keyboards. The keyboard of the calculator simply is the "key" for accurate and fast calculations. The currently produced HP calculators simply don't respond to these (my, and hopefully other's) needs. New funtions, more memory, bigger screens etc., are useless if it is no longer possible to interact adequately with the calculator.

Sometimes HP is listening, so please, please, DO something!

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## HP Forum Archive 17

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**HP-67**

Message #1 Posted by [Tim](#) on 19 May 2007, 8:42 p.m.

Does anyone know where I can get a shell for the HP-67. Or a 67 that does not work?

**Re: HP-67**

Message #2 Posted by [Mad Dog ebaycalcnut](#) on 19 May 2007, 9:29 p.m.,  
in response to message #1 by Tim

The unmentionable auction website occasionally has some.

**Re: HP-67 (Where to get--working or not)**

Message #3 Posted by [Frank E. Travis](#) on 21 May 2007, 10:19 a.m.,  
in response to message #1 by Tim

The best source of no longer made HP calculators (both working and not working models) is International Calculator websites [www.internationalcalculator.com](http://www.internationalcalculator.com) or [www.intlcalc.com](http://www.intlcalc.com) I have made many purchases from and have good dealings with its owner/manager, Don O'Rourke.

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## HP Forum Archive 17

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**9114 - battery - take 2**

Message #1 Posted by [PeterP](#) on 18 May 2007, 11:32 p.m.

Hi,

Ok, so after some traveling I came back to work on my 9114 with all the tips I got. The new battery arrived and full hope I went into swapping the old battery out for the new.

And, as many here have said already, it really indeed was very simple.

Checking all contacts, I closed the battery up, plugged it into my 9114a, plugged in the power and turned the 9114 on.

Hurra!!! it worked, the two leds were on, we heard some moving off the head and after a few seconds the 'fault' LED went off. All seemed great.

However about a minute or so later, all lights went off. and no amount of trying from my side was able to make the 9114 turn on again.

So I opened up the battery and started checking some contacts. And somehow there was no current going to the plug into the 9114! I checked the battery - 6.5V, the current went to the PCB but did not come out the other end. I was stymed!

I though, okay, maybe the charger burned it - it had 12v coming out of it and maybe that was too much (though the label on the battery department said 20V max. the charger I used, by the way, was a standard HP charger, I believe 82059b)

As I have a second battery pack, I did the same thing again. Swap out the old battery. Check the contacts. Close the battery, plug it in, turn on the 9114. Hurra! both LED on, the 'fault' one went out after a few seconds. And a minute or so later, the thing turned off again. And when I again checked the output of the battery-pack, there was no current coming out of it!

I'm quite flabbergasted how turning on the 9114 could burn out some part of the PCB in the battery!

Anyway, are there any good ideas out there on what to try next? I will let the charger be plugged into the battery over night to see if that does anything (i do not know if the battery was full or not when I got it, however it continued to show a very steady 6.5V when tested directly. )

Thanks!

Peter

**Re: 9114 - battery - take 2**

Message #2 Posted by [Tony Duell](#) on 19 May 2007, 4:06 a.m.,  
in response to message #1 by [PeterP](#)

There is a picofuse on the PCB (it looks like a resistor, you may have to trace the connections from the plug to find it). My guess is that you've blown that.

Of course it's easy to replace (DO NOT be tempted to short it out -- that battery can supply several hundred amps into a short circuit, and you don't want to fry tracks on the main PCB!), but the big question is 'Why did it blow'.

## **Re: 9114 - battery - take 2**

*Message #3 Posted by **PeterP** on 20 May 2007, 12:57 a.m.,  
in response to message #2 by Tony Duell*

Tony,

I did order the pico-fuse and also found some related info here in the archive following your pointer about the pico-fuse (will consolidate and add to the summary!) Will not short out, your warning is much appreciated.

In the meantime I have built a direct powersupply following some directions from you and others. This worked well on my 9114b, but I still have some problems with the 9114a (see my other post with pictures of the open 9114a).

As for why it shorted out, I have a suspicion: When I have the metal cover on the drive, the 'fault' light does not go out, yes it always goes out when the metal cover is off. This is how I was able to test all the HP-IL commands as posted. This makes me believe that maybe the metal-cover is too tight or I have put it on wrongly so that the head cannot move. If the head or some other part is trying to move yet is stuck, could that not cause the motor to suck too much current and burn the fuse?

Anyway, all in time, I'd say. I hope I am not testing your patience when I ask you to maybe take a look at the pictures to check if you see anything strange.

Thanks so much in advance!

Cheers

Peter

## **Re: 9114 - battery - take 2**

*Message #4 Posted by **Tony Duell** on 20 May 2007, 6:11 a.m.,  
in response to message #3 by PeterP*

Quote:

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As for why it shorted out, I have a suspicion: When I have the metal cover on the drive, the 'fault' light does not go out, yes it always goes out when the metal cover is off. This is how I was able to test all the HP-IL commands as posted. This makes me believe that maybe the metal-cover is too tight or I have put it on wrongly so that the head cannot move. If the head or some other part is trying to move yet is stuck, could that not cause the motor to suck too much current and burn the fuse?

---

As the head motor is a stepper, it won't draw significantly more current when jammed than when moving. But if the heads can't move, the unit will not pass the self-test (the fault light will stay on) since the unit moves the head back and forth and checks that the track 0 signal does the right thing.

Of course that cover might be shorting something to ground.

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## HP Forum Archive 17

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### What is the next platform?

Message #1 Posted by [Jim Creybohm](#) on 18 May 2007, 6:44 p.m.

With the recent announcement of Dell's cessation of the Axim PDA series, I think a reasonable question is; what is the next platform for calculators and calculator simulators? Are we destined for example, to run Free42 on a cell phone for (insert favourite deity here) sake? Free42 on a blackberry?

I don't pack a laptop every day. The Dell Axim is like the 41. It is a venerable product, the standard if you will. Sony, Apple, Toshiba have all left the PDA market. These are large players who drop in and drop out of markets all the time. It is interesting, but not really surprising that they have dropped the PDA. Not so with Dell.

From a marketing perspective, I actually see the potential for growth in the calculator business. If the PDA does in fact, get phased out as a form factor with the rush to newer, cooler technologies.

Interested in others perspectives. HP-50 forever?

### Re: What is the next platform?

Message #2 Posted by [Gene](#) on 18 May 2007, 7:24 p.m.,  
in response to message #1 by [Jim Creybohm](#)

I still like the palm platform even though I had an Axim 50v for some time and the VGA resolution on that screen was amazing. I still prefer palm.

However, some sort of convergence is inevitable. People just won't carry a laptop, cell phone AND a PDA and an iPod.

Not going to happen.

Perhaps the iPhone will be a convergence product, particularly if Apple opens it up to third party applications.

Music, internet access, cell phone, lots of built-in apps, etc.

We'll see.

However, for dedicated number crunching, there is no way around the calculator. Who needs dedicated number crunching abilities? Certainly accountants and financial people who evaluate deals at a lunch table. :-)  
Students, certainly. Professional scientists, technicians? Harder to say. If there were a big market for calculators in these areas, they would have sold better.

Gene

### Re: What is the next platform?

Message #3 Posted by [bill platt](#) on 19 May 2007, 8:28 a.m.,  
in response to message #2 by [Gene](#)

Quote:

People just won't carry a laptop, cell phone AND a PDA and an iPod.

Actually, not only will they, they do!

Two trips back, I carried a cell phone in my left pocket, plane tickets in my left cargo pocket, wallet in my right pocket, A laptop over my shoulder, A 5 Mpx digital camera, and two calculators in my bag. This time I left the graphing calc behind.

I see guys with exactly the list you mentioned--routinely--in the airport, on the plane etc. A good number now have the PDA/cellphone merged and the calculator is gone, but the ipod and the laptop still travel. The ipod is tiny, and the laptop is huge. They are for such different purposes.

What is the last thing I bring, only if I really need it?

The laptop. I leave it home as often as possible.

### **Re: What is the next platform?**

*Message #4 Posted by [Hugh Evans](#) on 18 May 2007, 9:32 p.m.,  
in response to message #1 by Jim Creybohm*

I've been batting around this hypothetical in my mind for a while now, not that I'm necessarily interested in trying to produce one. I call it a PDX, essentially a PDA with extended capabilities and a keyboard that can either be folded or slid out. With the keyboard retracted it should be the same size as a modern PDA only thicker.

The big drawback will be power consumption, but anyone who has owned a PDA can tell you can popping it into a charging cradle is an easy habit to make. 1-2 weeks between charges should be achievable.

### **Re: What is the next platform?**

*Message #5 Posted by [Eric Smith](#) on 19 May 2007, 2:53 a.m.,  
in response to message #4 by Hugh Evans*

Quote:

essentially a PDA with extended capabilities and a keyboard that can either be folded or slid out.

Zaurus SL-5000/5500/5600/6000?

### **Re: What is the next platform?**

*Message #6 Posted by [Hugh Evans](#) on 19 May 2007, 6:22 a.m.,  
in response to message #5 by Eric Smith*

Not quite. I'd like to see a nice calculator keyboard slide out with full sized keys.

### **Re: What is the next platform?**

*Message #7 Posted by [DaveJ](#) on 19 May 2007, 3:36 a.m.,  
in response to message #1 by Jim Creybohm*

I hope the next platform is SMALL and dedicated. I don't need a scientific calculator in my phone, I don't need it in a PDA, I don't need it a notebook, I don't need it on my PC, I don't need it in \*insert new fangled tech item here\*

What I do need is a dedicated scientific calculator with no fancy stuff. One designed to do the job, and one that I can take with me. Something I can really slip in my shirt pocket, my back pocket, or on my wrist.

No I don't need a color screen, I don't need graphing, I don't need fancy programming.

And no, a Voyager is not small enough IMHO, so I hope the next platform is smaller again.

Dave.

### **Re: What is the next platform?**

*Message #8 Posted by [Hugh Evans](#) on 19 May 2007, 6:43 a.m.,  
in response to message #7 by DaveJ*

Understood. But the question here is hypothetical and dealing with advances beyond the same graphing machines that have been around for the past 15 years.

In terms of what most people around here would actually like to use... HP would do very well to make a 15c with a two-line display in a cast magnesium case slimmed down to 0.25" or so. Package it with a good manual, price it around \$75, sit back and watch engineers buy at least two each.

That's the reason I don't want to mess around too much with big graphing machines. I only ever use the things if I'm sitting down at a desk. My workhorse is the 11c I carry in my shirt pocket every day.

### **Re: What is the next platform?**

*Message #9 Posted by [Donald](#) on 20 May 2007, 5:50 a.m.,  
in response to message #8 by Hugh Evans*

Quote:

HP would do very well to make a 15c with a two-line display in a cast magnesium case slimmed down to 0.25" or so. Package it with a good manual, price it around \$75, sit back and watch engineers buy at least two each.

Exactly my thoughts: the calculator is coming back into favour for small to moderately sized calculations. For anything more complex, MATLAB, ADS, Eagleware, R etc. is the best choice : so for professional use, the graphing calculator is a bulky irrelevance.

Experience has also shown us that PDA soft-calculators don't provide the user experience on a touch screen - and programming is not fun. Gadget wise most of now carry a iPod and a cell-phone even though the cell-phone has a MP3 player, but like the PDA calculator, it's not the same as a dedicated device. We are seeing just as much divergence through multiple smaller lower cost devices - as convergence with higher cost multi-use device.

If HP make what Hugh suggested, I would get one for home and one for work, as well as starting a deluge of orders for other engineers at work.

### **Re: What is the next platform?**

*Message #10 Posted by [Thor Lansen](#) on 20 May 2007, 11:22 p.m.,*

*in response to message #8 by Hugh Evans*

Or would they like even better, as I do, an "HP42SX", an HP42S with a bit more memory and a redesign infrared port that works not just as a printer port but as an interface to communicate with other devices such as a computer so as to download programs, etc. The HP42S already has a two-line display, is more powerful and user friendly (almost intuitive to use) than the HP15C, and as an added bonus is compatible with the best machine (not just a calculator) ever built, the HP41CX.

Regards, Thor

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## HP Forum Archive 17

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### **How to install Erable 3.024 on 48GX**

Message #1 Posted by [MikeG](#) on 18 May 2007, 5:23 p.m.

Can anyone describe the steps necessary to install Erable 3.024 on a 48GX (128K in port 1) using Transfile 48.  
Thanks

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## HP Forum Archive 17

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### checking homework technique

Message #1 Posted by [tropicflite](#) on 18 May 2007, 1:23 p.m.

My 12 year old son is learning algebra now, and while I'm a firm believer in the pencil and paper method for doing the homework, I also see this as a good opportunity for both of us to use our 33S to check the answers.

My question is, do you use your calculator's full capabilities to explicitly get an answer, or do you 'work with it' to try to simulate the pencil and paper method?

e.g. in multiplying rational numbers, we first multiply all the numbers and then count the number of negative signs to determine the sign of the product. So, (forgive the obviousness here) in:

$$-2 * 3 * -4$$

I teach him  $2 * 3$  is 6,  $* 4$  is 24, and since there's an even number of negative signs, the answer is positive.

Now, checking with the 33s, would you key

2 [+/-] ENTER 3 ENTER 4 [+/-] \* \*

or would you just key

2 ENTER 3 ENTER 4 \* \*

and then just count the signs?

In the thread about the percent key someone made the point that 'the mathematically-inclined user is expected to be able to mentally shift the decimal point two places to the right.' Does that reasoning apply here?

*Edited: 19 May 2007, 7:24 a.m. after one or more responses were posted*

### Re: checking homework technique

Message #2 Posted by [Dia C. Tran](#) on 18 May 2007, 3:44 p.m.,  
in response to message #1 by [tropicflite](#)

Personally I prefer to use the first method. Your example is very simple and thus most can do it even without the pencil and paper, but when you run into things that are more complicated, entering negative number as negative can prevent me from making mistakes. Anyway, I disagree that you're expected to shift the decimal point 2 places when using a calculator with the percent key.

### Re: checking homework technique

Message #3 Posted by [Hal Bitton](#) on 18 May 2007, 6:57 p.m.,  
in response to message #1 by [tropicflite](#)

My 11 year old son is in an accelerated math program...his teacher is really hitting the kids heavily with

manipulation of equations, various techniques for factoring polynomials, handling irrationals, radicals, etc. When we go over his homework, we work out the problems using the technique he was taught that day, but I usually check the solutions with my 50G (which of course does all the manipulation and simplification for you). He does use his 33S on rare occasions, but mostly wades through it with pencil and paper. When a calculator is called for in the classroom, the teacher passes out the classroom set of TI84's, but I understand that's seldom. I think when he starts doing trig, that will change.

Best regards, Hal

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## HP Forum Archive 17

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### **Thank you Matthias!!!**

*Message #1 Posted by [Namir](#) on 18 May 2007, 2:17 a.m.*

I want to thank Matthias for being a wonderful host and showing me his fantastic collection of HP calculators. When I walked into his calculator room I recognized it from a picture he posted last year when a few HP enthusiasts came together at his apartment. It was certainly a privilege to let Matthias show me quite a collection of calculators, modules, and peripherals.

Again, thank you Matthias!

Namir

### **Re: Thank you Matthias!!!**

*Message #2 Posted by [Matthias Wehrli](#) on 19 May 2007, 2:36 a.m.,  
in response to message #1 by Namir*

The pleasure was on my side, Namir. Namir is a very honest person with hugh knowledge of HP programming. He took a 6 houre train ride just to meet me and to see my collection. As it was a Micro-Meeting with only two attenders we had a lot of time to discuss HP stuff and much more.

Thanks for visiting me, Namir

Matthias

PS: BY the way: If you aor another HP enthusiast is here in Switzerland, let me know and we gonna have a meeting here.

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## HP Forum Archive 17

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### **Need to fix HP 12c display**

*Message #1 Posted by [HP 12c Newbie](#) on 17 May 2007, 2:25 p.m.*

I have an old model of the HP 12-c (says "Made in Malaysia" in the back) and requires (3) 1.5 V batteries.

The bottom half of the numbers in the lcd screen are not displaying properly. They are faded.

I installed 3 new batteries, but this did not solve the problem.

Does anyone know how I can repair this calculator?

Thank you.

### **Re: Need to fix HP 12c display**

*Message #2 Posted by [db \(martinez, ca.\)](#) on 17 May 2007, 7:31 p.m.,  
in response to message #1 by [HP 12c Newbie](#)*

with luck you only have some tricky & tiny soldering ahead of you. or you can find one without a case or manual for a song on ebay. the shipping is likely to cost more than your replacement calculator.

since you're a financial person; then you can sell your old battery door for the same price. they are a precious commodity. net loss: 0

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## HP Forum Archive 17

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**Battery life**

Message #1 Posted by [PhysicsNerd](#) on 17 May 2007, 5:13 a.m.

What is the estimated battery life span of a Hp 50g assuming that you use the calculator for a couple hours everyday? I've had my calculator for no more than 2 months (I think) and the low battery sign has already appeared and thus I had to change the batteries. Is this normal?? It seems rather low because my Ti has a battery life of at least a few months or maybe even a year or so.

I'm glad that they went on before I took my test because I would have been in a hassle changing them during a test. Also, if you activate the key beeps from MODE do they drain your batteries a lot faster? I like these beeps as they inform me when I accidentally press down a button or something. Thanks.

*Edited: 17 May 2007, 5:14 a.m.*

**Re: Battery life**

Message #2 Posted by [Les Wright](#) on 17 May 2007, 10:53 p.m.,  
in response to message #1 by [PhysicsNerd](#)

Sounds normal to me. I have a 49G+ and was chagrined to find that a fresh set of alkalines drained down to the lowbat warning in a few weeks even if the calc just sat around. Indeed, the way the calc ate batteries inspired me to not even use it, since I cringed at the waste of plowing through disposable batteries.

I have mentioned already several times here that, to my great satisfaction, 1000mAh Duracell rechargeables give me very satisfactory service, especially when I combine them with a quick charger and regularly back up my memory to SD card. The 49G+ is well used now, and I like it so much I may actually invest in 50G eventually.

I understand that the battery consumption of the 50G is similar. I also understand that some users are very satisfied using NiMH rechargeables in the 50G. This could be the solution for your exam situations--a full charge certainly will give more than just a few hours of use, so if you go into a test with a freshly charged set in the calculator you should be fine. Edwin Cordoba's BatStatus application for 49G+ is very informative for me, but I am not sure it would display correct information in the 50G, which takes four cells vs. three.

I do believe the "beep on" setting would increase battery drain. I also believe that displaying the clock also increases battery drain.

I don't understand why it would be inconvenient to change batteries during a test. Are you not allowed to keep fresh batteries on hand? Does opening up the calculator during a test arouse the suspicion of the examiner? Also, do you use the calc with the beep setting on, and if so does this not disturb your colleagues?

Les

**Re: Battery life**

Message #3 Posted by [Tom \(UK\)](#) on 18 May 2007, 9:49 a.m.,  
in response to message #1 by [PhysicsNerd](#)

Sounds similar to when I was using my HP49G. It did get annoying to have to buy new batteries every few months - something I didn't need to do with previous HP calculators. I can't comment on TI calcs battery use.

Strange that displaying the clock takes much power, the timer will be running if it is displayed or not, the LCD display shouldn't take much power - so the circuit updating the screen must be drawing much more power than it really needs - perhaps the main processor is running (but idle) on a much higher clock than is necessary.

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## HP Forum Archive 17

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### where are we?

Message #1 Posted by [db \(martinez, ca.\)](#) on 16 May 2007, 11:54 p.m.

Does anyone know about this? <http://clustrmaps.com/products.htm>

If Dave thinks it is safe (i would really hate to be the one who found a way to crash the site), would it be interesting to know where people reading this forum are? Another question is; could it be stuck somewhere to keep it out of the way because the free version has an ad banner.

We know where i am: Martinez is the center of the world, but where are all of you?

Edited: 17 May 2007, 12:01 a.m.

### Re: where are we?

Message #2 Posted by [Fred Lusk](#) on 17 May 2007, 1:56 a.m.,  
in response to message #1 by [db \(martinez, ca.\)](#)

Fresno, CA (the other center of the universe)

### Re: where are we?

Message #3 Posted by [Etienne Victoria](#) on 17 May 2007, 3:32 a.m.,  
in response to message #1 by [db \(martinez, ca.\)](#)

Cheers Den!

[Fourqueux, \(Yvelines, France\)](#)

<http://www.ville-fourqueux.fr/images/logos/logo.couleur.fonce.gif>

More modestly, the origin of our galaxy...

Etienne

### Re: where are we?

Message #4 Posted by [Jean-Michel](#) on 17 May 2007, 4:40 a.m.,  
in response to message #1 by [db \(martinez, ca.\)](#)

Hi all,

here is a question that I really wanted to ask for a long time, but without daring to do it. Another thing which is also interesting to know about all of us here, is : "What's your job ?". I know if may be kind of inquisitive, but no one is obliged to answer. In fact, more than the actual job, or the social level in society (correct ?), I think it would be interesting to know if someone is interested in calculators because he's a scientist, an engineer, or something like that, and then he uses one every day for his job, or if it's a hobby without any link

with his job. (I apologize for my poor english writing, it's awful !).

My answer to all of these questions and others asked before in the Forum : I'm french, I live in the woods in a small village (which isn't the center of anything, but a nice region), I'm 40, I own 4 HP's (33C, 41C, 28S and 48GX), that I use quite every day (not the 4 at the same time :-) !) in my job, as a technician in car industry. Hope it's interesting and will be followed.

Kind regards.

JML

### Re: where are we?

Message #5 Posted by [Giancarlo \(Italy\)](#) on 17 May 2007, 5:11 a.m.,  
in response to message #4 by Jean-Michel

Hi.

I live here:

43°40'41"N  
13°18'56"E

that is, in the center of Italy, along the Adriatic sea.

I'm an electronic engineer and my current job is being a Project Portfolio Manager (in the electronic division of my company).

Best regards.

Giancarlo

### Re: where are we?

Message #6 Posted by [Massimo Gnerucci \(Italy\)](#) on 17 May 2007, 6:12 a.m.,  
in response to message #5 by Giancarlo (Italy)

Hello Giancarlo!

According to Google Maps you do not live "along" the Adriatic Sea but, rather, "into" it :)

BTW: I spent one month in Fano in 1982 serving the Army

Greetings,

Massimo

### Re: where are we?

Message #7 Posted by [Giancarlo \(Italy\)](#) on 17 May 2007, 6:28 a.m.,  
in response to message #6 by Massimo Gnerucci (Italy)

Hi Massimo.

Well, according to the current pollution level of the Adriatic, living "into" it would mean posting from heaven (or hell... >:-> ).

Actually, my house is just 2 hundred meters from the shore, so I \*do\* hope the global warming will restrain from dipping myself into the Adriatic :-(

Yes, Fano is just a 20 min. driving from where I live.

Best regards.



Giancarlo

**Re: where are we?**

*Message #8 Posted by **Diego Díaz** on 17 May 2007, 7:51 a.m.,  
in response to message #4 by Jean-Michel*

Hi all,

Just for the fun ;-)

28° 07' 57" N

15° 26' 14" W

Canary Islands.

Engineer at the Telephone Company, 48yo (eager for early retirement :-))

Lots of 41's (+25). I use one daily, the rest of them are mostly to check my projects functionality.

Some 71's waiting for me to have enough spare time to begin messing'em up with probes, scopes, and the like...

Cheers.

Diego.

**Re: where are we?**

*Message #9 Posted by **Jean-Michel** on 17 May 2007, 8:18 a.m.,  
in response to message #4 by Jean-Michel*

Oops, I simply forgot :

the name of the village where I live is Donnery, about 20 km far from Orléans, to the East. (47°53'22.30"N ; 2°06'29.33"E exactly)

**Re: where are we?**

*Message #10 Posted by **MarkWayne** on 17 May 2007, 3:06 p.m.,  
in response to message #4 by Jean-Michel*

Theoretical nuclear physicist.

<http://rasputin.physics.uiuc.edu/~paris>

Glad to be among such admirable and excellent professionals.

Mark

**Re: where are we?**

*Message #11 Posted by **Ron Allen** on 17 May 2007, 5:38 p.m.,  
in response to message #10 by MarkWayne*

What a rich tradition in math and theoretical physics, you and Jean Michel have there in France! And to be in education, standing "on the shoulders" of so many great men and women!

I am on Mobile Bay, Eastern Shore, about 88.5W, 30.5N; or 1.5 East of New Orleans, Katrina's eastern boudary - got the reference to Orleans, Jean-Michel. Schooled at Tulane and University of New Orleans. Would like to visit your part of France someday.already been to Paris a few times.

Would like to get a few threads on Relativity, Quantum, String, etc., plus other "Theoreticl" thoughts - would be kind of selfih of me since I would have little to contribute beyond some good questions. If "y'all" are interested maybe we could get some stimulating chatter in a new subject.

Regards,

Ron

*Edited: 17 May 2007, 5:50 p.m.*

**Re: where are we?**

*Message #12 Posted by [Jeff Davis](#) on 18 May 2007, 3:57 p.m.,  
in response to message #4 by Jean-Michel*

Jeffrey Davis Indianapolis, Indiana Mechanical Engineer 20+ HP calculators Prefer the HP-41 all versions.

**Re: where are we?**

*Message #13 Posted by [ECL](#) on 17 May 2007, 12:09 p.m.,  
in response to message #1 by db (martinez, ca.)*

California, USA

Aerospace Structures Engineer

HP48, 33s, 42s.

ECL

**Re: where are we?**

*Message #14 Posted by [Thomas Okken](#) on 17 May 2007, 12:43 p.m.,  
in response to message #1 by db (martinez, ca.)*

I'm age 42, currently living in [North Brunswick, New Jersey, USA](#), and employed as a Software Engineer by a large telecommunications company whose logo looks like the Death Star from the original Star Wars movie. ;-)

When I think "home", I think of [De Bilt, Netherlands](#).

I own a small collection of calculators (HP-25, 67, 15C, 42S, 48G; TI-58, 59, 58C) but I never use them since I spend all my day working with various computers (and of course I installed Free42 on all of them).

- Thomas

**Re: where are we?**

*Message #15 Posted by [Giancarlo \(Italy\)](#) on 17 May 2007, 12:56 p.m.,*

in response to message #1 by db (martinez, ca.)

Hi.

Here's a first summary:

| WHO                | CITY           | REGION / STATE | COUNTRY     |
|--------------------|----------------|----------------|-------------|
| db (martinez, ca)  | Martinez       | California     | USA         |
| Fred Lusk          | Fresno         | California     | USA         |
| Etienne Victoria   | Yvelines       |                | FRANCE      |
| Jean-Michel L.     | Donnery        |                | FRANCE      |
| Giancarlo Mattioni | Montemarciano  |                | ITALY       |
| Diego Diaz         | Canary Islands |                | SPAIN       |
| ECL                | California     |                | USA         |
| Thomas Okken       | De Bilt        |                | NETHERLANDS |

Best regards.

Giancarlo

### Re: where are we?

Message #16 Posted by [Trent Moseley](#) on 17 May 2007, 10:00 p.m.,  
in response to message #15 by Giancarlo (Italy)

Giancarlo--

Please keep us updated at your leisure on the latest info.

tm

### Re: where are we?

Message #17 Posted by [Ricardo Guerreiro \(Argentina\)](#) on 17 May 2007, 1:02 p.m.,  
in response to message #1 by db (martinez, ca.)

Comodoro Rivadavia, República Argentina. Small city in the middle of the east coast of Patagonia Argentina. I can not explain why my fascination with calculators. I am Civil Engineer. I do not use them so much, because computers (desktop or laptops) are much more convenient if the calculation is beyond a couple of operations. I own hp calculators because I like to have fine tools to do my job. I am not comfortable working with cheap thinks. Of course, it is now, when I am a profesional (40 years). As a student, I used a cheap casio.

### Re: where are we?

Message #18 Posted by [Ed Look](#) on 17 May 2007, 1:14 p.m.,  
in response to message #1 by db (martinez, ca.)

the capital of Planet Earth: New York City

... well, very close, anyway.

*Edited: 17 May 2007, 1:14 p.m.*

### Re: where are we?

Message #19 Posted by [Hal Bitton](#) on 17 May 2007, 1:53 p.m.,  
in response to message #1 by db (martinez, ca.)

Boise, Idaho (USA).

A well kept secret that's out of the bag now, as the growth is off the charts (and the gridlock is getting that way too!). Home to HP's printer division (the Lazer Jet was developed at the Boise site). Also, such international corporations as Boise Cascade, Washington Group (formerly Morrison Knudson), and Micron technology are headquartered here.

I work for Micron.

cheers, Hal

**Re: where are we?**

*Message #20 Posted by [Trent Moseley](#) on 17 May 2007, 3:01 p.m.,  
in response to message #19 by Hal Bitton*

Trent Moseley, 80 years old. Retired engineer from The Pacific Telephone and Telegraph Co. Live in Redwood City California for the last 50 years, on the San Francisco Peninsula. This is near db across the Bay in Martinez.

tm

**Re: where are we?**

*Message #21 Posted by [Paul Dale](#) on 17 May 2007, 5:04 p.m.,  
in response to message #1 by db (martinez, ca.)*

Brisbane, Australia

- Pauli

**Re: where are we?**

*Message #22 Posted by [Wayne Brown](#) on 17 May 2007, 6:06 p.m.,  
in response to message #1 by db (martinez, ca.)*

Birmingham, Alabama

Sysadmin

HP-16C, HP-41CX, HP48GX

K+E 4081-3, Post VersaLog, Pickett N600-ES, etc.

*Edited: 17 May 2007, 6:09 p.m.*

**Re: where are we?**

*Message #23 Posted by [Valentin Albillo](#) on 17 May 2007, 6:47 p.m.,  
in response to message #1 by db (martinez, ca.)*

Hi, Martinez:

Nam: Valentin Albillo

Age: 49

Job: Senior Project Manager & Senior Engineer

Hob: Math, Programming, HP calcs, Sci-Fi, Audiovisuals, Chess, Science

Loc: Madrid (Spain)

Cal: Emu71

Best regards from V.

*Edited: 17 May 2007, 8:14 p.m.*

## Re: where are we?

*Message #24 Posted by **Richard Garner** on 17 May 2007, 6:52 p.m.,  
in response to message #1 by db (martinez, ca.)*

Richard Garner

Twice as Nice, Twin City of Texarkana Arkansas/Texas. Known as the only city in the world where the dividing line between the 2 cities and 2 states is a City Street/Federal Highway, State Line Avenue. The Federal Courthouse/Post Office sits straddling the state line between the 2 states.

I work for the City of Texarkana, Arkansas as an Engineering Technician/Drafter/CAD-GIS Operator in the Public Works Department.

I use an HP 42S, HP 48GX on a daily basis.

I own or have owned 41CX, 42S, 48SX, 48GX, 28S, 15C, 20C, & 33S

## Re: where are we?

*Message #25 Posted by **Iqbal** on 17 May 2007, 8:31 p.m.,  
in response to message #24 by Richard Garner*

Trinidad, West Indies. 41CV,41CX,4-42S, a couple 48GXs,48G+,33S and of course HP50G. Land Surveyor and Lecturer at University of Trinidad and Tobago. I am 40 but I feel like I'm 20 :). I'm Addicted to HP calcs. and 80's music.

## Some other "border-straddling" towns

*Message #26 Posted by **Karl Schneider** on 26 May 2007, 3:56 p.m.,  
in response to message #24 by Richard Garner*

Hi, Richard --

Quote:

Twice as Nice, Twin City of Texarkana Arkansas/Texas. Known as the only city in the world where the dividing line between the 2 cities and 2 states is a City Street/Federal Highway, State Line Avenue. The Federal Courthouse/Post Office sits straddling the state line between the 2 states.

- Texarkana, [Texas](#) and [Arkansas](#)

Other examples of "border-straddling" twin cities:

- Kansas City ([Missouri](#) and [Kansas](#))

- Bristol ([Tennessee](#) and [Virginia](#))

But here's a more intriguing example:

- [Derby Line \(Vermont, USA\) and Stanstead \(Quebec, Canada\)](#), featuring the border-straddling (by design) [Haskell Free Library and Opera House](#)

which is one of many "border oddities" between Canada and the US' New England region, which includes towns and even houses bisected by the border, which were platted or built prior to accurate surveying.

---

Er, yes, HP calculator-related content:

Click on the link for the Library and Opera House, and notice that the co-ordinates for Derby Line, Vermont is slightly north of 45 degrees North. I'd always assumed that the international border there was exactly 45 degrees. However, the [Webster-Ashburton Treaty](#) established the location 3/4 of a mile north of the line, so that a pre-existing U.S. fort would be on U.S. soil.

Convert the 45 degrees, 0 minutes, 20.81 seconds latitude of Derby Line to decimal using " 45.002081 - >HR ". Multiply the fractional part by 60 nautical miles per degree of latitude. Then, multiply by 1.15077714646 to obtain 0.39913 US statute miles, placing the Library and Opera House less than a half-mile north of the Derby Line location (presumably City Hall).

The ideal tool for this calculation is the HP-28C/S, with its fine units library with definitions and conversions. (Unfortunately, units cannot be *attached* to numbers, as with the HP-48/49/50.)

Regarding calculations for surveying: If one does not wish to purchase specialized calculating software or tools, or the accessories for the HP-48/49/50 series, there are several less-expensive options:

- HP-71 5061-7238 Surveying ROM
- HP-41 Surveying Pac
- HP-65 Surveying Pac

-- KS

*Edited: 27 May 2007, 3:51 p.m.*

## Re: where are we?

Message #27 Posted by [PeterP](#) on 17 May 2007, 10:46 p.m.,  
in response to message #1 by db (martinez, ca.)

Originally from Vienna, Austria now New York City.

Physicist by training, now working in Finance.

Use a 41CY for work almost daily. Since recently also use a 71b (the 'culprit' for that change can be found among the Grandmasters here...) on a daily basis, though more for play and learning as I am still not very good with it (but I am getting better!)

Cheers

Peter

## Re: where are we?

Message #28 Posted by [Dave Shaffer](#) on 17 May 2007, 11:01 p.m.,  
in response to message #1 by db (martinez, ca.)

Living in Flagstaff, Arizona (where it is fairly cool, unlike most people's perception of Arizona - we are at an elevation of 7000 feet!) My favorite place in the world, though, may be Green Bank, West Virginia - the original site of the National Radio Astronomy Observatory.

I'm a semi-retired Radio Astronomer.

In order of acquisition, I have HP35, 11C, 41CX, 38G (via eBay, I was faked out by the big "enter" key - thought it was RPN but it's algebraic!), 41C (via ebay), 32Sii, 42S, 48GX, and 33S (all acquired new except as noted). I used my Dad's 35 for 2 days straight to finish my thesis, then I had to get one of my own. I still use one of the 41's almost every day for both scientific and casual calculations.

## Re: where are we?

Message #29 Posted by [Eric Rechlin](#) on 17 May 2007, 11:39 p.m.,  
in response to message #1 by db (martinez, ca.)

29° 44' N 95° 26' W

You figure it out. :)

25 years old. I'm an electrical engineer by training, but I currently write software for the oil and gas industry.

## Re: where are we?

Message #30 Posted by [Karl Schneider](#) on 18 May 2007, 12:38 a.m.,  
in response to message #1 by db (martinez, ca.)

Electrical Engineer in Vancouver, Washington, USA -- in same metropolitan area as "MoHPC headquarters".

The city and state are named for George Vancouver and George Washington, as are the better-known namesake North American cities.

Bought first RPN calculator (HP-15C) in 1983; started collecting in 2002 with HP-41CV, HP-34C, and HP-42S.

-- KS

## Re: where are we?

Message #31 Posted by [James M. Prange \(Michigan\)](#) on 18 May 2007, 2:18 a.m.,  
in response to message #1 by db (martinez, ca.)

China

No, not one of those Chinas; I'm about at the point of [this green arrow](#), the center of my universe for longer than I can remember. There isn't anywhere that I'd rather be.

It's been about 500730 hours since I drew my first breath.

Metrology technician (quality assurance).

HP: 12C, 16C, 28C, 28S, 48SX, 48GX, 49G, 49g+, 50g, 82240A, 82240B

Sharp: EL-5520

Radio Shack: EC-4004

Lloyd's: E608

Regards,  
James

*Edited: 18 May 2007, 2:43 a.m.*

### **Re: where are we?**

*Message #32 Posted by **James M. Prange (Michigan)** on 18 May 2007, 11:30 a.m.,  
in response to message #31 by James M. Prange (Michigan)*

Rats! While I was playing around with the Radio Shack EC-4004 (re-badged Casio fx-3600P) the **original** CR2025 cell finally went dead. I know for certain that I used it in 1988, and perhaps a few years before that, so that CR2025 lasted about 20 years. But I'll grant that it's seldom been turned on since I got my hands on the HP-28S.

Regards,  
James

### **Re: where are we?**

*Message #33 Posted by **James M. Prange (Michigan)** on 21 May 2007, 6:55 p.m.,  
in response to message #31 by James M. Prange (Michigan)*

PS:

For work, normally a 48SX, but occasionally a 48GX.

For "real work" at home (when I just want to get some calculating done with no nonsense), either a 48SX or 48GX, whichever one is easiest to reach.

For just playing around with, most often the 50g now, but sometimes the 49g+ or 49G.

The Sharp is "interesting" and powerful, but I rather object to switching between "calculator" mode for ordinary interactive calculating and "basic" mode for writing and running programs, and of course, in calculator mode, it's an algebraic model.

The Radio Shack is interesting and powerful too, even though it's algebraic, and writing programs for it can be rather a challenge, but I'm often amazed at how much can be accomplished in just 38 program steps (but some things, such as storing a number into a constants register, count as only 1 program step, not 3 as might be expected).

The Lloyds is just a simple 8-digit 4-banger plus square root, %, +/-, and a memory register, but it's my oldest still-working calculator, and it still works with the original battery from about 1980.

I overlooked at least one, even though it's often in my shirt pocket, a Radio Shack EC-232. This is a thin solar-powered "credit card-sized" 4-banger with a membrane keypad. It's a pain in the neck to use, but the nice thing about it is that it fits in my shirt pocket so comfortably.

Regards,



James

**Re: where are we?**

Message #34 Posted by **Antonio Maschio (Italy)** on 18 May 2007, 2:33 a.m.,  
in response to message #1 by db (martinez, ca.)

Montebelluna,

20 Km from Treviso

which is 20 Km from Venice.

-- Antonio

**Re: where are we? - 2nd update**

Message #35 Posted by **Giancarlo (Italy)** on 18 May 2007, 3:14 a.m.,  
in response to message #1 by db (martinez, ca.)

Hi all.

Here's a second update:

| WHO                | CITY               | REGION / STATE | COUNTRY         |
|--------------------|--------------------|----------------|-----------------|
| db (martinez, ca)  | Martinez           | California     | USA             |
| Fred Lusk          | Fresno             | California     | USA             |
| Etienne Victoria   | Yvelines           |                | FRANCE          |
| Jean-Michel L.     | Donnery            |                | FRANCE          |
| Giancarlo Mattioni | Montemarciano      |                | ITALY           |
| Diego Diaz         | Canary Islands     |                | SPAIN           |
| ECL                | California         |                | USA             |
| Thomas Okken       | De Bilt            |                | NETHERLANDS     |
| Mark Paris         | Newport News       | Virginia       | USA             |
| Ron Allen          | Mobile Bay         | Louisiana      | USA             |
| Ricardo Guereiro   | Comodoro Rivadavia |                | ARGENTINA       |
| Ed Look            | New York           | New York       | USA             |
| Hal Bitton         | Boise              | Idaho          | USA             |
| Trent Moseley      | Redwood City       | California     | USA             |
| Paul Dale          | Brisbane           |                | AUSTRALIA       |
| Wayne Brown        | Birmingham         | Alabama        | USA             |
| Valentin Albillo   | Madrid             |                | SPAIN           |
| Richard Garner     | Texarkana          | Arkansas/Texas | USA             |
| Iqbal              |                    |                | TRINIDAD&TOBAGO |
| PeterP             | Vienna             |                | AUSTRIA         |
| Dave Shaffer       | Flagstaff          | Arizona        | USA             |
| Eric Rechlin       | Bismarck           | North Dakota   | USA             |
| Karl Schneider     | Vancouver          | Washington     | USA             |
| James M. Prange    | China              | Michigan       | USA             |
| Antonio Maschio    | Montebelluna       |                | ITALY           |

I did practice some geography because of some of you bad guys ;-)

Best regards.

Giancarlo

**A couple suggestions**

Message #36 Posted by **Valentin Albillo** on 18 May 2007, 4:32 a.m.,  
in response to message #35 by Giancarlo (Italy)

Nice effort, Giancarlo !

Just a couple of well-spirited suggestions:

1. Sort the list, either by name or surname, I guess by name would be better
2. Include also age, job, and calcs, as many people gave those data and they're pretty interesting as well.

This could be the early stages of a proper 'Active Directory' of forum regulars :-)

Best regards from V.

### Re: where are we? - 2nd update

Message #37 Posted by **Geir Isene** on 18 May 2007, 4:56 a.m.,  
in response to message #35 by Giancarlo (Italy)

Geir Isene => Oslo, Norway  
web: <http://www.geir.isene.com>

### Re: where are we? - 2nd update

Message #38 Posted by **Geir Isene** on 18 May 2007, 5:49 p.m.,  
in response to message #37 by Geir Isene

Ok, a bit more here:

Age: 40  
Occupation: CEO of **FreeCode**

### Re: where are we? - 3rd update including suggestions ;-)

Message #39 Posted by **Giancarlo (Italy)** on 18 May 2007, 5:49 a.m.,  
in response to message #35 by Giancarlo (Italy)

Hi.

A new update including some suggestions (still compiling tghe list for owned calcs :-)

| WHO   | CITY               | REGION / STATE | COUNTRY     | AGE | JOB     |
|---|--------------------|----------------|-------------|-----|---------|
| ===   | ====               | =====          | =====       | === | ===     |
| db (martinez, ca)                                     | Martinez           | California     | USA         |     |         |
| Fred Lusk   | Fresno             | California     | USA         |     |         |
| Etienne Victoria                                      | Yvelines           |                | FRANCE      |     |         |
| Jean-Michel L.<br>Technician in Car Industry          | Donnery            |                | FRANCE      | 40  |         |
| Giancarlo Mattioni<br>Manager                         | Montemarciano      |                | ITALY       | 41  | Project |
| Diego Diaz<br>Engineer at the Telephone Company       | Canary Islands     |                | SPAIN       | 48  |         |
| ECL<br>Aerospace Structures Engineer                  | California         |                | USA         |     |         |
| Thomas Okken<br>Software Engineer                     | De Bilt            |                | NETHERLANDS | 42  |         |
| Mark Wayne Paris<br>Theoretical nuclear physicist     | Newport News       | Virginia       | USA         |     |         |
| Ron Allen<br>Engineer                                 | Mobile Bay         | Louisiana      | USA         |     |         |
| Ricardo Guereiro                                      | Comodoro Rivadavia |                | ARGENTINA   | 40  | Civil   |
| Ed Look   | New York           | New York       | USA         |     |         |
| Hal Bitton<br>for Micron                              | Boise              | Idaho          | USA         |     | Works   |
| Trent Moseley<br>engineer from The Pacific T&T Co.    | Redwood City       | California     | USA         | 80  | Retired |
| Paul Dale   | Brisbane           |                | AUSTRALIA   |     |         |
| Wayne Brown<br>Administrator                          | Birmingham         | Alabama        | USA         |     | System  |
| Valentin Albillo<br>Project Manager & Senior Engineer | Madrid             |                | SPAIN       | 49  | Senior  |

where are we?

|  |              |                |                 |    |       |
|--|--------------|----------------|-----------------|----|-------|
| Richard Garner   | Texarkana    | Arkansas/Texas | USA             |    |       |
| Engineering Technician/Drafter/CAD-GIS Operator                                    |              |                |                 |    |       |
| Iqbal  |              |                | TRINIDAD&TOBAGO | 40 | Land  |
| Surveyor and Lecturer  |              |                |                 |    |       |
| PeterP   | Vienna       |                | AUSTRIA         |    |       |
| Physicist by training, now working in Finance                                      |              |                |                 |    |       |
| Dave Shaffer   | Flagstaff    | Arizona        | USA             |    | Semi- |
| retired Radio Astronomer   |              |                |                 |    |       |
| Eric Rechlin   | Bismarck     | North Dakota   | USA             | 25 |       |
| Electrical Engineer by training, currently writing sw for the oil and gas industry |              |                |                 |    |       |
| Karl Schneider   | Vancouver    | Washington     | USA             |    |       |
| Electrical Engineer  |              |                |                 |    |       |
| James M. Prange  | China        | Michigan       | USA             | 57 |       |
| Metrology technician (quality assurance)   |              |                |                 |    |       |
| Antonio Maschio  | Montebelluna |                | ITALY           |    |       |
| HrastProgrammer  | Zagreb       |                | CROATIA         |    |       |
| Meindert Kuipers   | Oss          |                | NETHERLANDS     |    |       |
| Vassilis Prevelakis  | Athens       |                | GREECE          |    |       |
| GE   |              |                | FRANCE          | 42 | In    |
| Finance but originally an engineer   |              |                |                 |    |       |
| Inigo Rodriguez  | Madrid       |                | SPAIN           |    |       |
| Geir Isene   | Oslo         |                | NORWAY          |    |       |
| Thomas Radtke  | Osnabruck    |                | GERMANY         |    |       |
| Massimo Gnerucci   | Milano       |                | ITALY           |    |       |

Best regards.  
Giancarlo

### Re: where are we? - 3rd update including suggestions ;-)

Message #40 Posted by [Antonio Maschio \(Italy\)](#) on 18 May 2007, 10:01 a.m.,  
in response to message #39 by Giancarlo (Italy)

Well, I'm 41 and I'm a civil engineer, with 75 calculators in the collection, and among these 17 HPs.

Just to update your table, Giancarlo!

-- Antonio

P.S. My father had your name.

### Re: where are we? - 3rd update including suggestions ;-)

Message #41 Posted by [Giancarlo \(Italy\)](#) on 18 May 2007, 10:20 a.m.,  
in response to message #40 by Antonio Maschio (Italy)

Antonio,

I got your update!

Glad to hear your father's naming, sad for that verb \*had\* :-(

Saluti.

Giancarlo

### Re: where are we? - 3rd update including suggestions ;-)

Message #42 Posted by [Massimo Gnerucci \(Italy\)](#) on 18 May 2007, 12:56 p.m.,  
in response to message #41 by Giancarlo (Italy)

Sorry for Antonio's father, too.

Giancarlo, I have to admit that also *my* father is named like you...

Greetings,  
Massimo

---

**Re: where are we? - 3rd update including suggestions ;-)**

Message #43 Posted by [Dave Shaffer](#) on 18 May 2007, 10:48 a.m.,  
in response to message #39 by [Giancarlo \(Italy\)](#)

Giancarlo,

This is GREAT! Thanks for all the work.

I second Valentin's suggestion that this somehow become a quick intro to the denizens of the forum.

Is there some way to make this updatable by each of us so you don't have to do all the work? (Probably not - somebody will trash it!) Actually, once the initial work is done, it might not be too much work to add new folks as they send you their details.

I would suggest instead of age (which changes!) that year of birth be used.

Maybe also a column for number/brands of calculators (like the recent round of such info) as well as a column for favorite(s).

PS for the current table, I'm 61.

---

**A minor correction ...**

Message #44 Posted by [Valentin Albillo](#) on 18 May 2007, 12:20 p.m.,  
in response to message #39 by [Giancarlo \(Italy\)](#)

Hi, Giancarlo:

Giancarlo posted (the underlining is mine):

*"A new update including some suggestions (still compiling tghe list for owned calcs :-)"*

I think that it should be calcs *actually used at work* rather than *owned* calcs. At least that is what was originally asked, and the first posters replied to that, myself included: obviously I do have 70 calcs, but the only one I *use at work* is Emu71.

This would be much more interesting and IMHO preferable to a long list of calculators in everyone's collection. As the jobs are being included too, it's far more relevant and interesting to know that an astronomer, say, still uses an HP-41CX for work, than to know that he owns precisely such, and such, and such, and ... vintage calcs.

Also, if at all possible, sort the list. It's very easy to do using a great variety of tools and applications, but all failing, issuing a simple SORT command in an MS-DOS box under Windows, like this:

```
SORT < inputlist.txt > sortedlist.txt
```

say (or a variant), will do the work.

Thanks a lot for your efforts and

Best regards from V.

---

**Re: where are we? - 3rd update including suggestions ;-)**

*Message #45 Posted by **Massimo Gnerucci (Italy)** on 18 May 2007, 12:51 p.m.,  
in response to message #39 by Giancarlo (Italy)*

Massimo Gnerucci, Milano, Italy.  
Age: 47  
Job: System Administrator  
Owned calcs: any handheld HP (more or less)  
Preferred calc: HP-41  
Used @ work: V41 (well, when you have to sum up something...)

*Edited: 18 May 2007, 12:53 p.m.*

## **Re: where are we?**

*Message #46 Posted by **HrastProgrammer** on 18 May 2007, 3:16 a.m.,  
in response to message #1 by db (martinez, ca.)*

Hello neighbours (Antonio, Giancarlo, Massimo) ...

I am still far enough (Zagreb, Croatia) from the Adriatic sea so I don't have to be affraid of global warming too much.

Age: 37

Job: Software Developer

Calculators used:

(3x) HP-48GX running HP-71X (with HP-IL emu), HP-42X, HP-41X (with HP-IL emu), HP-15X, HP-16E, HP-11E, HP-12E and TI-57E (in order of significance)

(1x) HP-48G expanded to 1280K running all above

(1x) HP-48G+ running HP-15E, HP-16E, HP-11E and TI-57E

(1x) HP-49G running HP-71X (with HP-IL emu)

Best regards.

Hrast

*Edited: 24 May 2007, 1:32 a.m. after one or more responses were posted*

## **Re: where are we?**

*Message #47 Posted by **Meindert Kuipers** on 18 May 2007, 3:30 a.m.,  
in response to message #46 by HrastProgrammer*

I live in the small city of Oss (Netherlands).

Meindert

## **Re: where are we?**

*Message #48 Posted by **Antonio Maschio (Italy)** on 18 May 2007, 10:03 a.m.,  
in response to message #46 by HrastProgrammer*

We are nearer than I thought! Probably, to go to Zagreb, I'd take less time than to go to Milano!

-- Antonio

**Re: where are we?**

Message #49 Posted by **Massimo Gnerucci (Italy)** on 18 May 2007, 12:45 p.m.,  
in response to message #46 by HrastProgrammer

Hi Zee... Nice to read you!

Massimo

**Re: where are we?**

Message #50 Posted by **Vassilis Prevelakis** on 18 May 2007, 3:58 a.m.,  
in response to message #1 by db (martinez, ca.)

I live partly in Philadelphia, USA and Athens, Greece.

Here are my ICBM coordinates for Athens:

<http://www.prevelakis.net/Misc/athens-plaka-icbm-2.gif>

and this is a picture of me with the Acropolis of Athens in the background:

<http://www.prevelakis.net/Misc/WorkinPlaka-lr.jpg>

\*\*vp

**Re: where are we?**

Message #51 Posted by **GE** on 18 May 2007, 4:10 a.m.,  
in response to message #50 by Vassilis Prevelakis

Living in **France**, 42 years young, in Finance but originally an engineer.

I own about 30 HP, most vintage LED and rarely (if ever) used, with exceptions like the HP41CV/CX (with an MLDL2000, thanks Meindert), HP71s and HP42Ss. No calculators are necessary at work, alas. I collect this because of an early fascination for math and technology, doing so for the last 15 years.

**Re: where are we?**

Message #52 Posted by **Iñigo Rodriguez** on 18 May 2007, 4:02 a.m.,  
in response to message #1 by db (martinez, ca.)

Hi all,

Iñigo Rodriguez

Madrid, Spain

HP41, HP71, HP42.

**Re: where are we?**

Message #53 Posted by **Thomas Radtke** on 18 May 2007, 5:11 a.m.,  
in response to message #1 by db (martinez, ca.)

Osnabrueck, Germany

**Re: where are we?**

Message #54 Posted by **Les Wright** on 18 May 2007, 6:13 a.m.,  
in response to message #1 by db (martinez, ca.)

Name: Les Wright

Age: 42

Location: Toronto, Ontario, Canada

Usual Job: Physician

Present Activities: Student, musician, temporarily retired man of leisure, mathematics and programming hobbyist, co-parent of many cats.

Calculators: HP 11C, 12Cp, 15C, 17bii, 14B, 28S, 33C, 34C, 32sii, 33S, 42S, 45, 65, 67, 80, 97, 48G, 49G+, 41CV and 41CX plus some peripherals (82143a, 82162a, wand, card reader, 82240B, HP-IL module, IR module, Math Pac, Stat Pac, Advantage Pac, XF and XM modules). Plus regular use of emulators/simulators (Free42, P41CX, Power48, Emu48, V41). None of calculators NIB, but some (like the 15C and 32sii) are in nearly new condition. All are fully functional, with card readers restored in the calculators that have them (many thanks as always to FixThatCalc.com).

*Edited: 18 May 2007, 6:14 a.m.*

**Re: where are we?**

Message #55 Posted by **Howard Owen** on 18 May 2007, 10:18 a.m.,  
in response to message #1 by db (martinez, ca.)

San Mateo, California, USA. Systems Architect/Engineer for the company that invented TLAs. Age 51.  
41C[VX], 71B, 42S, 12C, 15C, 16C, 11C, 12C Anniversary, 67, 97, 35, 45, 38C, 28S, 19BII, 18B, 75[CD],  
48S[X], 48G[X+], 49G, 49G+ 50G.

Regards  
Howard

*Edited: 18 May 2007, 10:20 a.m.*

**Re: where are we?**

Message #56 Posted by **John B. Mosand** on 18 May 2007, 11:01 a.m.,  
in response to message #55 by Howard Owen

Trondheim, Norway (63 24N, 10 23E) about the same latitude as Nome, Alaska, although far milder climate thanks to the Gulf Current!

Retired architect and musician (72). Have only a 10C, 48SX and 48GX (plus a large collection of Aristo slide rules). Used to own a 41CX and a couple of other HPs, three Camb.Sinclairs, etc. etc.

**Re: where are we? Another short update ...**

Message #57 Posted by **Giancarlo (Italy)** on 18 May 2007, 10:56 a.m.,  
in response to message #1 by db (martinez, ca.)

Hi.

A different short update:

| COUNTRIES | COUNT           | AGE   | AVG.  |
|-----------|-----------------|-------|-------|
| =====     | =====           | ===== | ===== |
| 15        | USA             | 46,9  |       |
| 3         | FRANCE          |       |       |
| 3         | ITALY           |       |       |
| 3         | SPAIN           |       |       |
| 2         | NETHERLANDS     |       |       |
| 1         | ARGENTINA       |       |       |
| 1         | AUSTRALIA       |       |       |
| 1         | AUSTRIA         |       |       |
| 1         | CROATIA         |       |       |
| 1         | GERMANY         |       |       |
| 1         | GREECE          |       |       |
| 1         | NORWAY          |       |       |
| 1         | TRINIDAD&TOBAGO |       |       |

Best regards.

Giancarlo

**Re: where are we? Another short update ...**

*Message #58 Posted by **Frank B. (Germany)** on 18 May 2007, 12:17 p.m.,  
in response to message #57 by Giancarlo (Italy)*

Name: Frank Balzer

Age: 40

Location: Flensburg, Germany

Job: Physicist, working for an university in Denmark (nanotechnology, photonics)

Own about 70 HP calculators, on a daily basis I use an HP-33S.

**Re: where are we? Another short update ...**

*Message #59 Posted by **Antonio Maschio (Italy)** on 19 May 2007, 11:36 a.m.,  
in response to message #57 by Giancarlo (Italy)*

...There must be a reason for the fact the average age is over 45.

HP, won't you gain even young guys rebuilding some of the old models with the old quality?

Are you listening?

-- Antonio

**Re: where are we? Another short update ...**

*Message #60 Posted by **Wayne Brown** on 19 May 2007, 8:28 p.m.,  
in response to message #57 by Giancarlo (Italy)*

I guess I'll raise the average age a bit by adding mine; I'm 52.



## Re: where are we?

Message #61 Posted by **Tom Scott** on 18 May 2007, 3:19 p.m.,  
in response to message #1 by db (martinez, ca.)

Name: Tom Scott  
Age: 60  
Location: Lander, Wyoming, USA  
Job: Retired physicist  
Calculators: 6 HP & 1 TI

## Re: where are we?

Message #62 Posted by **Walter B** on 18 May 2007, 3:30 p.m.,  
in response to message #1 by db (martinez, ca.)

Hechingen, Germany

52

Nuclear physicist, for > 20 years in industry (R&D, QM)

Most of scientific HP calcs with the big ENTER key, plus some other models.

*Edited: 18 May 2007, 3:41 p.m.*

## Re: where are we?

Message #63 Posted by **Don Williams** on 18 May 2007, 5:01 p.m.,  
in response to message #1 by db (martinez, ca.)

Location: Yorba Linda, CA

DOB: 1947

Occupation: Retired - Microwave Radar Technician

Calculators:

HP LED's 35ea - still missing the 70 and 27 models

HP LCD's 67ea - just about everything produced

HP HHC's 5ea - The 70, 94 & Expander series

HP Peripherals - Numerous

Other Brands 136ea

Commonly used - HP-41 - Hardware expandable and keystroke programming. IMHO no other "calculator" has ever come close to its capabilities or ease of use. If it can't be done by an HP-41 its time to fire up the PC.

## Re: where are we?

Message #64 Posted by **Paul Guertin** on 18 May 2007, 5:54 p.m.,  
in response to message #63 by Don Williams

Name: Paul Guertin

Age: 34

Location: Montreal, Canada

Job: math teacher

Calculators: 12 HP (21, 25, 41CV, 11C, 12C, 15C, 16C, 32S, 32Sii, 28S, 48GX, 71B) and a TI 92 Plus.

## Re: where are we? additions and corrections

Message #65 Posted by [Ron Allen](#) on 18 May 2007, 6:17 p.m.,  
in response to message #63 by Don Williams

Mobile Bay is in Alabama - I went to college in New Orleans.

Retired from the computer business: IBM, REI, ITEL. STARTED WITH THE TI 59, my first programmable about 1975. First programs for demonstrations in the field included financial and operations analysis deriving workload projections using learning curves and ques based on reliability statistics for various equipment installed. Other uses of the hp line included statistical analysis in market research (mostly before laptops with significant storage). Now using the hp50g in my retirement as a hobby: projecting value of timber harvests, photography in such things as depth of field calculations, etc. and current pet is catching up on readings in theoretical physics.

Cities lived in during working career: Birmingham, Al, Anniston, Al, Huntsville, Al, New Orleans, La, Dallas, Tx, Frankfurt, Germany, Chicago, Il, Washington, DC, Los Angeles, Ca, San Francisco Bay area, Ca, Pensacola, Fl, Tryon, N.C., Montgomery, Al, and finally in Fairhope, AL, a neat village on the eastern shore of Mobile Bay. Reminds me much of the village of Carmel, California and the string of villages between San Francisco and San Jose: Palo Alto, Mountain View, Saratoga, Los Gatos, to name only a few. As Director of Product Assurance, I enjoyed the opportunity to live in Cupertino just a few blocks from HP.

## Re: where are we?

Message #66 Posted by [Andrés C. Rodríguez](#) on 18 May 2007, 6:38 p.m.,  
in response to message #1 by db (martinez, ca.)

Andrés C. Rodríguez  
Electronics Engineer  
IEEE Member since 1978

Working as IT Manager (not CIO) on a large company.

Age: 49

Location: Buenos Aires, Argentina  
Coordinates: 34° 37' 18.5 S; 58° 24' 09.0 W

(In case someone looks up my home in Google Earth, the big hole in the next block was the works of a new metro (subway) line, soon to start service - this proves Google Earth images are a couple of years dated)

Married (1983), 2 daughters (born in 1984 and 1989)

Calcs:  
Very small collection: HP25 (2), HP27 on loan from a friend, HP41C, HP42S, HP48GX, HP LX200, HP32Sii, HP10B, HP20S.  
On my daughters backpacks: HP30S, HP32S  
On my desk (I wouldn't miss it too much if it gets damaged or lost): HP33S

I think this info should migrate to the Biographies forum, which is more permanent and appropriate than the general forum.

*Edited: 18 May 2007, 7:50 p.m. after one or more responses were posted*

**Re: where are we?**

*Message #67 Posted by [Marta](#) on 18 May 2007, 6:54 p.m.,  
in response to message #66 by [Andrés C. Rodríguez](#)*

Location: JO65kv Calculators: HP11c HP48gx Occupation: Programmer, all from 10F200 to PC's

**Re: where are we?**

*Message #68 Posted by [Jim Creybohm](#) on 18 May 2007, 7:29 p.m.,  
in response to message #1 by [db \(martinez, ca.\)](#)*

Jim Creybohm Age 51 Duchess, Alberta, Canada 50.729610 -111.907436

Full time Petroleum Engineer Part time musician, wire fox terrier walker, cat wrangler, cowboy, and full time dad.

Thanks to Randy, my 41, 42S, 12, 25 and 67 are humming along as good as ever.

**Re: where are we?**

*Message #69 Posted by [JDonley](#) on 18 May 2007, 11:39 p.m.,  
in response to message #68 by [Jim Creybohm](#)*

Don age 68

Agriculture: My wife & I raise wheat, cattle and a small band of sheep. I live in Central Montana....closest neighbor is 5 miles (getting a little crowded, maybe time to think about moving) I have 3 or 4 41's and a load of 10B's and a 19B11. My work with calculators is nearly all finance. Definitely not high finance. Still use my 41C I bought in 1979. Still have my HP 85 I bought from Educalc in about 1980-82?

I feel like a square peg in a round hole on this forum with all you engineer types.

Don

**Re: where are we?**

*Message #70 Posted by [Jim Creybohm](#) on 19 May 2007, 11:49 a.m.,  
in response to message #69 by [JDonley](#)*

Don:

Went to School of Mines in Butte, and also ordered my 41CX from Educalc in '82 or 83. I remember being wowed as UPS delivered it in only 4 days! To my door!

I think the cost was around 250 USD. What I wouldn't give to have Educalc around today....

Still travel down annually to Anaconda to golf Old Works.

**Re: where are we?**

*Message #71 Posted by [JDonley](#) on 19 May 2007, 11:01 p.m.,*

*in response to message #70 by Jim Creybohm*

Hi Jim;

Sounds like we have alot in common. I was raised around the oil patch on the gulf coast of Texas in the 40's and early 50's. Spent a little time in the late 60's and early 70's buying oil & gas leases in the Powder River basin.....didn't make any money. Am not a cat wrangler, but do have a 3 year old cocker spaniel who takes me for a long walk every day. And I have spent many days horseback in my younger years. Wanted to go to school at Colorado school of mines, but ended up at Denver University instead. Am not a golfer however.

best wishes

Don

### **Re: where are we?**

*Message #72 Posted by [Alan Firth](#) on 18 May 2007, 11:55 p.m.,  
in response to message #1 by db (martinez, ca.)*

Calgary, Alberta, Canada

Age: 48 (1959)

Occupation: Electrical Engineer

Calcs: HP35(4), 80(2), 45(3), 55(2), 65(1), 67(1), 21(2), 22(1), 25(3), 29C(1), 41C(2), 41CX(2), 16C(1), 12C(1). One nonfunctional 41C Tall Key

Favorite: The 25 for sentimental value, the 67 for wow factor.

*Edited: 18 May 2007, 11:56 p.m.*

### **Re: where are we?**

*Message #73 Posted by [jacksonconsult](#) on 19 May 2007, 4:47 a.m.,  
in response to message #72 by Alan Firth*

Place: Manchester, United Kingdom, Europe

Name: Ian Jackson

Age: 40

Occupational: Independent Nuclear Consultant ([www.JacksonConsult.com](http://www.JacksonConsult.com))

HP Calcs: HP-12C, HP-32S, HP-14B (used regularly)

Backup HP Calcs: HP-10C, HP-11C, HP-17B, HP-19BII, HP-42S, HP-27S

Best wishes

Ian J

### **Re: where are we?**

*Message #74 Posted by **Alain Mellan** on 19 May 2007, 9:13 a.m.,  
in response to message #73 by jacksonconsult*

I'm French, living in Encinitas, California, north of San Diego. Google eEarth says 33° 03' 42.38" N, 117° 15' 58.63" W altitude 51m

Age 44, designing software and hardware for a semi-conductor company. My first HP calculator was an HP43C, bought in 1981. I still own an HP15C from 1985, and in the past years acquired an HP41C and a 48G.

I'm also using Free42, x48 and Emu48 on various computers...

-- alain.

### **Re: where are we?**

*Message #75 Posted by **Patrick R** on 19 May 2007, 10:27 a.m.,  
in response to message #1 by db (martinez, ca.)*

Age 29, living in Luxembourg, physics teacher.

I own "not too many" HP calculators. Several HP48GX's and HP49G's and some HP32sii's. I often play around with a HP42 and a HP97.

homepage: <http://www.physique.lu>

### **Re: where are we?**

*Message #76 Posted by **Jean-Michel** on 19 May 2007, 10:49 a.m.,  
in response to message #75 by Patrick R*

Hi all,

except if I made a mistake on a firstname (Marta ?), I didn't notice any woman in this long list...

"Où êtes-vous Mesdames ?" (Were are you, Madame ?)

On the contrary, lots of physicists...

Howerver that may be, all of this is sympathetic !

Regards,

JML

### **Re: where are we?**

*Message #77 Posted by **Jeff Kearns** on 19 May 2007, 11:44 a.m.,  
in response to message #1 by db (martinez, ca.)*

Name: Jeff Kearns

Born: 1965

Job: Engineering Manager and formerly a Marine Engineer

Location: Ottawa, Ontario, Canada

Calculators: HP 33E, 41C, 15C, 32sii, 33s, 49G+, Free42, and P41CX for Palm

Main Calculator: HP 41C with Advantage Pac, Machine Design, MATH/STAT and Quad Mem. I also use the others regularly.

My main uses are for Finance, Applied Statistics, Calculus.

### Re: where are we?

Message #78 Posted by **Katie Wasserman** on 19 May 2007, 11:53 a.m.,  
in response to message #1 by db (martinez, ca.)

location: Rye Brook, NY -- 21 miles northeast of the true center of the world.

calculators: 100+ HP's, 275 or so others

age: right in there with the rest of this group

occupation: computer consulting, financial firms mostly

only claim to fame :) Google ranks my site number one when searching for **calculator manuals** [wass.net](http://wass.net)

*Edited: 19 May 2007, 11:54 a.m.*

### Re: where are we?

Message #79 Posted by **Anntoine M. Couëtte ( from so Beautiful France ... )** on 19 May 2007, 12:27 p.m.,  
in response to message #1 by db (martinez, ca.)

Hello to all from NY ( NJ ) almost the center of the world, but ... just after Nantes :

Name : Antoine M. Couëtte

Age: 54

Job: Airline Pilot for a Cargo Company based in Milan Italy

Hobbies: Celestial Navigation, Navigation in general and maritime navigation in particular, Solar System Planetary Theories, HP41 Programming, " Baroque " Music ( i.e. European music between 1630 and 1760 ) , playing the organ or the piano, writing music, and of course ... long haul flying around the world

Loc: Nantes ( France ) @ N 47° 13' and W 001° 35'

Calculators : HP41X/Y/Z running on HP48GX and HP49G from HrastProgrammer, and Emu41 by Jean-François Garnier

Best Regards to everybody and in particular to Valentin since I " cut and pasted " the frame of your own answer.

Last Note : The simple fact that many of us - dwelling in quite different areas in the World - are ALL right in stating that they live in the center of the World is an extremely sound and strong proof that our Earth can be quite closely identified to a Sphere ...

**Best regards to you, too, Antoine ! [NT]**

Message #80 Posted by **Valentin Albillo** on 19 May 2007, 2:03 p.m.,  
in response to message #79 by Anntoine M. Couëtte ( from so Beautiful France ... )

(best regards from V)

**Re: where are we?**

Message #81 Posted by **Nenad (Croatia)** on 19 May 2007, 2:52 p.m.,  
in response to message #1 by db (martinez, ca.)

Nenad Vulic

Split, Croatia

46 years old

Mechanical Engineer (www.crs.hr)

**Re: where are we?**

Message #82 Posted by **Les Bell** on 20 May 2007, 1:10 a.m.,  
in response to message #1 by db (martinez, ca.)

Who: Les Bell

City: Sydney State: New South Wales Country: Australia

Age: 51

Job: Information security consultant, lecturer, author. Though I've taken a year away from most work to complete a Masters degree and (perhaps) start a PhD.

Calculators: Still have a 16C, 41CV, 41CX (with various peripherals & Pacs), plus a 48GX, all bought new. Over the years I've also had a 45, 65, 67 and 41C.

Hobbies: Flying, playing (well, trying to play) guitar.

Best,

--- Les

[<http://www.lesbell.com.au>]

**Re: where are we? The picture of the "big family" :-)**

Message #83 Posted by **Giancarlo (Italy)** on 20 May 2007, 10:36 a.m.,  
in response to message #82 by Les Bell

With most of your suggestions (date of birth instead of age, ordering, used calcs @ work):

| NAME               | CITY      | REGION / STATE    | COUNTRY | DOB  |
|--------------------|-----------|-------------------|---------|------|
| JOB                |           | CALCS USED @ WORK |         |      |
| ====               | ====      | =====             | =====   | ===  |
| ===                |           | =====             |         |      |
| Alain Mellan       | Encinitas | California        | USA     | 1963 |
| Designing software |           |                   |         |      |
| and hardware for a |           |                   |         |      |

|   |                    |                     |                 |      |
|---|--------------------|---------------------|-----------------|------|
| semi-conductor company                            | Free42, x48, Emu48 |                     |                 |      |
| Alan Firth  | Calgary            | Alberta             | CANADA          | 1959 |
| Electrical Engineer                               |                    |                     |                 |      |
| Andrés C. Rodríguez                               | Buenos Aires       |                     | ARGENTINA       | 1958 |
| Electronics Engineer                              |                    | 33S                 |                 |      |
| Antoine M. Couette                                | Nantes             |                     | FRANCE          | 1953 |
| Airline Pilot                                     |                    |                     |                 |      |
| Antonio Maschio                                   | Montebelluna       |                     | ITALY           | 1966 |
| Civil Engineer                                    |                    |                     |                 |      |
| Dave Shaffer                                      | Flagstaff          | Arizona             | USA             | 1946 |
| Semi-retired Radio Astronomer                     |                    | 41                  |                 |      |
| db  | Martinez           | California          | USA             |      |
| Diego Diaz  | Canary Islands     |                     | SPAIN           | 1959 |
| Engineer @ the Telephone Company                  |                    | 41                  |                 |      |
| Don   |                    | Montana             | USA             |      |
| Agriculture                                       | 41C                |                     |                 |      |
| Don Williams                                      | Yorba Linda        | California          | USA             | 1947 |
| Retired - Microwave Radar Techn.                  |                    | 41                  |                 |      |
| ECL   |                    | California          | USA             |      |
| Aerospace Structures Engineer                     | HP48,              | 33S, 42S            |                 |      |
| Ed Look   | New York           | New York            | USA             |      |
| Eric Rechlin                                      | Bismarck           | North Dakota        | USA             | 1982 |
| Electrical Engineer by training,                  |                    |                     |                 |      |
| currently writing sw for the oil                  |                    |                     |                 |      |
| and gas industry                                  |                    |                     |                 |      |
| Etienne Victoria                                  | Yvelines           |                     | FRANCE          |      |
| Frank Balzer                                      | Flensburg          |                     | GERMANY         | 1967 |
| Physicist   |                    | 33S                 |                 |      |
| Fred Lusk   | Fresno             | California          | USA             |      |
| GE  |                    |                     | FRANCE          | 1965 |
| In Finance but originally an engineer             |                    |                     |                 |      |
| Geir Isene  | Oslo               |                     | NORWAY          | 1967 |
| CEO of FreeCode                                   |                    |                     |                 |      |
| Gerson W. Barbosa                                 | Curitiba           | Paraná              | BRASIL          |      |
| Military technician                               |                    | sped-up 15C (2.2x), |                 |      |
| Free42, Power48 on                                |                    |                     |                 |      |
| the PalmTX.                                       |                    |                     |                 |      |
| Giancarlo Mattioni                                | Montemarciano      |                     | ITALY           | 1966 |
| Project Manager                                   |                    | 50G, 42S, 15C       |                 |      |
| Hal Bitton  | Boise              | Idaho               | USA             |      |
| Works for Micron                                  |                    |                     |                 |      |
| Howard Owen                                       | San Mateo          | California          | USA             | 1956 |
| Systems Architect/Engineer                        |                    |                     |                 |      |
| HrastProgrammer                                   | Zagreb             |                     | CROATIA         | 1970 |
| Software Developer                                |                    |                     |                 |      |
| Ian Jackson                                       | Manchester         |                     | UK              | 1967 |
| Independent Nuclear Consultant                    |                    | 12C, 32S, 14B       |                 |      |
| Inigo Rodriguez                                   | Madrid             |                     | SPAIN           |      |
| Iqbal   |                    |                     | TRINIDAD&TOBAGO | 1967 |
| Land Surveyor and Lecturer                        |                    |                     |                 |      |
| James M. Prange                                   | China              | Michigan            | USA             | 1950 |
| Metrology technician (quality assurance)          |                    |                     |                 |      |
| Jean-Michel L.                                    | Donnery            |                     | FRANCE          | 1967 |
| Technician in Car Industry                        |                    | 33C, 41C, 28S, 48GX |                 |      |
| Jeff Kearns                                       | Ottawa             | Ontario             | CANADA          | 1965 |
| Engineering Manager and                           |                    |                     |                 |      |
| formerly a Marine Engineer                        |                    | 33E, 41C, 15C,      |                 |      |
| 32sii, 33s, 49G+,                                 |                    |                     |                 |      |
| Free42, P41CX for Palm                            |                    |                     |                 |      |
| Jeffrey Davis                                     | Indianapolis       | Indiana             | USA             |      |
| Mechanical Engineer                               |                    | 41                  |                 |      |
| Jim Creybohm                                      | Duchess            | Alberta             | CANADA          | 1956 |
| Petroleum Engineer                                |                    |                     |                 |      |
| John B. Mosand                                    | Trondheim          |                     | NORWAY          | 1935 |
| Retired architect and musician                    |                    |                     |                 |      |
| Karl Schneider                                    | Vancouver          | Washington          | USA             |      |
| Electrical Engineer                               |                    |                     |                 |      |
| Katie Wassermann                                  | Rye Brook          | New York            | USA             |      |
| Computer consulting                               |                    |                     |                 |      |
| Les Bell  | Sidney             | New South Wales     | AUSTRALIA       | 1956 |
| Information security consultant, lecturer, author |                    |                     |                 |      |
| Les Wright  | Toronto            | Ontario             | CANADA          | 1965 |
| Physician   |                    | Free42, P41CX,      |                 |      |



where are we?

|   |                    |                 |             |      |
|---|--------------------|-----------------|-------------|------|
| Power48, Emu48, V41                       |                    |                 |             |      |
| Mark Wayne Paris                          | Newport News       | Virginia        | USA         |      |
| Theoretical nuclear physicist             |                    |                 |             |      |
| Marta                                     |                    | Programmer      |             |      |
| Massimo Gnerucci                          | Milano             |                 | ITALY       | 1960 |
| System Administrator                      |                    | V41             |             |      |
| Meindert Kuipers                          | Oss                |                 | NETHERLANDS |      |
| Nenad Vulic                               | Split              |                 | CROATIA     | 1961 |
| Mechanical Engineer                       |                    |                 |             |      |
| Patrick R                                 |                    |                 | LUXEMBURG   | 1978 |
| Physics teacher                           |                    |                 |             |      |
| Paul Dale                                 | Brisbane           |                 | AUSTRALIA   |      |
| Paul Guertin                              | Montreal           |                 | CANADA      |      |
| Math Teacher                              |                    |                 |             |      |
| PeterP                                    | Vienna             |                 | AUSTRIA     |      |
| Physicist by training,                    |                    |                 |             |      |
| now working in Finance                    |                    | 41CY, 71B       |             |      |
| Ricardo Guereiro                          | Comodoro Rivadavia |                 | ARGENTINA   | 1967 |
| Civil Engineer                            |                    |                 |             |      |
| Richard Garner                            | Texarkana          | Arkansas/Texas  | USA         |      |
| Engineering Technician/                   |                    |                 |             |      |
| Drafter/CAD-GIS Operator                  |                    | 42S, 48GX       |             |      |
| Ron Allen                                 | Mobile Bay         | Alabama         | USA         |      |
| Retired from the computer business        |                    |                 |             |      |
| Thomas Okken                              | De Bilt            |                 | NETHERLANDS | 1965 |
| Software Engineer                         |                    | Free42          |             |      |
| Thomas Radtke                             | Osnabruck          |                 | GERMANY     |      |
| Tom Scott                                 | Lander             | Wyoming         | USA         | 1947 |
| Retired physicist                         |                    |                 |             |      |
| Trent Moseley                             | Redwood City       | California      | USA         | 1927 |
| Retired engineer from The Pacific T&T Co. |                    |                 |             |      |
| Valentin Albillo                          | Madrid             |                 | SPAIN       | 1958 |
| Senior Project Manager &                  |                    |                 |             |      |
| Senior Engineer                           |                    | Emu71           |             |      |
| Vassilis Prevelakis                       | Athens             |                 | GREECE      |      |
| Walter B                                  | Hechingen          |                 | GERMANY     |      |
| Nuclear physicist                         |                    |                 |             |      |
| Wayne Brown                               | Birmingham         | Alabama         | USA         | 1955 |
| System Administrator                      |                    | 16C, 41CX, 48GX |             |      |

Hope the listing is not becoming too messy to be showed as a message...

I'm sorry but I'm not sure I'll be able to implement & maintain the list of calcs with favourites and so on...

Also the stats have been updated:

| COUNTRIES | COUNT           | AGE AVG. |
|-----------|-----------------|----------|
| =====     |                 | =====    |
| 21        | USA             | 47,1     |
| 5         | CANADA          |          |
| 4         | FRANCE          |          |
| 3         | GERMANY         |          |
| 3         | ITALY           |          |
| 3         | SPAIN           |          |
| 2         | ARGENTINA       |          |
| 2         | AUSTRALIA       |          |
| 2         | CROATIA         |          |
| 2         | NETHERLANDS     |          |
| 2         | NORWAY          |          |
| 1         | AUSTRIA         |          |
| 1         | BRASIL          |          |
| 1         | GREECE          |          |
| 1         | LUXEMBURG       |          |
| 1         | TRINIDAD&TOBAGO |          |
| 1         | UNITED KINGDOM  |          |

Yes, it looks like a big, variegated family :-)

Best regards.

Giancarlo

**Re: where are we? The picture of the "big family" :-)**

*Message #84 Posted by **Thomas Okken** on 21 May 2007, 10:57 a.m.,  
in response to message #83 by Giancarlo (Italy)*

I hate to be the geek to point this out, but you can't reliably find a person's year of birth by subtracting their age from the current year! I'm 42 but I was born in 1964.

- Thomas

**Re: where are we? The picture of the "big family" :-)**

*Message #85 Posted by **Giancarlo (Italy)** on 21 May 2007, 11:07 a.m.,  
in response to message #84 by Thomas Okken*

Thomas,

I got the point, but I had to make some assumptions because I had "mixed" figures (some years of birth and some ages).

However you and any other please feel free to point out any amendment you'd like to see and I'll be glad to update the table accordingly :-)

Thank you and best regards.

Giancarlo

**Re: where are we? The picture of the "big family" :-)**

*Message #86 Posted by **Nelson M. Sicuro (Brazil)** on 21 May 2007, 11:23 a.m.,  
in response to message #83 by Giancarlo (Italy)*

Please add my data:

Name: Nelson M. Sicuro

City: Curitiba

State: Paraná

Country: Brazil

DOB: 1967

Job: Chief Software Developer at UFPR, electronics hobbyist

Calcs:

\*Several HPs, mostly used: 15C, 42S (with 32K+32K RAM!!), 32S

\*One HP-85A :D

\*One sharp PC-1260 (updated to 16KB RAM) that I love and carry everywhere :D

Best regards,

Nelson

**Re: where are we? The picture of the "big family" :-)**

*Message #87 Posted by **Walter B** on 21 May 2007, 1:29 p.m.,  
in response to message #83 by Giancarlo (Italy)*

Buon giorno Giancarlo,

please add 1954 as my DOB (though I gave you my age, but it was ambiguous).

Mille grazie!

**Re: where are we? The picture of the "big family" :-)**

Message #88 Posted by [Richard Ottosen](#) on 21 May 2007, 1:41 p.m.,  
in response to message #83 by Giancarlo (Italy)

Name: Richard Ottosen Age: 55.973 Location: Denver, Colorado, USA. In the high plains at the edge of the eastern foothills of the Rocky Mountains.

Occupation: Consulting in the design of small embedded computers.

Used every day: HP-41C (bought new and still looks and works that way).

RPN calculators owned: 41C with Quad Memory, HP32SII, 2 each DIY-RPN 25, DIY-RPN 33. Non-RPN calculators owned: 2 each HP-6S, 2 each Sinclair Scientific. Used to have: 2 each HP-25, HP-33, HP32S, Novus "programmable" scientific.

Hobbies: Bicycling the city and over mountain passes. Making electronic gizmos. Building RPN calculators.

### Re: where are we? The picture of the "big family" :-)

Message #89 Posted by [Onihr](#) on 24 May 2007, 7:58 p.m.,  
in response to message #83 by Giancarlo (Italy)

a newbe from Goodyear; hello Flagstaff!

### Re: where are we?

Message #90 Posted by [db \(martinez, ca.\)](#) on 20 May 2007, 5:27 p.m.,  
in response to message #1 by db (martinez, ca.)

As Garrison Keillor once said; "ask a question, get an answer". In this instance; the answers were better than my question.

To Anntoine M. Cou ette: Ah, but Martinez *is* the center of the surface of the world. No place on earth is farther than 180 degrees around the spheroid from us. While this can be claimed by any other place, i thought of it first. "I leave the proof of this as an exercise for the reader".

To Giancarlo: You did a great job on that database. Next time one of life's riddles rears it's head; i'm calling *you*. The blank info for me is 1955, Surveyor & Licensed Engineering Contractor, 41cx.

### Re: where are we?

Message #91 Posted by [Thomas Okken](#) on 21 May 2007, 11:02 a.m.,  
in response to message #90 by db (martinez, ca.)

Quote:

-----  
To Anntoine M. Cou ette: Ah, but Martinez is the center of the surface of the world. No place on earth is farther than 180 degrees around the spheroid from us. While this can be claimed by any other place, i thought of it first.  
-----

...but since the Earth is flattened at the poles, the North Pole has a better claim to be the center of the surface of the Earth. And if you limit your possible destinations to dry land, you'd probably have to pick a spot somewhere in the Middle East. (Update: [Egypt](#), actually.) (Another update: [Turkey](#), actually -- I should have read that web page more carefully the first time around!)

It's all moot, anyway. Everybody knows New York is the center of the universe. ;-)

- Thomas

*Edited: 21 May 2007, 2:22 p.m. after one or more responses were posted*

### **Re: where are we?**

*Message #92 Posted by [Massimo Gnerucci \(Italy\)](#) on 21 May 2007, 1:12 p.m.,  
in response to message #91 by Thomas Okken*

Quote:

It's all moot, anyway. Everybody knows New York is the center of the universe. ;-)

Yeah but, you know, *Roma: Caput Mundi(1), Urbs Aeterna(2). Omnes viae Romam perducunt(3)*...

Sorry... I couldn't resist ;) just a way to show off all that latin I had to study!

Greetings,  
Massimo

References (and translation) in english: (1) (2) (3) Even though I was born there I now live here:  
[Milano](#), fashion capital... :(

*Edited: 21 May 2007, 1:28 p.m.*

### **Re: where are we?**

*Message #93 Posted by [Walter B](#) on 21 May 2007, 1:30 p.m.,  
in response to message #92 by Massimo Gnerucci (Italy)*

OPTIME :-))

### **Re: where are we?**

*Message #94 Posted by [Gerson W. Barbosa](#) on 21 May 2007, 2:10 p.m.,  
in response to message #92 by Massimo Gnerucci (Italy)*

Ciao Massimo,

"ROMA TIBI SVBITO MOTIBVS IBIT AMOR"

This has not to do with Rome being the Capital of the World, but might be a good reason for anyone who was born there never leave ;-)

Regards,

Gerson.

### **Re: where are we?**

*Message #95 Posted by [Massimo Gnerucci \(Italy\)](#) on 21 May 2007, 3:09 p.m.,  
in response to message #94 by Gerson W. Barbosa*

Nice one Gerson!

For the interested reader have a look at this and other palindromes [here](#).

Ave atque vale,  
Massimo

### **AVE MASSIME ! (NULLA VERBUM)**

*Message #96 Posted by [Gerson W. Barbosa](#) on 21 May 2007, 5:09 p.m.,  
in response to message #95 by Massimo Gnerucci (Italy)*

### **Re: where are we?**

*Message #97 Posted by [John Keith](#) on 20 May 2007, 10:25 p.m.,  
in response to message #1 by db (martinez, ca.)*

Name: John Keith

Age: 48

Location: Chicago, IL, USA

Occupation: Sculpture fabrication and computer consulting (graphics/video/animation)

Hp calcs owned: 11C, 16C, 42S, 49g+, 50g, 71B, 200LX

Used to have: 28S, 48SX, 48GX (died) 15C (lost)

Other brands: none

Use every day: 50g

### **Re: where are we?**

*Message #98 Posted by [Maximilian Hohmann](#) on 21 May 2007, 10:37 a.m.,  
in response to message #1 by db (martinez, ca.)*

Hello!

My home base according to Google Maps: 48.529853 (North), 9.035555 (East), in Tuebingen, Baden-Wuerttemberg, Germany

Status : 44 years old (born 1962), married, one child

Occupation: Part time aerospace engineer (CAD/CAM software development), part time commercial pilot (air taxi, express cargo & flying instruction)

Interests : Horses and riding, astronomy, photography, calculators, ...

Preferred calculator: Apple Titanium PowerBook (sorry... not the right place to confess ;-)  
)

Favourite singer : M... no, no more confessions here!

Greetings, Max

*Edited: 21 May 2007, 11:16 a.m.*

### **Re: where are we?**

*Message #99 Posted by [Achim \(Germany\)](#) on 21 May 2007, 10:52 a.m.,  
in response to message #1 by db (martinez, ca.)*

Here are my coordinates:

Name: Achim Buerger

Age: 49

Location: Duesseldorf, Germany

Occupation: IT-Manager (former physicist)

Calculators: several HP9810,9820,9830,9831,9825,9845,85, HP&TI pocket calcs

Hobbies: Aviation (PPL-A), JAVA programming (HP9800 Emulator), astrophysics

## Re: where are we?

Message #100 Posted by [megarat](#) on 21 May 2007, 9:30 p.m.,  
in response to message #1 by db (martinez, ca.)

this is a fun project ... to contribute:

location: Seattle, USA, Earth

YOB: 1970

occupation: computational biologist

HP calcs: 12c, 15c, 16c, 48sx (formerly: 48gx, 28s, 28c)

cheers! craig

## Frog-eater online

Message #101 Posted by [Olivier TREGER](#) on 22 May 2007, 1:56 a.m.,  
in response to message #1 by db (martinez, ca.)

Hi,

Olivier, 46yr-old, used to be a salesman in computers (Tandy, DEC, NeXT, Compaq, HP,...)

I'm located in Levallois-Perret, close suburb of Paris (N-W).

Location: 48°54'2.40"N 2°17'9.95"E

Here's a view on my collection: <http://calc.treger.net> (around 50 calcs all together)

Enjoy

## Re: where are we? UPDATE

Message #102 Posted by [Giancarlo \(Italy\)](#) on 22 May 2007, 2:55 a.m.,  
in response to message #1 by db (martinez, ca.)

Hi all.

You can find the most updated version of the "database" here:

[Form Contributors Database](#)

I tried to consider all your suggestions and/or amendments.

If I didn't succeed, it's my fault, even though in good faith :-)) so please feel free to issue any RFA (Request for Amendment) and I'll tak care of it.

Thank you for contributing.

Best regards.

Giancarlo

## Re: where are we? UPDATE

*Message #103 Posted by **Thomas Radtke** on 22 May 2007, 9:25 a.m.,  
in response to message #102 by Giancarlo (Italy)*

To fill some gaps:

YOB: 1967

JOB: Physicist

Calcs used at work: Currently an OEM Sharp scientific (no one ever steals a calc like that) at workplace #1, 32SII, 48G and TI-66 at workplace #2 (my home)

Thomas

### **Re: where are we? UPDATE**

*Message #104 Posted by **Trent Moseley** on 22 May 2007, 3:40 p.m.,  
in response to message #102 by Giancarlo (Italy)*

Giancarlo,

Please update:

Year of birth: 1926

HP calcs owned: HP-25C, HP-31E, HP-67, HP-12C, HP-15C, HP-16C, HP-32Sii, HP-33S, and an HP-42S.

Thanks. I would of done this by e-mail but it's having problems right now.

tm

### **Re: where are we? UPDATE**

*Message #105 Posted by **Giancarlo (Italy)** on 23 May 2007, 2:45 a.m.,  
in response to message #104 by Trent Moseley*

Trent,  
got your point.  
Thanks.  
Best regards.  
Giancarlo

### **Re: where are we? UPDATE**

*Message #106 Posted by **Meindert Kuipers** on 22 May 2007, 3:55 p.m.,  
in response to message #102 by Giancarlo (Italy)*

WOW, suddenly found myself with a new job and new calcs! The infor probably belong to a friend one line above or below me ....

Let me correct my information: Name: Meindert Kuipers Birthyear: 1960 City: Oss Country: Netherlands Coordinates: appr. 51°46'38 N 5°31'9 E Profession: Project Manager (Embedded Hardware) Calcs: 4\* HP41, HP16C, various accessories, MLDL2000 Other Hobbies: iceskating, inlineskating, astronomy and my family (1 wife, 2 kids, 1 cat)

Meindert

**Re: where are we? UPDATE**

*Message #107 Posted by [Giancarlo \(Italy\)](#) on 23 May 2007, 2:49 a.m.,  
in response to message #106 by Meindert Kuipers*

Meindert,

\*you\* are absolutely right and \*I\* was wrong :-)

The info referred to Nelson.... Apologise for that to both of you!

Updated the info and uploaded a revised file.

Thanks for pointing that out and a special cuddle for your cat (it's my favourite kind of pet as well).

Best regards.

Giancarlo

**Re: where are we? UPDATE**

*Message #108 Posted by [Geir Isene](#) on 24 May 2007, 3:45 a.m.,  
in response to message #102 by Giancarlo (Italy)*

Some update on me:

YOB: 1966 Calcs used @ work: HP-41CX, HP-97, HP-67, HP-19C, HP-37 (in that order)

**Got! Thanks [NT]**

*Message #109 Posted by [Giancarlo \(Italy\)](#) on 24 May 2007, 4:49 a.m.,  
in response to message #108 by Geir Isene*

[NT]

**Re: where are we? UPDATE**

*Message #110 Posted by [Howard Owen](#) on 24 May 2007, 4:23 a.m.,  
in response to message #102 by Giancarlo (Italy)*

Calcs used at work: 15C, 50G

**Got this one as well! Thanks [NT]**

*Message #111 Posted by [Giancarlo \(Italy\)](#) on 24 May 2007, 4:50 a.m.,  
in response to message #110 by Howard Owen*

NT

**Re: where are we? UPDATE**

*Message #112 Posted by [Andrés C. Rodríguez](#) on 24 May 2007, 8:04 p.m.,  
in response to message #102 by Giancarlo (Italy)*

Giancarlo, thank you for the care you put on this project!

While I use a 33S at my office (I need RPN, and don't want to risk or wear out my older machines), I would add I also use v.41 and Free42 as day-to-day calculators. I think both deserve the title of "calculators" in this context.



**Re: where are we? UPDATE**

*Message #113 Posted by **Giancarlo (Italy)** on 25 May 2007, 4:21 a.m.,  
in response to message #112 by Andrés C. Rodríguez*

Hi Andres.

Got your info!

Thank you for your kind words that I do appreciate :-)

Best regards.

Giancarlo

**Re: where are we?**

*Message #114 Posted by **Miki Mihajlovic** on 24 May 2007, 12:43 a.m.,  
in response to message #1 by db (martinez, ca.)*

Name: Miki Mihajlovic

Where: Calgary, Canada, N51 07 47.0 W114 09 08.4

Job: Petroleum Engineer

Age: 46

Calcs: 41s, Voyagers, Classics, Curtas

Hobbies: Wasting time and money

*Edited: 24 May 2007, 12:43 a.m.*

**Re: where are we?**

*Message #115 Posted by **Larry Corrado** on 27 May 2007, 7:14 a.m.,  
in response to message #1 by db (martinez, ca.)*

Good Morning!

Name: Larry Corrado

Location: Manitowoc, Wisconsin USA (on the western shore of Lake Michigan)

Age: 64

Number of HP's: 26

Other calculators: about 100 TIs, other electronics; Curta II (from my sports car rallying days), misc slide rules, abaci, Napier's bones, calculatoria

Occupation: retired professor: physics, computer science

My first HP was an HP-25 in 1977, which I used virtually daily until I retired in 2002. It was then that I found a dusty HP-22 in a secondhand store, cleaned it up, and began collecting calculators.

Best regards to all, Larry

**Re: where are we?**

*Message #116 Posted by [Thibaut.be](#) on 27 May 2007, 10:57 a.m.,  
in response to message #115 by Larry Corrado*

Hi,

I live here 50°45'5.54"N, 4° 7'33.93"E and am a Finance Director. I'm 39 years old. I use a 41CX on a daily basis for number crunching. I also use my brains for simple add/subtract numbers on the screen as it takes less time to calculate mentally than losing the line you were to type the numbers.

Cheers !

*Edited: 27 May 2007, 10:59 a.m.*

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## HP Forum Archive 17

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### Data transfer from 9895 8 inch floppy

Message #1 Posted by [Wilbert Wilson](#) on 16 May 2007, 7:33 p.m.

Hopefully someone can help me with this. I have several 8 inch floppy disk and would like to transfer the data and program files from the 8 inch media to a media able to be read by a PC. The HP9895A disk drive is connected to a HP9835A desktop computer.

Any help would be appreciated

Thanks

Wilbert Wilson email [Wilbert\\_Wilson@Teledyne.com](mailto:Wilbert_Wilson@Teledyne.com)

### Re: Data transfer from 9895 8 inch floppy

Message #2 Posted by [Vassilis Prevelakis](#) on 17 May 2007, 11:24 p.m.,  
in response to message #1 by [Wilbert Wilson](#)

Wilbert Wilson wrote:

```
> Hopefully someone can help me with this. I have several 8 inch floppy disk and would like to transfer the data and program files  
> from the 8 inch media to a media able to be read by a PC. The HP9895A disk drive is connected to a HP9835A desktop computer.
```

First WOW! I really would like to get my hands on such a machine.

Now a couple of assumptions I need to make:

1. The HP9895A and HP9835A are operational.
2. You want to transfer the programs and data so that you can port the applications to a new computer.
3. The HP9835A has a working HP-IB interface (it should be able to talk to the HP9895A).

-----

Given the above, you'd be better off sending everything as ASCII over HP-IB, rather than getting the stuff off the floppies. This is because you'd then have to decode the info inside the retrieved files. This would involve de-tokenizing the BASIC programs and reverse engineering the structure of the data files, so that you can extract the data.

One easy way to get your HP9835A to send the programs and data as ASCII is to set up an HP-IB "printer" and then use the combination of your HP9895A and HP9835A to "print" the programs and data to the HP-IB "printer". Since I have these equipment handy, I'd use the HP82164A HP-IL/RS-232 Interface connected to the serial port of my PC (running, say, kermit to pick up the data received over the serial link). Note that the HP82164A is an HP-IL device, so I'd use the HP82169A HP-IL/HP-IB Interface to link my HP-IB equipped computer to the HP82164A.

```
+-----+ +-----+ +-----+ +-----+
| HP9835A +-----+ HP82169A +-----+ HP82164A +-----+ PC |
+-----+ +-----+ +-----+ +-----+
          HP-IB          HP-IL          RS/232
```

-----  
Alternatively, if you happen to have an HP-IB ISA or PCI card for your PC, you may want to read the

"[3] Transferring Files Over HP-IB"

section of this article found at:

<http://www.series80.org/Articles/xfer-to-dos.txt>

Regards

\*\*vp

*Edited: 17 May 2007, 11:32 p.m.*

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## HP Forum Archive 17

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**Testing UserRPL arguments for numerosity?**

Message #1 Posted by [Sleazey](#) on 16 May 2007, 5:58 p.m.

I am writing a package of routines to do both algebra and numeric calculations using the generalized hypergeometric function.

If all incoming parameters are numeric, or can be evaluated to numeric, then for some ranges of the parameters, I can return a numeric result.

However, if a parameter is a symbolic, and cannot be evaluated to a numeric result (like an undefined global name, etc.) then I can't return a numeric result, (but I may be able to return a simplified symbolic result).

Here comes the question: What's the best way to validate/evaluate/check/test incoming parameters for "numerosity"? That is, what's the best way to test a parameter to see if it can be resolved to a numeric value?

Is there any kind of built in UserRPL function (or even a SYSEVAL) that does this kind of thing?

Right now I have a long CASE statement that checks various TYPE values, and returns true/false. That works ok, but it's not very fast.

Complications come in because an algebraic expression may be evaluable down to a numeric result, and I would like to handle that case correctly too.

Global names may have a numeric value; need to handle that too. Perhaps a global name refers to another global name, that refers to another global name, that refers to a numeric or an evaluable algebraic; that should count as a numeric parameter too.

Would it be better just to attempt to do an EVAL and/or a ->NUM against a parameter (guarded with IFERR) and see if that results in a numeric? Would that be definitive?

Thanks for any suggestions!

**Re: Testing UserRPL arguments for numerosity?**

Message #2 Posted by [hugh steers](#) on 18 May 2007, 4:13 a.m.,  
in response to message #1 by [Sleazey](#)

what goes wrong if you just eval it? is it the error trapping?

**Re: Testing UserRPL arguments for numerosity?**

Message #3 Posted by [Sleazey](#) on 18 May 2007, 2:20 p.m.,  
in response to message #2 by [hugh steers](#)

Actually I have something that works for all the cases I have tried. It ended up being a very long IF test, with some recursive calls to itself.

I also use IFERR extensively to catch errors during EVAL & ->NUM; if an error occurs, I just return a false result (treat it as non-numeric).

So, I do have it working, but it's slow, looks a bit inelegant, and I worry about obscure or rare combinations that could slip through the cracks. I just keep using it in my code; that will be the only way to thoroughly test it.

I looked in the SysRPL manuals, but didn't see anything quickly that looked what I wanted.

---

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## HP Forum Archive 17

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### Determining significant length of the HP 33s

Message #1 Posted by [G. Cone](#) on 16 May 2007, 5:32 p.m.

When dealing with numerical programming, one often is confronted with a conditional statement that requires a decision to be made based upon the difference or ratio between two variables being reasonably close to zero. The question then arises: how close is *reasonably close*? At first impulse, one may simply choose to select a tiny arbitrary value, say  $10^{-6}$  or better yet  $10^{-20}$  based upon the user's desire for precision. While this may seem like an acceptable method, it ignores the realities of the floating point representation being used by the machine.

Floating point numbers are usually represented in binary as follows:

$$SE_1E_2\dots E_mT_1T_2\dots T_n$$

where 'S' is the sign bit, the 'E<sub>i</sub>' are the exponent bits, and the 'T<sub>j</sub>' are the significant bits (also known as the mantissa). This implies that there is a *maximum relative spacing* between any two numbers for a given floating point representation. Given a [common floating point representation](#) such as double precision IEEE found on standard personal computers, this maximum relative spacing is 2.22E-16, yielding 16 digits of precision. This value can be determined from the formula:

$$\text{maximum relative spacing (epsilon)} = 2^{1-n}$$

where 'n' is the number of bits in the significant (note that IEEE uses a "hidden bit method" so that while there are only 52 bits in a 64-bit number dedicated to the significant, the value of 'n' in that case is really 53).

So for programmable calculators like the HP 33s, knowing what *epsilon* is important. The manual states that typical calculations are accurate to 12 decimal digits. This would imply an *epsilon* value of around  $10^{-12}$  to  $10^{-13}$  or the number of significant bits being as low as 39 up to 41 bits. Mr. Hanson mentioned in his article about a ["Cadillac" quadratic solver for the HP 33s](#) that the "tricky properties" of the statistical operations allow precision up to 15 digits; more in line with the 52 to 53 bit significant used in the IEEE floats.

I attempted to ask HP directly about the number of bits used for the significant in the HP 33s for both sets of operations to no avail. I'm trying to come up with a nifty program to determine the appropriate value for 'n' for standard operations. If anyone comes up with something, please post it.

For the time being, the few programs I have written (Mr. Hanson's program translation being the exception) use:

$$\text{epsilon} = 2^{-39} = 1.819\text{E-}12$$

Stay tuned for some programs that I've successfully translated to the HP 33s!

### Re: Determining significant length of the HP 33s

Message #2 Posted by [Antonio Maschio \(Italy\)](#) on 17 May 2007, 2:27 a.m.,  
in response to message #1 by [G. Cone](#)

I stay tuned.

-- Antonio

*Edited: 17 May 2007, 2:27 a.m.*

### **Re: Determining significant length of the HP 33s**

*Message #3 Posted by [John Limpert](#) on 17 May 2007, 1:30 p.m.,  
in response to message #1 by G. Cone*

I'd just add that most calculators use decimal, not binary, floating point arithmetic. An excellent resource for information on decimal arithmetic is Mike Cowlshaw's web page at IBM Hursley (<http://www2.hursley.ibm.com/decimal/>).

### **Re: Determining significant length of the HP 33s**

*Message #4 Posted by [G. Cone](#) on 17 May 2007, 10:49 p.m.,  
in response to message #3 by John Limpert*

Thank you Mr. Limpert. That's a piece of information that I obviously was unaware of. I'll definitely check that website out!

### **Re: Determining significant length of the HP 33s**

*Message #5 Posted by [Les Wright](#) on 17 May 2007, 11:08 p.m.,  
in response to message #1 by G. Cone*

I must admit that in pretty all of my RPN program that require convergence to equality of some sort, whether it is to zero or to something else, I simply go until actual equality and don't use epsilon in the same way one does in C, Visual Basic, or Pascal code.

My understanding is that even though the RPN calculators I use carry internal guard digits, these extra digits are lost when a value is returned to the stack. Therefore, in virtually all cases where I need a desired value to stop changing in the 12 (or 10) displayed digits before exiting a loop, simply testing for non-equality is the way I do it. If "old" and "new" values of the desired parameter are not equal, I loop back to the beginning of the loop, otherwise I skip the GTO after the conditional test and carry on.

This almost always works in cases where I am computing a convergent series or continued fraction representation of a desired function. In root solving, though, there may be some "wobble" in the last digit which I can see if I display interim approximations. In those cases the loop ends when I do specify some desired epsilon, such as 1e-8.

Les

### **Re: Determining significant length of the HP 33s**

*Message #6 Posted by [hugh steers](#) on 18 May 2007, 4:51 a.m.,  
in response to message #5 by Les Wright*

hi guys,

there's an interesting method to calculate the net accuracy in bits and as decimal equivalent. its not rigorous, but helpful. i first saw this in Jean Meeus' book (the astronomer).

here's a lua version (easier to see what's going on):



```

function precision()
  x = 1
  j = 0
  while (1)
  do
    x = x*2
    if x + 1 == x then
      print(j, j*0.30103)
      return;
    end
    j = j + 1
  end
end
end

```

transcript (hplua hp50g):

```

hplua -i acc.lua
Lua 5.1.2 Copyright (C) 1994-2007 Lua.org, PUC-Rio
HPLua version 0.4
=precision()
> 83      24.98549

```

first number is bits, second is decimal equivalent. so i'm seeing a payload of nearly 25 decimals on my 50g with this.

running this on a PC (IEEE754 doubles) as:

```

#include <stdio.h>
void showPrecision()
{
  double x = 1;
  int j = 0;
  while (1)
  {
    x = x*2;
    if (x + 1.0 == x)
    {
      printf("%d %f\n", j, (double)j*0.30103);
      return;
    }
    j = j + 1;
  }
}
int main()
{
  showPrecision();
  return 0;
}

```

i get, 52 15.653560 which is 52 bits and 15.6 decimals. maybe someone would like to try this method in RPL (i don't RPL anymore).

## Re: Determining significant length of the HP 33s

Message #7 Posted by [G. Cone](#) on 22 May 2007, 10:00 a.m.,  
in response to message #1 by G. Cone

I believe this [link](#) answers my original question quite well.

Given the BCD operation of these calculators, the epsilon value is 5.00000000001E-12.  
Oddly enough, 5.0E-12(exact) when added to 1.0(exact) doesn't add up to 1.00000000001, go figure...

## HP Forum Archive 17

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### percent of total in rpn mode

Message #1 Posted by [tropicflite](#) on 16 May 2007, 2:13 a.m.

I have a 33s, and I cannot figure out how to find a percent of a total in RPN mode by using the % key.

i.e., 30 is 'what percent' of 50.

The best I can come up with is

30 enter 50 / 100 x

in ALG I can do

30 / 50% enter

isn't there a way to use the % key in RPN mode?

TIA,

tropicflite

### Re: percent of total in rpn mode

Message #2 Posted by [Walter B](#) on 16 May 2007, 2:27 a.m.,  
in response to message #1 by tropicflite

AFAIK this key is for another purpose, e.g.

50 ENTER 30 %

will display 15 in x while the base (50) stays in y, as it is done in earlier models. Never heard of the way you look for in RPN so far, but that doesn't mean it doesn't exist...

BTW, if you remember "%" abbreviates "per 100" you can save 1 keystroke to solve your problem in RPN, using

30 ENTER 50 E +/- 2 /

exactly equivalent to the expression you used in ALG.

HTH

Walter

*Edited: 16 May 2007, 2:39 a.m.*

### Re: percent of total in rpn mode

*Message #3 Posted by [tropicflite](#) on 16 May 2007, 10:01 a.m.,  
in response to message #2 by Walter B*

Your key sequence

30 ENTER 50 E +/- 2 /

is indeed one keystroke shorter than my version

30 ENTER 50 / 100 x

though I'm not sure it's an improvement over the the ALG

30 / 50% ENTER

BTW, I also tried making the equation

A / B x 100

and doing

30 R/S 50 R/S

This works well if you have a lot of percentages to compute, but it involves first writing the equation and then finding it in the list.

On my one-dollar LeWORLD 4-banger from Walmart, I can do

30 / 50%

which shaves a keystroke off the 33S's ALG version, and other HP's, (namely the 12C Platinum) have a %T key which allows

50 ENTER 30 %T

which is equally good, (though, thinking about it, wouldn't that key be better labeled as %Y ? But I digress..)

In the end, I think this a rare case where the ALG version is better, at least on the 33s.

Regards,

tropicflite

### **1 buck LeWorld -- It's at LEAST a five-banger**

*Message #4 Posted by [Paul Brogger](#) on 16 May 2007, 12:30 p.m.,  
in response to message #3 by tropicflite*

"%" is a fifth bang. I'll bet it has a square root, too. (Another case of bang inflation.)

I wonder, are there any REAL four-bangers out there?

### **Re: 1 buck LeWorld -- It's at LEAST a five-banger**

*Message #5 Posted by [tropicflite](#) on 16 May 2007, 1:49 p.m.,*

*in response to message #4 by Paul Brogger*

You, sir, are absolutely correct. It has the standard four 'bangs', percent, square root, as well as MRC, M-, and M+. I happen to have the lovely green model.

[http://www.rskey.org/~mwsebastian/reviews/leworld\\_green.jpg](http://www.rskey.org/~mwsebastian/reviews/leworld_green.jpg)

Now *this* strictly meets the definition. Sadly, I don't have one.

<http://www.voidware.com/calcs/images/casiomini-1.jpg>

### **Re: 1 buck LeWorld -- It's at LEAST a five-banger**

*Message #6 Posted by **Paul Brogger** on 16 May 2007, 4:45 p.m.,  
in response to message #5 by tropicflite*

I believe Commodore had a couple of early, truly four-function models. (I believe I've got one buried in a box somewhere.)

I doubt there are any made these days.

The fact that yours is available for only one dollar (and the Scientific is like ~\$4, right?) is pretty amazing -- especially given the value of a dollar these days. Times *do* change!

*Edited: 16 May 2007, 4:48 p.m.*

### **Re: "True" four-banger -- There's one on my Nokia cell phone!**

*Message #7 Posted by **Paul Brogger** on 17 May 2007, 7:03 p.m.,  
in response to message #6 by Paul Brogger*

Couldn't be more basic -- but with an interesting interface to compensate for the fact that the four operations are not mapped to any of the keys.

You key in a number, scroll to the desired operation, key in another number, and press "EQUALS" (assigned to the menu selection key).

### **Re: percent of total in rpn mode**

*Message #8 Posted by **Vieira, L. C. (Brazil)** on 16 May 2007, 7:11 a.m.,  
in response to message #1 by tropicflite*

Hi;

the shortest expression for %T (percent of total) would be:

$$\%T(b, a) = 100 \times \frac{a}{b}$$

being b the total and a the part. If you want to use the percent key, you should see the expression for percent, that is::

$$\%(b, a) = \frac{a \times b}{100}$$

I cannot see an easy way to compute %T by using the % key, though.

Hope this clears the subject up... a bit.

Cheers.

Luiz (Brazil)

### **Re: percent of total in rpn mode**

*Message #9 Posted by [tony\(nz\)](#) on 16 May 2007, 8:55 p.m.,  
in response to message #8 by Vieira, L. C. (Brazil)*

Nice work Luis. What about [1/x] [%] [1/x] for a [%T] ? :-)

### **%T in RPN mode: Unbeatable!**

*Message #10 Posted by [Vieira, L. C. \(Brazil\)](#) on 17 May 2007, 9:57 a.m.,  
in response to message #9 by tony(nz)*

Hi, Tony;

Quote:

\_\_\_\_\_  
Nice work Luis. What about [1/x] [%] [1/x] for a [%T] ? :-)

What to say? Yours is the very nice work. Unbeatable!

Thanks for your ingenious suggestion (solution, indeed...)

Best regards.

Luiz (Brazil)

*Edited: 17 May 2007, 10:06 a.m.*

### **Re: percent of total in rpn mode**

*Message #11 Posted by [tropicflite](#) on 17 May 2007, 1:31 p.m.,  
in response to message #9 by tony(nz)*

Quote:

\_\_\_\_\_  
What about [1/x] [%] [1/x] for a [%T] ?

Nice!

Works perfectly, and is perfectly compatible with RPN.

To be explicit:

50 ENTER 30 [1/x] % [1/x] --- returns 60

Beautiful!

*Edited: 17 May 2007, 2:49 p.m.*

### Re: percent of total in rpn mode

Message #12 Posted by [ECL](#) on 16 May 2007, 3:11 p.m.,  
in response to message #1 by tropicflite

Here's the sequence, using only 4 keystrokes:

3 ENTER 5 /

First, do a mental  $30/50 = 3/5$  calc. Also, you don't really need to multiply by 100, if you acknowledge that you are seeing the percent in decimal form. :)

ECL

### Re: percent of total in rpn mode

Message #13 Posted by [Robert H](#) on 16 May 2007, 3:54 p.m.,  
in response to message #1 by tropicflite

50 ENTER 30 %CH

-40.00

therefor 30=60% of 50

### Re: percent of total in rpn mode

Message #14 Posted by [tropicflite](#) on 16 May 2007, 6:03 p.m.,  
in response to message #13 by Robert H

Quote:

50 ENTER 30 %CH

-40.00

therefor 30=60% of 50

This is a step in the right direction, but it still needs

100 +

to get to the correct answer.

So, 30 ENTER 50 %CH 100 +

gets us there, but not any more efficiently than

30 ENTER 50 / 100 x

### RPN, algebraic, and the % function

Message #15 Posted by [Norris](#) on 16 May 2007, 6:54 p.m.,  
in response to message #1 by tropicflite

On an RPN calculator, it's impossible to implement a single % function that duplicates the % key on an

algebraic calculator.

On an algebraic calculator, there are actually two different % functions, and the calculator chooses one or the other based on the preceding operation. For example, compare the following using an algebraic calculator, or on the 33S in ALG mode:

200 + 30%  
 200 - 30%  
 200 \* 30%  
 200 / 30%

In the first two cases, an algebraic calculator generates the number "60" when you press the % key. In the next two cases, an algebraic calculator generates the number "0.30" when you press the % key. So the % function is defined differently, depending on whether the preceding operation is addition/subtraction or multiplication/division.

On an RPN calculator, no such ambiguity is possible. The % function will be followed, not preceded, by addition/subtraction or multiplication/division. The RPN calculator, while powerful, is not psychic, and does not know what operation will come next. So the % function can only be defined in one way. The 33S in RPN mode assumes that you are doing addition/subtraction with %. If you want to do multiplication/division with %, then you are out of luck (or you simply program an alternative function).

Note that the ambiguous % function can also cause issues on algebraic calculators. For example, algebraics (including the 33S in ALG mode) typically return different answers for the following equations:

200 + 30% = 260  
 30% + 200 = 200.30

*Edited: 17 May 2007, 12:31 a.m. after one or more responses were posted*

### **Re: RPN, algebraic, and the % function**

*Message #16 Posted by [Norris](#) on 16 May 2007, 7:08 p.m.,  
 in response to message #15 by Norris*

If you want to add a % function for use with multiplication/division to the 33S, just program it in as follows:

```
[left-shift] PRGM
[left-shift] LBL I
100
/
[right-shift] RTN
[left-shift] PRGM
```

Now simply use XEQ %, instead of %, when you use % with multiplication and division operations. Example: 30 ENTER 50 XEQ % / yields 60. Continue to use the existing % function when you use % with addition and subtraction.

*Edited: 16 May 2007, 7:18 p.m.*

### **Re: RPN, algebraic, and the % function**

*Message #17 Posted by [tropicflite](#) on 16 May 2007, 10:35 p.m.,  
 in response to message #16 by Norris*

First, thanks for you efforts. Your program works a treat, and now lives in my 33S. That said, I was curious about the results of the 2 different % functions you mentioned, so I tried it on 3 different calculators, which yielded some interesting (and varying) results.

Calculator 1: LeWorld one-dollar six-banger

200 + 30 % --- returns 260

200 - 30 % --- returns 140

200 \* 30 % --- returns 60

200 / 30 % --- returns 666.66666

Calculator 2: TI-30X IIS (2-line ALG scientific calc)

200 + 30 % --- returns 200.3

200 - 30 % --- returns 199.7

200 \* 30 % --- returns 60

200 / 30 % --- returns 666.66666

Calculator 3: HP-33S (in ALG mode, results exactly as you stated)

200 + 30 % --- returns 60

200 - 30 % --- returns 60

200 \* 30 % --- returns .30

200 / 30 % --- returns .30

*Edited: 16 May 2007, 10:55 p.m.*

## **Re: RPN, algebraic, and the % function**

*Message #18 Posted by [John Smitherman](#) on 16 May 2007, 11:23 p.m.,  
in response to message #17 by tropicflite*

Quote:

Calculator 3: HP-33S (in ALG mode, results exactly as you stated)

200 + 30 % --- returns 60

200 - 30 % --- returns 60

200 \* 30 % --- returns .30

200 / 30 % --- returns .30

Hi tropicflite. I believe that you need to press Enter after pressing the % key in order to complete the operation.



Regards,

John

### **Re: RPN, algebraic, and the % function**

*Message #19 Posted by **Norris** on 17 May 2007, 12:02 a.m.,  
in response to message #18 by John Smitherman*

As stated above, if you add "ENTER" to the 33S operations, you will get the final results of the percentage calculations (which should be 260, 140, 60, 666.67). I omitted this step, because I wanted to emphasize the differences in the intermediate result obtained from the % function alone.

As you have probably figured out, for an equation like:

$X + Y\% =$   
then Y% is defined as  $XY/100$

but for an equation like:

$X / Y\% =$   
then Y% is defined as  $Y/100$  (which is different)

The algebraic calculator "knows" which Y% you want, because it "sees" the preceding operator (unless you feed it an equation without a preceding operator, like  $30\% + 200$ , in which case it may err). The RPN calculator doesn't "see" the preceding operator, and therefore can't make that determination.

*Edited: 17 May 2007, 12:15 a.m.*

### **Re: RPN, algebraic, and the % function**

*Message #20 Posted by **Norris** on 17 May 2007, 12:26 a.m.,  
in response to message #19 by Norris*

I have to say that I was surprised by the results that you got from the TI-30 IIS. The " $200 + 30\% = 200.30$ " is probably not the result that most people would expect. Like the 33S in RPN mode, the TI-30 IIS apparently uses only one of the two %-formulas (but the 33S/RPN uses the  $XY/100$ , while the TI-30 IIS apparently uses  $Y/100$  instead).

I found a TI-30 IIS here in the office and tried it, and got the same result that you did. My old TI-30X Solar, on the other hand, returns the expected result of 260 for this calculation.

### **Re: RPN, algebraic, and the % function**

*Message #21 Posted by **Bill Rice** on 17 May 2007, 8:22 a.m.,  
in response to message #20 by Norris*

Truly "unexpected" is the result on a Casio fx-115MS:  $200 + 30\% = 766.66667$

$30\% + 200 = 230$

This is why I've never trusted that key on anything but a 12c.

## RPN, algebraic, and the % function on TIs

Message #22 Posted by [Norris](#) on 17 May 2007, 11:45 a.m.,  
in response to message #20 by Norris

I would expect that the most common use of the % key is to calculate costs, given discounts or surcharges. For example, what is the total cost of a \$19.95 item if it is 25% off, and if there is 8% sales tax?

You can readily solve this problem with the % key on most cheapo algebraic calculators ( $19.95 - 25\% + 8\% = 16.16$ ). Or you could use an HP RPN calculator, because its % function is designed to work with addition and subtraction.

But you can't solve this problem with some high-end TI calculators, including the "top-of-the-line" TI-89. On the TI-89,  $19.95 - 25\% + 8\%$  ENTER yields 19.78. The % function is designed for use with multiplication/division, not addition/subtraction.

The "top-of-the-line" HPs, like the 48G series or 50G, have both the % and %T functions.

## The % function on Casios

Message #23 Posted by [Norris](#) on 17 May 2007, 1:39 p.m.,  
in response to message #20 by Norris

The % function on some Casios apparently can't be used with addition/subtraction either. On a Casio fx-260 Solar:

$200 + 30\%$  yields 766.66667 (as noted above for the Casio fx-115MS)  
 $200 - 30\%$  yields 566.66667

$19.95 - 25\% + 8\%$  yields -20.2 (after subtracting 25%) and then -152.5 (after adding 8%). I have no clue how it gets these results.

I looked in the Casio manual for this model. It only provides examples for using % with multiplication/division. There is no warning about using % with addition/subtraction.

*Edited: 17 May 2007, 1:46 p.m.*

## Re: The % function on Casios

Message #24 Posted by [Bill \(Smithville, NJ\)](#) on 17 May 2007, 2:31 p.m.,  
in response to message #23 by Norris

Hi Norris,

Check out the Casio FX-260 training guide (PDF):

[Training Guide](#)

It has the following example of how to add a percentage:

Quote:

\_\_\_\_\_

To add a percentage 15% to 1000 (or 1000 increased by 15%)

[1000] [x] [15] [SHIFT] [%] [+]

Result = 1150

---

There's some other Percentage operations included in the guide.

Bill

*Edited: 17 May 2007, 2:59 p.m.*

### **Re: The % function on Casios**

*Message #25 Posted by **Norris** on 17 May 2007, 3:00 p.m.,  
in response to message #24 by Bill (Smithville, NJ)*

OK, that procedure, while clumsy and unintuitive, does work on my fx-260, for both adding and subtracting percentages. For example:

[19.95] [x] [25] [%] [-] [x] [8] [%] [+] yields 16.16

But this procedure is not documented in the [User's Manual](#) that comes with the calculator. I don't think there was any "Training Guide" included.

Apparently the 260 only implements one form of the % function, designed for use with multiplication/division. So to add or subtract %, you have to append the addition or subtraction operator at the end of the equation, after you've calculated the percentage. It's almost like RPN ! (except, of course, for the preceding multiplication operations)

*Edited: 17 May 2007, 5:37 p.m. after one or more responses were posted*

### **Re: The % function on Casios**

*Message #26 Posted by **Bill (Smithville, NJ)** on 17 May 2007, 3:22 p.m.,  
in response to message #25 by Norris*

Hi Norris,

Quote:

---

But this procedure is not documented in the User's Manual that comes with the calculator.

---

Is the User's manual you posted a link to the same that came with the calculator? If so, then check Example 3, at bottom of page 10 and Example 4 at top of Page 11:

EXAMPLE 3: To add 15% onto 2500

[2500] [X] [15] [SHIFT] [%] [+] yields 2875

The Training Guide I found by doing Google Search. I don't have any Casio's, but the Casioeducation site looks interesting. But I think it may need a login to get to the training guide through the normal way on their web site.

Bill

*Edited: 17 May 2007, 3:23 p.m.*

**Re: The % function on Casios**

*Message #27 Posted by **Norris** on 17 May 2007, 5:38 p.m.,  
in response to message #26 by Bill (Smithville, NJ)*

Yup, you're right, I missed it.

**Re: RPN, algebraic, and the % function**

*Message #28 Posted by **Paul Brogger** on 17 May 2007, 4:19 p.m.,  
in response to message #17 by tropicflite*

All of the foregoing just underscores the point that the % "function" is a marketing gimmick, with varying implementations and interpretations.

In the interest of learning "real" math, far better to understand what "percent" means, and to become accustomed to (for example) multiply by 1.3 rather than "<n> + 30 %".

**Re: RPN, algebraic, and the % function**

*Message #29 Posted by **Norris** on 17 May 2007, 6:49 p.m.,  
in response to message #28 by Paul Brogger*

You're right. For example, I never really appreciated the variability in the % function before this tread started, because I never use this key myself.

**Re: Percent of total in RPN mode**

*Message #30 Posted by **Karl Schneider** on 17 May 2007, 12:35 a.m.,  
in response to message #1 by tropicflite*

Quote:

I have a 33s, and I cannot figure out how to find a percent of a total in RPN mode by using the % key.

i.e., 30 is 'what percent' of 50.

The best I can come up with is

30 enter 50 / 100 x

That indeed is the best way to perform the calculation. But really, the mathematically-inclined user is expected to be able to mentally shift the decimal point two places to the right. That's probably why no built-in function was provided on RPN *scientific* models.

However, the *financial* models (e.g., HP-12C, HP-10B, HP-14B, and HP-17B), whether RPN or algebraic, usually include a "%T" (percent of total) function. This function is implemented where possible in a menu, which makes RPN or algebraic mode irrelevant.

-- KS

---

**Re: Percent of total in RPN mode**

*Message #31 Posted by [A Physicist](#) on 17 May 2007, 11:17 a.m.,  
in response to message #30 by Karl Schneider*

Quote:

---

the mathematically-inclined user is expected to be able to mentally shift the decimal point two places to the right. That's probably why no built-in function was provided on RPN scientific models.

However, the financial models ... include a "%T" (percent of total) function.

---

Always knew there is a difference between science and business :-))

---

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## HP Forum Archive 17

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**50th Anniversary Display Issue**

Message #1 Posted by [Ron](#) on 15 May 2007, 9:45 a.m.

Over the years, I have come across only one each of the 14B and 32S 50th anniversary models. In both cases, the display is very dark and hard to read, and you can see some of the printing on the back of the LCD. I looked at the pictures here on the museum, and the display looks normal. Has anyone else here seen this? How common is this variant?

**Re: 50th Anniversary Display Issue**

Message #2 Posted by [jacksonconsult](#) on 15 May 2007, 12:49 p.m.,  
in response to message #1 by Ron

Hi Ron,

I have an HP-32S and HP-14B 50th Anniversary and use them regularly. The display is pretty clear, but of course you can adjust the contrast by holding down both the ON key and the + key (display gets darker) or the ON key and the - key (display gets lighter).

Ian J

**Re: 50th Anniversary Display Issue**

Message #3 Posted by [Ron](#) on 15 May 2007, 12:59 p.m.,  
in response to message #2 by jacksonconsult

Hi, Ian. Thanks for the note. I'm aware of the contrast adjustment. On these two units, you have to make it really dark just to differentiate the numbers from the background. The whole display is dark. I've seen lots of bleeding screens, and this doesn't appear to be from bleeding screen either. I would say I'm 99% sure it's a manufacturing or design irregularity... Or a regularity, if there are a lot like this.

**Re: 50th Anniversary Display Issue**

Message #4 Posted by [Walter B](#) on 15 May 2007, 4:25 p.m.,  
in response to message #3 by Ron

Ron, don't get me wrong, but did you check the batteries? It was my immediate idea when reading your post...

**Re: 50th Anniversary Display Issue**

Message #5 Posted by [Ron](#) on 16 May 2007, 9:16 a.m.,  
in response to message #4 by Walter B

Thank you for the suggestion, Walter. It's not a battery issue though. The LEDs are not dim. The whole display is dark, and somewhat transparent. If I ever get my lawn mower fixed, maybe I'll find time to post a picture. I'm really not looking for a fix though, as I'm sure it's a mfg/design

variant. I was just wondering how common it is. So far, it looks like I have the only two in existence. :^) Of course, this means I'll still have to find one of each in the more common configuration.

## **Re: 50th Anniversary Display Issue**

*Message #6 Posted by [Les Wright](#) on 16 May 2007, 5:49 p.m.,  
in response to message #1 by Ron*

The displays on my 50th anniversary 14B and a near-mint 32sii are just fine.

Indeed, the least satisfactory display I have seen on the Pioneers must belong to the nearly-canonized 42S. For this reason, virtually all of my 42S-type work is done under Free42.

Les

---

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## HP Forum Archive 17

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### [OT] TI Calculators tell teachers which pupils need help

Message #1 Posted by [Alain](#) on 14 May 2007, 10:37 p.m.

I found this interesting:

[http://news.yahoo.com/s/nm/20070514/tc\\_nm/summit\\_calculators\\_dc\\_1](http://news.yahoo.com/s/nm/20070514/tc_nm/summit_calculators_dc_1)

From the article:

Quote:

But calculators, long a fixture in college mathematics and engineering classrooms, are more profitable than semiconductors

Somebody tell HP! :-)

### Re: [OT] TI Calculators tell teachers which pupils need help

Message #2 Posted by [Peter A. Gebhardt](#) on 15 May 2007, 5:36 a.m.,  
in response to message #1 by Alain

There will always be a difference between "Marketing People" and people who know how to market ...

Best regards

### Re: Obviously Needed: Good Teachers Teaching Real Math Skills

Message #3 Posted by [Happy HP User](#) on 15 May 2007, 10:27 a.m.,  
in response to message #1 by Alain

"...wireless signals from pupils' handheld calculators to a personal-computer screen ... lets instructors correct and analyze errors in real time. The teacher can understand who's not getting it by assessing which functions students keyed into their calculators..."

This is over-reliance on technology. What's obviously needed, especially in the critical early years, is good old-fashioned 3R teaching. Seems like most of the teachers nowadays are just button-pushers teaching more button-pushing instead of real math skills.

If this is what's being currently taught, how the heck are we as a nation going to compete with India, China, and so on? I fear for the future...

### Off Topic - I fear for the future

Message #4 Posted by [Bill \(Smithville, NJ\)](#) on 15 May 2007, 10:46 a.m.,  
in response to message #3 by Happy HP User

"I fear for the future" has been around for many many years and cuts across all boundries. Just did a quick



search for the phase and came up with:

I fear for the future when it is placed in the hands of the children of today.  
I fear for the future of women in the new Iraq.  
I fear for the future of our country  
I fear for the future of my daughter in the present life  
I fear for the future if we were to withdraw  
I fear for the future of Israel  
I fear for the future of Apple  
I fear for the future of the United Kingdom  
I fear for the future if this is allowed to continue  
I fear for the future of my beloved ThinkPads  
I fear for the future of my company and the whole industry  
I fear for the future generations who are growing up  
I FEAR FOR THE FUTURE OF MY CHILDREN  
I fear for the future of content creators  
I fear for the future of the PC  
I fear for the future of my marriage  
I fear for the future of humanity  
I fear for the future of our kids and our schools  
I fear for the future of the horror genre  
I fear for the future of a watered down specialty  
I fear for the future of the human race  
I fear for the future of the next generation  
I fear for the future of my medical colleagues  
I fear for the future of the Middle East  
I fear for the future of our press corp  
I fear for the future of both our sport and our industry  
I fear for the future of music  
I fear for the future of the Western way of life  
I fear for the future of analysis  
I fear for the future of my sex life.  
I fear for the future of traveling  
I fear for the future of the world  
I fear for the future of old homes  
I fear for the future of academic dentistry  
I fear for the future of this vital tool  
I fear for the future of the Sportsman  
I fear for the future of employment in the city  
I fear for the future in ten or twenty years  
I FEAR FOR the future of environmental history  
I fear for the future of TV  
I fear for the future of books  
I fear for the future of the FOCUS line  
I fear for the future of the internet  
I fear for the future of community theatre  
I fear for the future of this plucky fish  
I fear for the future of the NHS  
I fear for the future of iriver  
I fear for the future well-being of Malaysia  
I fear for the future of our nation's highest court  
I fear for the future of the show I love  
I fear for the future of gaming  
I fear for the future of many of our football clubs  
I fear for the future of film-based photography  
I fear for the future of Irish song writing  
I fear for the future of Scottish winter climbing  
I fear for the future of my ability  
I fear for the future happiness of Grant and Hepburn  
I fear for the future of girls like this  
I fear for the future of a global disarmament agenda  
i fear for the future of boxing  
I fear for the future of the English language  
i fear for the future of MF digital  
I fear for the future of my four-year-old  
I fear for the future as a result  
I fear for the future of the archipelago's natural resources  
I fear for the future they will inherit  
I fear for the future of radio against the monster of television  
I fear for the future of our species  
I fear for the future of ColdFusion  
I fear for the future of naturism  
I fear for the future of the small-scale composting industry  
I fear for the future of the Army  
I fear for the future of science in schools  
I fear for the future of SUSE, and KDE  
I fear for the future of Pan Fish employees in Scotland  
I fear for the future until the next reboot  
I fear for the future of the all-too-easy-to-snap Arachnid legs  
I fear for the future of our health

I fear for the future of that poor debauched squishy cow  
I fear for the future of redheads  
I fear for the future of Banana  
I fear for the future of the band  
I fear for the future of C++  
I fear for the future if this is a sample  
I fear for the future of haiku  
I fear for the future of information exchange  
I fear for the future of personal freedom  
I fear for the future of "normal unhappiness"  
I fear for the future today  
I fear for the future of this opinion  
I fear for the future with the disastrous  
I fear for the future, I really do.

I fear for the future of my collection

Fearing for the future seems fairly common.

Bill

*Edited: 15 May 2007, 11:27 a.m.*

### **Re: Off Topic - I fear for the future**

*Message #5 Posted by [GE](#) on 15 May 2007, 1:33 p.m.,  
in response to message #4 by Bill (Smithville, NJ)*

[OT] Feeling fear doesn't avoid danger, but it can help.  
Don't fear fear !

### **Re: Off Topic - I fear for the future**

*Message #6 Posted by [Trent Moseley](#) on 15 May 2007, 2:38 p.m.,  
in response to message #5 by GE*

Or as FDR said back in the 30's, "The only thing we have to fear is fear itself".

tm

### **Re: Obviously Needed: Good Teachers Teaching Real Math Skills**

*Message #7 Posted by [Dia C. Tran](#) on 15 May 2007, 2:29 p.m.,  
in response to message #3 by Happy HP User*

"If this is what's being currently taught, how the heck are we as a nation going to compete with India, China, and so on?"

No we are not competing with them. We gave them our business.

### **Re: Obviously Needed: Good Teachers Teaching Real Math Skills**

*Message #8 Posted by [Jerry Doctor](#) on 16 May 2007, 12:06 p.m.,  
in response to message #7 by Dia C. Tran*

The United States was once the home of perhaps the finest engineering-based company in the world.  
Today that company sells ink.

### **Re: Obviously Needed: Good Teachers Teaching Real Math Skills**

*Message #9 Posted by **Bruce H** on 16 May 2007, 7:26 a.m.,  
in response to message #3 by Happy HP User*

Quote:

---

"...wireless signals from pupils' handheld calculators to a personal-computer screen ... lets instructors correct and analyze errors in real time. The teacher can understand who's not getting it by assessing which functions students keyed into their calculators..."

This is over-reliance on technology. What's obviously needed, especially in the critical early years, is good old-fashioned 3R teaching. Seems like most of the teachers nowadays are just button-pushers teaching more button-pushing instead of real math skills.

---

Two things: a) Just because the technology is there, it doesn't mean that teachers have to use it; and b) it sounds like a brilliant way of deterring pupils from playing Tetris instead of working. :-)

### **Re: Obviously Needed: Good Teachers Teaching Real Math Skills**

*Message #10 Posted by **Hugh Evans** on 16 May 2007, 11:32 a.m.,  
in response to message #9 by Bruce H*

Calculators are not necessary to learning math, and aside from proficiency, have no place in the classroom until well into college. Only a handful of majors require studies beyond entry level calculus, and I know from experience that you don't need a calculator to make it through differential equations.

---

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## HP Forum Archive 17

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### eBay - For Sellers

Message #1 Posted by [Ron](#) on 14 May 2007, 7:55 a.m.

If you are an eBay seller, you may want to take note of this. I search daily for a certain calc. On Saturday I did the search, and at least two new auctions came up, but they weren't new. They were several days old. Point being, that the eBay search is missing some of the auctions. I had wondered at some of the low prices I had been seeing in the closed auctions lately, and this helps explain it.

I contacted eBay about the problem, expecting their usual "you don't know what you're doing type of canned answer," but actually got a real response. They said it is an intermittent problem that they are working on. So anyway, consider this if you're about to list something, or if you've recently received a very low final bid for your auctions. I don't know if there is any recourse for this, or not. Maybe you can refuse to make the sale, because of technical difficulties in the eBay system, or whatever. I guess you would have to discuss that with eBay and/or the high bidder.

### Re: eBay - For Sellers

Message #2 Posted by [Howard Owen](#) on 14 May 2007, 11:43 a.m.,  
in response to message #1 by Ron

When I sell, it's in very low volume. I always do a search to be sure I'm showing up. I imagine the first question eBay might ask if I attempted to wiggle out of a sale on the basis you mention would be "how do you know you couldn't be found?" And if the answer was "I tried it and it failed" the next question would be "why didn't you contact us then?"

Regards,  
Howard

### Re: eBay - For Sellers & Buyers

Message #3 Posted by [Dave Shaffer](#) on 14 May 2007, 12:55 p.m.,  
in response to message #1 by Ron

Have you noticed that for "high-value" items (I haven't figured out where that kicks in - seems to be >\$100 at least), eBay no longer gives the bidders ID, but rather just a bidder number (i.e. there will be Bidder #1, Bidder #2, etc.)? There is no way (that I've seen) to relate "Bidder #1" to a real individual (except to Bidder #1 him/herself as well as the seller).

I can understand eBay's logic about protecting bidders' identities to prevent spam and other nefarious happenings, but I think this takes away some of the logic & experience that one might use for bidding. If you know who you are bidding against, and have competed with him/her before (or just watched them in action - Cobubba!), your bidding strategy might well be different.

Seems to me that there could be a unique bidding-only ID for everybody (you could even chose your real ebay ID if you wanted to). That name would always show up when you bid, but would not have any way of being related to an actual person or e-mail address.

Has this affected or bothered anybody here?

### **Re: eBay - For Sellers & Buyers**

*Message #4 Posted by **Forrest Switzer** on 14 May 2007, 9:30 p.m.,  
in response to message #3 by Dave Shaffer*

Dave,

Yes, it bothers me, but I believe the seller may be able to see the bidders names. I cannot tell how they make the choice of when to give the bidders names and when to not give them.

I would like to see who I am bidding against and be able to see where they live, their feedback, etc. I know they give some of that information if you hover over a part of their bid information or if you click on the bidder number. Still I prefer the old way of just showing the bidders.

Also, I think the seller has the option to have a private bid anyway, so this appears to be an eBay attempt to protect bidders even if they did not request it.

Forrest

### **Re: eBay - For Sellers & Buyers**

*Message #5 Posted by **Ron Ross** on 14 May 2007, 11:22 p.m.,  
in response to message #4 by Forrest Switzer*

I also believe it is a sellers option to make the auction private. Shilling then becomes even harder to detect. However, it can still be good thing for the seller as it eliminates the friendship factor. There are certain names on ebay that I recognise and though I may want an item, simply refrain from bidding if I see a forum member or other associate bid.

This is my decision (and therefore shouldn't be construed as bid fixing) and in my little mind helps eliviate the price inflation of the calculator world just a wee bit.

### **Re: eBay - For Sellers & Buyers**

*Message #6 Posted by **Gerson W. Barbosa** on 20 May 2007, 5:49 p.m.,  
in response to message #5 by Ron Ross*

Quote:

However, it can still be good thing for the seller as it eliminates the friendship factor. There are certain names on ebay that I recognise and though I may want an item, simply refrain from bidding if I see a forum member or other associate bid.

Good point! At least once this happened to me. About two years ago, I was interested in an HP-35, but I refrained from bidding when I saw the higher bidder was one of the forum members. He eventually got it for a reasonable price, by what I can remember - it's one with back label in Spanish, if I am not wrong. Yet I was willing to pay at least 50% more.

By the way, I used to be gwbarbosa at eBay :-)

Regards,

Gerson.



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## HP Forum Archive 17

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### How many calculators do you have?

Message #1 Posted by [Geir Isene](#) on 14 May 2007, 3:54 a.m.

Just curious :)

### Re: How many calculators do you have?

Message #2 Posted by [Valentin Albillo](#) on 14 May 2007, 4:23 a.m.,  
in response to message #1 by Geir Isene

Hi, Geir:

|       |       |
|-------|-------|
| HP    | 20    |
| SHARP | 40    |
| OTHER | 10    |
|       | ----- |
| TOTAL | 70    |

Best regards from V.

### Re: How many calculators do you have?

Message #3 Posted by [Antonio Maschio \(Italy\)](#) on 14 May 2007, 5:18 a.m.,  
in response to message #1 by Geir Isene

Hi, Geir:

|       |       |
|-------|-------|
| HP    | 17    |
| CASIO | 32    |
| SHARP | 11    |
| OTHER | 14    |
|       | ----- |
| TOTAL | 74    |

-- Antonio

Edited: 14 May 2007, 5:18 a.m.

### Re: How many calculators do you have?

Message #4 Posted by [jacksonconsult](#) on 14 May 2007, 5:33 a.m.,  
in response to message #3 by Antonio Maschio (Italy)

New-in-Box Stored Away; HP-10C, HP-11C, HP-12C, HP-17B, HP-42S, HP-32S 50th Anni, HP-14B 50th Anni, HP-19BII; (8 HPs stored)

Regular Daily Use Mint; HP-12C, HP-32S 50th Anni, HP-14B 50th Anni (3 HPs daily)

Occasional Monthly Use; HP-42S, HP-27S, HP-19BII (3 HPs monthly)

Grand Total: 14 HPs

I'm clearly over-compensating for something.... On the other hand, my view is that one day the 'new but vintage' old school HPs will all be gone, so its better to have a few extra and not need them, than need them and not have them eh?

Ian J

### Re: How many calculators do you have?

Message #5 Posted by [Giancarlo \(Italy\)](#) on 14 May 2007, 6:21 a.m.,  
in response to message #1 by Geir Isene

Hi Geir.

HP 19  
TI 1  
CANON 1  
CASIO 2  
SHARP 1  
-----  
TOTAL 24

Best regards.  
Giancarlo

*Edited: 14 May 2007, 6:22 a.m.*

### Re: How many calculators do you have?

Message #6 Posted by [Maximilian Hohmann](#) on 14 May 2007, 6:22 a.m.,  
in response to message #1 by Geir Isene

Hello!

> How many calculators do you have?

More every day :-)

Currently:

HP : 40  
non-HP: 390  
Total : 430

Greetings, Max

*Edited: 14 May 2007, 6:36 a.m.*

### Re: How many calculators do you have?

Message #7 Posted by [Vieira, L. C. \(Brazil\)](#) on 14 May 2007, 6:29 a.m.,  
in response to message #1 by Geir Isene

Hi, Geir:

HP 50+



How many calculators do you have?

|        |       |
|--------|-------|
| OTHERS | 10+   |
|        | ----- |
| TOTAL  | 60+   |

Best regards.

Luiz (Brazil)

### Re: How many calculators do you have?

Message #8 Posted by [Matthias Wehrli](#) on 14 May 2007, 11:36 a.m.,  
in response to message #1 by Geir Isene

Yes, I do have HP calculators....

### Re: How many calculators do you have?

Message #9 Posted by [PeterP](#) on 14 May 2007, 3:44 p.m.,  
in response to message #8 by Matthias Wehrli

I love it, Matthias!!

### Re: How many calculators do you have?

Message #10 Posted by [Geir Isene](#) on 14 May 2007, 5:26 p.m.,  
in response to message #8 by Matthias Wehrli

I'd be curious to the number, though...

### Re: How many calculators do you have?

Message #11 Posted by [Massimo Gnerucci \(Italy\)](#) on 14 May 2007, 12:06 p.m.,  
in response to message #1 by Geir Isene

|       |       |
|-------|-------|
| HP    | 216+  |
| TI    | 18    |
| Sharp | 7     |
| Other | 10+   |
|       | ----- |
| Total | >250  |

Greetings,  
Massimo

### Re: How many calculators do you have?

Message #12 Posted by [Anders Holmlund \(Sweden\)](#) on 14 May 2007, 1:22 p.m.,  
in response to message #1 by Geir Isene

Hello Geir and others,

|       |    |
|-------|----|
| HP    | 29 |
| Other | 5  |

Best regards, Anders

### Re: How many calculators do you have?

Message #13 Posted by **Geir Isene** on 14 May 2007, 2:02 p.m.,  
in response to message #1 by Geir Isene

/me:

```
HP: 28
+ TI: 16
-----
=      44
=====
```

### Re: How many calculators do you have?

Message #14 Posted by **b Qik** on 14 May 2007, 2:38 p.m.,  
in response to message #13 by Geir Isene

HP 19Bii HP 17Bii \*2 HP 48G HP 48G+ \*2 HP 48GX \*4 HP 32Sii \*2 HP 12C

HP 42S coming...

Total: 13 HPs +1...

### Re: How many calculators do you have?

Message #15 Posted by **Steve Borowsky** on 14 May 2007, 4:43 p.m.,  
in response to message #14 by b Qik

I don't have a precise number, but it's in the neighborhood of 400, not all of them HP's.

### Re: How many calculators do you have?

Message #16 Posted by **Spouse** on 14 May 2007, 8:15 p.m.,  
in response to message #1 by Geir Isene

Too many!

### Re: How many calculators do you have?

Message #17 Posted by **PeterP** on 14 May 2007, 9:51 p.m.,  
in response to message #16 by Spouse

:-)))))))

(I nominate the above post for the best answer so far)

### Re: How many calculators do you have?

Message #18 Posted by **Collector** on 14 May 2007, 8:16 p.m.,  
in response to message #1 by Geir Isene

Not nearly enough!

### Re: How many calculators do you have?

Message #19 Posted by **Paranoiac** on 14 May 2007, 8:17 p.m.,  
in response to message #1 by Geir Isene

Why do you ask?

**Re: How many calculators do you have?**

Message #20 Posted by [Shrink](#) on 15 May 2007, 4:49 p.m.,  
in response to message #19 by [Paranoiac](#)

Do you find the *size* of your collection significant?

**Re: How many calculators do you have?**

Message #21 Posted by [15C Fanatic](#) on 14 May 2007, 8:19 p.m.,  
in response to message #1 by [Geir Isene](#)

One.

(There is only one *real* calculator.)

**Re: How many calculators do you have?**

Message #22 Posted by [41C Fanatic](#) on 14 May 2007, 8:20 p.m.,  
in response to message #1 by [Geir Isene](#)

. . . well, it's not merely a *calculator* -- it's more of a calculating *system*.

Edited: 14 May 2007, 8:21 p.m.

**Re: How many calculators do you have?**

Message #23 Posted by [33s Tolerator](#) on 14 May 2007, 9:38 p.m.,  
in response to message #22 by [41C Fanatic](#)

1        3  
  2

**Re: How many calculators do you have?**

Message #24 Posted by [Everyone Else](#) on 14 May 2007, 9:39 p.m.,  
in response to message #23 by [33s Tolerator](#)

*That's not a calculator!*

**Re: How many calculators do you have?**

Message #25 Posted by [Cobubba](#) on 14 May 2007, 8:25 p.m.,  
in response to message #1 by [Geir Isene](#)

How much *money* do you have?

**Re: How many calculators do you have?**

Message #26 Posted by [Cobubba Haters](#) on 14 May 2007, 8:26 p.m.,  
in response to message #1 by [Geir Isene](#)

I could afford a lot more if it weren't for that Cobubba character!

**Re: How many calculators do you have?**

*Message #27 Posted by **hsiloP** on 14 May 2007, 8:28 p.m.,  
in response to message #1 by Geir Isene*

Understand I don't. Ask that you could order proper in please?

### **Without the 12c,**

*Message #28 Posted by **there wouldn't be any \$\$ to make any others for you guys** on 14 May 2007, 9:12 p.m.,  
in response to message #1 by Geir Isene*

n/t

### **Re: How many calculators do you have?**

*Message #29 Posted by **Fred Lusk** on 14 May 2007, 9:28 p.m.,  
in response to message #1 by Geir Isene*

I feel like an amateur...I only have ten: HP-35 (bought from my dad when he upgraded to the HP-45; I used this in high school) HP-55 (my first new HP; I used this high school and college) HP-34C (I used this in college and my first two years as a civil engineer) HP-41C (this is my dad's old machine) HP-41CX (I sold an HP-41CV+TIME+XFUN to a younger engineer and bought this as an upgrade; I used this machine regularly until about 1995) HP-42S (I bought this in 1988 and it's still my primary calculator) HP-48G (I bought this for \$25 when the local Office Depot was dropping high end HPs; my son now uses this in college) HP-48G+ (I bought this display model for \$35 when Office Max was dropping high-end HPs) HP-33Sii (I bought this when I learned HP was stopping production; this is my primary calculator at home) HP-10B (I won this in a contest and use it only once in a while)

Fred

### **Re: How many calculators do you have?**

*Message #30 Posted by **db (martinez, ca.)** on 14 May 2007, 10:03 p.m.,  
in response to message #1 by Geir Isene*

11 enter X

### **Re: How many calculators do you have?**

*Message #31 Posted by **Palmer O. Hanson, Jr.** on 14 May 2007, 10:16 p.m.,  
in response to message #30 by db (martinez, ca.)*

35 HP  
142 TI  
15 APF  
28 Casio  
17 Lloyds  
21 Rockwell  
49 Sharp  
45 Unisonic  
192 Other electronic calculators  
173 Slide Rules  
22 Mechanical Calculators (Friden, Addometer, Magic Brain, etc.)

### **Re: How many calculators do you have?**

*Message #32 Posted by **GE** on 16 May 2007, 8:57 a.m.,  
in response to message #31 by Palmer O. Hanson, Jr.*

No duplicates, most purchased second hand 31 HP 65 TI 13 Commodore 42 Casio 6 Rockwell 40 Sharp  
~80 Other electronic calculators no Slide Rules 8 Mechanical & electromechanical Calculators (Facit,  
Olivetti, Marchant, etc.) Puts me in the lower league here !!

**Re: How many calculators do you have?**

*Message #33 Posted by **Walter B** on 15 May 2007, 2:04 a.m.,  
in response to message #1 by Geir Isene*

HP ENTER 41 x TI ENTER 4 x x<>y

**Re: How many calculators do you have?**

*Message #34 Posted by **Thomas Okken** on 15 May 2007, 11:38 a.m.,  
in response to message #1 by Geir Isene*

I have 8: HP-25, 67, 15C, 42S, 48G; TI-58, 59, 58C.  
I never actually use any of them any more...

- Thomas

**Re: How many calculators do you have?**

*Message #35 Posted by **Bob** on 15 May 2007, 2:00 p.m.,  
in response to message #1 by Geir Isene*

TI's: 4 TI36X (2 NIB), 2 TI36XII (NIB), 2 TI81 (NIB), 1 TI30 (The first one)

HP's: 2 HP48GX's, 1 HP48G, 1 HP41C, 1 HP41CV, 3 HP33S's (2 NIB), 2 HP10bii's (1 NIB), 1 HP42S

**Re: How many calculators do you have?**

*Message #36 Posted by **cfh** on 15 May 2007, 3:48 p.m.,  
in response to message #1 by Geir Isene*

15 hp calcs. The others are not qualified as "calculators". /cfh

**Re: How many calculators do you have?**

*Message #37 Posted by **Frank Boehm** on 15 May 2007, 4:01 p.m.,  
in response to message #1 by Geir Isene*

2k+ (duplicates not included) (and yes, there is no real way of displaying them, most of them are stored in  
boxes)

**Re: How many calculators do you have?**

*Message #38 Posted by **GE** on 16 May 2007, 11:36 a.m.,  
in response to message #37 by Frank Boehm*

Your old web site displayed quite a few pictures, I think it would be nice to put it back on line as it was, at  
the moment there is nothing available at your site (may be wrong).

## Re: How many calculators do you have?

Message #39 Posted by [Katie Wasserman](#) on 16 May 2007, 11:49 a.m.,  
in response to message #37 by Frank Boehm

Wow 2k+!

I'll see you in the CCA (calculator collectors anonymous) 12-step group I guess :) I'll be the person in the back of the room sheepishly admitting to having around 400 about 1/3 of which are HP's.

## Re: A new criterion: Purchased Brand New

Message #40 Posted by [Trent Moseley](#) on 15 May 2007, 10:38 p.m.,  
in response to message #1 by Geir Isene

All nine of my HP's that I own were purchased brand new. This does not include two (also brand-new) that I gave away to people in my family many years ago

Gifted an HP-11C to a dear friend who is now deceased, and an HP-48GX to a grand-nephew, ulterior motive there, I can't stand RPL.

What's left: HP-25C, HP-31E, HP-67, (the card reader works thanks to people in the Forum), HP-12C, (a newbie compared to the rest), HP-15C, HP-16C, HP-42S, HP-32II, and an HP-33s.

tm

7

Message #41 Posted by [db \(martinez, ca.\)](#) on 15 May 2007, 11:37 p.m.,  
in response to message #40 by Trent Moseley

5(rpn) enter 1(basic) + 1(aos) +

still equals 5 in my book since the latter two are only good for keeping papers from blowing away in a breeze.

two more were given to me by *their* original owners when they retired - and boy howdy were those calcs used!

*Edited: 15 May 2007, 11:41 p.m.*

## Re: A new criterion: Purchased Brand New

Message #42 Posted by [Palmer O. Hanson, Jr.](#) on 16 May 2007, 12:00 a.m.,  
in response to message #40 by Trent Moseley

Of my 35 HP's only three were purchased new -- an HP-11c and two hp33s's where the second hp33s was purchased at a clearance sale at Wal-Mart for twenty dollars.

I got my HP-28S at a garage sale from an owner who was totally disgusted when he lost all his files while fumbling with the battery compartment cover during battery replacement, and to quote his exact words "I just want to get the damn thing out of my sight". Actually, I kind of like the 28s but the battery compartment cover is a piece of garbage.

I got one of my four HP-41's for a dollar at a thrift store where it (and a TI-59 which I also got for a dollar) had been thrown in a bin with the used TV remotes and was being sold at the same price as the

remotes. That tells you just how cloistered we calculator nuts really are.

### **A Monk**

*Message #43 Posted by **Walter B** on 16 May 2007, 2:16 a.m.,  
in response to message #42 by Palmer O. Hanson, Jr.*

Quote:

That tells you just how cloistered we calculator nuts really are.

d:-))

### **Re: A new criterion: Purchased Brand New**

*Message #44 Posted by **Vieira, L. C. (Brazil)** on 16 May 2007, 11:11 a.m.,  
in response to message #40 by Trent Moseley*

Just a few:

8 HP12C (many types...) 1 HP14B 1 HP15C 1 HP16C 1 HP17BII 1 HP19BII 1 HP28S 1 HP41C (the very first one of mine, 1982) 1 HP41CX 1 HP42S 1 HP48SX 1 HP48G 2 HP48G+ 2 HP49G 1 HP82240B

New models (no HP 'core'): HP10BII,...., HP48GII, HP49G+, HP50G.

Cheers.

Luiz (Brazil)

### **Re: A new criterion: Purchased Brand New**

*Message #45 Posted by **bill platt** on 16 May 2007, 1:02 p.m.,  
in response to message #40 by Trent Moseley*

I purchased new:

one (1) 11c

four (4) 32sii

two (2) 30s

three (3) 33s

two (2) 17bii

four (4) 20s

*Edited: 16 May 2007, 1:03 p.m.*

### **Re: A new criterion: Purchased Brand New**

*Message #46 Posted by **Bob** on 17 May 2007, 3:05 p.m.,  
in response to message #40 by Trent Moseley*

All of mine were purchased brand new.

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**Re: A new criterion: Purchased Brand New**

Message #47 Posted by [Steve Borowsky](#) on 18 May 2007, 1:20 p.m.,  
in response to message #46 by Bob

Quote:

\_\_\_\_\_

All of mine were purchased brand new.

\_\_\_\_\_

So were mine, just not by me.

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**Re: How many calculators do you have?**

Message #48 Posted by [Olivier TREGER](#) on 22 May 2007, 9:05 a.m.,  
in response to message #1 by Geir Isene

Well, although you can check on <http://calc.treger.net> I'm proud to list them:

Classics: HP-35: 2, HP-45: 3, HP-10: 1

Second Generation: HP-67: 3, HP-97: 2

Woodstock: HP-21: 5, HP-25: 2, HP-25C: 1, HP-27: 1, HP-29C: 1, HP-19C: 1

Spice: HP-31E: 1, HP-32E: 2, HP-33E: 2, HP-34C: 3, HP-38E: 1, HP-38C: 2

Coconut: HP-41C: 1, HP-41CV: 1, HP-41CX: 1, 82104A: 1, 82240A: 2, 82143A: 2, 82153A: 1, 82160A: 1,  
82106A: 1, Financial module (don't know PN)

Voyager: HP-12C: 1, HP-12C Platinum: 1, HP-16C: 2

Handhelds: HP-71B: 1

Clamshell: HP18C: 1, HP-28C: 1, HP-28S: 1

Pioneer: HP-14B Anniversary: 1, HP-17BII: 1, HP-17BII+: 1, HP-20S: 1, HP-32SII: 3, HP-42S

Charlemagne: HP-48G

Canon: 2

TI: Voyage 200, TI83Plus

Slide Rules: many. Aristo, Graphoplex, Faber-Castell, Pickett and others

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**Re: How many calculators do you have?**

Message #49 Posted by [Karl Schneider](#) on 23 May 2007, 2:41 a.m.,  
in response to message #1 by Geir Isene

My focus is what I consider the "golden era" of HP calculators -- mature and (mostly) well-engineered and -documented products introduced between 1979-1993. This era includes the the HP-41, the Spice, Voyager and Pioneer series, all Saturn-processor models, all original RPL-based models, and the Champion series.

I do also have a few HP models from outside that period, as well as a few non-HP's -- all but one of which are



"low-end":

Classic (1971-74): 35

Spice (1978-79): 34C (3)

Coconut (1979-83): 41C, 41CV, 41CX

Voyager (1981-82): 10C, 11C (2), 12C (2), 15C, 16C

BASIC computer: 71B (+ Math)

Pioneer (1988-91): 10B, 14B, 17B, 17BII, 20S (2), 21S, 22S, 27S, 32S, 32SII (2), 42S

RPL-based (1988-99): 28C (2), 48G, 49G

Other (ahem) "HP": 33S, 6S

Other makes:

Casio fx-3600P, fx-115MS

Texas Instruments TI-30 (LED), TI-36X, TI-82

Sharp EL-520R

Rockwell 18R

Le World scientific

GRAND TOTAL: 43

*Edited: 23 May 2007, 2:46 a.m.*

## Re: How many calculators do you have?

*Message #50 Posted by [Valentin Albillo](#) on 23 May 2007, 7:03 a.m.,  
in response to message #49 by Karl Schneider*

Hi, Karl:

Nice collection you have, but I've noticed some unexpectedly missing models, IMHO, namely:

HP: HP-25/25C, HP-67, HP-28S

The HP-67 I can understand, as it's a most difficult model to get, but HP-25 and HP-28S are both quite affordable, and both deserve to be collected, owned, used. If you haven't still read my "**Long Live the HP-25!**" on-line PDF article (freely available for download at [my calc web site](#)), please do, so that you can see for yourself why I'm being so enthusiastic about this particular model and why it is such a worthwhile, outstanding calc.

As for the HP-28S, I see you've got two 28C, so it might seem redundant to own one. However, the 28C was so incredibly limited by its ridiculous RAM (relatively much worse than an HP-41C with no RAM modules) that you really couldn't use its many revolutionary capabilities to the fullest, far from it, while you can with the 28S model and its 32 Kb RAM (vs about 1.5 Kb for the 28C).

As you know, I don't like RPL at all, but the 28S is the one and only RPL model in my collection because of its revolutionary nature and because it's obvious that a lot of thought and love were put into its design. But in order to fully realize its potential it absolutely needs RAM, which the 28C simply utterly lacks. Get a 28S, and enjoy dealing with large symbolic expressions, large complex-

valued matrices, and many-term Taylor series expansions, while learning or practicing RPL in a comfy environment to your heart's content, with no annoying "Low RAM!"-type messages constantly appearing and ruining your concentration and ultimately your enjoying this calc.

As for other makes, I'm really surprised that you don't have any BASIC-programmable SHARP handhelds at all, nor any of the really beautiful early alphanumeric fully-algebraic calculators, such as the EL-5100 or EL-5101. I would very heartily suggest that you try and get some of them, namely:

SHARP: PC-1211 (or 1212), PC-1262 (or 1261,1260),  
PC-1360 (or 1350), PC-1403H, PC-1475  
PC-E500S (or E500), PC-1421 (financial!)

Some of these are very easy and inexpensive to get (PC-1350/60, for instance), others are less so (PC-1421), but all of them are revolutionary in some aspect, in ways that HP models of the time weren't, while HPs had of course other high-points that some of these SHARP models lack.

All in all, both makes are highly complementary, and I guess that such a *connoisseur* as yourself would be very pleased to get to know and own some of these SHARPs, you'll probably be amazed at what you've been missing ! :-)

Best regards from V.

### "How many?" and the ones I don't have...

Message #51 Posted by [Karl Schneider](#) on 25 May 2007, 2:19 a.m.,  
in response to message #50 by [Valentin Albillo](#)

Hi, Valentin --

The "how many calculators do you have" thread has been introduced several times within the past four years. For everyone's reading enjoyment, here are several links:

[Dec 2003 \(Archive 14\):](#)

[Oct/Nov 2005 \(Archive 15\):](#)

Within the 2005 thread is a remarkably-similar exchange we had, concerning Sharp Pocket Computer models and the HP-28C/S:

[KS: "Re: HP Collection"](#)

[VA: "Re: HP Collection"](#)

[KS: "Sharp pocket computers \(and other topics\)"](#)

[VA: "Sharp pocket computers \(and other topics\)"](#)

as well as my comments on the HP-25 and HP-67, in response to the comment of another:

[KS: "Woodstocks \\*are\\* golden"](#)

My stance really hasn't changed. I probably ought to get one or two of the fine Sharp models from the 1980's for collection purposes, if not to undertake thorough exploration thereof.

I do also have some capable ROM's and accessories for the HP-41 and HP-71, which could certainly

keep me occupied with challenging projects if I chose to indulge the time. That's probably why I don't actively seek to pursue a "different direction" in hobbyism...

Best regards,

-- KS

*Edited: 25 May 2007, 2:26 a.m.*

**Re: "How many?" and the ones I don't have...**

*Message #52 Posted by [Valentin Albillo](#) on 25 May 2007, 5:27 a.m.,  
in response to message #51 by Karl Schneider*

Hi, Karl:

Karl posted:

*"The "how many calculators do you have" thread has been introduced several times within the past four years. For everyone's reading enjoyment, here are several links:"*

Thanks for the links. I don't usually store or keep track of past threads so I'm prone to repeat myself from time to time, not remembering that I've already discussed that particular topic with that particular person a number of years ago.

My bad no doubt, but I'm not for frantically searching the archives for each and every topic I want to post something about in order to avoid redundancies so I'll have to live with it.

As for you, next time you notice I'm repeating myself please simply ignore my posts.

Best regards from V.

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## HP Forum Archive 17

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### **Coburlin shocker!!!**

Message #1 Posted by [Mad Dog ebaycalcnut](#) on 12 May 2007, 2:28 p.m.

I cannot believe Coburlin is willing to pay well over \$100- for a 42s manual and a 48 case!! As best as I can tell, no actual calculator is included.

#### [HP-42S manual and 48 case](#)

While I am pointing out the ad, I have to say it is a little confusing when it says:

Quote:

Considered by many as the best calculator ever made by HP, this is the Classic 42S Engineering and Scientific calculator from Hewlett Packard.

And also calls the non-leatherette 48 case leatherette (and seems to hint that it is for the 42s at that!)

I wonder if Coburlin wins, will Coburlin actually pay that much for the lot?

*Edited: 12 May 2007, 2:30 p.m.*

### **Re: Coburlin shocker!!!**

Message #2 Posted by [Gene](#) on 12 May 2007, 2:34 p.m.,  
in response to message #1 by [Mad Dog ebaycalcnut](#)

My guess is that he will pay, get the case and manual, then go ape.

I'd also guess that what he did was to put in snipe bid thinking it was both calculators when he first saw the listing. Then he never went back to look at it again.

### **Re: Coburlin shocker!!!**

Message #3 Posted by [Mad Dog ebaycalcnut](#) on 12 May 2007, 2:38 p.m.,  
in response to message #2 by [Gene](#)

Geez, maybe someone should tell him with an "Ask Seller A Question" on one of his listings with less than 12 hours to go in the 42s manual auction (which happens to be when Coburlin cannot do a bid retraction!)

The thought of Coburlin going ape over the last 11 hours of an auction might be seen by some as amusing!

*Edited: 12 May 2007, 2:39 p.m.*

### **Re: Coburlin shocker!!!**

Message #4 Posted by [Namir](#) on 12 May 2007, 5:39 p.m.,  
in response to message #3 by [Mad Dog ebaycalcnut](#)

What you are so eloquently describing is poetic justice at its finest!!!

I guess Cobubba can realize his karma is catching up with him. May be he will do a spin off TV show .. My Name is Cobubba!! I will be watching every episode to see the list of people he ripped off as he makes up for it. I think NBC needs a hilarious show like that ... as least folks on this website will get it!!!

: -)

**Re: Coburlin shocker!!!**

Message #5 Posted by [Earl Kubaskie](#) on 12 May 2007, 6:26 p.m.,  
in response to message #4 by Namir

Cobubba Hotep might be appropriate...

**Re: Coburlin shocker!!!**

Message #6 Posted by [Earl Kubaskie](#) on 14 May 2007, 11:11 p.m.,  
in response to message #5 by Earl Kubaskie

I'm embarrassed. You don't have to be THAT old to be a Bruce Campbell fan! After all, I bought an HP-45 when they were the hottest calcs on the planet.

And I sold it a few months later to get a 65...

**Weekly World News Meets eBay Parasite!!**

Message #7 Posted by [Howard Owen](#) on 12 May 2007, 6:57 p.m.,  
in response to message #1 by Mad Dog ebaycalcnut

**Auction Vampire Spotted!!**

<http://retrocalculator.com/images/coburlinfaratu.jpg>  
**(And He's Not That Smart After All)**

San Jose CA, May 11, 2007: Something creepy is stalking eBay HP calculator enthusiasts. The enigmatic presence, known as "Coburlinfaratu," or just "Coburlin" for short, has never been caught in public. But his trail is littered with the corpses of his victims, many of whom don't know they are dead to this day! All that changed today when the reprehensible rounder with rodential dentition was spotted paying too much for a modicum of mathematical memorabilia, a cache of calculator curios, a tiny token of tasty technology. "What a doofball!" chortled leading eBay calculator financier Mad Dog ebaycalcnut. "He probably thought he was getting two real calculators. Instead, he bought a couple of manuals for \$100.00! Yippee!" "His reign of terror is close to an end," agreed Namir, another august TAS auctioneer. "He sank his fangs into something a little too firm for him to handle, that time. He may think twice before jumping on the next unsuspecting virgin eBay seller with more valuable old calculator stuff than sense!" In spite of suspicious sanguinity on the part of HP handheld helpmeets, it is this reporter's fear that we haven't seen the back of the crack calculator killer quite. Stay tuned to WWN in case the invisible vampire strikes again!

Apologies to everyone involved,  
Howard

*Edited: 12 May 2007, 7:53 p.m.*

**Re: Weekly World News Meets eBay Parasite!!**

Message #8 Posted by **Mad Dog ebaycalcnut** on 12 May 2007, 7:56 p.m.,  
in response to message #7 by Howard Owen

Cute!

Only 10 hours till Coburlin is in no bid retraction territory. The suspense is killing me!!

**Re: Weekly World News Meets eBay Parasite!!**

Message #9 Posted by **Namir** on 13 May 2007, 2:46 a.m.,  
in response to message #8 by Mad Dog ebaycalcnut

Speaking of that ... might Cobubba be in a health crisis state?

**Re: Outbid! (no text)**

Message #10 Posted by **Ron** on 13 May 2007, 8:14 a.m.,  
in response to message #1 by Mad Dog ebaycalcnut

.

**Re: Outbid! (no text)**

Message #11 Posted by **Namir** on 13 May 2007, 10:38 a.m.,  
in response to message #10 by Ron

Looks like idiot-fest!!!

:-)

Namir

**No, he's back on top with 4+ hours to go!**

Message #12 Posted by **Gene** on 13 May 2007, 1:39 p.m.,  
in response to message #11 by Namir

Wow! :-)

**get a life**

Message #13 Posted by **Don Shepherd** on 13 May 2007, 11:11 a.m.,  
in response to message #1 by Mad Dog ebaycalcnut

So, who are the idiots?

Coburlin, whose automatic bidding software almost committed him to buy something that was, to be fair, listed in the wrong category (and, because of this, he probably could have gotten out of it with Ebay, had he won)...

or those who took joy in the anticipation of him having to pay big bucks for something that was to most people (but not all, obviously) overpriced?

I'm beginning to agree with Valentin. Why does anyone even care about this guy?

**Re: get a life**

*Message #14 Posted by **Namir** on 13 May 2007, 2:27 p.m.,  
in response to message #13 by Don Shepherd*

Because is soooo funny!!!!!!

Yes we do laugh at funny and ironic situations.

**Re: get a life**

*Message #15 Posted by **Ron** on 13 May 2007, 4:48 p.m.,  
in response to message #13 by Don Shepherd*

I don't care that it's coburlin bidding. I'm just amazed that there are THREE people bidding on this item, at such high prices. The description seems pretty straight forward to me. I keep wondering if I'm missing something.

By the way, recent bidding has it up to \$125 now!

**Re: get a life**

*Message #16 Posted by **Walter B** on 13 May 2007, 6:00 p.m.,  
in response to message #13 by Don Shepherd*

Isn't this a very human reaction when you see somebody you dislike stumbling in a situation he will dislike? We call this Schadenfreude :-)

**Re: get a life**

*Message #17 Posted by **Howard Owen** on 13 May 2007, 6:12 p.m.,  
in response to message #13 by Don Shepherd*

Take a close look at the article on the vampire of eBay. Vampires don't exist, do they? But people love to imagine they do.

Coburlin annoys me, but I don't imagine that he's truly a monster. He's just a small time retailer who has found a scheme (he would probably say "a business method") to make money off certain goods on eBay I doubt he cares very much about the articles themselves. (He does the same sort of thing with old Microsoft software and with HP PCs.) That us what annoys me, and outrages others around here. These "articles" are objects of veneration to many of us. This guy is treating them like crass material goods. Oh, wait, I guess that's right, in a sense. Well, he's certainly driving up the price on those crass material goods by picking up many of the remaining bargains on eBay before any of us.. wait.. that can't be it, can it? 8)

Regards,  
Howard

**Well, he won! Re: Coburlin shocker!!!**

*Message #18 Posted by **Gene** on 13 May 2007, 5:57 p.m.,  
in response to message #1 by Mad Dog ebaycalcnut*

Amazing. Wonder what his expression will look like when he first notices the mistake.

And, will it be before he pays or when he opens the package?

**Re: Well, he won! Re: Coburlin shocker!!!**

*Message #19 Posted by [Ron Allen](#) on 13 May 2007, 8:22 p.m.,  
in response to message #18 by Gene*

The expression I use with scientific types who take advantage of and/or otherwise cheat the system is:

GET A HALF-LIFE!

**Re: Well, he won! Re: Coburlin shocker!!!**

*Message #20 Posted by [Howard Owen](#) on 14 May 2007, 12:33 a.m.,  
in response to message #19 by Ron Allen*

Some geeks might [misinterpret](#) that phrase. (Warning: heavy graphics at that link. Not recommended for low bandwidth viewing)

Regards,  
Howard

**Re: Well, he won! Re: Coburlin shocker!!!**

*Message #21 Posted by [Steve Borowsky](#) on 14 May 2007, 4:52 p.m.,  
in response to message #18 by Gene*

Now we just have to wait for the relisting. If it's \$500 he paid. If it's \$5 he didn't.

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## HP Forum Archive 17

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### Hewlett Packard 46 Electronic Calculator-Price Question

Message #1 Posted by [Achilleas](#) on 12 May 2007, 6:21 a.m.

Hello to everyone,

My research institute is sorting out old equipment. They are throwing away a Hewlett Packard 46 Electronic Calculator complete with the suitcase, the calculator cover, the instructions manual and the electricity cable. The calculator works and prints fine.

Would it be possible to give me an idea if there would be people interested to purchase the particular calculator and what the price range might be? I found nothing on ebay. I would appreciate your help since I have hardly any idea on the subject. Thanks a lot for the help in advance,

Achilleas.

### Re: Hewlett Packard 46 Electronic Calculator-Price Question

Message #2 Posted by [Bruce Bergman](#) on 12 May 2007, 10:33 a.m.,  
in response to message #1 by [Achilleas](#)

There HAVE been some of these on eBay. Rare, but they are there. They don't go for much (under \$200, if I remember), but should at least be of interest to the calculator collectors here and there. I do track this particular model on eBay when it appears. If you're looking to get a mint for one, I don't think it will happen. If you want to get a few bucks AND not throw out a good calc, sell it. ;-)

thanks, bruce

### Re: Hewlett Packard 46 Electronic Calculator-Price Question

Message #3 Posted by [Giancarlo \(Italy\)](#) on 12 May 2007, 11:07 a.m.,  
in response to message #1 by [Achilleas](#)

Hi.

You may want to have a look at this:

<http://www.hpmuseum.org/collect.htm#diff>

Hope this helps.

Best regards.

Giancarlo

### Re: Hewlett Packard 46 Electronic Calculator-Price Question

Message #4 Posted by [Achilleas](#) on 12 May 2007, 12:06 p.m.,  
in response to message #1 by [Achilleas](#)

Thank you very much for your replies...

I will try to sell this calculator since on the "Collector's Corner" it says that its "Very Difficult" to get so some collectors might be interested.

Should I try ebay? Do you know any other more specialised markets?

Thank you very much for the help again..

it would have been a pity to throw this calculator in the garbage..

Achilleas.

---

**Re: Hewlett Packard 46 Electronic Calculator-Price Question**

*Message #5 Posted by **Ron** on 12 May 2007, 3:02 p.m.,  
in response to message #1 by Achilleas*

It's a shame, stuff like this gets thrown out every day by people who don't know any better, and don't want to do the research.

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**Re: Hewlett Packard 46 Electronic Calculator-Price Question**

*Message #6 Posted by **Eric Smith** on 12 May 2007, 3:57 p.m.,  
in response to message #5 by Ron*

"don't be so sentimental. Things explode every day." -- Monty Python

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## HP Forum Archive 17

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### Will these batteries damage my HP 50g??

Message #1 Posted by [PhysicsNerd](#) on 11 May 2007, 7:54 p.m.

I want to switch my batteries in my 50g because I don't want them to run out on test day. It is okay if I make a switch like this right? Will my memory be erased?

The batteries that I'm planning on switching over to are different than the ones I have in my calc now. They are TITEN (no mercury added) Super Heavy Duty R03P/SUM-4/1.5V -0% mercury and cadmium batteries. These won't be bad or damage my calculator will it?

The reason I'm asking is that I saw a couple of posts about concerns about batteries. Thanks.

### Re: Will these batteries damage my HP 50g??

Message #2 Posted by [Tim Wessman](#) on 11 May 2007, 9:11 p.m.,  
in response to message #1 by [PhysicsNerd](#)

As long as your backup battery isn't dead (which it shouldn't be since your calc is new) you can replace the batteries with whatever you'd like.

I'd recommend just keeping the 4 batteries in your bag and replacing them during the test if you get a low battery warning. No need to do it sooner.

TW

### Re: Will these batteries damage my HP 50g??

Message #3 Posted by [Eric Smith](#) on 12 May 2007, 1:53 a.m.,  
in response to message #1 by [PhysicsNerd](#)

In devices like calculators, alkaline batteries will generally last longer than "super heavy duty" (zinc-carbon) batteries. But either should work fine.

Rechargeable NiCd or NiMH batteries should work well in the 50g also, however since it is designed for alkalines, you might not get as much low-battery warning.

### Re: Will these batteries damage my HP 50g??

Message #4 Posted by [DaveJ](#) on 12 May 2007, 2:47 a.m.,  
in response to message #1 by [PhysicsNerd](#)

Quote:

I want to switch my batteries in my 50g because I don't want them to run out on test day. It is okay if I make a switch like this right? Will my memory be erased?

The batteries that I'm planning on switching over to are different than the ones I have in my calc

now. They are TITEN (no mercury added) Super Heavy Duty R03P/SUM-4/1.5V -0% mercury and cadmium batteries. These won't be bad or damage my calculator will it?

No they won't, they are completely compatible, but there is no reason to use them over better quality Alkalines. "Super heavy duty" batteries are lower capacity and won't last as long as Alkaline.

Dave.

### **Re: Will these batteries damage my HP 50g??**

*Message #5 Posted by [Les Wright](#) on 12 May 2007, 6:13 p.m.,  
in response to message #1 by [PhysicsNerd](#)*

This is yet another good juncture for me to sing the praises of rechargeables in HP49 series.

I invested in set of 1000 mAh NiMH Duracells and quick charger for my 49G+. I also routinely and quickly back up my home directory and flag settings to an older SD card--at 128MB too small to be useful in many other devices, but positively huge as far as the 49G+ is concerned.

My 49G+ sat mostly unused for almost a year since I disliked to expense and waste of it gobbling alkaline batteries--certainly unlike anything I had ever encountered with my 48G. But recently, the HP49G+ has got routine and extensive use--so much so that the infamous and unpopular gold paint job (which I actually find strangely appealing) is beginning to wear and pit around the edges of the keyboard. Indeed, in recent weeks it has become my favourite calculator and I am spending more time trying to master UserRPL instead of more familiar RPN keystroke programming.

The old wisdom was that rechargeables were unsuitable for these calculators for fear that they would conk out without adequate warning and you would lose memory. But NiMHs are actually pretty good these days. And, at least in my 49G+, the backup wafer cell seems just fine to preserve memory while the batteries are out the 10 minutes it takes to recharge them.

In an examination setting you may want to carry a backup set of batteries with you in any case, no matter what kind of cells you use.

As for preserving your memory, this is certainly one of the areas where the 49 series tower over their older predecessors. The smaller SD cards have become so inexpensive these days that I think that there is no good reason for any serious user of the 49G+ or 50G not to have one in the calculator at all times. It is so quick to and straightforward to back up the HOME directory and flag settings that I have a little program to do it that I run out of habit several times the calculator is on and almost always just before a finish a session with it. Backing up the calculator state of the HP41 requires a card reader, 11 magnetic cards, a few minutes, adequate batteries, and plenty of concentration lest the cards get mixed up. And you can't even back up the memory of the much-celebrated 15C and 42S.

Les

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## HP Forum Archive 17

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**HP41 - Guide and tools to develop a new ROM module**

Message #1 Posted by [Jose L. Nieto](#) on 11 May 2007, 9:22 a.m.

Hi,

I have rediscovered my old HP41 just a few weeks ago. It's great all the information available nowadays about this machine. But I'm a little confused ....

I need some information, to choose the best way in developing a new ROM module. I only have a HP41CV and a selfmade clonix module. (Thanks Diego for explanations).

The question is ..... Wich are the best todays tools to develop a ROM module, just using this hardware items and a PC??? I will try to include in the module some MCODE functions and some USER programs. So I guess the process is ... write MCode program, run it in emulator with breakpoints and step by step capabilities. Compile complet 4k ROM, test it in V41 emulator. Burn it in a Clonix module ....

I would like to ask people with more experience in HP41 programming that explains the procedures to follow and the suitable tools.

Another question .... Is there any software to convert ROM files into MOD files.?? (To load a ROM image created with SDK41 in V41 emulator.)

Best regards

**Converters**

Message #2 Posted by [Mike \(Stgt\)](#) on 11 May 2007, 10:21 a.m.,  
in response to message #1 by Jose L. Nieto

Yep, I do have [some converters](#), but only for those experts which still have access to a host running VM/CMS (the best OS I know). Only two of those routines may (and did) run on PCs.

Ciao.....Mike

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## HP Forum Archive 17

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### HP 12C--- "c" on the bottom right hand side of the display screen

Message #1 Posted by [Radha](#) on 11 May 2007, 7:33 a.m.

Hi,

I have the hp12c financial calculator. I have been using this for the past 4 years now. For the past few days the screen displays the alphabet "c" on the bottom right hand side of the calculator..i don't seem to have any problem with the calculations so far, but I have my CFA exams coming up in few days and want to make sure if everything was ok. I went through the archives and found that someone else also had the same problem but I am not able to follow the same steps mentioned in the archive(I don't have the CF on the slant side of the digit 5). Can someone help me solve the problem?

Thanks

*Edited: 11 May 2007, 7:38 a.m.*

### Re: HP 12C--- "c" on the bottom right hand side of the display screen

Message #2 Posted by [Gene](#) on 11 May 2007, 8:04 a.m.,

in response to message #1 by Radha

To remove it, press STO then EEX.

### Re: HP 12C--- "c" on the bottom right hand side of the display screen

Message #3 Posted by [Antonio Maschio \(Italy\)](#) on 11 May 2007, 12:04 p.m.,

in response to message #2 by Gene

Please, Gene, explain:

what does mean STO EEX? What function does it bring?

-- Antonio

### Re: HP 12C--- "c" on the bottom right hand side of the display screen

Message #4 Posted by [Gene](#) on 11 May 2007, 2:11 p.m.,

in response to message #3 by Antonio Maschio (Italy)

From page 64 of the HP12c platinum owners manual.

"At your option, the calculations of i, PV, PMT, and FV can be performed with either simple interest or compound interest accruing during the odd period. If the C status indicator in the display is not lit, simple interest is used. To specify compound interest, turn the C indicator on by pressing STO EEX. Pressing STO EEX again turns the C indicator off, and calculations will then be performed using simple interest for the odd period."

Full manual available as a PDF here:

[http://www.educalc.net/ftp/educalc/HP12C\\_OH.zip](http://www.educalc.net/ftp/educalc/HP12C_OH.zip)

Funny, but I can't find the link to the manual on the 25th anniversary 12c web page.

**Re: HP 12C--- "c" on the bottom right hand side of the display screen**

*Message #5 Posted by [Antonio Maschio \(Italy\)](#) on 11 May 2007, 3:18 p.m.,  
in response to message #4 by Gene*

Well, thanks you.

-- Antonio

**Re: HP 12C--- "c" on the bottom right hand side of the display screen**

*Message #6 Posted by [Radha](#) on 12 May 2007, 1:37 a.m.,  
in response to message #4 by Gene*

That worked....Thank you.

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## HP Forum Archive 17

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### [O.T.] Sharp Pc-1500

Message #1 Posted by [Antonio Maschio \(Italy\)](#) on 11 May 2007, 6:08 a.m.

Hi,

I recently bought a Sharp PC-1500, with an uninstalled 8 KB Ram module. I unscrewed the back cap where 4 AA batteries reside, but I don't know how to open the little cover of the RAM slot.

I dare not unscrew all the seven/eight screws on the back (since I suspect this is the only way), but if I receive some reassuring news, I'll do it (I want my PC to be enhanced, after all). The RAM slot cover has a little hole in which a hinge could go for pressure, but I was not able to open it, and it seems not separated from the rest.

What about it?

-- Antonio

### Re: [O.T.] Sharp Pc-1500

Message #2 Posted by [Klaus](#) on 11 May 2007, 6:57 a.m.,  
in response to message #1 by Antonio Maschio (Italy)

Just pull the lid of the module-slot!

Edit: I found it useful to unscrew and disassemble the unit. If you use rechargeables, you can adjust the contrast that way. And if the speed of the clock is wrong, you can clean and adjust it this way.

*Edited: 11 May 2007, 7:00 a.m.*

### Re: [O.T.] Sharp Pc-1500

Message #3 Posted by [Antonio Maschio \(Italy\)](#) on 11 May 2007, 8:07 a.m.,  
in response to message #2 by Klaus

I did it just a minute after posting.

Thanks a lot for your words.

-- Antonio

### Re: [O.T.] Sharp Pc-1500

Message #4 Posted by [Bill \(Smithville, NJ\)](#) on 12 May 2007, 10:33 p.m.,  
in response to message #3 by Antonio Maschio (Italy)

Hi Antonio,

The PC-1500 is a great computer. Did you also get the four pen color plotter/printer with it? The PC-1500 was my first pocket computer - I think I paid over \$700 for it with the printer/plotter. The hard



part is finding the pens - Last year I bought a set of color pens from a person in Italy on e-bay. They worked great.

Be sure to check out the following site:

[PC-1500](#)

There's a great emulator and also some utilities to convert cassette files to WAV, binary and text files.

Have fun with it.

Bill

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## HP Forum Archive 17

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### **My Hp 50g is giving answers in fractions!!**

Message #1 Posted by [PhysicsNerd](#) on 10 May 2007, 11:43 p.m.

How can I set my calculator so that it gives quotient answers (ex. 234/43) in decimals instead of fractions?? Please help.

### **Re: My Hp 50g is giving answers in fractions!!**

Message #2 Posted by [Allen](#) on 11 May 2007, 12:43 a.m.,  
in response to message #1 by [PhysicsNerd](#)

Quote:

.....  
..unpaid volunteers who donate hours of their time to provide information and assistance..  
.....

This is how the contributors to this forum are described in Dave's [MoHP website terms of use](#). You will find the description accurate in that nearly all the folks who post here (except for a small minority who use it only as a means of public complaint) are happy to help, but you need to do SOME work yourself.

This involves YOU reading the [manual](#) before posting Chapter 3 level questions. You will see this idea less politely suggested in other threads by the acronym "RTFM" which I will not expand upon.

### **Re: My Hp 50g is giving answers in fractions!!**

Message #3 Posted by [JOHN](#) on 11 May 2007, 12:46 a.m.,  
in response to message #2 by [Allen](#)

HELP MY KEYBOARD GIVES ALL LETTERS IN CAPS! WHAT SHOULD I DO?

### **Re: My Hp 50g is giving answers in fractions!!**

Message #4 Posted by [PhysicsNerd](#) on 11 May 2007, 1:20 a.m.,  
in response to message #3 by [JOHN](#)

Yeah I found the solution actually. Does anyone know how to make the edit function automatically go to the equation writer? thanks.

### **Re: My Hp 50g is giving answers in fractions!!**

Message #5 Posted by [Allen](#) on 11 May 2007, 1:28 a.m.,  
in response to message #4 by [PhysicsNerd](#)

see comment above RE the manual, except start in chapter 2. FYI, You may find it useful to not read the table of contents, since that might tell you which page not to read before posting another question. :-) I am responding to your second question, somewhat tongue-in-cheek, but your 4 posts this week have all been answered with a similar plea to do your own homework before asking

others for help.

In response to your 10 may question

Quote:

..do SOME work yourself... read the manual (link provided)...

in response to your may 7 question:

Quote:

..you could do that [yourself].. Have you tried reading the fine documentation?..

in response to your 5 may question:

Quote:

..First off, be sure to have the HP 49g+ & 48gII\_Advanced User's Reference Manual (links provided)..

*Edited: 11 May 2007, 2:03 a.m.*

## **Re: My Hp 50g is giving answers in fractions!!**

*Message #6 Posted by [Vieira, L. C. \(Brazil\)](#) on 11 May 2007, 6:26 a.m.,  
in response to message #4 by PhysicsNerd*

HI;

the [v] (cursor-down), auto-edit feature, is context-sensitive, meaning it will activate the best suitable editor according to the object being edited: matrix writer, equation writer, command line... I do not remember if this is actually possible to change, meaning that if you have an algebraic in level one, [v] key will cause the equation writer to be activated.

Hope this answers your question.

Cheers.

Luiz (Brazil)

*Edited: 11 May 2007, 6:27 a.m.*

## **help1 now everything i type is in lowercase1**

*Message #7 Posted by [John](#) on 11 May 2007, 11:17 a.m.,  
in response to message #4 by PhysicsNerd*

can someone help me/ everything i type is lowercase. i also can't get any characters printed at the top of my keys to show up.

other question. i thought this calculator was made by hewlett packard but i see hp everywhere. what is this hp/

**Re: help1 now everything i type is in lowercase1**

*Message #8 Posted by **Ron** on 11 May 2007, 12:41 p.m.,  
in response to message #7 by John*

Now, now...

**Re: help1 now everything i type is in lowercase1**

*Message #9 Posted by **John** on 11 May 2007, 1:26 p.m.,  
in response to message #8 by Ron*

Well, he didn't learn from the first exchange.

READ THE MANUAL

So the rhetoric needs to expand or he/she will never learn.

It's one thing to be thought ignorant in life. It's another to open one's mouth and remove any doubts.

**Re: help1 now everything i type is in lowercase1**

*Message #10 Posted by **Ron** on 12 May 2007, 12:29 a.m.,  
in response to message #9 by John*

%^)

**Re: help1 now everything i type is in lowercase1**

*Message #11 Posted by **martin** on 14 May 2007, 1:55 a.m.,  
in response to message #9 by John*

I just want to add my 2cents worth here. I bought my 50G this weekend and I agree with you - RTFM!!! It's a good thing to setup the calculator for the first time before you "work" with it. It gives you a feel for the operations and how the calculator handles. People want to be spoon fed. I hate that kind of life!!!!

Regards

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## HP Forum Archive 17

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**Repair broken LCD in 71b**

Message #1 Posted by [PeterP](#) on 10 May 2007, 11:29 p.m.

Hi,

Lucky me was able to find a math-module that was offered together with a 71b. No problem I thought, I get the module and then either have a spare calc or can offer it to a better home.

Unlucky me however got the pain-cramps when the calc arrived. The seller had packed it very densely and tightly. Hence the LCD became part of the 'shock absorbing material' and promptly broke! It now sports a large Rorschach test blob in the middle (with broken glass lines) and a small blob on the left. (It is the LCD glass that is broken, not the cover glass on top...)

Now, here is my question to the wizards here - is there a way to replace the LCD in the 71b? I opened up the good thing (with my newly acquired Torx screwdriver!) but it seems the LCD is put directly in the PCB that also holds the keyboard. So the only thing that seems 'replaceable' is the full upper half of the 71b with keyboard and all.!? Is that correct?

If not, is there a description on how to replace the LCD (I have another 71b which has a fine LCD but otherwise looks like it has been used as a chewing toy for a medium sized dog...)? Or is there someone who can perform such a procedure? Or, last but not least, does someone have a superfluous 'upper halve' with good keyboard and LCD that they'd like to sell/trade?

Thanks so much in advance, in the meantime I'll try to recover from the sight of an otherwise AAA+ 71b with broken LCD...

Cheers

Peter

**Re: Repair broken LCD in 71b**

Message #2 Posted by [Tony Duell](#) on 11 May 2007, 1:36 p.m.,  
in response to message #1 by [PeterP](#)

Quote:

Now, here is my question to the wizards here - is there a way to replace the LCD in the 71b? I opened up the good thing (with my newly acquired Torx screwdriver!) but it seems the LCD is put directly in the PCB that also holds the keyboard. So the only thing that seems 'replaceable' is the full upper half of the 71b with keyboard and all.!? Is that correct?

Unfortunately that's what the official HP service manual for the HP71B says. Component level repair was performed on the lower (memory) PCB, but any fault on the top PCB meant a complete new top case.

In your case (!) I'd probably dismantle the machine with the broken display as carefully as I could -- cut away

the heat stakes removing at little plastic as possible. If you find you can get the PCB out, I'd then do the same to the machine with the mangled case and swap the innards over.

I believe the HP71B service manual is on the Australian Site, BTW

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### More on testing calculators and computers

Message #1 Posted by [Palmer O. Hanson, Jr.](#) on 9 May 2007, 11:10 p.m.

In a recent thread Rodger Rosenbaum suggested:

Quote:

Try doing the sin cos tan atan acos asin test all on one command line with starting values of 6,7,8,10,11, and 12 degrees and see if the results are all as good as when starting with 9 degrees.

I responded with the results with my Durabrand 828. I have since completed tests over the same input value range with several other machines as shown in the following table:

| N     | N - f(N)  |           |           |           |           |         |
|-------|-----------|-----------|-----------|-----------|-----------|---------|
|       | Durabrand | TI-30     | HP-41/67  | TI-59     | HP-28     | TI-85   |
| 08 5  | +3.15E-09 | -1.67E-01 | +1.20E-04 | -3.60E-05 | +3.35E-06 | -7.27E- |
| 08 6  | +3.23E-09 | -1.69E-01 | -4.44E-04 | +4.32E-08 | +1.64E-06 | +3.36E- |
| 08 7  | +2.73E-09 | -1.07E-01 | +4.80E-04 | -6.55E-05 | -3.18E-06 | +6.49E- |
| 09 8  | +6.02E-10 | -1.68E-01 | -2.88E-04 | -1.60E-05 | +2.88E-06 | +9.61E- |
| 08 9  | +1.92E-09 | -1.77E-01 | -4.17E-04 | -4.66E-06 | +1.36E-06 | +3.04E- |
| 08 10 | +5.93E-10 | -1.53E-01 | +1.83E-04 | -5.28E-05 | +3.35E-06 | +2.99E- |
| 08 11 | +3.79E-10 | -4.49E-02 | -3.40E-04 | -5.21E-05 | +2.47E-06 | +2.20E- |
| 08 12 | +4.07E-10 | -8.59E-02 | -1.09E-04 | -2.91E-05 | +1.55E-06 | -3.62E- |
| 08 13 | +6.10E-10 | -1.05E-01 | -3.07E-05 | -4.12E-05 | +1.89E-07 | -1.67E- |
| 08 14 | +8.09E-09 | -9.36E-02 | -5.02E-05 | -3.12E-05 | -5.47E-07 | -1.81E- |
| 08 15 | +1.43E-09 | -6.49E-02 | -1.27E-04 | -3.12E-05 | -2.97E-07 | -1.15E- |
| 09 20 | +8.93E-10 | -5.29E-02 | -1.28E-04 | -7.38E-06 | -8.10E-07 | -9.06E- |
| 09 25 | +5.44E-10 | -2.20E-02 | +2.74E-05 | -9.42E-06 | -5.76E-07 | -6.33E- |
| 09 30 | +3.09E-10 | -4.53E-02 | +5.90E-05 | -1.78E-06 | -9.43E-07 | +3.78E- |

where getting the results in tabular form takes more time than getting them. As expected the machines which carried more digits yielded better results. I note that only the TI-59 showed one result (for 6) which was much better than the typical values.

In the same thread Rodger proposed some arithmetic tests of calculators and computers which do not use higher math functions:

Quote:

Here is a test that only checks the calculator's basic arithmetic accuracy. It is based on the observation that if you reciprocate certain integers twice, you don't get the original integer back, and indeed you shouldn't on a finite precision BCD machine.

For example, type  $6 \frac{1}{x} \frac{1}{x}$  and you should see 5.9999999... on any calculator that does rounded arithmetic properly. If you see exactly 6 then the calculator isn't displaying all the digits in the result, or it's a "pleaser", like the HP30 (you should get 6.00000...0002 if it truncates properly).

So, the idea is to program a loop, apply  $1/x$  twice for a range of integers, each time subtracting the result from the original integer that was reciprocated, and summing the absolute values of those small differences. This is another of my "what should we get" tests, because the result is determinate; there is a correct result, depending on how many digits are used, and the rounding mode.

Here's the program:

```
10 N=500 REM NUMBER OF ITERATIONS
20 S=0 REM INITIALIZE RUNNING SUM
30 FOR I = 1 TO N
40 S=S+ABS(I-1/(1/I))
50 NEXT I
60 PRINT S
```

---

Rodger gave a result for the HP-71 and suggested "I'm sure you'll want to try it on your own calculators." I started with my old Radio Shack Model 100 which carries thirteen or fourteen digits depending on whether the value to the left of the decimal point has an odd or even number of digits. The sum was 1.9564E-09 .

Rodger also suggested that

Quote:

---

The square root function is also specified by the IEEE, so line 40 in the program can be modified to:

```
40 S=S+ABS(I-SQRT(I)*SQRT(I))
```

and the program should give a specific result on a compliant machine.

---

I tried that on my Model 100. The sum was 7.9719E-09 . Then, I remembered that there are 22 perfect squares between 1 and 500 which should yield zeros for the value  $(I-SQRT(I)*SQRT(I))$  . I added a couple of lines to the program which would count the occurrences of zeroes. The program reported 84 zeroes instead of the expected 22. I returned line 40 to the original format which tests reciprocals and found that the program reported 300 zeroes.

I tried the reciprocal and square root tests on the HP-41, HP-33s, TI-59, TI-85 and Durabrand 828 with the following results:

|           | Reciprocal Test |        | Square root - square Test |        |
|-----------|-----------------|--------|---------------------------|--------|
|           | Sum             | Zeroes | Sum                       | Zeroes |
| Model 100 | 1.956E-09       | 300    | 7.972E-09                 | 84     |
| HP-41     | 6.134E-06       | 397    | 3.217E-05                 | 206    |
| HP-33s    | 6.803E-08       | 389    | 3.127E-07                 | 204    |



|       |           |     |           |     |
|-------|-----------|-----|-----------|-----|
| TI-59 | 6.894E-09 | 402 | 3.843E-07 | 22  |
| TI-85 | 7.353E-10 | 386 | 5.743E-09 | 142 |
| 828   | 0         | 500 | 0         | 500 |

I don't understand why the TI-59 only gets the expected 22 zeroes. I will try to look harder at how I am doing the Durabrand 828 tests. I remember that back when I was doing square root of two - squared tests on the Casio fx-7000G I had to be careful or adjacent square roots and squares would somehow just cancel each other out.

### Re: More on testing calculators and computers

Message #2 Posted by **DaveJ** on 9 May 2007, 11:31 p.m.,  
in response to message #1 by Palmer O. Hanson, Jr.

My HP 20S gives: 5.99999999999 for 6 7.00000000001 for 7 9.00000000001 for 9 etc

Dave.

### Re: More on testing calculators and computers

Message #3 Posted by **Rodger Rosenbaum** on 10 May 2007, 4:49 p.m.,  
in response to message #1 by Palmer O. Hanson, Jr.

You report in the text that the Model 100 got 7.9719E-09, but in the table you show 7.972E-09. It would be good to report all the digits you get in the test when you do the table.

The results you report for the 1/x test for the HP-41, HP-33S and TI-85 are exactly what should be gotten for 10, 12 and 14 digit BCD calculators.

The results for the SQRT test for 10, 12 and 14 digit machines should be 3.2127E-05, 3.1267E-07 and 3.0483E-09.

I wonder if the discrepancy for the HP-41 SQRT test is simply because you didn't report all the digits.

I have a TI-86, which I would expect to get the same result as a TI-85. I get the same result you do for the 1/x test, but for the SQRT test I get 3.0483E-09 which is the "what should you get" exact expected result. I was pleasantly surprised to find that the TI-86 did so well on this test and the 1/x test. Evidently TI has cleaned up their basic arithmetic.

Perhaps you could double check your result on the TI-85 SQRT test. Here are some of the results I get for different loop repetition counts.

| N   | Result   |
|-----|----------|
| 10  | 3E-13    |
| 20  | 3E-13    |
| 50  | 4.3E-12  |
| 100 | 2.83E-11 |

I don't have an HP-33S, but I ran the SQRT test on the HP-71, a 12 digit Saturn machine, and I got 3.1267E-07.

Here are some results from a 12 digit Saturn machine:

| N | Result |
|---|--------|
|---|--------|

|     |         |
|-----|---------|
| 10  | 7E-11   |
| 20  | 7E-11   |
| 50  | 4.7E-10 |
| 100 | 2.67E-9 |

Perhaps you could also double check your HP-33S results for the SQRT test.

The Model 100 you refer to is the old Radio Shack machine, isn't it? That machine is running Microsoft Basic isn't it? That would mean that it's doing binary arithmetic. I haven't worked out "what we should get" for binary machines, so I can't comment on your results for the 100. :-{

The result for the TI-59 isn't what should be expected for a 13 digit machine. A 13 digit BCD calculator should get 6.204E-07 for the 1/x test, and 3.1777E-08 for the SQRT test. I assume this discrepancy is because the TI-59 didn't do basic arithmetic as well as the later TI calculators.

When I get a bad result in one of these tests that involve a lot of iterations, such as the Savage benchmark with its 2500 iterations, I always wonder where the mistake was made. What I do is to change the number of iterations by half and compare the result with the "correct" result. If there's still an error, then cut the number of iterations in half again. If there's no error this time, then increase the number of iterations to a point halfway to where the last error was made, and so forth until you get to the particular calculation that made the error. This binary search technique is the fastest to zero in on where the error was made. When you get there, then you can examine the individual calculation that made the error in detail and find out what went wrong.

## More on the TI-85

Message #4 Posted by *Palmer O. Hanson, Jr.* on 12 May 2007, 11:44 p.m.,  
in response to message #3 by Rodger Rosenbaum

Rodger:

You wrote:

Quote:

I have a TI-86, which I would expect to get the same result as a TI-85. I get the same result you do for the 1/x test, but for the SQRT test I get 3.0483E-09 which is the "what should you get" exact expected result. I was pleasantly surprised to find that the TI-86 did so well on this test and the 1/x test. Evidently TI has cleaned up their basic arithmetic.

Perhaps you could double check your result on the TI-85 SQRT test. Here are some of the results I get for different loop repetition counts.

| N   | Result   |
|-----|----------|
| 10  | 3E-13    |
| 20  | 3E-13    |
| 50  | 4.3E-12  |
| 100 | 2.83E-11 |

I ran the square root - squared test problem from the keyboard of my TI-85 for integers 1 through 20 with the following results:

|   |        |    |        |
|---|--------|----|--------|
| 1 | 0      | 11 | 0      |
| 2 | 0      | 12 | 0      |
| 3 | -1E-13 | 13 | 0      |
| 4 | 0      | 14 | 0      |
| 5 | 0      | 15 | -1E-12 |
| 6 | -1E-13 | 16 | 0      |
| 7 | +5E-13 | 17 | 0      |
| 8 | +5E-13 | 18 | 0      |

|    |   |    |       |
|----|---|----|-------|
| 9  | 0 | 19 | 1E-12 |
| 10 | 0 | 20 | 0     |

I ran my program which sums absolute values from 1 to 10 and got a sum of 1.2E-12 with six zeroes, and from 1 to 20 and got a sum of 3.2E-12 with 14 zeroes. Those values agree with the data from the keyboard. I conclude that my program is OK and that the previously reported result of 5.7932E-09 for 1 through 500 is probably correct. Thus, the TI-85 does not do as well as the TI-86. This may be associated with the release of the TI-85 in about 1992 and the TI-86 in about 1997. There were ten releases of the ROM for the TI-85. The machine I am using has version 10.0 . .

### **Re: More on the TI-85**

*Message #5 Posted by **GE** on 14 May 2007, 4:19 a.m.,  
in response to message #4 by Palmer O. Hanson, Jr.*

Hello, I don't think the TI85 went through all versions 1.0 to 10.0, there were (I believe) only 2 or 3 versions sold to the public.

I just got a NOS TI86, do you know how to display the ROM version ?

I feel the TI86 is the equivalent of the HP42S for TI : the last wonderful example of engineer craftsmanship. Newer machines, however powerful, had less soul.

### **Re: More on the TI-85**

*Message #6 Posted by **Palmer O. Hanson, Jr.** on 14 May 2007, 10:28 a.m.,  
in response to message #5 by GE*

You wrote:

Quote:

\_\_\_\_\_  
Hello, I don't think the TI85 went through all versions 1.0 to 10.0, there were (I believe) only 2 or 3 versions sold to the public.

I just got a NOS TI86, do you know how to display the ROM version ?

I feel the TI86 is the equivalent of the HP42S for TI : the last wonderful example of engineer craftsmanship. Newer machines, however powerful, had less soul.

\_\_\_\_\_  
I found the information on the ROM versions of the TI-85 at [//www.ticalc.org/basics/calculators/ti-85.html](http://www.ticalc.org/basics/calculators/ti-85.html) where it says that to check the ROM version you press 2nd - MODE - ALPHA - S . I did that and got 10.0. The unit I am using is S/N 48005260. I have an earlier serial number unit in Florida. I will check its version next week.

To check on the ROM versions of the TI-86 go to <http://www.ticalc.org/basics/calculators/ti-86.html> . It shows that there were versions 1.2 through 1.6 . You can check your version with the same sequence as with the TI-85. Before you try this be sure to read the instructions about NOT pressing ENTER in that mode or you will clear memory.

### **[OT] Re: More on the TI-85**

*Message #7 Posted by **GE** on 15 May 2007, 4:52 a.m.,  
in response to message #6 by Palmer O. Hanson, Jr.*

Thank you, I have version 1.6. That machine was purchased new last week ! Serial number is 14226797 I-06981. The hard clear plastic package contained batteries valid until 2005...  
Sorry for off-topicness.

### **Re: More on the TI-85**

*Message #8 Posted by **Rodger Rosenbaum** on 15 May 2007, 11:59 p.m.,  
in response to message #4 by Palmer O. Hanson, Jr.*

Palmer,

I checked the case of  $n=8$  on the TI-86 (version 1.6) in more detail.

When I do  $\text{SQRT}(8)*\text{SQRT}(8)$ , I get 8.0000000000001. When I do  $\text{SQRT}(8)^2$ , I get exactly 8.

What do you get on your TI-85?

### **Re: More on testing calculators and computers**

*Message #9 Posted by **Rodger Rosenbaum** on 10 May 2007, 5:44 p.m.,  
in response to message #1 by Palmer O. Hanson, Jr.*

You can see what I was getting at when I asked you to do the sin cos tan atan acos asin test with several input arguments. Most of the calculators' results varied over an order of magnitude. So if you were comparing two calculators, one of them might, by accident, happen to give a especially good result, while the other might happen to give an especially bad result.

And, occasionally, as you found with the TI-59, you might get an *\*really\** good result.

These various tests that only use one value are not particularly good for comparing calculators for this reason.

### **Re: More on testing calculators and computers**

*Message #10 Posted by **Palmer O. Hanson, Jr.** on 10 May 2007, 9:36 p.m.,  
in response to message #9 by Rodger Rosenbaum*

Roger:

Thank you for your review of the data I presented.

The difference between the value in the text and in the table is simply due to the fact that I rounded all of the answers back to four significant digits in the table. I have the full values in my notes.

I did manage to do the two tests on a TI-55. The sum for the  $1/x$  test was 3.362E-07. The sum for the square root test was 3.494E-06. I was not able to find the number of zeroes because the TI-55 does not provide any comparison tests and I am just not up to checking the answers for the five hundred input values one by one.

I also did the two tests on my HP-12C and got exactly the same results as with the HP-41.

The only other machine that I have here in North Carolina is an HP28S. I just don't do very well programming in RPL.

I am not sure about the Model 100. My recollection is that I did the Paranoia test with it back in the eighties and it came up as base 10 with guard digits and rounding. My recollection is that the Radio Shack Color Computer was base 2. I will try to verify those recollections.

I agree with your comment about the questionable value of doing tests which use only one value.

Palmer

## What is unique about 39?

Message #11 Posted by **Palmer O. Hanson, Jr.** on 11 May 2007, 10:11 p.m.,  
in response to message #10 by Palmer O. Hanson, Jr.

Rodger:

You wrote:

Quote:

---

The results for the SQRT test for 10, 12 and 14 digit machines should be 3.2127E-05,  
3.1267E-07 and 3.0483E-09.

I wonder if the discrepancy for the HP-41 SQRT test is simply because you didn't report all  
the digits.

---

You are correct. My exact result for both the HP-41 and the HP-12C as 3.2127E-05. There were 206  
zeroes out of the 500 calculations.

When we were doing comparative tests on machines back in the 1980's it was said that some machines  
(I think it was the HP's, but I'm not sure, and the results which follow suggest that the supposition was  
incorrect) had "smarter"  $y^x$  algorithms in the sense that if the exponent was an integer, then the  
machine did repeated multiplications rather than, it was said, taking the logarithm of  $y$ , multiplying by  $x$   
and taking the antilog. The result quoted above was for a program with either the square root multiplied  
by itself or for the square root squared with the  $x^2$  function. When I did the problem with the square  
root raised to the second power using the  $y^x$  function the result was 3.2137E-05 with 205 zeroes. I  
didn't mistype. The thousandths digit is really a three.

I wrote a program which compared the results for each integer calculated using the two methods. When  
the integer was 39 the result with the  $x^2$  method was zero but was 1E-8 with the  $y^x$  method. The  
results were identical for the other 499 integer values. I extended the search for differences. The  
differences I found before I stopped were at 965, 2813, 1902, 3441 and 3446.

If the the HP41 and the HP-12C were using the "smarter"  $y^x$  algorithm then I would have thought that  
there would have been no differences. I haven't identified anything unusual about 39, 965, etc.

The results with the hp-33s were 3.1267E-07 with 204 zeroes for either method of calculating.

I found the reference to the use of the Paranoia program to find that the Model 100 used radix 10. It is  
too long to reproduce here. You can see it by going to Viktor Toth's site and looking at pages 6 and 17  
of TI PPC Notes.

I will look at my TI-85 results next. I will also try to get some TI-82 results but my machine has a  
balky ENTER switch. .

## Re: What is unique about 39?

Message #12 Posted by **Rodger Rosenbaum** on 12 May 2007, 1:15 a.m.,  
in response to message #11 by Palmer O. Hanson, Jr.

Quote:

---

When we were doing comparative tests on machines back in the 1980's it was said that

some machines (I think it was the HP's, but I'm not sure, and the results which follow suggest that the supposition was incorrect) had "smarter"  $y^x$  algorithms in the sense that if the exponent was an integer, then the machine did repeated multiplications rather than, it was said, taking the logarithm of  $y$ , multiplying by  $x$  and taking the antilog. The result quoted above was for a program with either the square root multiplied by itself or for the square root squared with the  $x^2$  function. When I did the problem with the square root raised to the second power using the  $y^x$  function the result was  $3.2137E-05$  with 205 zeroes. I didn't mistype. The thousandths digit is really a three.

I wrote a program which compared the results for each integer calculated using the two methods. When the integer was 39 the result with the  $x^2$  method was zero but was  $1E-8$  with the  $y^x$  method. The results were identical for the other 499 integer values. I extended the search for differences. The differences I found before I stopped were at 965, 2813, 1902, 3441 and 3446.

If the the HP41 and the HP-12C were using the "smarter"  $y^x$  algorithm then I would have thought that there would have been no differences. I haven't identified anything unusual about 39, 965, etc.

---

What is happening here is the same phenomenon that causes the HP-71 not to get the "expected" result in the Savage benchmark.

To take the case of 39. The  $Y^X$  function takes the natural log of  $Y$ , multiplies it by  $X$  and then takes the EXP of that result. This all takes place with 13 digit arithmetic on the HP41, HP15, etc.

Do this same calculation with exact arithmetic using a PC program like Derive, Maple, Mathematica, or such, so that you can be sure you're getting correct results. If you start with the 10 digit  $\text{SQRT}(39)$ , take the 13 digit LN, multiply by 2, take the 13 digit EXP you should get exactly 38.99999999502. Notice the last 3 digits. Those digits will be dropped when the result is rounded to 10 digits, but they determine which way the rounding will go. If we round 38.99999999502 to 10 digits we get 40.00000000. Why didn't the HP41 get 40.00000000? When the calculation was done exactly, the result was 38.99999999502, but the HP41 must have gotten a 13 digit internal result a little less than 38.99999999500, and therefore it didn't round the result up. If the HP41's internal result was in error by only -3 ULP's, that would account for the error. This is perfectly excusable. It's why the calculator uses 3 more digits internally than are returned to the user. This way the internal errors are thrown away. It's only when the exactly correct 13 digit value is right on the borderline where it will round up or down that this kind of error occurs.

I wrote a Mathematica program to search for all the values resulting from the  $n \text{SQRT } 2 y^x$  sequence where the last 3 digits of the exactly correct 13 digit value are 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, or 505, with  $n$  ranging from 1 to 100. The values are:

| $n$ | Last 3 of 13 digits |
|-----|---------------------|
| 39  | 502                 |
| 155 | 500                 |
| 240 | 502                 |
| 279 | 504                 |
| 394 | 496                 |
| 552 | 502                 |
| 705 | 502                 |
| 965 | 501                 |

Any of these *could* have exhibited the error, but the HP41 often gets it right. But if the error is going to happen, it will be one of these cases where the rounding boundary is very close.

I searched up to  $n=7000$  and found a bunch more possible candidates for the error. The only way to be sure is to test them all on the HP41 to see if the error occurs. The additional ones I found that

make the error are:

4655  
4659  
5414  
6221  
6528  
6982

And, note that the error the HP41 makes isn't always negative; it can be in either direction. For example, the exact 13 digit result for  $n=3446$  is 3446.000000497 so the HP41's internal result must have had the last 3 digits greater than 500, causing it to round up when it shouldn't have.

This can also happen on a Saturn machine, of course. It will happen when the internal 15 digit result has the last 3 digits very close to 500. I searched for these and got a list of candidates which I then tested on the HP50. The ones that made the error are:

415  
519  
946  
968  
979  
2715  
2718  
2730  
2772  
2798  
3151  
3447  
3475

The HP-33S should make the error with these values of  $n$ .

I can't observe what the HP41 is doing internally, but it's pretty easy to see what the internal long real results are on a Saturn machine. So, to show that my explanation is correct, here is what I found on an HP48G using Jim Donnelly's program to do 15 digit arithmetic. The exact result for  $n=415$  should be 415.000000001495, but the HP48G gets 415.000000001502, and in fact when you execute  $415 \text{ SQRT } 2 \text{ y}^x$  on the keyboard, you get 415.000000002 instead of 415.000000001. The HP48G got 502 for the last 3 digits of its internal result instead of the 495 it should have gotten, so it rounded up when it shouldn't have.

### Some hp33s Results

Message #13 Posted by *Palmer O. Hanson, Jr.* on 13 May 2007, 11:10 p.m.,  
in response to message #12 by Rodger Rosenbaum

Rodger:

You wrote about differences between the square root times the square root and the square root squared using the  $y^x$  function:

Quote:

. This can also happen on a Saturn machine, of course. It will happen when the internal 15 digit result has the last 3 digits very close to 500. I searched for these and got a list of candidates which I then tested on the HP50. The ones that made the error are:

415  
519  
946

968  
979  
2715  
2718  
2730  
2772  
2798  
3151  
3447  
3475

The HP-33S should make the error with these values of n.

---

I tested my HP-33s (CNA 53200443 in case that makes a difference) using the following program:

```
LBL R
1
STO B
LBL S
RCL B
SQRT
2
y^x
RCL B
SQRT
ENTER
x
Is x not equal to y?
STOP
1
STO+ B
GTO S
```

The program stopped at 2798 which is in your list above. It did not stop at any other integer in your list. It also stopped at 5670, 6536 and 6833. I continued to run until the test integer was over 100,000 and did not get any more stops.

Palmer

### Re: Some hp33s Results

Message #14 Posted by **Rodger Rosenbaum** on 14 May 2007, 5:03 a.m.,  
in response to message #13 by Palmer O. Hanson, Jr.

Quote:

---

The program stopped at 2798 which is in your list above. It did not stop at any other integer in your list. It also stopped at 5670, 6536 and 6833. I continued to run until the test integer was over 100,000 and did not get any more stops.

---

Did it stop at any value of n between 1 and 3500 other than at 2798?



I generated the list of possible candidate values up to 100000 and checked the last few. The HP50 failed on the 3rd from the end, namely 99590, and another picked at random from the list, 87778. I'm sure it will fail for a lot more from the list.

Somehow I was thinking the HP-33S was a Saturn based machine. Apparently not.

### **Re: Some hp33s Results**

*Message #15 Posted by **Palmer O. Hanson, Jr.** on 14 May 2007, 10:36 a.m.,  
in response to message #14 by Rodger Rosenbaum*

Quote:

\_\_\_\_\_

Did it stop at any value of n between 1 and 3500 other than at 2798?

\_\_\_\_\_

It did not. Just to be sure that I didn't have some sort of curious programming error I checked all of the other numbers on your list between 1 and 3500 from the keyboard. They all yield identical results for the two methods.

I checked a few of the numbers on my second hp33s S/N 52402428 . The results were the same.

---

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## HP Forum Archive 17

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**Ideal RPN calculator features...**

Message #1 Posted by [DaveJ](#) on 9 May 2007, 8:53 p.m.

Hi

I'm in the process of designing a (non-programmable) RPN calculator, and I am after some opinions on what people would like to have in their "ideal" RPN calculator. My practical experience with RPN is fairly limited, so I don't know all the permutations of all the HP models and their pro's and con's etc so I'm trying to figure it all out and what seems good and what's not (in my opinion).

Right now I have a 4 level stack with T operating as a constant, STO, RCL, DROP, ROLL UP/DOWN, SWAP etc similar to what is described on the (very useful) RPN pages on the museum site.

But there are things like should I have  $X^Y$  or  $Y^X$ , how to implement base-N modes, is LAST X useful, that kind of stuff.

Would you prefer just one memory using STO/RCL, or multiple constant memories called something like M1, M2, M3?

Are memory operations like M+ and M- useful? and should it operate on STO/RCL register or be separate?

Would a deep stack be better than the basic 4 level type? if so how deep and why?

I will have a two line display, how do you think that display should best be utilised?

At the moment I have the Yreg on the upper line and Xreg on the lower. Should I waste display space showing "X:" and "Y:" at the front, or is that distracting and redundant?

Should the display simply "switch" to displaying Z: and T: or should it "slide" up and down?, or not have that feature at all?

BTW, I'm not looking at emulating any particular HP model, just simply make a good RPN calculator with as many useful features as possible that follows familiar and "accepted" practice.

Any input is appreciated.

Thanks Dave.

**Re: Ideal RPN calculator features...**

Message #2 Posted by [Randy](#) on 9 May 2007, 9:06 p.m.,  
in response to message #1 by [DaveJ](#)

Just copy the features of an HP model you like. The HP engineering teams spent LOTS of time on this question for every model ever built. Why waste time doing work that has already been done to perfection?

Besides, trying to reach a consensus here on such a feature set is akin to herding cats :)

## Re: Ideal RPN calculator features...

Message #3 Posted by [DaveJ](#) on 9 May 2007, 10:13 p.m.,  
in response to message #2 by Randy

Quote:

Just copy the features of an HP model you like. The HP engineering teams spent LOTS of time on this question for every model ever built. Why waste time doing work that has already been done to perfection?

Besides, trying to reach a consensus here on such a feature set is akin to herding cats :)

Yeah, but it's often fun to watch the cats get herded! ;-)

I guess my goal is to simply pick the best bits from various models, and that's really the sorts of suggestions I'm after. I don't really want nor expect a consensus, just some ideas so I can pick what I think are the best bits and what fits well with my design.

Thanks. Dave.

## Re: Ideal RPN calculator features...

Message #4 Posted by [Howard Owen](#) on 10 May 2007, 1:13 a.m.,  
in response to message #1 by DaveJ

You might get consensus on some things. For instance, I'll bet there's a broad consensus that  $Y^X$  is better than  $X^Y$ , if only for familiarity's sake. HP had the latter function on the first scientific hand-held calculator, the HP-35, but abandoned it in favor of the former in all subsequent calculators. The keystroke for  $2^5$  would be **5 ENTER 2 X<sup>Y</sup>** for the HP-35 way of doing things, and **2 ENTER 5 Y<sup>X</sup>** for the "normal" way. That way just seems more natural to me, with the digit order as keyed similar to the expression on paper.

People here will no doubt be delighted to share their opinions on this topic with you, but there's nothing like experience to help develop your own opinions about what the ideal RPN calculator should be. Most of the machines we discuss here are available in software for Windows and/or Linux, and most of those programs are free. There are also free and for fee RPN calculator programs for Palm and Windows PDAs. Many of them are simulations of HP calculators, but some are original creations, expressing the author's opinions of the ideal RPN machine. I have used NeoCal and MathUPro. I mention them because they both represent different takes on the RPN approach than what you might find on an HP machine. NeoCal is a non-programmable, but customizable software calculator that began life on the Palm. It's very nice looking and usable in my opinion. MathUPro represents an attempt to realize the ideal RPN programmable calculator. The author seems to be an HP fan, to judge from the feature set. He's implemented an unlimited stack, but allows you to put it into a 4 stack simulation mode. It's got very geeky programming feature set, with a unique programming mode that takes some getting used to, but fits the PDA form factor well. In short, it is much geekier and complicated than NeoCal, and represents a good counterpoint to the former's approach.

And don't neglect the RPL models. They represent HP's own answer to the question of what should come after RPN and keystroke programming. They are anathema to some RPN enthusiasts, but I think they are complicated and quirky in a very cool and interesting way. They are important to understand RPN in its full context in any case.

Best of luck with your project!

Regards,  
Howard

**Re: Ideal RPN calculator features...**

*Message #5 Posted by [DaveJ](#) on 10 May 2007, 7:06 a.m.,  
in response to message #4 by Howard Owen*

Thanks Howard. I've downloaded "Free42" by Thomas Okken which looks like a very nice 42S emulator. Anyone know if it's a 100% accurate emulator?, it certainly looks and sounds like it.

Actually, the more I play with it the more I am liking the 42S. It's got a two line display just like mine will have, I like how the complex mode works (don't know if mine will have complex mode though), and I like the numbered STO registers.

Anyone have any issues with the 42S?, the interface, things that could have been done better or more intuitively etc, or a feature other models have that this one lacks?

What are people's opinions on the "X:" and "Y:" register labels being constantly displayed? Are they perhaps a bit redundant for the more experience user?

Thanks Dave.

**Re: Ideal RPN calculator features...**

*Message #6 Posted by [Howard Owen](#) on 10 May 2007, 7:58 a.m.,  
in response to message #5 by DaveJ*

Free42 is a great program that justly deserves the praise showered on it by its users. It is a reimplementaion of the 42S, not a simulator. That is, it doesn't simulate the original hardware and use the original calculator ROMs unlike EMU42 or many of the other PC based calculator programs like Nonpareil, EMU48, V41, EMU41 or EMU71. that means Free42 can sometimes behave differently from the original machine, by design or otherwise. But Thomas Okken works assiduously to minimize those differences, and with the help of users on this forum and elsewhere, has achieved very close compatibility. The recent thread titled "HP42S Mini-Challenge: Optimizing !" will give you an idea of how close. This was a programming challenge by Valentin Albillo that involved the 42S. Participants used real calculators, EMU42, a ROM based simulator, and Free42 on PCs and Palm devices to respond to the challenge. Nowhere do you see issues related to compatibility of Free42 in that thread.

A lot of folks, myself included, think that in many ways the 42S represented the highest level the classic programmable RPN calculator ever reached. It has it's drawbacks, lack of I/O and expandability among them, but the user interface and feature set are very nifty. I also believe that the 42S shouldn't be the last word on the subject. That is, 20 years of Moore's Law and progress in Computer Science and user interface design could have produced interesting developments beyond what the 42S offered. The RPL models are what HP actually went to, but they represent a revolutionary break with keystroke programmable machines like the 42S. It's interesting to speculate what a more evolutionary approach might have produced.

Regarding the labeling of the stack registers, my opinion is that it depends on whether or not you change which registers are displayed. If it's always X and Y in the display, then there is no need to label them. But if you scroll the stack display, then you will have to use labels to avoid confusion.

Regards,  
Howard

**Re: Ideal RPN calculator features...**

*Message #7 Posted by [Jeff O.](#) on 10 May 2007, 1:27 p.m.,  
in response to message #6 by Howard Owen*

I had prepared a response off-line, and when I went to post found that Howard had posted a reply that was essentially identical to mine. (I'll spare Howard the insult of saying he and I must think alike.) The only things I might add would be my oft-repeated desire for a slightly enhanced way to enter, display, and manipulate complex numbers, and a five line display showing X, Y, Z, T and Last X. I also usually suggest a user settable variable stack height from say 3 to 10 levels. However, without programmability, a fixed four level stack is probably fine.

**Re: Ideal RPN calculator features...**

*Message #8 Posted by [Thomas Okken](#) on 12 May 2007, 9:37 p.m.,  
in response to message #5 by DaveJ*

Quote:

-----  
I've downloaded "Free42" by Thomas Okken which looks like a very nice 42S emulator.  
Anyone know if it's a 100% accurate emulator?  
-----

That's what it aims to be. There are differences: the HP-42S uses a decimal representation with a 12-digit mantissa and an exponent range of -499..+499, while Free42 Binary uses IEEE-754 double precision binary floating point, and Free42 Decimal uses a base-10000 representation that is effectively equivalent to 25 digits with an exponent range of -10000..+9999.

Also, the SOLVE and INTEG commands use different algorithms than HP's implementations (HP's algorithms were never published; some technical highlights were explained in HP Journal at various times, but never the kind of detail that would allow one to replicate their algorithms fully).

Finally, the HP-42S has a few known bugs (there is a list in the top-level README file in the Free42 source package). These bugs were not replicated in Free42.

Apart from those differences, Free42 should be 100% compatible with the HP-42S -- if it's not, then that's a bug. :-)

HTH,

- Thomas

**Re: Ideal RPN calculator features...**

*Message #9 Posted by [db \(martinez, ca.\)](#) on 10 May 2007, 2:38 a.m.,  
in response to message #1 by DaveJ*

you can't go wrong by copying the function set of the 45-21-31, ie the 35 with polar/rectangular. a 4 level stack is more useful for what most people do; you can load it. memory is negotiable. if it's non-programmable but has a 4 level stack then one or two registers will be enough but if your chip allows 10.....

**Re: Ideal RPN calculator features...**

*Message #10 Posted by [Sam Levy](#) on 10 May 2007, 12:44 p.m.,  
in response to message #9 by db (martinez, ca.)*

I think it would be nice if the calculator understood that Alpha values with no separators meant multiplication, as  $2\pi FRC=1$  is understood mathematically as the product. I would double or triple the 26

letter memory storage by some added coding like A A, and A. could access added memory space. I suggest that statistical data could be stored in pairs BEFORE curve fitting analysis so that trials could made for the best fits. I would omit trivial conversions like cm-ins and f to C degrees. You might allow the user to store his most used constants with symbols instead of a rom. I would dispense with fractions.

### Re: Ideal RPN calculator features...

Message #11 Posted by **Wayne Brown** on 11 May 2007, 8:05 a.m.,  
in response to message #10 by Sam Levy

Quote:

I think it would be nice if the calculator understood that Alpha values with no seperators meant multiplication, as  $2\text{PiFRC}=1$  is understood mathematically as the product.

In your example, how would the calculator know whether to interpret that as  $2*\text{Pi}*FRC$  or  $2*\text{Pi}*F*RC$  or  $2*\text{Pi}*FR*C$  or  $2*\text{Pi}*F*R*C$ ?

### Re: Ideal RPN calculator features...

Message #12 Posted by **Ren** on 10 May 2007, 12:50 p.m.,  
in response to message #1 by DaveJ

Quote:

Hi

I'm in the process of designing a (non-programmable) RPN calculator, [...]

Any input is appreciated.

Thanks Dave.

Software emulation or real hardware?

Ren

dona nobis pacem

### Re: Ideal RPN calculator features...

Message #13 Posted by **DaveJ** on 10 May 2007, 5:22 p.m.,  
in response to message #12 by Ren

Quote:

Software emulation or real hardware?

Ren

Real hardware. This is not just another software calc for platform X.

Dave.

---

---

**Re: Ideal RPN calculator features...**

Message #14 Posted by **Ren** on 14 May 2007, 12:15 p.m.,  
in response to message #13 by DaveJ

Thanks for the reply!

As a fading Electronic Tech, have you decided on the architecture or keyboard? (You don't have to answer, as it might cause this thread to wildly spin-off). Good Luck!

Ren

dona nobis pacem

---

**Re: Ideal RPN calculator features...**

Message #15 Posted by **DaveJ** on 14 May 2007, 6:12 p.m.,  
in response to message #14 by Ren

Quote:

\_\_\_\_\_

Thanks for the reply!

As a fading Electronic Tech, have you decided on the architecture or keyboard? (You don't have to answer, as it might cause this thread to wildly spin-off). Good Luck!

\_\_\_\_\_

I have indeed decided on both of those things, but I'm keeping mum for the time being :-P All will be revealed in due course though.

Dave.

---

**Re: Ideal RPN calculator features...**

Message #16 Posted by **Katie Wasserman** on 10 May 2007, 1:22 p.m.,  
in response to message #1 by DaveJ

I agree that the HP engineers have done a great job at figuring out the ideal set of RPN functions to include in a calculator. But after using RPN since 1972 I find two functions missing on most of their older calculators: MOD and OVER. MOD is simply remainder as in: 7 ENTER 3 MOD --> 1 and OVER is the stack manipulation function that copies Y into X pushing the old value of Y into Z, and the old value of X into Y. For example: A ENTER B OVER --> A B A.

-Katie

---

**Re: Ideal RPN calculator features...**

Message #17 Posted by **Gene** on 10 May 2007, 3:22 p.m.,  
in response to message #16 by Katie Wasserman

Of course, OVER is simply a RCL Y on the HP41.

Doesn't help us on our 12c machines, though.

---

### Re: Ideal RPN calculator features...

Message #18 Posted by [Sam Levy](#) on 10 May 2007, 4:01 p.m.,  
in response to message #17 by Gene

A program I find useful is an x to t function, in RPN it is enter, enter, enter RTN. I use it to fill the stack with a constant or clear stack by first clearing X.

### Re: Ideal RPN calculator features...

Message #19 Posted by [Howard Owen](#) on 10 May 2007, 10:40 p.m.,  
in response to message #17 by Gene

Quote:

Of course, OVER is simply a RCL Y on the HP41.

Which also has a MOD function. Ditto for the 42S since it is 41C compatible.

You could argue that RCL Y is less ergonomic than an OVER key would be. It's really three keystrokes: **RCL . Y** (where the last key is the multiplication key on the 41, also labeled "Y", and a soft key on the 42.) But I think Katie must be referring to the majority of the rest of the RPN calculators that HP produced which lack those register ops.

Regards,  
Howard

### Re: Ideal RPN calculator features...

Message #20 Posted by [Allen](#) on 11 May 2007, 12:57 a.m.,  
in response to message #1 by DaveJ

Quote:

My practical experience with RPN is fairly limited.

This is a concern, but not a grave concern. If you are looking for something evolutionary, I would recommend buying a slide rule and learning how to use it. Then apply the lessons you learned to a new calculator design. The four-function calculator, which was meant to replace the old slip stick in many ways diverged from sound mathematical practice. For example, an entire generation now believes that 'math' involves blindly plugging numbers into a bit-box. Only a few disciplines still appreciate the idea of 'significant figures'. (Ask any college grad how many significant figures are in 0.03560.)

Before you get too far along your requirements verification 'V' please read Chapter 2.5 of John A. Ball's book on RPN algorithms- all of the permutations of 4-level stack operation that are available with +,-,CLX, X<>Y and ROLLUP/DOWN and ENTER. I know there are some improvements to be made, such as the OVER command in RPL. But I feel strongly that any stack operation that requires an operand input is an annoyance on a non-programmable calculator- especially one with only a 2 line display.

I am looking for a paper I saw a year or so ago on this forum relating to the problems of modern calculators, or the comparison with slide rules.. something of the sort. I printed it, read it, and put it somewhere for safekeeping. You know what that means: I can't find it now that I need it. Does anyone have the link to that paper? Append to that link the following two books for recommended reading:

1. *Algorithms for RPN calculators* John A. Ball All parts.. especially 2.5 and the monadic/dyadic/Bifid functors



discussion is central to your quest

2. *HP 48 insights* William C. Wickes Sec. 1.1 on the history of RPN and 3rd gen calculators like the 28/48 series. and Sec 2.0 RPN Principals

## Re: Ideal RPN calculator features...

Message #21 Posted by [Karl Schneider](#) on 11 May 2007, 2:36 a.m.,  
in response to message #1 by [DaveJ](#)

Quote:

I'm in the process of designing a (non-programmable) RPN calculator, and I am after some opinions on what people would like to have in their "ideal" RPN calculator.

Any input is appreciated.

Hello, Dave --

If input ye ask, input ye shall receive ...

Quote:

Right now I have a 4 level stack with T operating as a constant, STO, RCL, DROP, ROLL UP/DOWN, SWAP etc

DROP is stack operation for only RPL's (e.g., HP-48) dynamic-depth stacks. It is unneeded for RPN's fixed-depth stack. SWAP is the RPL term for  $x \leftrightarrow y$ .

Classic RPN gets by just fine with the elegant simplicity of " $x \leftrightarrow y$ " and "roll down". "Roll up" is a convenient nicety, useful mainly for programming. The HP-41/42S models add direct access to stack elements and a VIEW command.

Quote:

should I have  $X^Y$  or  $Y^X$ , how to implement base-N modes, is LAST X useful

$x^y$  was offered only on the HP-35, perhaps because it lacked a  $10^x$  function and common logarithms:

$x$  [ENTER] 10  $x^y$  =  $10^x$

$y^x$ , however, is more natural and consistent with subtraction and division.

Most scientific RPN and AOS models starting with the Pioneer series (in 1988) offered integer arithmetic in base-2, base-8, and base-16, while base-10 remained floating-point with conventional BCD math.

LASTx is very useful for error recovery and as a convenient "stack-extender." RPN models lack RPL's UNDO function.

Quote:

Would you prefer just one memory using STO/RCL, or multiple constant memories called something like M1, M2, M3? Are memory operations like M+ and M- useful? and should it operate on STO/RCL register or be separate?

---

If more than one memory is offered, M1, M2, M3 with M+ and M- will make for a busy keyboard. Most models have storage-register arithmetic functions, such as STO+3 and RCL/2, giving extended functionality without additional functions on the keyboard.

Quote:

---

Would a deep stack be better than the basic 4 level type? if so how deep and why?

---

A user-settable fixed stack up to 9 or 19 elements deep (e.g., [STKD] 9 or [STKD] .9), with default of 4, would be useful.

Quote:

---

I will have a two line display, how do you think that display should best be utilised?

At the moment I have the Yreg on the upper line and Xreg on the lower. Should I waste display space showing "X:" and "Y:" at the front, or is that distracting and redundant?

Should the display simply "switch" to displaying Z: and T: or should it "slide" up and down?, or not have that feature at all?

---

The "X:" and "Y:" indicators on the HP-42S were present because the temporary menu-line display in the bottom row necessitated the identification of what was displayed above. Space for the indicators was made available by its fine-grain LCD display.

Up/down scroll arrows would make possible viewing of the stack without modifying it, but is hardly needed with a short stack, roll down, and the VIEW command. The down scroll arrow, however, is used for single-step execution on the HP-32/42 models.

I generally prefer a larger, easier-to-read one-line display on non-graphing models, although the two-line display has some advantages.

-- KS

*Edited: 12 May 2007, 2:12 p.m.*

---

## **Re: Ideal RPN calculator features...**

*Message #22 Posted by [Alex L](#) on 11 May 2007, 9:07 a.m.,  
in response to message #1 by [DaveJ](#)*

After seeing a [pair of threads](#) in these fora recently (and being sure there are numerous others), I think the single most important feature is a well-documented, strictly followed set of computation rules. We don't seem to mind odd results from odd calculations if they're expected based on the published specs.

Along with the above, I think high precision is a must. How many sig figs can you squeeze out of your hardware at reasonable speed? Perhaps a user-selectable single/double precision setting.

And it would be especially cool and interesting if along with a SHOW type of function to see all the precision available, the calculator could report the number of digits that should be accurate after a chain calculation. I know nothing about implementing this sort of thing, so I have no idea whether it would be practical.

---

## **Precision: Ideal RPN calculator features...**

Message #23 Posted by [Karl Schneider](#) on 11 May 2007, 11:39 p.m.,  
in response to message #22 by Alex L

Hi, Alex --

Quote:

---

Along with the above, I think high precision is a must. How many sig figs can you squeeze out of your hardware at reasonable speed? Perhaps a user-selectable single/double precision setting.

---

Double-precision calculations are generally not meaningful without double-precision variables. There are exceptions, of course -- namely, to reduce roundoff error in a calculation that is susceptible to it. However, the three "guard digits" of internal extended precision built into HP and other brands of calculators will generally suffice.

The IEEE has established formal definitions for 32-bit (single precision) and 64-bit (double-precision) floating-point binary representations. 80-bit extended-double-precision words are also commonly used with floating-point math in PC software (and exclusively in the HP-30S) to reduce roundoff errors. However, I believe that to add a double-precision type of variable to a handheld calculator would cause undesired complexity and reduced computational speed, both of which are issues of concern: Calculators use low-power and inexpensive microprocessors, usually performing BCD mathematics.

I rather like the approach taken for all HP's based on the Saturn microprocessor, which is to accept input of 12 significant digits, and then use algorithms designed to return answers correct to *all 12 significant digits*.

Earlier HP's, modern low-end calculators, and even some later high-end TI's don't perform to that standard. Calculators of the first two groups offer only 10 digits. In at least one respect, both the 10-digit models and the 12-digit TI-82 from 1993 (a "high-end" TI model) don't always fully utilize available significant digits for a result.

Try  $\sin(3.141592653 \text{ radians})$  or  $\sin(3.14159265358 \text{ radians})$ , as appropriate: You'll typically get an answer with only two significant digits:

5.9E-10 or 9.8E-12 respectively, which may very well be the three internal "guard digits", rounded. However, the string of leading zeroes and the lack of overlap between the input and output make a full-precision result possible. Saturn-based HP's (and their descendants) give 9.79323846264E-12.

-- KS

*Edited: 12 May 2007, 1:58 p.m.*

## **Re: Precision: Ideal RPN calculator features...**

Message #24 Posted by [Alex L](#) on 12 May 2007, 10:04 p.m.,  
in response to message #23 by Karl Schneider

Karl,

Thank you for helping me to clarify in my own mind what my true wish is.

I like the 50g's feature of 12-digit precision for decimals, but arbitrary precision for integers.

So that's my real "high-precision" wish - available high precision (say, 30 digits?) for integers.

-Alex

### **Re: Ideal RPN calculator features...**

Message #25 Posted by [Hugh Evans](#) on 11 May 2007, 8:18 p.m.,  
in response to message #1 by [DaveJ](#)

Drop me a line, we have much to discuss.

### **(deleted post)**

Message #26 Posted by [deleted](#) on 11 May 2007, 10:38 p.m.,  
in response to message #25 by [Hugh Evans](#)

This Message was deleted. This empty message preserves the threading when a post with followup(s) is deleted. If all followups have been removed, the original poster may delete this post again to make this placeholder disappear.

### **Re: OpenRPN again?**

Message #27 Posted by [Hugh Evans](#) on 12 May 2007, 12:18 a.m.,  
in response to message #26 by [deleted](#)

The only way OpenRPN can truly die is if I give up on it. My personal life has kept me occupied for the past 6+ months and I at last have time to spend on it again.

I will always welcome constructive criticism... It's much better to have your critics inside the tent pissing out than outside the tent pissing in.

-Hugh

### **Re: OpenRPN again?**

Message #28 Posted by [Gene](#) on 12 May 2007, 12:13 p.m.,  
in response to message #27 by [Hugh Evans](#)

While I would prefer to do neither inside or outside, I do wish to continue pointing out that the only proven thing OpenRPN has produced so far are CAD drawings (nice ones) and different forms of specs.

I believe OpenRPN is in the same position as JYA's abortive attempt to produce the Quonos. Too much capital required, etc, for it to become a reality.

Too many people are too quick to place their hopes into a basket that has no real bottom.

That said, it also reflects upon HP's failure to produce a good, quality, RPN calculator. I'm not stupid enough not to see why people want to believe in projects like OpenRPN.

At present, however, I believe they are like the true believers in UFOs, because the amount of evidence offered as proof is about the same.

Gene

P.S. I'll be glad to eat lots of crow when presented with a working, relatively inexpensive prototype. Really, I'll eat crow and offer public mea culpas. I'll prepare a picture of myself with a caption that says "I should have believed but I believe now". I just think the odds of that happening are so low

as to not worry about it.

### **Re: OpenRPN again?**

*Message #29 Posted by [Hugh Evans](#) on 12 May 2007, 10:09 p.m.,  
in response to message #28 by Gene*

QonoS had massive overhead costs, in large part due to some poor development choices (injection molded prototypes rather than rapid prototyping for example). OpenRPN requires startup costs measured in only tens of thousands of dollars rather than millions.

The big curse of open hardware development is that one has nothing to show for their efforts until a product reaches the marketplace. The most realistic outcome for OpenRPN is convincing a company to license production of an effectively ready-to-go product.

As far as eating crow is concerned, buying two OpenRPN end products will be thanks enough. ;-)

As always, I look forward to proving the naysayers wrong.

-Hugh

### **Re: OpenRPN again?**

*Message #30 Posted by [a forum regular](#) on 13 May 2007, 3:44 a.m.,  
in response to message #29 by Hugh Evans*

Quote:

\_\_\_\_\_

The big curse of open hardware development is that one has nothing to show for their efforts until a product reaches the marketplace

\_\_\_\_\_

How about...

- \* a project plan, with realistic and measurable goals?
- \* a website where evidence of progress is given, not just endless forum debates over the size and placement of the ENTER key? (I'm sure an up-to-date website would attract more interest in the project, and recruit more volunteers)
- \* a public source code repository, much like you have at the moment? It's easy to see if the code is being worked on or not.
- \* hardware block diagrams, and later on schematics as the hardware evolves?
- \* photographs of some prototypes? Not just CAD drawings, but something that has actually been built. Heck, a \$30 evaluation board with an LCD saying "hello world" is a step in the right direction.

Denial is more then a river in Egypt.

### **These concrete steps would prepare me to like the taste of crow**

*Message #31 Posted by [Gene](#) on 13 May 2007, 7:46 a.m.,  
in response to message #30 by a forum regular*

C'mon, you OpenRPN guys. These are entirely reasonable, implementable suggestions.

How can you make anything with a plan, etc?

Publish this stuff and it will show you're making progress or not. :-)

### **Re: OpenRPN again?**

*Message #32 Posted by [Hugh Evans](#) on 18 May 2007, 12:49 a.m.,  
in response to message #30 by a forum regular*

I couldn't agree more with your comments. The early days of OpenRPN were ill-founded, but gave me a chance to understand end-user expectations. At the moment I'm facing a restart of the project... I couldn't ask for a better opportunity to decentralize management, and if nothing else, design market-ready products with a few full prototypes that can be funded from pre-orders or better yet licensed to a capable company that will accept our specifications.

I don't give a damn about making a buck from OpenRPN. Engineers and other scientific professionals deserve capable, well-made calculators at a reasonable price that aren't 15-20 years old.

The members of this community are more than capable of accomplishing such a goal. Let's just step up and make it happen.

-Hugh

### **Re: OpenRPN again?**

*Message #33 Posted by [a forum regular](#) on 18 May 2007, 6:09 a.m.,  
in response to message #32 by Hugh Evans*

Thank you. I wish you the best of luck.

### **Re: OpenRPN again?**

*Message #34 Posted by [DaveJ](#) on 18 May 2007, 7:33 a.m.,  
in response to message #32 by Hugh Evans*

Quote:

---

I couldn't agree more with your comments. The early days of OpenRPN were ill-founded, but gave me a chance to understand end-user expectations. At the moment I'm facing a restart of the project... I couldn't ask for a better opportunity to decentralize management, and if nothing else, design market-ready products with a few full prototypes that can be funded from pre-orders or better yet licensed to a capable company that will accept our specifications.

I don't give a damn about making a buck from OpenRPN. Engineers and other scientific professionals deserve capable, well-made calculators at a reasonable price that aren't 15-20 years old.

---

That last paragraph has made me curious. Nostalgia, emotions and other wish lists

aside, what is actually wrong with calculators of today? Are they not capable? Are they not well made? (or at least reasonably made?) Are they not affordable?

In what ways do you and the OpenRPN community think you can do better?

Please don't get me wrong, I'm not having a go at you or the OpenRPN community, in fact I think it's great idea, and I may even contribute something myself at some stage. But as an electronics product design engineer I am interested in knowing what the issues are.

Thanks. Dave.

### **Re: OpenRPN again?**

*Message #35 Posted by **Eric Smith** on 19 May 2007, 2:40 p.m.,  
in response to message #34 by DaveJ*

Quote:

Are they not well made?

In terms of physical construction, they are definitely not as well made as traditional HP calculators (though HP had their own screw-ups from time to time, such as the press-fit construction 30-series, and the use of the NiCd battery to limit the charger voltage).

Quote:

Are they not capable?

In terms of functionality, things are less clear. If what you want is a non-scientific traditional RPN calculator, the 12C or 12c Platinum will do. But if you want a traditional RPN scientific, the only one is the 33s, which is reasonably good other than the decimals in the display (still not great even after the improvement) and the wacky keyboard.

There's clearly room for improvement. Competition would help drive that, but the chance of any real competition in RPN calculators coming about seems negligible.

### **Re: OpenRPN again?**

*Message #36 Posted by **Ren** on 14 May 2007, 12:27 p.m.,  
in response to message #28 by Gene*

Gene et al,

I may have missed it as I was only skimming some of the posts...

But did DaveJ EVER say he was looking to go into production?

(if he did, pass me a helping of crow)

Building an electronic gizmo for some people is akin to the driving force behind mountain

climbing..."because it's there..."

Only in this case, it may be because, "it isn't there"... a home-built RP[LN] calculator.

Again, I wish DaveJ the best of luck, it is something I'd love to do, IF I had more time, more money, more talent, (sigh!)

Ren

dona nobis pacem

### **Re: OpenRPN again?**

*Message #37 Posted by [Gene](#) on 14 May 2007, 1:17 p.m.,  
in response to message #36 by Ren*

I wasn't speaking of DaveJ but OpenRPN, which Dave is not associated with (that I'm aware of).

### **Re: OpenRPN again?**

*Message #38 Posted by [DaveJ](#) on 14 May 2007, 6:19 p.m.,  
in response to message #36 by Ren*

Quote:

Gene et al,

I may have missed it as I was only skimming some of the posts...

But did DaveJ EVER say he was looking to go into production?

I didn't mention it, but now that you mention it, production of some form is a very real possibility.

Sorry I can't give more details away, I really want to, but I know I shouldn't, not just yet anyway.

Dave.

### **A forum regular ?**

*Message #39 Posted by [Valentin Albillo](#) on 12 May 2007, 12:27 a.m.,  
in response to message #26 by deleted*

More like yet another anonymous coward.

### **Re: OpenRPN again?**

*Message #40 Posted by [Howard Owen](#) on 12 May 2007, 2:10 a.m.,  
in response to message #26 by deleted*

An anonymous cowardly character assassin too.



**Re: Ideal RPN calculator features...**

Message #41 Posted by [DaveJ](#) on 12 May 2007, 2:49 a.m.,  
in response to message #25 by Hugh Evans

Quote:

Drop me a line, we have much to discuss.

Your email address bounced.

Dave.

**Re: Ideal RPN calculator features...**

Message #42 Posted by [Hugh Evans](#) on 12 May 2007, 4:52 p.m.,  
in response to message #41 by DaveJ

Try out this one

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## HP Forum Archive 17

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### HP 33E Battery Contact Polarity?

Message #1 Posted by [Danny Eskenazi](#) on 9 May 2007, 5:03 p.m.

Hi,

I have an HP 33E but the rechargeable battery pack is long gone. I've heard that one can use standard AA batteries if you wire them in series. Is that correct? If so, which battery contact is the positive contact? I don't want to plug the batteries in backwards and fry it!

Thanks,

-Danny Eskenazi

### Re: Spice Batteries -- Could Alkalines cause "2 Disease"?

Message #2 Posted by [Paul Brogger](#) on 9 May 2007, 5:17 p.m.,  
in response to message #1 by [Danny Eskenazi](#)

You may wish to think that one over.

My experience is admittedly VERY limited, but my HP-31E, in which I've used AA alkaline batteries, has developed the "2 Disease", while my HP-34E with a rebuilt Ni-Cd pack has not.

I've asked here once before whether the slightly higher voltage of the Alkaline batteries might account for the dreaded "2 Disease", but I don't know that anyone ever refuted that suspicion. (I certainly could be mistaken.)

Does anyone else have an opinion on this?

*Edited: 9 May 2007, 5:18 p.m.*

### Re: HP 33E Battery Contact Polarity?

Message #3 Posted by [Les Wright](#) on 9 May 2007, 9:37 p.m.,  
in response to message #1 by [Danny Eskenazi](#)

Looking at the bottom of the calculator with battery cover off and top end of the calc away from you, the bottom left contact is positive. The upper left contact is negative. I tape two NiMH cells together and use an aluminum foil jumper to complete the circuit on the right hand side.

I wouldn't bother with alkalines. The NiMH cells will take a charge within the calculator (takes a while, mind you), and last quite a long time when they are fully charged.

Be careful when inserting and removing such a makeshift pack. The fit is snugger since the positive pole buttons are not recessed and make the batteries a little longer. My 33C has the positive contact broken off, but enough of a stub remains to complete the connection fine. The 34C has contacts intact but I am careful.

Mixing up polarity won't fry the unit but in continuous memory models it will discharge the capacitors and

erase programs. I have done that a couple of times :)

Les

**Re: HP 33E Battery Contact Polarity?**

*Message #4 Posted by **Trent Moseley** on 9 May 2007, 10:11 p.m.,  
in response to message #3 by Les Wright*

I wish to confirm everything Les has said. I now use NiMH's in my HP-31E.

tm

**Re: HP 33E Battery Contact Polarity?**

*Message #5 Posted by **Randy** on 9 May 2007, 11:06 p.m.,  
in response to message #4 by Trent Moseley*

Be aware that the 30 series units do not offer any internal reverse polarity protection. A shorted transistor or other damage in the power supply is possible.

**Re: HP 33E Battery Contact Polarity?**

*Message #6 Posted by **Trent Moseley** on 9 May 2007, 11:15 p.m.,  
in response to message #4 by Trent Moseley*

Les,

Another thought. Since the NiMH cells work so well with my 31E, do you think it's ok to use them in my 25C battery pack? I'm now using NiCads.

tm

**Re: HP 33E Battery Contact Polarity?**

*Message #7 Posted by **Randy** on 9 May 2007, 11:22 p.m.,  
in response to message #6 by Trent Moseley*

NiMh cells in Woodstocks is fine so long as you charge them externally in a proper NiMh charger. Very long run times per charge and no danger of frying your 25C are both very good reasons to do it.

I NEVER charge batteries in a good machine. It just isn't worth the risk.

**Re: HP 33E Battery Contact Polarity?**

*Message #8 Posted by **Trent Moseley** on 10 May 2007, 10:27 p.m.,  
in response to message #7 by Randy*

Randy,

I hear you loud and clear.

tm

**Re: HP 33E Battery Contact Polarity?**

*Message #9 Posted by [Danny Eskenazi](#) on 11 May 2007, 10:31 a.m.,  
in response to message #8 by Trent Moseley*

All, thanks for the advice! Sounds like I'll buy a pair of NiMh batteries and an external charger.

Best Regards,

-Danny

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## HP Forum Archive 17

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**9114A woes**

Message #1 Posted by **PeterP** on 9 May 2007, 1:31 a.m.

Hi,

Thanks to Tony's wonderful article (and lots of other goodies I found here in the archives) I mustered the courage to open up my 9114A drive to try to get it to work. I carefully disassembled the drive and cleaned all things out. Now when pressing the eject button an inserted disk comes out very easily (I actually was lucky as I did not have to disassemble everything, grease-lock was not that bad)

However the original problem persists:

When turned on (no disk) both of the LEDs turn on (the one marked power and the one marked fault) and stay on. The little LED underneath the disk flickers a little bit once in a while but no sustained light.

When turned on with disk inserted the behavior is exactly the same. I also hear no movement of the head or anything the like. Erie silence is all I get...

naturally I have the charger plugged in and while I understand that this might not be enough to use the drive (though the postings in the archive diverge on this point at times...) at least I would expect the fault light to go off...

I measured the power coming out of the charger and it is 8.8V (my voltmeter is not very accurate).

So with my limited latin at its wits end I turn faithfully to the group for advice on the next steps. I read posts about how to replace the battery pack yet at this point I'd like to avoid having to try this without knowing that this even has a chance of being the sole culprit. And somehow this does not seem to likely at this point.

Steve mentions in his article in the article section that there is a chance that the HP-IL interface in the drive is faulty/broken. How could this happen and how could I test that the HP-IL in the drive is fine? I do have Extended IO and the Devil for the HP 41 and Data Acq and Data com for the 71 (but I'm greener than spring grass behind my 71b ears!) in case that would help.

Thanks a lot for all you who have listened until here and even more to those who kindly are willing to offer some advice!

Cheers

Peter

**Re: 9114A woes**

Message #2 Posted by **Tony Duell** on 9 May 2007, 6:01 a.m.,  
in response to message #1 by PeterP

Firstly, the battery must be good for the 9114A to pass the self-test. During the self test, the unit spins the disk and moves the head about (which are the operations that take the most power from the battery, of course), so if the battery is bad, it'll not manage to do that. The charger will NOT be enough on its own.

You can get my schematics for the 9114A from the Australian site. I would start by looking at pages 1 and 2 of the controller PCB schematic, which are the PSU section. There are 3 power rails in a 9114A -- Vc, which is 5V all the time the unit is switched on (it powers the RAM chip, etc), +5V, which powers the rest of the logic and which is turned off when the unit goes into powersave mode, and +12V, which is only turned on to the drive power connector when the unit needs to operate the disk drive motors.

Check the output of the battery pack when the unit is turned on and performing the self-test. A convenient way to do this is to connect the -ve side of your meter to the drive chassis (this is connected to the unit's ground rail) and the +ve side to one of the wires on the back of the power switch. You should get 6V here, it should not drop during the test.

Then measure Vc on TP8. Then check 5V on TP10 (this should be present during the self-test). And finally check the +12V line on TP9 (TP11 is the common ground connection for the -ve side of your voltmeter).

If all that checks out, then I think you're going to have to get into the controller board logic circuitry. Do you have a logic probe, logic analyser or oscilloscope?

### Re: 9114A woes

Message #3 Posted by **PeterP** on 9 May 2007, 11:46 a.m.,  
in response to message #2 by Tony Duell

Tony, Luiz,

Thanks so much. Again. :-)

So the first thing I did is to search for the right replacement battery in the archives. Many people seemed to have used the Powersonic PS-628 with great success. It still can be found [here](#) for 20 USD.

So my next step will be to replace the batter pack and try again. In the meantime I'd love to try study the suggestions from Tony, yet I do not know the Australian site? Can you point me in the right direction, please?

BTW - I was amazed at the level of detail and care in your article about the cleaning of the drive, quite exceptional! I almost failed before I even started due to those deeply recessed torx screws to open the drive, as I have no torx drivers. Turns out I had an exact fitting flat-head (?) screw-driver which worked as well. I read in a post that the 71b need a 6 and the drive is an 8, but there is also a thread which claims it is a 9. Would you happen to know the size Torx needed for the drive?

Thanks again, and I will most definitely keep you all in the know of how your student is doing.

Cheers

Peter

### Re: 9114A woes

Message #4 Posted by **Tony Duell** on 9 May 2007, 1:47 p.m.,  
in response to message #3 by PeterP

Quote:

So the first thing I did is to search for the right replacement battery in the archives. Many people seemed to have used the Powersonic PS-628 with great success. It still can be found [here](#) for 20 USD.

---

I have long been of the opinion that before you change any components -- yes, even batteries -- you should do tests to find out what is wrong. This may not be the way of the modern board-swappers, but all I can say is that my stuff keeps on working..

Before you spend \$20 on a new battery, I really would check the voltage. If you take the top cover off the drive, it's really easy to do. I'd do it without the charger connected, you're more likely to show up a dead battery that way. If the voltage is lower than 6V, or if it drops when the unit tries to do a self-test, then change the battery, sure.

Quote:

---

BTW - I was amazed at the level of detail and care in your article about the cleaning of the drive, quite exceptional! I almost failed before I even started due to those deeply recessed torx screws to open the drive, as I have no torx drivers. Turns out I had an exact fitting flat-head (?) screw-driver which worked as well. I read in a post that the 71b need a 6 and the drive is an 8, but there is also a thread which claims it is a 9. Would you happen to know the size Torx needed for the drive?

---

Alas I don't know. My toolkit contains all sizes from TX3 (!) up to TX70. I know I had a tool that would fit it... Sometimes I forget that not everyone has literally hundreds, if not thousands, of tools...

It's the same size as the 2 screws on top of the battery pack. You could take that to a good tool shop and see if they can find the size that fits it.

---

**Re: 9114A woes**

*Message #5 Posted by **PeterP** on 9 May 2007, 1:55 p.m.,  
in response to message #4 by Tony Duell*

Tony,

Thanks for your fast response.

You are absolutely right. I forgot to mention this in my thread - I did test the output voltage of the battery. if unconnected to the charger it is just a couple of volts at best, it almost appears close to 0 (my voltmeter is not that good, and neither is the operator...). However, with the charger attached and the charger plugged in I get the full 8.8 Volt. So from that I inferred that the battery is dead. Please correct me where I did something wrong (other than not telling you about it, silly me...)

Will follow your advice on the Torx, especially as it needs the long shaft. You can buy a whole set for 10 USD over the internet, but they all have only 50mm shaft and then I'm not too sure about the quality...

last but not least, can you be so kind and point me to the Australian site so that I can get my hands on your schematics?

Thanks so much!!

Cheers

Peter

**Re: 9114A woes**

*Message #6 Posted by [Klaus](#) on 10 May 2007, 1:44 a.m.,  
in response to message #5 by PeterP*

The Australian site has the same domain name as this site, but has a .net instead of a .org

**Re: 9114A woes**

*Message #7 Posted by [Tony Duell](#) on 10 May 2007, 4:30 a.m.,  
in response to message #5 by PeterP*

Quote:

---

Tony,

Thanks for your fast response.

You are absolutely right. I forgot to mention this in my thread - I did test the output voltage of the battery. if unconnected to the charger it is just a couple of volts at best, it almost appears close to 0 (my voltmeter is not that good, and neither is the operator...). However, with the charger attached and the charger plugged in I get the full 8.8 Volt. So from that I inferred that the battery is dead. Please correct me where I did something wrong (other than not telling you about it, silly me...)

---

That pretty much shows your battery is dead. It's fairly easy to replace it, you remove the 2 screws on top of the back, free the cover from the little 'clips' round the edges, and the battery just lifts out. The wires go on with 'faston' spade terminals, as expected the red wire is +ve.

Quote:

---

Will follow your advice on the Torx, especially as it needs the long shaft. You can buy a whole set for 10 USD over the internet, but they all have only 50mm shaft and then I'm not too sure about the quality...

---

All I can say on quality is that some of my Torx drivers cost over \$10 each...

Quote:

---

last but not least, can you be so kind and point me to the australian site so that I can get my hands on your schematics?

---

I don't think David Hicks likes us mentioning other sites here. I did try to send you a private message giving the URL of that site, though.

**Re: 9114A woes**

*Message #8 Posted by [PeterP](#) on 10 May 2007, 1:41 p.m.,  
in response to message #7 by Tony Duell*

Thank you Tony and Klaus. I added another link to my HP41 link selection, very nice and very much appreciated!



If and when the batteries arrive and I have made the replacement, I will most definitely report on the outcome.

One question - I have scoured the archive for articles on 9114 and it is true that especially the question about the batterie is coming up with high regularity. As for cleaning, there is Steve's article here.

Tony, I was wondering if it would make sense for me to put together a little primer on the various subjects that can be found in the archives and the answers from the experts (you, Steve, Garth, etc) and create a little 'Review of Questions about the 9114' article that can be added to the article section and you can point to it in the future for easy reference. I must have read at least 7 posts of you talking about the the difference between 9114a and 9114b, 300rpm PC and 600rpm 9114, etc :-). Also, I was wondering what your options are with regards to the article you submitted to Datafile - does that mean it now belongs to them and it can not be posted here? I think the pictures and detailed description make a very nice complement to Steve's article here.

Naturally, I would want to ask you and/or the forum to 'proof read' that summary article before suggesting it to Dave, but I thought it might be useful for others at least as a starting point. What do you think?

Cheers

Peter

### **Re: 9114A woes**

*Message #9 Posted by [Tony Duell](#) on 11 May 2007, 1:41 p.m.,  
in response to message #8 by PeterP*

Quote:

---

One question - I have scoured the archive for articles on 9114 and it is true that especially the question about the batterie is coming up with high regularity. As for cleaning, there is Steve's article here.

Tony, I was wondering if it would make sense for me to put together a little primer on the various subjects that can be found in the archives and the answers from the experts (you, Steve, Garth, etc) and create a little 'Review of Questions about the 9114' article that can be added to the article section and you can point to it in the future for easy reference. I must have read at least 7 posts of you talking about the the difference between 9114a and 9114b, 300rpm PC and 600rpm 9114, etc :-). Also, I was wondering what your options are with regards to the article you submitted to Datafile - does that mean it now belongs to them and it can not be posted here? I think the pictures and detailed description make a very nice complement to Steve's article here.

---

Sounds like a good idea.

As regards the article in Datafile, I still own the copyright on that (although obviously I've given HPCC the right to reproduce it -- but not the exclusive rights).

Now, I don't have modern things like a graphical display on my PC, or a digital camera. Therefore, that article was submitted to HPCC in bits -- a CD-ROM of pictures produced by the minilab that processed and printed my film (some of those pictures had nothing to do with 9114s at all!), and a text file of captions and which photos to stick in. Bruce Horrocks (HPCC editor) put it all together for me.

I've suggested that he puts a copy on the web somewhere (I would certainly be happy with that), but AFAIK he's not had time to sort it out.

### Re: 9114A woes

Message #10 Posted by [Dave Shaffer](#) on 10 May 2007, 2:40 p.m.,  
in response to message #5 by PeterP

PeterP: "(my voltmeter is not that good, and neither is the operator...)"

Do you live in the USA? If so, let me suggest that you check out the cheap Sears DVM. I note that here in Arizona, at least, the latest Sears sale circular shows it for \$10. I have one, it works well, and is nice and small so you can carry it almost anywhere.

I don't think Sears will sell you a new operator, though!

### Re: 9114A woes

Message #11 Posted by [PeterP](#) on 10 May 2007, 5:32 p.m.,  
in response to message #10 by Dave Shaffer

:-) a new operator would be cool, wouldn't it?

Thanks for the tip, will check it out!

Cheers

Peter

### Re: 9114A woes

Message #12 Posted by [Tony Duell](#) on 11 May 2007, 1:43 p.m.,  
in response to message #10 by Dave Shaffer

Quote:

PeterP: "(my voltmeter is not that good, and neither is the operator...)"

Do you live in the USA? If so, let me suggest that you check out the cheap Sears DVM. I note that here in Arizona, at least, the latest Sears sale circular shows it for \$10. I have one, it works well, and is nice and small so you can carry it almost anywhere.

Having had so many problems with cheap DMMs and VOMs over the years, I now only use what are considered to be good quality brands, like AVO and Fluke. Yes, they're expensive, but they're worth it IMHO, if only in terms of the time saved by not having to worry if the readings are sane.

Quote:

---

I don't think Sears will sell you a new operator, though!

---

Alas that's a lot more important than the instrument. The best piece of test gear is a brain, as I've said many times...

**Re: 9114A woes**

*Message #13 Posted by [Dave Shaffer](#) on 11 May 2007, 10:47 p.m.,  
in response to message #12 by Tony Duell*

Tony,

When it counted (i.e. I was getting paid for the job!), I did use a Fluke (paid for by my company). But when I'm paying for it, I tend to go downscale a bit. So far, my Heathkit DVM, along with its Radio Shack and Sears companions have functioned way beyond what I might have expected. I don't use them very hard, but when I need them (perhaps once a week) they seem to perform more than adequately.

The requisite brain, to make sure it is all working OK at the expected levels is, indeed, an important part of the equation, though.

**Re: 9114A woes**

*Message #14 Posted by [Vieira, L. C. \(Brazil\)](#) on 9 May 2007, 6:19 a.m.,  
in response to message #1 by PeterP*

Hi;

mine had similar problems that definitely disappeared after replacing the sealed battery for a new one, as Tony clearly mentions in his post. I'm adding this followup just to reinforce Tony's post with my own experience.

Cheers.

Luiz (Brazil)

*Edited: 9 May 2007, 12:23 p.m.*

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## HP Forum Archive 17

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### **HP41cv raw to lif conversions**

Message #1 Posted by [Terry Clift](#) on 8 May 2007, 9:32 p.m.

Any one out there know where I can obtain the HPILHEAD.XLS spreadsheet referred to in Dan McDonald's forum article of 7 april, 2000 "HPIL files: Where, What, Why, How, etc." I have just emailed the address of Dan as given in the article but it bounced back. Have just started "playing" with my old 41cv again after 20 years and having a ball. Weird eh?

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## HP Forum Archive 17

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### hp 35 chrome trim question

Message #1 Posted by [db \(martinez, ca.\)](#) on 8 May 2007, 7:51 p.m.

someone wrote with a question about a 35 i am flogging on ebaby. he wanted to know if the chrome trim is worn off & missing or never was there at the top. i know there were different patterns but not what they were. is there someone lurking here i could send a photo to who would know?

### Re: hp 35 chrome trim question

Message #2 Posted by [Randy](#) on 8 May 2007, 7:55 p.m.,  
in response to message #1 by [db \(martinez, ca.\)](#)

I've never seen one without chrome, at least what was left of it...

### Re: hp 35 chrome trim question

Message #3 Posted by [Dan W](#) on 8 May 2007, 10:34 p.m.,  
in response to message #2 by [Randy](#)

All of the 35's should have two rows of chrome trim, one thicker than the other. This is a chrome finish over plastic and wears off especially around the on/off switch.

### Re: hp 35 chrome trim question

Message #4 Posted by [db \(martinez, ca.\)](#) on 9 May 2007, 12:42 a.m.,  
in response to message #3 by [Dan W](#)

Dave has a picture of one with only one row of chrome [here](#) comparing it to the others. I was wondering if there was a no-chrome-on-the-top-row version. Probably not. The previous owner may just have erased it off so it didn't look worn in one spot.

The one i'm offering has no chrome on either of the top rows. The topmost row is not even smooth under magnification like the chromed areas; it's mottled but not so much as the rest of the body.

Thanks for the input Randy and Dan. It's not really a big deal to me but as i said; somebody asked and i thought i'd find out. I told him to read this thread so he will know as much as i do. God help him if that's all he knows.

Besides; it's hard for me to see that area with all that glaring light from the red dot on the on switch blinding me.

just kidding.

*Edited: 9 May 2007, 12:46 a.m.*

### Re: hp 35 chrome trim question

*Message #5 Posted by [Jeff O.](#) on 9 May 2007, 7:42 a.m.,  
in response to message #4 by db (martinez, ca.)*

I presume we are talking about [this auction](#)? Certainly appears to be an HP35 version 4 with the one and only top chrome trim bar either completely worn off or intentionally removed. For more info, see item 4 [here](#), below the **HP-35 Versions and Bugs** heading.

**Re: hp 35 chrome trim question**

*Message #6 Posted by [Dan W](#) on 9 May 2007, 2:20 p.m.,  
in response to message #5 by Jeff O.*

Yep I stand corrected, 4th version had 1 row of chrome. I see I'll just have to add one of those to my collection. ;)

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## HP Forum Archive 17

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### Implicit multiplication

Message #1 Posted by [Sam Levy](#) on 8 May 2007, 10:16 a.m.

I wrote 2PiF and my calculator wouldn't work. I had wrongly assumed that would be understood as multiplication. This led me to ask: Why can't this be designed into the calculator? If one alphas has a power sign, it could be interpreted as applying to that term only. Does anyone know if that has been implemented? Sam

### Re: Implicit multiplication

Message #2 Posted by [Dia C. Tran](#) on 8 May 2007, 11:08 a.m.,  
in response to message #1 by Sam Levy

I am not sure of your expression either so I wouldn't expect a calculator can. I guess you meant  $2 * \text{Pi} * F$ ? It could be interpreted as  $2 * \text{Pi} F$  or  $2 * P * i * F$ .

### Re: Implicit multiplication

Message #3 Posted by [Ron Ross](#) on 8 May 2007, 12:33 p.m.,  
in response to message #1 by Sam Levy

Actually, the lower end modern (I could use more descriptive, yet probably vulgar derogatory terms) Hp's and other brands DO such implied multiplication. The higher Hp's look as such a combination as a total descriptive name of a variable (which is way more versatile and powerful, especially if you have a feeble memory as myself!).

The Hp33s and Hp39/40GS series would do as you wish, aside from Pi. That would be P\*I. You get the BAD with the good in your example.

### Re: Implicit multiplication

Message #4 Posted by [bill platt](#) on 8 May 2007, 8:30 p.m.,  
in response to message #3 by Ron Ross

The 33s doesn't do implicit multiplication, right?

I know that the 30s \*does\* do it, but that is hardly such a great advantage considering the other aspects it lacks.

Parsing the implicit multiplication certainly must be possible in the 48 series if you program a front end for such a purpose. For instance does Erable or ALG48 have that sort of feature?

### Re: Implicit multiplication

Message #5 Posted by [Hal Bitton](#) on 8 May 2007, 7:38 p.m.,  
in response to message #1 by Sam Levy

If you are using an RPL machine (48 series, 49 series, or 50g), build your equation directly on the stack using

RPN keystrokes like this: 2 Pi(using the pi key) 3 multiply multiply.  
Simple, clean, powerful, totally unambiguous...that's RPN!

PS...it works for big equations too.  
Best Regards, Hal

### Re: Implicit multiplication

Message #6 Posted by **Palmer O. Hanson, Jr.** on 8 May 2007, 10:45 p.m.,  
in response to message #5 by Hal Bitton

As others in this thread have indicated there can be problems with implicit multiplication if the user doesn't understand the rules; for example, if a machine allowed variable names consisting of more than one character and allowed implied multiplication then it would be hard-pressed to tell the difference between a single variable ABC and implied multiplication of three variables A, B, and C. Therefore, machines which allow ABC as the implied multiplication of A and B and C typically limit variable names to single letters. That does limit the number of available variables. Many of the machines which operate in some version of an Equation Operating System which includes the use of parentheses (Oh HORRORS!) allow implied multiplication as in  $(A + B)(C + D)$ . Some of those machines (the HP-33s is one of them) actually eliminate the multiplication as part of assembling the user input; that is, if the user enters  $(A + B) \times (...)$  the machine doesn't put the multiplication symbol in the display. It really isn't as hard as the typical RPN afficianado makes it out to be.

### Re: Implicit multiplication

Message #7 Posted by **Palmer O. Hanson, Jr.** on 9 May 2007, 8:58 p.m.,  
in response to message #6 by Palmer O. Hanson, Jr.

I wrote:

Quote:

... Some of those machines (the HP-33s is one of them) actually eliminate the multiplication as part of assembling the user input; that is, if the user enters  $(A + B) \times (...)$  the machine doesn't put the multiplication symbol in the display. ...

Actually, my description of the implied multiplication of the algebraic mode of the HP-33s was backwards. If the user keys in the following sequence

$(RCL A + RCL B) (RCL C - RCL D)$  where the sequence assumes there is implied multiplication then the display will actually show  $(A + B) \times (C - D)$  where the machine supplies the multiplication sign.

Mea culpa.

### Re: Implicit multiplication

Message #8 Posted by **Maximilian Hohmann** on 9 May 2007, 1:17 p.m.,  
in response to message #1 by Sam Levy

Hallo!

Quote:



Does anyone know if that has been implemented?

---

The Ti Voyage 200 (or Ti-89) does exactly what you ask here! But you have to enter Pi by using the appropriate key. If you enter 2pif it will interpret this as  $2 * \text{pif}$ , because variable names can have arbitrary length.

Greetings, Max

---

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## HP Forum Archive 17

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### [OT] Contacting me

Message #1 Posted by [Valentin Albillo](#) on 8 May 2007, 4:49 a.m.

Hi, all

I've recently noticed that many people that do try to send me a message, either via direct e-mail to my public address or via this MoHP forum message mechanism, frequently forget to include the text string "HP CALCS" in the subject line, as instructed in my web page.

Just in case you didn't know or simply forgot about it, that's the *\*only\** way that your message may have a chance to reach to me, because any message not including "HP CALCS" in the subject will automatically be redirected to the trash bin, sight unseen, without me even noticing that it ever arrived.

If you happened to send me some message and were appalled at my lack of response, rest assured that the only reason I did not reply was that your message didn't have the required "HP CALCS" subject line, as I always reply within a few days at most to any message sent to me (as long as it is an honest, polite request, of course).

Sorry for the off-topic, thanks and

Best regards from V.

### Re: [OT] Contacting Valentin

Message #2 Posted by [Paul Brogger](#) on 9 May 2007, 7:13 p.m.,  
in response to message #1 by Valentin Albillo

So, should I *rather* be appalled that you "blame it on the computer"?

;-)

### Re: [OT] Contacting Valentin

Message #3 Posted by [Valentin Albillo](#) on 9 May 2007, 7:35 p.m.,  
in response to message #2 by Paul Brogger

Excuse me ?

I don't understand what you mean :-)

Best regards from V.

### Re: [OT] Contacting Valentin

Message #4 Posted by [Randy](#) on 9 May 2007, 9:00 p.m.,  
in response to message #3 by Valentin Albillo

Quote:

I've recently noticed that many people that do try to send me a message, either via direct e-mail to my public address or via this MoHP forum message mechanism, frequently forget to include the text string "HP CALCS" in the subject line, as instructed in my web page.

Let's see if I have this right: You *\*know\** people are sending you messages but *\*you\** don't want to respond because they didn't go to your website to find the secret password?

Now that's appalling ;-)

Question: If I sent you a message via the MoHPC system, how would I know you have a website?

## **Re: [OT] Contacting Valentin**

Message #5 Posted by [Valentin Albillo](#) on 10 May 2007, 4:50 a.m.,  
in response to message #4 by Randy

Hi, Randy:

Randy posted:

*"Let's see if I have this right: You *\*know\** people are sending you messages but *\*you\** don't want to respond because they didn't go to your website to find the secret password?"*

First of all, thanks for your interest in my post. Now, I don't *"\*know\*"*, I just "noticed" by sheer accident.

Second, you've read far too many novels: I don't call it *"secret password"* but "spam filter". My public address is that, public, so it gets tons and tons of spam, about 1000 spam e-mails for each legitimate one or more, most of which are potentially harmful even to just open, if not downright disgusting.

Thus it's not that I *"don't want to respond because they didn't go to your website to find the secret password"*, but else that unless I filter out the spam there's no way I would ever be able to find the legitimate messages sent to me among that many garbage.

The "HP CALCS" subject does just that: any message not including it is considered spam and immediately deleted, any message including it does end up in the Inbox for me to eventually read it.

And, just in case you were thinking or implying that I want to force people to visit my website, nothing could be further from the truth: my website, in its actual status, is rather worthless to visit save for the occasional article which I make available online periodically, and which gets announced here when I upload it. I'm not interested in the least in the visitor's count or whether it's linked or not from other sites. Matter of fact, I think that there is no link to it in the appropriate Links section of this MoHP site, for instance, but whether that's the case or not, I doesn't trouble me in the least.

*"Now that's appalling ;-)"*

You're entitled to your opinion, of course, but I've found no better way to deal with the spam, and just by googling for the pretty obvious "albillo hp calcs" search string will immediately get you to my web page, where the "HP CALCS" subject line theme is explained at the very beginning.

Unfortunately, there's no provision in the MoHP forum posting system to include such a warning, and repeating it here periodically would be unpolite, incredibly narcissistic on my part, and quickly get on everyone's nerves: just imagine if many other people did the same, the forum would get crowded with "How to contact me!" instructions.

*"Question: If I sent you a message via the MoHPC system, how would I know you have a website? "*

If you're a regular, that should be known to you because I frequently include references to its existence when I put online some articles, etc. If you're a newbie, you must assume you don't know everything and a useful strategy is to google to see if that person has a website or a blog or does post in the news.

That failing, and in urgent cases, it's rather common to post a message such as "Mr. XX, I want to contact you!" or something like that, which normally gets read and answered immediately.

Also, please take into consideration that I don't get paid for answering unrequested e-mails and thus I am under no obligation whatsoever to reply to anyone or read each and every mail sent to me, let alone thread among thousands of spam just to find the few legitimate ones. I just do it out of politeness and as a contribution to the HP community, in case I can be of any help to someone or someone wants to discuss some HP- or math-related matter with me. This being the case, I establish the appropriate rules that suit me and that's it.

Anyway, if you can think of a better mechanism, short of posting a front-page add in each and every publication in the world, I'll certainly consider it and will thank you for it.

Best regards from V.

*Edited: 10 May 2007, 7:53 a.m.*

## **Re: [OT] Contacting Valentin**

*Message #6 Posted by **Bill (Smithville, NJ)** on 10 May 2007, 8:05 a.m.,  
in response to message #5 by Valentin Albillo*

Hi Valentin,

Quote:

---

Unfortunately, there's no provision in the MoHP forum posting system to include such a warning

---

I thought there was a way. But when I went and took a look at the Forum account management I see that the "Forum email comment" shows up only on a public e-mail - not private e-mail addresses. Following is quote from Forum Account Mangement.

Quote:

---

Forum email comment is displayed in the contact form if someone tries to email you and you have a Forum Email Address which isn't Private. It is usually used to tell a human how to fix an obscured email address. For example "Remove SPAM from the email address." Unless you use an obscured email address, you will usually leave this blank.

QUESTION TO DAVE HICKS - Could this be changed so that this Email Comment would appear for both Public AND private email?

Is there some downside to doing this that I'm missing?

Seems like that would solve your problem - at least for anyone using the museum e-mail system.

I'll also send Dave an e-mail direct asking if this could be changed in case he misses my question buried in this message.

Bill

**Re: [OT] Contacting Valentin**

Message #7 Posted by [Valentin Albillo](#) on 10 May 2007, 8:46 a.m.,  
in response to message #6 by Bill (Smithville, NJ)

Hi, Bill:

Thank you very much for taking the trouble, it certainly seems that if the proposal you make could be arranged, that would certainly solve the problem. Including a comment such as:

*"Please include HP CALCS in the subject line to avoid the automatic spam filtering"*

would be clear enough. I don't see a downside to this, really, but Mr. Hicks will surely know better.

And, by the way, I've checked how did I exactly set up this "spam filter", and the rules are slightly more relaxed, namely, as long as "HP CALCS" is included in the Subject and/or in the email's Body, it will reach me. So, for instance:

*Subject: HP CALCS*

or

*Subject: Re your Mean Matrices article (HP CALCS)*

or

*Subject: Re your Mean Matrices article*

*Body: [...] and best regards from Bill (HP CALCS) [...]*

would all pass muster and be delivered to the Inbox.

Thanks again and

Best regards from V.

**Re: [OT] Contacting Valentin**

Message #8 Posted by [GE](#) on 11 May 2007, 6:05 a.m.,

*in response to message #7 by Valentin Albillo*

My experience on a nice mailing list elsewhere is that any message sent to the list has its subject prepended with [XYZ] (XYZ different in real life, would be HPMUSEUM here I guess) before being forwarded to list members.

I can imagine a simple mechanism by which any email sent with the HPMuseum reply system would have this marker added. It would not go really in the way and anyone would have a chance to set a spam filter like yours.

Sold ?

**Re: Sold ! :- ) Perhaps Mr. Hicks would agree ...**

*Message #9 Posted by [Valentin Albillo](#) on 11 May 2007, 7:31 a.m.,  
in response to message #8 by GE*

Thanks for your sensible input, GE.

Best regards from V.

**Re: [OT] Contacting Valentin**

*Message #10 Posted by [Paul Brogger](#) on 10 May 2007, 12:57 p.m.,  
in response to message #3 by Valentin Albillo*

It's actually a snide comment, not in keeping with the generally positive tenor of this forum. I apologize for giving in to one of my base urges.

I would say (and this observation *also* comes from a software developer's standpoint) that you may be putting forth an unfortunately over-complex user interface. Expecting others to remember the particular details required for contact may put you further out of touch than intended.

**Re: [OT] Contacting Valentin**

*Message #11 Posted by [Valentin Albillo](#) on 10 May 2007, 1:54 p.m.,  
in response to message #10 by Paul Brogger*

Hi, Paul:

Paul posted:

*"I would say (and this observation also comes from a software developer's standpoint) that you may be putting forth an unfortunately over-complex user interface. Expecting others to remember the particular details required for contact may put you further out of touch than intended. "*

Thanks for your comment, the present one that is, as I still don't understand the previous "sarcastic" one, it was lost on me.

As for your statement *"Expecting others to remember the particular details required for contact may put you further out of touch than intended"*, I think this is putting the cart before the horse.

In other posts of mine in this very thread I've quite clearly explained the rationale for the required subject (or body, actually) string, which may be liked or not but certainly is in no way arbitrary or irrational, so I won't repeat myself here.

But about the reversed situation, I don't expect anyone to remember anything to contact with

me, nor do I have any special interest in being contacted at all, I'm fully busy right now as it is. The one and only reason I provide a public address is because of a willingness to help HP-calc fans like me if I can, and to provide a way, some way, for them to contact me if they need or want to. I'm under no obligation to do that, nor do I specially want to be 'contacted' because of scarce time, as I've said many times before.

Take for instance this forum. Mr. Hicks gently provides it for us, for free, and does his best to keep it running smoothly and even upgrading it at times. But he's not under any obligation whatsoever to answer us, to fulfill our requests, or even to run this site indefinitely. We are the ones obliged to him, not the other way. He sets the rules and we simply abide by them, and thankfully at that.

Same here. I intend to provide some way to contact me and do my best to reply each mail I get, but I have no obligation to do it. I set my rules (the infamous HP CALCS string) and people wishing a reply from me must abide by them if they want to succeed, and that's the way it is.

Also, I've noticed that despite my best efforts I do not seem to be making many friends here, because it seems funny to me that a well-meant attempt to explain why some emails might not be reaching me and provide some simple instructions to improve my accessibility gets in return a number of criticisms and "snide" comments from people who seem to consider including a simple text an unbearable and abusive requirement on my part, when lots of people in this forum post in a completely anonymous way and are impossible to contact, while on the other hand I'm willingly taking the trouble to read the unsolicited emails sent to me and trying to help if possible or at the very least reply to questions or comments. Funny indeed.

Best regards from V.

## Re: [OT] Contacting me

Message #12 Posted by [bill platt](#) on 10 May 2007, 7:33 a.m.,  
in response to message #1 by Valentin Albillo

Hi Valentin,

I don't understand what the problem is. Yes, spam is annoying, so create a \*new\* address and use it only for the HPforum registration. That way, when someone logs in and uses the HP forum email mechanism, you'll get a message in an uncorrupted account.

I have 4 email addresses, and I do not get much spam at all. I have had zero spam attributable to the HP forum. Furthermore my most used email address is readable to anyone who logs into google groups. So far, I have had no spam attributable to that either, and I've been on usenet for years.

Really, there are better ways to deal with spam than making this subject line filter. Just start fresh and keep it from going "public" (in other words, protected from crawlers and bots).

kindest regards from

Bill Platt

## Re: [OT] Contacting me

Message #13 Posted by [Valentin Albillo](#) on 10 May 2007, 8:34 a.m.,

in response to message #12 by bill platt

Hi, Bill:

Bill posted:

*"Yes, spam is annoying, so create a \*new\* address and use it only for the HPforum registration. That way, when someone logs in and uses the HP forum email mechanism, you'll get a message in an uncorrupted account."*

This is a workable solution, indeed, but the problem with it is that it would be yet another e-mail address to manage. You mention you have 4, I must have on the order of 20+, if not more, each for their own particular use, because there's not only family, work, friends, etc., but apart from math and HP calcs I do have many other hobbies and occupations which made necessary such a measure in the past.

Also, for security reasons, it would have yet another different password to remember, and I would also have to remember checking it periodically, etc. I know that there are ways of managing the passwords and there are ways to forward e-mails from one account to another, etc., but setting it all amounts to further complications for me, and, essentially, having to invest time to set it all up and administer it, and time is the scarcest resource for me.

*"Really, there are better ways to deal with spam than making this subject line filter. Just start fresh and keep it from going "public" (in other words, protected from crawlers and bots)."*

I'm using an image instead of plain text for my public address as featured in my website, using an HP-41C font, so it should be safe from bots and such, but I guess that sooner or later someone uses your e-mail address as plain text in some email-chain, say, or some address lists of theirs, and presto, your address becomes fodder for spammers sooner or later. I'm glad that you've found no such problems but my mileage does vary: no matter what precautions I take, inevitably spam gets its way in and I have to eventually install some filtering mechanism.

Anyway, I'll consider your valuable suggestion and may test it for a while in another more controlled environment. If I find that it does work and I don't have to spend extra time managing it, I may implement that here as well. But for the moment, the "HP CALCS" subject will remain in effect.

Thanks for your interest and sound, well-meant advice and

Best regards from V.

## **Re: [OT] Contacting me**

Message #14 Posted by **PeterP** on 10 May 2007, 1:23 p.m.,  
in response to message #13 by Valentin Albillo

Valentin,

I believe that I am the culprit of this whole thread and I thoroughly apologize. I tried to send you an email and you were kind enough to spend the time to post to let me (and others) know how to best reach you.

Personally, I found that effort on your part very kind and your rule no trouble at all and very reasonable. I certainly can sympathize with large numbers of email-accounts and the difficulty in managing them.



Again, I thoroughly appologize for at least contributing substantially to the cause of this public discussion of your very private way of keeping your email-avalnche in check.

Cheers

Peter

**Re: [OT] Contacting me**

*Message #15 Posted by **Valentin Albillo** on 10 May 2007, 2:00 p.m.,  
in response to message #14 by PeterP*

Hi, PeterP

Thank you very much for your kind and supportive words but no need to apologize, believe me, it's not your fault at all.

I think I pretty much know the reasons behind it all, but this is not the place to comment on them.

As for your latest e-mail, it actually did reach me, and the only reason I haven't sent you a reply to your proposal yet is because I was first considering some requirements. Please check your e-mail within a few hours and you'll find my reply there.

Again, thank you very much for your support but much more importantly, for your unfailing enthusiasm.

Best regards from V.

**Re: [OT] Contacting me**

*Message #16 Posted by **Howard Owen** on 11 May 2007, 6:35 p.m.,  
in response to message #1 by Valentin Albillo*

I've kept a single non-work related email address - hbo AT egbok DOT com - since 1995. I find that it helps old friends and acquaintances get in touch with me. I currently pre-filter the mail to classify messages according to various mail lists. I then scan sender and subject for the non-list mail, throwing out the obvious SPAM. This is 95% of the remainder, about 600 messages a day. The list mail and the manually filtered mail is then pulled in to my home email system. There it is all run through SPAM Assassin and archived. This allows me to see most of the non-SPAM mail that is sent directly to me, and not to a list.

All that is a lot of work, of course. I choose to do the work because I don't want to knuckle under to the low-life miscreant SPAM mongering criminals that push their swill of fraud and virus laden mystery meat around the Internet. SPAM is a terrible scourge because it subverts the ideal of open information exchange the Internet was built upon. I want my email to be the broad-spectrum tool for communication it was intended to be. This is a personal choice I make.

But I support your approach to dealing with the SPAM scourge too, Valentin. I don't think my approach is better in an absolute sense, only better for me. You're eloquence in defense of your right to choose what communication you accept or reject is completely convincing.

Regards,  
Howard

## Re: [OT] Contacting me

Message #17 Posted by [Valentin Albillo](#) on 11 May 2007, 9:08 p.m.,  
in response to message #16 by Howard Owen

Hi, Howard:

*"[...] All that is a lot of work, of course."*

Yes, it is, which essentially means time, which in my case is particularly scarce (I'm writing this at 3:05 AM Spanish local time, after a very hard week) and which I'd rather use in replying to HP fans who send legitimate e-mails instead of dealing with spam.

*"SPAM is a terrible scourge because it subverts the ideal of open information exchange the Internet was built upon. "*

Absolutely right. It completely defeats the whole purpose of near real-time, easy, world-wide communications (remember "snail mail" regular letters or telegrams). It ruins a magnificent technological blessing and, IMHO, it should be considered a federal crime, and punished as such. Anyone remembers "[Spamford](#)" [Wallace's outrageous attitude](#) on the subject ? Whether you remember him or never heard of him, try the link and get surprised and astonished at what unbelievable depths that man was eager to go to forcibly get his garbage down everyone's throats. And his de-facto 'heirs' are certainly in the same league if not worse.

*"But I support your approach to dealing with the SPAM scourge too, Valentin. I don't think my approach is better in an absolute sense, only better for me. You're eloquence in defense of your right to choose what communication you accept or reject is completely convincing."*

Thank you very much, your kind support is really much appreciated, and really helps here ! :-)

Best regards from V.

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## HP Forum Archive 17

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**Graphing functions..**

Message #1 Posted by [PhysicsNerd](#) on 7 May 2007, 10:50 p.m.

Okay, I have a bunch of equation in my STORED Plot-function window Y1-Y11 but I only have 1 equation actually highlighted in present in the Plot-Function window itself. How come when I press draw it draws 3 of the functions, 1 of which is the one in my window and the others that are stored but not present in the window? What do I have to do to get my calc to graph 1 function only? Also, how do you delete the stored functions? Thanks

**Re: Graphing functions..**

Message #2 Posted by [James M. Prange \(Michigan\)](#) on 8 May 2007, 1:45 a.m.,  
in response to message #1 by [PhysicsNerd](#)

I rather seldom use the graphing features of the RPL models, so I'm not, offhand, certain of correct answers to your questions. I suppose that I could do a bit of research and find out easily enough, but on the other hand, you could do that.

Have you tried reading the fine documentation?

Or maybe there's a "training module" about graphing?

Or you could try an advanced search of the comp.sys.hp48 usenet group from [http://groups.google.com/advanced\\_search?](http://groups.google.com/advanced_search?)

If you don't find an answer, then you could try posting a question to the newsgroup. In case you don't already use a newsreader, you should be able to access it from <http://groups.google.com/group/comp.sys.hp48/topics>.

Please be sure to include which model you're talking about with your question.

Regards,  
James

**Re: Graphing functions..**

Message #3 Posted by [Happy HP User](#) on 8 May 2007, 9:49 a.m.,  
in response to message #1 by [PhysicsNerd](#)

There are several ways to do this:

When in Plot - Function, (LeftShift hold F1), just ERASE the functions you don't want plotted. Or, when in Plot SetUp, (LeftShift hold F4), edit the EQ list. From either screen, clear the old plot and redraw with ERASE DRAW.

You can also call up the old HP48 commands. Type 81 MENU (with flag 117 set: -117 SF) and you get the complete HP48 plot menu.

## **Re: Graphing functions..**

*Message #4 Posted by [ECL](#) on 9 May 2007, 9:37 p.m.,  
in response to message #1 by [PhysicsNerd](#)*

I hesitate, at the risk of sounding superior (which I don't intend), to say this:

Spend some time reading whatever literature you have at hand, even consider downloading the manual (from HP's site). The RPL machines are not the most straightforward, yet once you become accustomed to the machinery it will express you forward.

I found that by resisting expressing frustration at every corner and instead just learning (accepting that I wasn't in command), I had a fairly easy time picking the system up.

Have fun:)

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### For the best of you in geometry

Message #1 Posted by [Jean-Michel](#) on 7 May 2007, 4:11 p.m.

Hi,

just to see what the best of you can do with their powerful brain and HP's, let me submit to you this little problem. (I apologize first for my poor english writing.)

"A bricklayer is working a the tenth floor af a building, without any lift in order of working at the moment. He is in a corridor, from which he needs to know the with, but he has forgotten his measuring tape in his car, and is too lazy to go to take it by feet... Fortunately, he's noting that his 3 m long ladder and his 2 m long, placed "symetricaly" in the corridor (the bottom of one ladder at one side of the corridor, and the top of this ladder on the opposite wall, and the opposite for the other ladder), are crossing themselves at just 1 m of the floor (the length of his plumbline). He is thinking that it must be enough to calculate the withd of the corridor, but he finds the problem difficult..."

Could someone here help him to find the solution (not graphically, of course...)

(I'm sorry, but I didn't manage to enclose any picture.)

Hope this will entertain you !

Regards from J.-M.

### Re: For the best of you in geometry

Message #2 Posted by [Valentin Albillo](#) on 7 May 2007, 6:19 p.m.,  
in response to message #1 by Jean-Michel

Hi, Jean-Michel:

It's just a simple problem of dealing with similarity relationships among the several triangles that result from drawing it all. It readily leads to a 4th-degree polynomial equation in the general case, and this small HP-71B program I've just written for the occasion does it all in 3 lines: prompt for the necessary data, construct the equation, solve it, and output the labeled result:

```
10 DESTROY ALL @ INPUT "Ladder1,Ladder2,Height=";A,B,C
20 DEF FNE(K)=K^4-2*C*K^3+(A^2-B^2)*K^2-2*C*(A^2-B^2)*K+C^2*(A^2-B^2)
30 K=FNROOT(C,MAX(A,B),FNE(FVAR)) @ W=SQR(B^2-K^2) @ DISP "Width=";W
```

```
>RUN
```

```
Ladder1,Ladder2,Height=3,2,1 [ENTER]
```

```
Width= 1.23118572377
```

Best regards from V.

**Re: For the best of you in geometry**

Message #3 Posted by **Jean-Michel** on 8 May 2007, 12:52 p.m.,  
in response to message #2 by Valentin Albillo

Hi Valentino,

just one word : congratulations.

Next time, I'll find something more difficult to solve...

Kind regards.

**Re: For the best of you in geometry**

Message #4 Posted by **Giancarlo (Italy)** on 8 May 2007, 1:12 p.m.,  
in response to message #3 by Jean-Michel

Hi Jean-Michel.

Quote:

\_\_\_\_\_

...something more difficult to solve

\_\_\_\_\_

I'm afraid you'll need something enormously much more difficult to solve for VA :-)

Best regards.  
Giancarlo

**Re: For the best of you in geometry**

Message #5 Posted by **Valentin Albillo** on 8 May 2007, 2:45 p.m.,  
in response to message #3 by Jean-Michel

Hi again, Jean-Michel:

It wasn't my intention to spoil your interesting challenge, matter of fact I thought you would receive a number of additional inputs such as, for example, detailing the triangle relationships necessary to form the quartic equation (which is what results after squaring some intermediate expressions to get rid of several square roots), perhaps additionally including graphics, etc. With a lot of visitors owning and being very fond of graphic RPL models, I was sure some screen dumps would appear in this thread.

An interesting extension of your challenge would be the following: notice that with the particular numbers you provide for the lengths of the ladders and the height of their crossing point, namely 3, 2, and 1, the resulting width comes out as an ungainly irrational number. So, it would be interesting to write a program to search for *integer lengths and heights* that do result in *integer widths* as well. Other interesting constraints come to mind but the one searching for all-integer inputs and outputs in the simplest to program and probably the most interesting too.

Perhaps you or other readers might give it a try :-)

Best regards from V.

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## HP Forum Archive 17

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### **Rebate hassle - HP should be embarrassed!**

Message #1 Posted by [Canucklehead](#) on 7 May 2007, 1:57 p.m.

I tried doing a forum search on this topic, so if I'm repeating something that's already been discussed, my apologies.

Last August, I purchased a 12C Platinum Anniversary edition at a University bookstore here in Toronto. There was a \$10 rebate offered through HP, so I mailed in my receipt with the applicable paperwork and diarized to follow up in 6-8 weeks to ensure the funds arrived.

8 weeks passed, so I signed on to rebatestatus.com. They had a record of my request, and the message says that they're processing it. I check back a week later, same response.

I also emailed rebatestatus.com however every response was a form letter.

This process of checking online and emailing goes on for months, until finally a couple of weeks ago, my request drops off their system (I guess I could have done more to try and reach an actual person, however it is only \$10...I'm not going to invest too much time into this!)

It has now been 9 months and I am still without my rebate. I've also lost any online record of my submission. I can only assume now that I won't be receiving my rebate.

While I'm not losing sleep over \$10, this whole experience has left a bad taste in my mouth. HP should show more concern over their reputation. They should hold any outsourced firm accountable; if they are not meeting the terms of an agreed-upon SLA, then find someone else who will.

I'm not sure whether this was just a Canadian offer or whether it was open to US residents as well. If it's the latter, then I imagine that others out there experienced this. Any ideas?

### **Re: Rebate hassle - HP should be embarrassed!**

Message #2 Posted by [Jeff](#) on 9 May 2007, 9:51 a.m.,  
in response to message #1 by [Canucklehead](#)

Actually, they are referred to as "rebait." It happens a lot. They bait you into buying with a fake rebate and hope that the buyer forgets. They usually do. They make extra sales without having to pay the rebates.

Send an online mail fraud complaint to the U.S. Postal Inspection Service. Also, file a consumer fraud complaint with the state that HP is located in - California.

### **Re: Rebate hassle - HP should be embarrassed!**

Message #3 Posted by [bill platt](#) on 10 May 2007, 10:55 a.m.,  
in response to message #1 by [Canucklehead](#)

I bought two 33s calcs with a rebate.

They paid the 1st one, but not the second even though it was a separate purchase in my wife's name.



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## HP Forum Archive 17

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### Trying to find Joe Rigdon

Message #1 Posted by [Gene Rankin](#) on 7 May 2007, 12:53 p.m.

I sent Joe my HP-25 in July 2000, and had another sent from Germany in October 2000. Joe promised to scavenge the power supply from the German one and fix mine (which I have owned from new).

I have e-mailed him repeatedly and have yet to get a single response. The most recent email address I have for him is <rigdonj@cfl.rr.com >.

Can anyone steer me to him ... or steer him to me? I am, quite frankly, getting to the point of filing a mail fraud complaint against him.

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## HP Forum Archive 17

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### Resetting when changing batteries?

Message #1 Posted by [PhysicsNerd](#) on 6 May 2007, 11:15 p.m.

I've just changed the 4 AAA batteries and somehow everything (the text, everything in MODE) turned to default! How come it resets the memory like this? What do you need to do to avoid this defaulting when changing batteries?

### Re: Resetting when changing batteries?

Message #2 Posted by [Tim Wessman](#) on 7 May 2007, 12:50 a.m.,  
in response to message #1 by [PhysicsNerd](#)

Just so you know, this forum is mainly dedicated to older "collector" models. Sure, most people on here have some newer calcs, but the best place for 50G discussion is probably the newsgroup: comp.sys.hp48 (which can be conveniently accessed here - <http://groups.google.com/group/comp.sys.hp48/topics> ) You will generally receive many more answers there, and can conveniently search thousands of messages.

As to losing your settings, the only way that should happen if you changed the 4AA batts is if you don't have the backup memory battery (the "watch" battery) installed or if it were dead.

TW

### Re: Resetting when changing batteries?

Message #3 Posted by [Les Wright](#) on 8 May 2007, 7:23 p.m.,  
in response to message #1 by [PhysicsNerd](#)

This is no comfort after the fact, but I would suggest investing in a smaller size SD card (they are very cheap these days) and learning how to back up your home directory using ARCHIVE and how to store your flag settings to a variable that can also be backed up. That way, you can restore your lost settings if this happens again.

I have a 49G+ and refresh my NiMH AAAs with a rapid charger. I find that during the max 10 minutes this takes the calculator memory remains unmolested, so I guess my backup wafer battery is still fine. Sounds like yours is not, alas.

Les

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## HP Forum Archive 17

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### How to use linear regression using 19bii?

Message #1 Posted by [Jim Webber](#) on 6 May 2007, 1:50 p.m.

I'd like to know the steps using any simple example you can show me. I do not have the manual and cannot find a pdf english version anywhere.

### Re: How to use linear regression using 19bii?

Message #2 Posted by [Hal Bitton](#) on 6 May 2007, 4:42 p.m.,  
in response to message #1 by Jim Webber

Hi Jim, The PDF english version manual (as well as TONS of other great material) is on the museum's DVD, available for purchase from this web-site.

It's a good investment...well worth the money.

Best regards, Hal

### Re: How to use linear regression using 19bii?

Message #3 Posted by [John Smitherman](#) on 6 May 2007, 7:30 p.m.,  
in response to message #1 by Jim Webber

Jim, can you use the 17bii+ manual? If so, it along with several 17bii+ training modules are available in pdf format at hp.com.

Regards,

John

### Re: How to use linear regression using 19bii?

Message #4 Posted by [Howard Owen](#) on 7 May 2007, 12:10 a.m.,  
in response to message #1 by Jim Webber

I downloaded a 19BII manual just the other day from the [HP 19BII support site](#). However, It isn't there at the moment. The link that was on the referenced page is missing, and a search for "HP 19BII Business Calculator" and "Manual" returns a download page but with no link, just a "N/A".

The museum DVD/CD set *is* a good value, and I would encourage you to purchase it. But if you need to get a quick peek at this large (17.1 MB) PDF, I can make it available to you. Send me mail through the link to my name above. Also, the link above leads to quite a few resources for the 19BII.

Regards,

Howard

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How to use linear regression using 19bii?

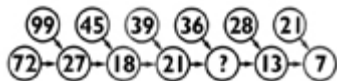
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### OT A simple math puzzle

Message #1 Posted by [Ken Ratkevich](#) on 6 May 2007, 12:11 p.m.

The solution to this puzzle is probably very simple.



I will probably be embarrassed by how simple the solution actually is.

Ken

### Re: OT A simple math puzzle

Message #2 Posted by [Matt Kernal \(US\)](#) on 6 May 2007, 12:22 p.m.,  
in response to message #1 by Ken Ratkevich

On first glance, 15 seems about right (i.e. 36 minus 21 = **15** and 28 minus **15** = 13).

Edited: 6 May 2007, 12:27 p.m.

### Re: OT A simple math puzzle

Message #3 Posted by [Chuck](#) on 6 May 2007, 12:33 p.m.,  
in response to message #2 by Matt Kernal (US)

How does the 21 - 13 give 7, then?

Edited: 6 May 2007, 12:34 p.m.

### Re: OT A simple math puzzle

Message #4 Posted by [Matt Kernal \(US\)](#) on 6 May 2007, 1:28 p.m.,  
in response to message #3 by Chuck

Good catch. Obviously, I didn't take the time to finish the sequence :-)

Good thing my answer was of the non-committal type, with generous use of "escape" language, such as, "On first glance.." and "seems about right..".

Now I'm sounding like a politician :-)

Matt

### Re: OT A simple math puzzle

Message #5 Posted by **Richard Ottosen** on 6 May 2007, 1:03 p.m.,  
in response to message #1 by Ken Ratkevich

One solution is 12. I wonder if there are more solutions. :-)

-- Richard

### Re: OT A simple math puzzle

Message #6 Posted by **Ken Ratkevich** on 6 May 2007, 4:21 p.m.,  
in response to message #5 by Richard Ottosen

Hi,

Can you describe how you arrived at your solution?

Ken

### A simple math puzzle (SPOILER)

Message #7 Posted by **Gerson W. Barbosa** on 6 May 2007, 6:19 p.m.,  
in response to message #6 by Ken Ratkevich

Ken,

Perhaps Richard just didn't want to spoil the fun:

$$(9+9) + (7+2) = 27$$

$$(2+7) + (4+5) = 18$$

$$(1+8) + (3+9) = 21$$

and so on...

Regards,

Gerson.

*Edited: 6 May 2007, 6:34 p.m.*

### Re: A simple math puzzle (SPOILER)

Message #8 Posted by **Richard Ottosen** on 6 May 2007, 8:08 p.m.,  
in response to message #7 by Gerson W. Barbosa

Ken:

I used the same method to get the solution as Gerson. I summed the individual digits to get the next result.

Puzzles like this one always make me wonder if there is more than one way to solve them since the rules are very open-ended.

Thanks for the challenge.

-- Richard

### Re: A simple math puzzle (SPOILER)

Message #9 Posted by **Gerson W. Barbosa** on 6 May 2007, 10:58 p.m.,  
in response to message #8 by Richard Ottosen

Quote:

I used the same method to get the solution as Gerson.

As a matter of fact, I didn't find the solution. You did. I just got curious and tried to discover how you had found it. If I didn't know the solution beforehand I would have probably voted for 15 and assumed the 21 at right was a typo :-)

The following might be easy and has only one solution, to my knowledge:

$$\left| \begin{array}{c} \vee \\ \vee \\ \vee \end{array} \right| \left| \begin{array}{c} \vee \\ \vee \\ \vee \end{array} \right| \left| \begin{array}{c} \vee \\ \vee \\ \vee \end{array} \right| \left| \begin{array}{c} \vee \\ \vee \\ \vee \end{array} \right| \quad ?$$

Gerson.

### Re: A simple math puzzle (SPOILER)

Message #10 Posted by **Valentin Albillo** on 7 May 2007, 2:33 a.m.,  
in response to message #9 by Gerson W. Barbosa

Yes, this one is very, very old:



Best regards from V.

### Re: A simple math puzzle (SPOILER)

Message #11 Posted by **Antonio Maschio (Italy)** on 7 May 2007, 5:39 a.m.,  
in response to message #10 by Valentin Albillo

Please, explain...

-- Antonio

### Re: A simple math puzzle (SPOILER)

Message #12 Posted by **Valentin Albillo** on 7 May 2007, 6:17 a.m.,  
in response to message #11 by Antonio Maschio (Italy)

Hi, Antonio:

Antonio posted:

"Please, explain..."



It's actually extremely simple: the first four forms are just the ASCII representation of the shape of the digits 1,2,3, and 4 with their mirror images prepended.

The next element thus is to be an ASCII representation of the shape of a 5, with its mirror image prepended.

Best regards from V.

**Re: A simple math puzzle (SPOILER)**

*Message #13 Posted by [Antonio Maschio \(Italy\)](#) on 7 May 2007, 11:01 a.m., in response to message #12 by Valentin Albillo*

Off!

I'm so dumb...

-- Antonio

**Re: A simple math puzzle (SPOILER)**

*Message #14 Posted by [Gerson W. Barbosa](#) on 7 May 2007, 12:01 p.m., in response to message #13 by Antonio Maschio (Italy)*

Actually this is not so easy, as we tend to see the symbols as letters:

MVXM

Roman numerals? :-)

Gerson.

**[OT & NT] - To Valentin: You've got mail :-)**

*Message #15 Posted by [PeterP](#) on 7 May 2007, 12:50 p.m., in response to message #10 by Valentin Albillo*

Thanks!!

Cheers

Peter

**Re: [OT & NT] - To Valentin: You've got mail :-)**

*Message #16 Posted by [Valentin Albillo](#) on 7 May 2007, 7:14 p.m., in response to message #15 by PeterP*

Hi, PeterP:

Actually, I've got nothing (yet). I've checked the usual accounts but nothing there from you, unless you were telling me that a recently deceased relative has left me 6 million sterling pounds in his will and that I should send my bank account details for the transfer of the funds to be made. If that was the case, sorry but I decline the kind offer, I'm far too modest a person, as everyone

knows, and wouldn't know what to do with that much money, it would spoil my healthy habits for sure.

Now seriously, did you remember to include the string "HP CALCS" in the subject line, as instructed in my web page ? Else, \*anything\* sent to my usual account (via this MoHP form, for example) without including such a text string in the subject is automatically and invisibly redirected to the trash bin, sight unseen.

Thanks for whatever it was and

Best regards from V.

**Re: [OT & NT] - To Valentin: You've got mail :-)**

*Message #17 Posted by **PeterP** on 7 May 2007, 9:27 p.m.,  
in response to message #16 by Valentin Albillo*

my mistake, really sorry. Forgot about the subject line. Mistake corrected.  
Thanks for the reminder!

Cheers

Peter

**Re: A simple math puzzle (SPOILER)**

*Message #18 Posted by **Ken Ratkevich** on 7 May 2007, 4:08 a.m.,  
in response to message #7 by Gerson W. Barbosa*

Oh, I see now!

I got off on the wrong foot since  $99/72 = \text{remainder of } 27$  and  $54/27 = \text{remainder of } 18$ . I lost it after that.

At least the solution was a little bit tricky. I don't need to be that embarrassed.

Ken

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## HP Forum Archive 17

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**48GX feel vs 50G**

Message #1 Posted by [martin](#) on 6 May 2007, 9:10 a.m.

Hi

I have a 48GX for a couple of years now and want to switch to a 50G. I came accustomed to the quality "feel" (keystroke pressing) of the 48. How does the 50G key pressing feel vs the 48?

Regards

**Re: 48GX feel vs 50G**

Message #2 Posted by [Hal Bitton](#) on 6 May 2007, 10:38 a.m.,  
in response to message #1 by martin

The detents on the 50G aren't quite as firm as on the 48G, but they're not bad (I understand they are a great improvement over early 49 series keys). The thing you'll miss the most is the enter key too small and in the wrong place!! On the up side, the 50G has a fantastic display. It will display textbook format right on the stack, which all but renders the equation writer a moot point (why use the algebric equation writer when you can build an equation right on the stack using RPN keystrokes!).

My call...get a 50G, but keep your 48GX :)

Best regards, Hal

**Re: 48GX feel vs 50G**

Message #3 Posted by [Tim Wessman](#) on 6 May 2007, 10:51 a.m.,  
in response to message #1 by martin

The key travel length is about twice as long. This means it doesn't feel as sharp or defined. 50G is still great though.

TW

**Re: 48GX feel vs 50G**

Message #4 Posted by [martin](#) on 6 May 2007, 11:07 a.m.,  
in response to message #3 by Tim Wessman

Thanx guys. I'm starting my calculus studies again and it seemed that the 50G can do more in that area than the 48. I stay in South-Africa and the price difference is huge. I will end up paying equal to \$222 for my 50G. I don't want to buy such an expensive calculator to find I bought an inferior (low quality) product. Again, Thanx for all the info.

Regards

**Re: 48GX feel vs 50G**

Message #5 Posted by [cfh](#) on 7 May 2007, 8:12 a.m.,  
in response to message #4 by martin

Quote:

Thanx guys. I'm starting my calculus studies again and it seemed that the 50G can do more in that area than the 48. I stay in South-Africa and the price difference is huge. I will end up paying equal to \$222 for my 50G. I don't want to buy such an expensive calculator to find I bought an inferior (low quality) product. Again, Thanx for all the info.

Regards

Hi!

I live in Europe (Sweden), price diff is huge (and 25% VAT \*ouch\*) Get one from hpcalc.org. Paypal and you'll have one in 5 working days.

Must say, you must have one. Must. Remember must, you will, my young apprentice. [Master Yoda]

/cfh

**Re: 48GX feel vs 50G**

Message #6 Posted by [martin](#) on 14 May 2007, 1:47 a.m.,  
in response to message #5 by cfh

The force was strong with this one. I couldn't help myself. I lusted after this calculator for two solid weeks! Drove this weekend to my local HP shop and bought it. What a piece of machine it is! Thanks for all the input.

I love the feel of it. Quality looks "cheaper" than the 48, but it feels solid and works like a charm. Strangely enough I love the feel of the key strokes.

Regards

**Re: 48GX feel vs 50G**

Message #7 Posted by [ECL](#) on 15 May 2007, 2:47 p.m.,  
in response to message #4 by martin

I must ask, why do you feel the need to use a calculator in your studies of calculus?

This question is really only valid if you are referring to the basic undergraduate courses.

Just a thought, and good luck!

ECL

**Re: 48GX feel vs 50G**

Message #8 Posted by [martin](#) on 16 May 2007, 1:57 a.m.,  
in response to message #7 by ECL

It helps me to understand the concepts better. I use it as a learning tool.

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## HP Forum Archive 17

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### **Hi resolution black labels ?**

Message #1 Posted by **JLS** on 6 May 2007, 8:14 a.m.

Hi, i'm looking for high resolution black labels for HP-67, HP-16C (and others ?)

Thanks

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## HP Forum Archive 17

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### Simple HP 50g questions

Message #1 Posted by [PhysicsNerd](#) on 5 May 2007, 9:57 p.m.

How do you convert decimals to fractions?

Is there anyway to reduce the autopower off time? It's too long.

How do you erase all of the data (all of the previous calculations and notebook stuff)?? I think it is slowing my calculator down.

Thanks!

### Re: Simple HP 50g questions

Message #2 Posted by [Happy HP User](#) on 5 May 2007, 10:08 p.m.,  
in response to message #1 by [PhysicsNerd](#)

>How do you convert decimals to fractions?

->Q or ->QPI

>Is there anyway to reduce the autopower off time? It's too long.

RightShift On turns the machine off.

>How do you erase all of the data (all of the previous calculations and notebook stuff)?? I think it is slowing my calculator down.

RightShift BackArrow to clear stack.

### Re: Simple HP 50g questions

Message #3 Posted by [Tim Wessman](#) on 5 May 2007, 11:36 p.m.,  
in response to message #2 by [Happy HP User](#)

If you'd like to change the auto time-off, store a hexadecimal number in a value named TOFF in your home directory.

#(sec\*8192)d is the number, so for 15 seconds, it would be #122880d (15\*8192). Default time is 5 minutes I think.

TW

### Re: Simple HP 50g questions

Message #4 Posted by [James M. Prange \(Michigan\)](#) on 5 May 2007, 11:37 p.m.,  
in response to message #1 by [PhysicsNerd](#)

First off, be sure to have the *HP 49g+ & 48gII\_Advanced User's Reference Manual*; it's available from [this HP page](#).

Also have a look at the [training modules](#).

Quote:

\_\_\_\_\_

How do you convert decimals to fractions?

\_\_\_\_\_

Of course, for an exact conversion, you could consider the "real" (decimal) number to be the numerator of a fraction with 1 as its denominator, and multiply both the numerator and denominator by whichever is the lowest power of 10 required to make the resulting numerator an integer.

Other than that, for approximate conversions, you could try the `\->Q`, `\->Q\pi`, or `XQ` commands.

Also try searches of <http://www.hpcalc.org/> and <http://groups.google.com/group/comp.sys.hp48/> for programs such as PDQ (or maybe PDQ1 or PDQ2) and DEC2FRAC.

Maybe read the training module entitled *Working with fractions*.

Quote:

\_\_\_\_\_

Is there anyway to reduce the autopower off time? It's too long.

\_\_\_\_\_

Yes. With any 49 series, store a binary integer up to `#FFFFFFFFh` (the largest 32-bit integer) in the reserved variable 'TOFF'. This represents the number of ticks (1 second = 8192 ticks) of inactivity before the calculator automatically turns off, with a minimum of 5 seconds as a "safety net". For example, storing `#5A000h` in TOFF results in a 45-second automatic timed OFF.

For a "never-off" mode, an alternative is to store a program that doesn't include the OFF command in the reserved variable 'STARTOFF', which will be run whenever the automatic timed OFF would occur, whether the default 5 minutes or as set by TOFF. But note that STARTOFF won't be invoked by RightShift OFF, which simply invokes the OFF command itself, unless you assign something else to that keystroke.

Quote:

\_\_\_\_\_

How do you erase all of the data (all of the previous calculations and notebook stuff)?? I think it is slowing my calculator down.

\_\_\_\_\_

?????

Do you mean how to clear the stack? RightShift CLEAR does that. Of course that simply invokes the CLEAR command. Generally, clear the stack either when you're sure that you're finished with a problem, or just before starting a new problem.

If you mean how to purge variables, you can use the PURGE (or for directories, PGDIR) command, or you can use the filer (LeftShift FILES) to purge variables. To purge all variables from the current directory, use the CLVAR command.

To clear memory entirely, press and hold [ON], [A], and [F] all at the same time, then release [F] first, followed by the other two keys, to get a TTRM (Try To Recover Memory?) screen.

Of course, all of this assumes that you have the 49 series in "RPN" mode, not "ALG" mode.



Last but not least, for RPL models, you'd probably do better searching the comp.sys.hp48 usenet group from [http://groups.google.com/advanced\\_search?](http://groups.google.com/advanced_search?), or if you can't find the answer, post your question to the newsgroup.

Regards  
James

*Edited: 5 May 2007, 11:46 p.m.*

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## HP Forum Archive 17

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**41CV auto off question**

Message #1 Posted by [scott parker](#) on 5 May 2007, 5:40 p.m.

My 41CV is now turning off automatically in 20 seconds since I installed new batteries. Can it be set back to the original 10 minute turn-off?

*Edited: 5 May 2007, 5:46 p.m.*

**Re: 41CV auto off question**

Message #2 Posted by [Diego Diaz](#) on 6 May 2007, 8:17 p.m.,  
in response to message #1 by [scott parker](#)

Hi Scott,

This has nothing to do with the new batteries set nor it's re-settable to the standard 10 min. timeout by any keystroke sequence.

I will assume yours is a Fullnut (square display corners). In these models time constant for Auto-off feature is determined by one mask programmable oscillator inside the display unit.

That oscillator (OC1) signal requires an external capacitor (C2) which is placed (also soldered) in the main board.

The path from the OC1 line in the display to C2 in the main board comes thru display pin-4 (soldered to the keyboard PCB) and then thru "zebra" strip into pin-1 of the main board.

Assuming solder joints are in good shape, and capacitor is not damaged (I see no reasons to suppose the contrary) chances are that your calc is suffering a weak screw-post or damaged post case.

More likely in the bottom left screw. To confirm the last, please check pressing firmly the keyboard frame on the "cross" of "x" "/" "1" & "0" keys as well as on "2" "3" "." "R/S" keys while calc is ON. If your calc doesn't turn OFF in 30 sec. The reason of the malfunction is the referred "weakness".

There are several ways to fix that problem, please see "Articles Forum" Article nr. 2 for details.

Hope this helps.

Diego Díaz.

**Re: 41CV auto off question!**

Message #3 Posted by [scott parker](#) on 7 May 2007, 12:13 p.m.,  
in response to message #2 by [Diego Diaz](#)

Thanks for the explanation -- You were right, tightening the rear screws solved the problem. I appreciate the help. I use it almost daily and this was a big help! Scott

*Edited: 7 May 2007, 2:45 p.m.*

**Re: 41CV auto off question!**

*Message #4 Posted by [Diego Diaz](#) on 8 May 2007, 9:52 a.m.,  
in response to message #3 by scott parker*

Thanks for the feedback Scott, It's nice to be useful... and help keeping a 41 in working order. ;-)

Cheers.

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## HP Forum Archive 17

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### Installing 50G downloads - no kit.

Message #1 Posted by [Ron Allen](#) on 5 May 2007, 3:40 p.m.

I have downloaded lots of software, but never for a calculator. I have received a copy of the zip file to install 92, but haven't received a "connectivity kit."

Help on connectivity kit please! Is software part of the download? Does the "KIT" contain more than a USB cable or can I just stop by Staples or Radio Shack, pick up the correct small cable and run software already on the system or boot-strapped from the downloads?

Thanks for your help

Ron

### Re: Installing 50G downloads - no kit.

Message #2 Posted by [James M. Prange \(Michigan\)](#) on 5 May 2007, 5:47 p.m.,  
in response to message #1 by Ron Allen

I take it that you mean "v.92", really revision 2.09 build 92?

Anyway, the "connectivity kit" software should've been included on the CD-ROM that came with the calculator, but there were some reports of problems with that one. Download the latest starting from [HP's site](#). Choose your operating system from that page, although I believe that the software is the same for all supported MS Windows systems. For that matter, it will also take you to the newest official 49g+/50g ROM release.

If you also want the periodic table library, then that, along with the equation library files, can be downloaded from <http://www.hydrinx.com/Download/Hp/4950Libraries/>.

A USB cable should've come with the calculator too. In case you don't have it, it's a standard male A to male 5-pin mini-B cable.

Note that you can update the ROM using an MMC or SD flash memory card instead, assuming that you have one and a reader to use it as a removable media mass storage drive with your PC. Personally, I find this easier than using the USB cable and Conn4x.

Regards,  
James

*Edited: 5 May 2007, 9:02 p.m.*

### Re: Installing 50G downloads - no kit.

Message #3 Posted by [James M. Prange \(Michigan\)](#) on 5 May 2007, 9:14 p.m.,  
in response to message #2 by James M. Prange (Michigan)

PS:

The Xmodem server required for making full use of the Conn4x "connectivity kit" is built-in with all 49 series calculators.

The Conn4x package includes an Xmodem server library that can be installed on the 48G series to make full use of Conn4x.

The 48SX/X doesn't have Xmodem built-in, so I wouldn't expect the Xmodem server library to work with that.

Regards,  
James

**Re: Installing 50G downloads - no kit.**

*Message #4 Posted by [Ron Allen](#) on 5 May 2007, 11:20 p.m.,  
in response to message #3 by James M. Prange (Michigan)*

Thanks, James, right on time with answers. Really appreciate your sharing!

Best regards,

Ron

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## HP Forum Archive 17

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### **Teflon or Urethane O-Rings for HP41 card Reader : Where can I find some?**

Message #1 Posted by [Antoine M. Couët](#) on 5 May 2007, 3:35 p.m.

Hello to all !

I need to replace the O-rings of my two HP41 card readers.

I am aware that this subject has been earlier adressed here.

Very recently Massimo Gnerucci from Milan Italy very kindly indicated to me the following links to cover this subject: [ebay HP41 Card Reader Repair Service](#) , [ebay HP41 Drive repair Service](#) , [ebay O-Rings sold by Mark Hoskins](#) , and [Card Reader Repair Short fix Approach by Mark Hoskins](#) .

Still, I think I also read somewhere else - but I am unable to recover this in the Archives here - that there also might exist some Teflon or Urethane O-rings.

Could anyone give me information about such ( possibly existing ) Teflon or Urethane O-rings : qualities ( namely efficiency and usable life ) and price compared to compared to conventional Rubber O-rings ?

Thank you very much in advance.

Antoine M. Couët

### **Re: Teflon or Urethane O-Rings for HP41 card Reader : Where can I find some?**

Message #2 Posted by [Randy](#) on 6 May 2007, 2:06 p.m.,  
in response to message #1 by Antoine M. Couët

Teflon would be the worst choice you could make... since it is friction you want, not slip. Urethane was the original drive surface but you'd be hard pressed to duplicate it and finding the right characteristics in an o-ring would be difficult at best.

IMO, silicone tubing works consistently better due to more surface area and will no doubt survive the test of time far better than o-rings. If it is cheap and easy you want, go with o-rings. If it is a reliable and long-lasting repair you want, take the time to source some 1/4 inch OD silicone tubing.

*Edited: 6 May 2007, 2:10 p.m.*

### **Re: Teflon or Urethane O-Rings for HP41 card Reader : Where can I find some?**

Message #3 Posted by [Antoine M. Couët](#) on 6 May 2007, 8:52 p.m.,  
in response to message #2 by Randy

Quote:

\_\_\_\_\_

If it is a reliable and long-lasting repair you want, take the time to source some 1/4 inch OD silicone tubing.

\_\_\_\_\_

Thank you very much Randy for your reply.

Any idea about where to source OD silicone tubing in the USA ? I quite often come to Chicago O'Hare, where I am currently standing ( I will take off to-nite but will fly back within 10 days ).

Best Regards

Antoine

**Re: Teflon or Urethane O-Rings for HP41 card Reader : Where can I find some?**

*Message #4 Posted by **Richard Ottosen** on 6 May 2007, 9:24 p.m.,  
in response to message #3 by Antoine M. Couëtte*

Antoine:

"OD" means outside diameter.

You can find silicon tubing at hobby shops. It is used as fuel line for model airplanes. I don't know for sure that 1/4 inch outside diameter is a size that is used for fuel line.

Silicon tubing is sometimes used for air supply lines in fish tanks. The tubing I found has a bluish tint. It has a more rubbery feeling than the clear tubing. Again, I don't know if it is going to be the size you need. The tubing I have is about 10% larger than 0.25 inches in diameter. Maybe Randy can tell us if that is close enough to work properly.

-- Richard

**Re: Teflon or Urethane O-Rings for HP41 card Reader : Where can I find some?**

*Message #5 Posted by **Randy** on 7 May 2007, 8:23 p.m.,  
in response to message #3 by Antoine M. Couëtte*

Send me your postal address via the Museum's email system, I'll send you some cut-to-length pieces.

**Thank you again Randy ...**

*Message #6 Posted by **Antoine M. Couëtte** on 8 May 2007, 10:44 a.m.,  
in response to message #5 by Randy*

... for your most kind reply.

Back to Europe since last night, I attempted to register with HP Museum in order to send you postal address via the Museum's email system, but could not succeed.

So, and if it is acceptable to you, would you be so kind as to contact me through the hereenclosed e-mail address ? I will then give you my home address.

If you prefer not using this solution - which I totally understand and respect - I will then try to devise another way for us to get in contact.

Thank you again and Best Regards

Antoine M. Couëtte

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**HP25 Programming Failure**

Message #1 Posted by [MikeG](#) on 5 May 2007, 12:27 p.m.

Does anybody know the cause where by none of the functions/keys are stored via program. [n1]

Example in PRGM mode: (Program cleared first)

Key in G 2 (x^2) Display: 01 40

Key in G . (pi) Display: 01 40

Key in x Display: 01 40

All keys and functions work in run mode though.

Thanks

*Edited: 5 May 2007, 12:32 p.m.*

**Re: HP25 Programming Failure**

Message #2 Posted by [Randy](#) on 5 May 2007, 1:54 p.m.,  
in response to message #1 by [MikeG](#)

The problem is usually the result of a fried ram chip (1820-1564). The only source for a replacement is from another 20 series unit (27 excluded). The usual indication of the failure is 13 00 in all program registers that cannot be changed.

There are two other but less likely possibilities.

1) Corrosion on the circuit board, especially under the ram chip. Try standing the board in vinegar up to the battery contacts for an hour or so. Warming the vinegar first accelerates things. Then rinse the board very well and shake dry or blow dry with canned air. Let it dry well in a warm place overnight.

2) [Common Woodstock problems](#)

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### Simple HP49G+ question !

Message #1 Posted by [Gary Fok](#) on 5 May 2007, 10:03 a.m.

Where is the built-in equations for HP49G+ , for example in HP48GX ?

### Re: Simple HP49G+ question !

Message #2 Posted by [Les Wright](#) on 5 May 2007, 12:12 p.m.,  
in response to message #1 by Gary Fok

I don't think they are there. I think there have been special ROM updates, not by HP, that incorporate them. Someone else around here will surely know more.

Les

*Edited: 5 May 2007, 12:12 p.m.*

### Re: Simple HP49G+ question !

Message #3 Posted by [Vieira, L. C. \(Brazil\)](#) on 5 May 2007, 12:17 p.m.,  
in response to message #1 by Gary Fok

Hi;

One of the options is [this one](#), but you can also install the libraries that come with the new ROM update. From [hpcalc.org](#): \_\_\_\_\_

Flash update file to update the HP 49G+'s ROM to version C-2.00, build 50. This is the official 2.00 release. **Adds the equation library**, much better support for the full 80-line screen, support for FAT32-formatted SD cards, a completely rewritten keyboard handler to reduce the number of missed keystrokes, and many bugfixes. This is the official HP installer that only runs on 32-bit Windows.

\_\_\_\_\_

The flash ROM can be downloaded from [here](#).

Hope this helps.

Cheers.

Luzi (Brazil)

### Re: Simple HP49G+ question !

Message #4 Posted by [James M. Prange \(Michigan\)](#) on 5 May 2007, 5:57 p.m.,  
in response to message #3 by Vieira, L. C. (Brazil)

Revision 2.00 is a bit out of date. Please see [my post](#) responding to Ron's questions.

Regarding the libraries, if you use the USB connection to download them to the calculator, then I suggest that you use the filer to move them to port 2 (or port 1); don't leave the originals in the home directory. If you use a flash memory card instead, then you can either copy or move them from the card ("port 3") to another port; it won't hurt to leave the originals on the card.

Regards,  
James

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### HP 82161A Tape Cartridges

Message #1 Posted by **Bob Purdie** on 5 May 2007, 3:00 a.m.

Does anyone have any information that could help me find a useable tape cartridge for the HP 82161A Digital Cassette Drive?

*Edited: 5 May 2007, 3:23 a.m.*

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## HP Forum Archive 17

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**HP-41C and HP-41CX**

Message #1 Posted by [JeffD](#) on 4 May 2007, 7:30 p.m.

I have purchased and am in the assembly process of a MLDL2000, Thank you Meindert. I have noticed that with the HP-41CX Halfnut and Fullnut I get intermittent results when using the MLDL2000. Ususally the HP-41CX will, when a CAT 2 is done, drop into neverland when it gets to the M2K ROM and then the display goes blank for a while and then returns to finish the CAT 2.Usually the listing in the CAT 2 is gibberish when trying to display the M2K ROM. Now with the HP-41C Halfnut tall key version, everything runs awesome with the MLDL2000 connected. Run a CAT 2 and everything is good. Is there a difference with the way the CX versions connect with modules vs the C? I am confident this is not an MLDL2000 problem because it works on the 41C. Is the "zebra" connector slightly thinner or different from the CX? Is the case tighter on the C vs the CX? Has anyone had a similar problem before? Thanks, Jeff

**Re: HP-41C and HP-41CX**

Message #2 Posted by [Raymond Del Tondo](#) on 4 May 2007, 9:47 p.m.,  
in response to message #1 by [JeffD](#)

Hello,

there are various differences between the C and the CX.

The Catalog function of the CX has been slightly changed, so CAT 2 will display module headers only by default. This way the user can get an overview of the installed ROMs, and only view the details of the wanted ROM.

Please also check the CX manual about this feature.

I didn't check the M2K ROM in particular, but defective Catalog displays are usually an indicator of either a bad FAT, or a special character in a function name.

The M2K ROM intercepts key sequences at specific occasions, but Meindert should be able to tell you more about it;-)

About the zebra connectors:

There were different fashions of these connectors, I know of at least three completely different constructions.

The pink rubber type ones may cause problems over time because they will shrink, and the metall ring type connectors are sensible against corrosion.

Note that the CX halfnut doesn't have these connectors, since the hardware layout is completely different to the non-halfnut calcs.

HTH

Raymond

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## HP Forum Archive 17

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### HP 41 Printer Battery Pack 82033A replacement

Message #1 Posted by [Rolland Hamm](#) on 4 May 2007, 11:43 a.m.

Would like to know what rechargeable batteries are recommended to replace dead batteries in HP 82033A Rechargeable Battery Pack that is dead and no longer chargeable.

### Re: HP 41 Printer Battery Pack 82033A replacement

Message #2 Posted by [Les Wright](#) on 4 May 2007, 6:12 p.m.,  
in response to message #1 by Rolland Hamm

Ebay seller waterhosko makes his own and even though they aren't aesthetically perfect (he uses styrofoam "casing" to provide bulk and snug fit in place of the original plastic case) the price is good--\$27US plus a modest shipping charge.

Randy at FixThatCalc.com will refurbish your existing dead pack for \$33US, which includes return shipping within the US. You do have to factor in the cost of shipping the dead pack to him, but he does try to use the highest rated NiCads he can find so the extra cost vis-a-vis the waterhosko packs is probably well justified.

I have one of each which I use interchangeably in my HP97 and 82143 printer. Both really seem to work very well.

There are other alternatives out there. I believe some folks have fashioned their own packs with NiMH cells, and even though they take forever to charge within the printer or calculator they do have certain advantages over NiCads--longer life, less environmental nastiness.

Les

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## HP Forum Archive 17

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### **HP-42s emulator (hardware) link**

Message #1 Posted by [Bruce Bergman](#) on 4 May 2007, 2:13 a.m.

Interesting. Not sure what he's doing with it, but kinda cool:

[HP-42s emulated](#)

thanks, bruce

### **Re: HP-42s emulator (hardware) link**

Message #2 Posted by [Howard Owen](#) on 4 May 2007, 10:02 p.m.,  
in response to message #1 by [Bruce Bergman](#)

That is interesting. It's clearly not a "product," but a hobbyist project. I doubt those switches are going to give the same service as the original keys, either. But it is very cool. Click on the "Calculator" category on the right hand to get all the earlier blog entries regarding this project. He's got some interesting ideas for extending RPN, too.

Regards,  
Howard

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## HP Forum Archive 17

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### **New TTF available**

Message #1 Posted by [Vieira, L. C. \(Brazil\)](#) on 3 May 2007, 8:50 a.m.

Hi, all;

I was in the need to prepare some material related to the new HP48GII/49G+/50G series and I found no suitable font for the keyboard. So I decided to go ahead and I created this one:

#### [HP50G Keyfont TTF](#)

This [PDF file](#) explains the keyboard mapping and some interesting 'features'... Some guys will like a particular feature, I guess.

I'd appreciate any feedback. I particularly found the characters smaller than I wish it should be, but it somehow helped me a lot when creating some presentations this weekend, as well as some document scratches.

Thank you for taking your time evaluating it. The TTF is free for use, and it is not yet finished.

Best regards.

Luiz (Brazil)

*Edited: 3 May 2007, 8:53 a.m.*

### **Really Excellent, Luis, Amazing ! :-)**

Message #2 Posted by [Valentin Albillo](#) on 3 May 2007, 9:16 a.m.,  
in response to message #1 by [Vieira, L. C. \(Brazil\)](#)

Also the documentation is exceptional. Please do the same for HP-15C fonts ! ;- ) (just kidding).

Thanks a lot for your hard work and for sharing it with the community, and

Best regards from V.

### **Re: Really Excellent, Luis, Amazing ! :-)**

Message #3 Posted by [Vieira, L. C. \(Brazil\)](#) on 3 May 2007, 9:47 a.m.,  
in response to message #2 by [Valentin Albillo](#)

Hi, Valentin;

thank you for your fast feedback. I appreciate it a lot.

And if you allow me to mention, your feedback is particularly important because you seek for the best when doing things (just see the format you use in all your S&SC and the way you comment all posts and your own solution... we all know you spend considerable time on that) that I know your words of encouragement are a relief and a support for doing even better.

Thanks a lot.

Luiz (Brazil)

*Edited: 7 May 2007, 6:30 a.m.*

### **Thanks a lot!**

*Message #4 Posted by **Walter B** on 3 May 2007, 3:06 p.m.,  
in response to message #1 by Vieira, L. C. (Brazil)*

Muito obrigado, Luiz,

especially for your fine work to do the tricky coloring of keys d:-)

As people say, appetite grows with eating, so may I ask you a question? Shoot me if it's impolite d;-) Is there a way to achieve similar results with your good old KeySet4 to have e.g. black keys with white print? No hurry, just want to know.

Cumprimentos, Walter

*Edited: 3 May 2007, 5:44 p.m.*

### **Re: Thanks a lot!**

*Message #5 Posted by **Vieira, L. C. (Brazil)** on 4 May 2007, 9:31 p.m.,  
in response to message #4 by Walter B*

Olá, Walter;

Não seja por isso. (common answer to 'Muito obrigado', something like 'Not for that')

Yeap, it can be done. But... it would need some different approach, because many characters found in KeySet4 have different sizes, so they'd need masks with different sizes as well.

In fact, I'm planning to rework KeySet4 (July vacances, maybe...). I noticed some glitches in some lower-case characters. Some of them have half-frames thinner than the ones in the whole set. You can see that they need leveling when using bigger characters.

Anyway, I plan to do a whole negative KeySet4, so you'll have all the existing keys with black/coloured backplane.

I'll let you all know.

Thanks again for your support, folks.

Cordialmente (Cordially)

Luiz (Brazil)

### **Re: Thanks a lot!**

*Message #6 Posted by **Walter B** on 5 May 2007, 9:23 a.m.,  
in response to message #5 by Vieira, L. C. (Brazil)*

Olha, Luiz,

estas sao novidades boas! Exciting announcements! So, IF you are going to rework, THEN please take into account the blue and gold print on dark back, too. /\* Comment for our younger members: These colors were/are common on the calcs we love so well. May even be these colors are supporting this love. So it would be nice to be able to reproduce the respective keys when writing some manuals for these instruments (or for similar new stuff perhaps). \*/ CONTINUE dreaming: the opportunity to choose any arbitrary combination of colors within KeySet4 would be great (e.g. black print on colored back, white print on dark back, colored print on dark back). EOD (= End Of Dream).

AFAI understand your new keyset, you can compose exactly such keys there already. Thinking about it, you will need less characters than before in KeySet4 when allowing free color combinations. So you (and we) get more for less. I think I can even convince a controller now ... d;-)

Com os melhores cumprimentos, Walter

*Edited: 5 May 2007, 9:26 a.m.*

### **Re: Thanks a lot!**

*Message #7 Posted by [Vieira, L. C. \(Brazil\)](#) on 6 May 2007, 11:47 a.m.,  
in response to message #6 by Walter B*

Olá, Walter;

Quote:

---

estas sao novidades boas! Exciting announcements![quote]Era isto o que eu queria!  
(That´s what I meant...)[quote]\*/CONTINUE dreaming: the opportunity to choose any  
arbitrary combination of colors within KeySet4 would be great (e.g. black print on  
colored back, white print on dark back, colored print on dark back). EOD (= End Of  
Dream).

---

Dreams comming true... Let´s tke a trip to sunny Frivoly with Ralph and Mum (Oops! Should watch Twice Upon a Time...) and check for the news. Indeed, that´s what I had in mind. After reworking the existing characters (have the key ones stored smewhere), I´ll go ahead building the masks. I have an idea in order to keep KeySet4 functionality while adding the background color, but it is still an idea. I´ll let it cooking in my brain, though.

Cumprimentos do Brasil (or Brazil, as you wish).

Luiz

(OT: I don't mind reading the name of my country written differently, mostly because I know many countries have different names in other cultures. You see, German (Deutschland) is known here as Alemanha, closer to the way French people write it. The United States of America is written Estados Unidos da América in Brazil (in Portuguese, if we consider the language). In fact, we here add so many modifications to USA name (and pronunciation, as a matter of fact) that having a single 's' being exchanged for a 'z' in Brazil is totally harmless. In fact, this actually causes a closer pronunciation to the actual country name, in English)

### **Re: New TTF available**

*Message #8 Posted by [Antonio Maschio \(Italy\)](#) on 4 May 2007, 3:00 a.m.,  
in response to message #1 by [Vieira, L. C. \(Brazil\)](#)*

I agree,

it's a very good piece of art!

-- Antonio

**Thanks! d8^ (NT) was: New TTF available**

*Message #9 Posted by [Vieira, L. C. \(Brazil\)](#) on 4 May 2007, 9:36 p.m.,  
in response to message #8 by Antonio Maschio (Italy)*

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## HP Forum Archive 17

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**Fixing Classic LED segments?**

Message #1 Posted by [Dan W](#) on 2 May 2007, 9:11 p.m.

Hi all,

I have an HP-45 and a couple of the LEDs have some segments that don't light. What's the likely cause of this? Would I most likely need to replace the whole LED chip or could it be another part that is the problem?

TIA

-- Dan W.

**Re: Fixing Classic LED segments?**

Message #2 Posted by [Thomas Radtke](#) on 3 May 2007, 3:57 a.m.,  
in response to message #1 by Dan W

Fixing might just be a matter of cleaning contacts. Have you had a battery leakage?

**Re: Fixing Classic LED segments?**

Message #3 Posted by [Eric Smith](#) on 3 May 2007, 4:34 a.m.,  
in response to message #1 by Dan W

If a whole digit is out, or if the same segment is out on all digits, it could be a contact problem.

If there's a segment out, but it appears in other digits, and other segments appear in the same digit, that generally indicates that the segment has actually failed.

**Re: Fixing Classic LED segments?**

Message #4 Posted by [Dan W](#) on 3 May 2007, 10:16 a.m.,  
in response to message #3 by Eric Smith

Just a few segments on 2 digits. One 8 looks like a 9. The other has only two horizontal digits working. The 2 digits are on 2 chips, the left and center.

Also, the digit that looks like a 9 has 2 horizontal segments that are always faintly lit.

There's no leakage visible but I haven't opened it up yet. Could have had a cup of coffee spilled in it. ;) But I won't know until I open it.

Owner said it worked fine when put in storage 20 years ago, but I doubt this problem would develop over time when not used.

I'd like to be able to repair this type of problem, isolating it to the LED chips, driver chips, discrete component or some mechanical PCB trace or something.

-- Dan

### **Re: Fixing Classic LED segments?**

*Message #5 Posted by [Paul Brogger](#) on 3 May 2007, 11:36 a.m.,  
in response to message #4 by Dan W*

As alluded to in one of my MoHPC "HP Memories" entries ([#1](#)), I used to give dramatic demonstrations of my HP-21's durability by tossing it to the floor. Eventually, the display started acting up.

As told in the article, I took the calculator apart, and removed the clear plastic lens strip from the display board by melting the heat stakes. Under a dissecting microscope (binocular, ~20 power or so?) I could see that the inertia of repeated impacts had collapsed some of the little jumper wires that connect the chip pads to the PCB traces. With a sharpened and de-burred plastic soda straw, I was able to pick up each of the collapsed wires and fix the display.

I imagine that, if there was any moisture in the display, your connecting wires (or chips?) might have gotten corroded over time in storage. I don't know how you would solder anything so tiny, but there may be a way. Take a close look at the chip/PCB connections and you may find your cause.

[Edited: Oops! I assumed the 45 and 21 had similar displays. Sorry!]

*Edited: 3 May 2007, 5:42 p.m.*

### **Re: Fixing Classic LED segments?**

*Message #6 Posted by [David Smith](#) on 3 May 2007, 4:36 p.m.,  
in response to message #4 by Dan W*

The problem is a faulty LED module (DIP chip). There are three matched 5 character LED modules in a classic calculator. Only source is another machine. Modules were brightness matched at the factory and a letter code is stamped on the bottom of each one. The closer the letter code, the better the match. Also be aware that modules with gold and silver leads have slightly different digit heights. Before soldering down a replacement module, inspect its alignment with a magnifying glass, solder two opposite corner pins, and recheck the alignment.

### **Re: Fixing Classic LED segments?**

*Message #7 Posted by [Dan W](#) on 4 May 2007, 1:02 p.m.,  
in response to message #1 by Dan W*

Thanks guys. You've told me pretty much what I expected but didn't want to hear.

Let me ask the opposite question: I have occasionally seen LED segments that are faintly lit all the time, typically opposite vertical segments on one digit. This I'm guessing is not in the LED chip itself, but what would cause it?

-- Dan

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## HP Forum Archive 17

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### "Simple" Math Question (to keep Namir busy)

Message #1 Posted by **Chuck** on 2 May 2007, 8:48 p.m.

I know I've seen this discussed before, and could probably do a search to find the golden answer provided by the likes of Wikipedia) but that would take all the fun out of debate....

Let's assume there are 6 billion people alive today, and it's fairly safe to say that none were alive 100 years ago. But, in the last 100 years there has been many births and deaths of people not counted in the current 6 billion. Plus, many numerous other factors during the milleniums past have had drastic affects on population (what century saw the only MAJOR world population decline.)

So my question is...what is your best estimate of the total number of different people (homonids, bipedals, etc., your choice what to include) that have ever been born?

My knee-jerk response was triple, or about 18 billion, but I think that is woefully small. What's your best guess???

No fair looking up info on the Web.

### Re: "Simple" Math Question (to keep Namir busy)

Message #2 Posted by **allen** on 2 May 2007, 9:16 p.m.,  
in response to message #1 by Chuck

your answer is in first line of the preface to Aurthur C. Clarke's '2001: a space odyssey' which out of respect for the strictest copyright conventions, I shall not post in this forum. GRIN! just kidding!

Quote:

Behind every man now alive stand thirty ghosts, for that is the ratio by which the dead outnumber the living. - AC Clarke

### Re: "Simple" Math Question (to keep Namir busy)

Message #3 Posted by **Chuck** on 2 May 2007, 10:20 p.m.,  
in response to message #2 by allen

So if Arthur is "the man" then we're already down to "behind everyman stands 15 ghosts" (assuming 1960's population of about 3 billion). Pretty soon there will be only one additional ghost per person. Not a happy thought. 8(

### Riverworld saga answer

Message #4 Posted by **Gene** on 2 May 2007, 10:22 p.m.,  
in response to message #2 by allen

The Riverworld saga by Phillip Jose Farmer also speculates on this number...depends of course on the

starting date and definition of a human. :-)

It's quite an interesting series of books.

<http://www.amazon.com/Your-Scattered-Bodies-Riverworld-Saga/dp/0345419677>

"To Your Scattered Bodies Go is the Hugo Award-winning beginning to the story of Riverworld, Philip José Farmer's unequaled tale about life after death. When famous adventurer Sir Richard Francis Burton dies, the last thing he expects to do is awaken naked on a foreign planet along the shores of a seemingly endless river. But that's where Burton and billions of other humans (plus a few nonhumans) find themselves as the epic Riverworld saga begins. It seems that all of Earthly humanity has been resurrected on the planet, each with an indestructible container that provides three meals a day, cigarettes, alcoholic beverages, a lighter, and the odd tube of lipstick. But why? And by whom?"

### **Re: "Simple" Math Question (to keep Namir busy)**

*Message #5 Posted by **Peter A. Gebhardt** on 3 May 2007, 4:34 a.m.,  
in response to message #1 by Chuck*

Chuck,

you might search the internet for "Stochastic Present Value".

Think along the line of adding up a series of (say) yearly "reproduction amounts" like the PMT in TVM problems, BUT with stochastic varying PMTs AND stochastic varying (reproduction- aka interest) rates.

Usually solved by Monte-Carlo Simulation, you might also find some closed form solutions.

Best regards

*Edited: 3 May 2007, 5:31 a.m.*

### **Re: "Simple" Math Question (to keep Namir busy)**

*Message #6 Posted by **Namir** on 3 May 2007, 11:01 a.m.,  
in response to message #1 by Chuck*

Chuck,

Your assumptions are shaky. You should take into account the average lifespan of each generation (and not 100 years), which has increased especially recently. You should also take an average growth rate (which fluctuates according to the UN web site).

You can simplify things, but the result may not be relevant.

Peter's analysis is very insightful. You should follow his analysis.

Namir

### **Re: "Simple" Math Question (to keep Namir busy)**

*Message #7 Posted by **Barry Schwartz** on 3 May 2007, 1:16 p.m.,  
in response to message #1 by Chuck*

There is an article entitled "How Many People Have Ever Lived on Earth" by Carl Haub (available on-line). His analysis came to the conclusion (the article was written in 2002) that the number is 106 billion.



**Re: "Simple" Math Question (to keep Namir busy)**

Message #8 Posted by [Peter A. Gebhardt](#) on 3 May 2007, 6:43 p.m.,  
in response to message #7 by Barry Schwartz

Barry,

Thx. for pointing to this article - although (and because) I wasn't able to retrieve it online, I started googling for other sources (out of curiosity) and found this article which does offer a simple "macro-model" which (as claimed) possesses a very high accuracy to describe the population growth since 25.000 B.C.

<http://jwsr.ucr.edu/archive/vol11/number1/pdf/jwsr-v11n1-korotayev.pdf>

Best regards

PS: I've just found the referenced source ...

<http://www.prb.org/Articles/2002/HowManyPeopleHaveEverLivedonEarth.aspx>

*Edited: 3 May 2007, 6:50 p.m.*

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## HP Forum Archive 17

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### HP82183A Extended I/O module

Message #1 Posted by [Gonzalo Fernandez](#) on 2 May 2007, 6:22 a.m.

Recently in Ebay, an HP82183A Extended I/O module ended with a price of over \$350. What has this module of special? Can be the PPC rom module or Paname module a substitute?

### Re: HP82183A Extended I/O module

Message #2 Posted by [Geir Isene](#) on 2 May 2007, 9:12 a.m.,  
in response to message #1 by [Gonzalo Fernandez](#)

It is very different from the PPC, it's got functions for handling mass storage etc. Unless you are an avid collector of original modules, you would rather buy a Clonix from Diego (see <http://www.clonix41.org/>) for a lot less than USD 350 (and it will give you space for another 5 modules as well :)

### Yes, the Clonix / NoVRAM is fantastic!

Message #3 Posted by [Gene](#) on 2 May 2007, 10:08 a.m.,  
in response to message #2 by [Geir Isene](#)

I am quite happy with my NoVRAM module.

### Ditto! (NT)

Message #4 Posted by [Vieira, L. C. \(Brazil\)](#) on 3 May 2007, 10:55 a.m.,  
in response to message #3 by [Gene](#)

### Re: HP82183A Extended I/O module

Message #5 Posted by [Garth Wilson](#) on 2 May 2007, 1:27 p.m.,  
in response to message #1 by [Gonzalo Fernandez](#)

The XIO module allows you to get closer control of the interface loop, which is especially useful if you use the HPIL-to-HPiB (IEEE-488) interface converter to control many pieces of lab equipment simultaneously. IEEE-488 opens the door to controlling thousands of different models of equipment on the market. HPIL is essentially a serial implementation of IEEE-488, and this becomes quite clear with the XIO module. With it, you can make your program find and identify the various pieces of equipment connected, configure them, respond to service requests from the instruments, read their status, get tight control of bytes transferred, have string functions and use ALPHA as an I/O buffer, etc.. I used it extensively in automated test set-ups in the mid-1980's, although I did not go to the extent of making one device talk directly to others and manually specifying low-level device-dependent talker and listener commands. Without this module I would not have been able to do what I got the 41cx for. I got my XIO module built into my HPIL module in order to save a port.

Even if all you were using it for were an 82161A tape drive, it still gives more capabilities. You can copy from one drive to many others simultaneously, or ask for example, "What's the name of the 11th file?"

E-mail: wilsonmineszdslextremezcom (replace the z's with @ and . )

*Edited: 2 May 2007, 1:29 p.m.*

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## HP Forum Archive 17

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**S/N 9999Axxxxx**

Message #1 Posted by [Steve S](#) on 2 May 2007, 12:58 a.m.

There's an HP-67 calculator that just appeared on eBay with a serial number of 9999Axxxxx. Can someone remind me of the significance of the leading 9's?

**Re: S/N 9999Axxxxx**

Message #2 Posted by [GE](#) on 2 May 2007, 11:43 a.m.,  
in response to message #1 by Steve S

This unit is a prototype.

I just happen to have had 9999A00180 in my very own hands 2 hours ago, it belongs to a friend, and is a clear case back HP67 in mint condition.

Lucky guy !

**Re: S/N 9999Axxxxx**

Message #3 Posted by [Matthias Wehrli](#) on 2 May 2007, 1:43 p.m.,  
in response to message #2 by GE

Maybe proto... indeed the clear cases are not prototypes. I have some of them, got some of them from a man that worked in a modeling firm from HP. These cases are more curiosities.

Matthias

**Re: S/N 9999Axxxxx**

Message #4 Posted by [GE](#) on 3 May 2007, 5:29 a.m.,  
in response to message #3 by Matthias Wehrli

That machine was BOTH clear case back AND a prototype. It has a "HP67 - IL2" sticker (looks original and official) in place of the usual "Hewlett Packard 67", and was sold by high-rank official at HP who retired recently.

Personally, I'd like to have one of these just out of scarcity.

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## HP Forum Archive 17

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### HP42S Mini-Challenge: Optimizing !

Message #1 Posted by [Valentin Albillo](#) on 1 May 2007, 10:57 p.m.

Hi all,

A new month's just begun and a little, HP42S-specific Mini-Challenge might prove an adequate welcome for it and a nice occasion to flex your HP42S programming muscles. So this is

### The Mini-Challenge

We say that a positive integer is *palindromic* if it reads the same forwards and backwards, such as 1771 or 32823. Some *integer squares* can also be palindromic, such as  $121 = 11^2$ .

There is *one and only one 12-digit palindromic square* and you must write an HP42S program to try and find it, your choice(s) among three possible flavours:

1. Optimized for *minimum size*, regardless of speed
2. Optimized *primarily for speed*, secondarily for size
3. Optimized for *maximum speed*

#### Some notes:

- The goal for (1) is to achieve the smallest possible program, even if it would take extremely long to find the unique answer.
- The goal for (2) is to find the answer as quick as possible but with some concern as to program size and reasonably "elegant" code.
- The goal for (3) is to find the answer as fast as possible, even at the expense of longer or not-so-elegant code.
- Both (2) and (3) must be able to find the solution in a *physical* HP42S in a few hours at most.

Your program must stop as soon as it finds the unique answer (no need to search for more) and the usual caveats apply, namely:

- Avoid *googling* for the answer, any moron can do that and it would be extremely *lame*. The idea is to work it out and show some *programming muscle* and good, worthwhile *ideas* which might be useful for other tasks. If you can't solve this on your own, you aren't worth your salt as an HP-calc programmer.

- Using reasonable, sound *heuristics* which can be rationalized in a few words is Ok and recommended, but avoid doing all the theoretical work yourself with paper and pen, then have the program simply print the answer after looking at a handful cases. The idea is for *the machine* to do the bulk of the work, not *you*.
- This mini-challenge is HP42S-specific in the sense that I'll post my original solutions which are HP42S RPN programs using some neat tricks that are indeed HP42S-specific. It would be nice if you would write HP42S programs too, you can always use some good emulator (Emu42 or Free42, for instance) if you don't have a physical HP42S.

That failing, you may nevertheless use any 12-digit HP calc model and see what you come up with.

---

I'll post my original solutions for the HP42S within a few days, as always, which, as a guide to measure your efforts, have the following characteristics:

1. Trivial but takes ages
2. 72 steps (157-byte), R00-R11 used, finds the unique solution in 2 h 42 min in a physical HP42S, 85 seconds in Emu42 @ 2.4 Ghz, 44 seconds in Free42 @ Palm Z100
3. 129 steps (239-byte), R00-R11 used, finds the unique solution in 1 h 48 min in a physical HP42S, 56 seconds in Emu42 @ 2.4 Ghz, 29 seconds in Free42 @ Palm Z100

Enjoy ! :-)

Best regards from V.

## Re: HP42S Mini-Challenge: Optimizing !

Message #2 Posted by **Egan Ford** on 2 May 2007, 12:31 p.m.,  
in response to message #1 by Valentin Albillo

Thanks for this challenge. My 42S has been collecting dust since I use my 15C, 71B, and 50G for challenges.

Here is my first min size entry. I didn't have a lot of time to work on it. I know there is room for improvement.

This is a brute force search starting at 999999 and working down. Once squared a decimal point is used to separate the 2 halves. The right half is flipped and subtracted from the left half. If the result = 0, then you have found it.

40 steps, 66 bytes. Free42 on my notebook breezed through this in about 40 seconds. ETA for physical 42S: 95-96 hours. I do not have any EMU42 timings. I am too lazy to dump my 42S ROM to my 48GX so that I can use EMU42. I hate to ask this, but can someone please email a ROM dump (I can provide proof that I own a 42S if necessary).

This does not use any unique feature of the 42S so it should be portable to other models (e.g. 15C, however you'll have to settle for a 9 digit palindromic square, there is no 10).

```

1 LBL "PP"
2 1E6
3 STO 00
4 LBL A
5 1
6 STO- 00
7 6

```

```

 8 STO 03
 9 0
10 STO 02
11 RCL 00
12 X^2
13 1E6
14 /
15 FP
16 LASTX
17 IP
18 STO 01
19 LBL B
20 X<>Y
21 10
22 x
23 FP
24 LASTX
25 IP
26 6
27 RCL 03
28 -
29 10^X
30 x
31 STO+ 02
32 DSE 03
33 GTO B
34 RCL 01
35 RCL 02
36 -
37 X!=0?
38 GTO A
39 RCL 00
40 X^2

```

## Re: HP42S Mini-Challenge: Optimizing !

Message #3 Posted by [Paul Dale](#) on 2 May 2007, 5:44 p.m.,  
in response to message #1 by Valentin Albillo

[edit: added solution time]

Interesting challenge as usual.

I cannot think of a "clever/short" method to do the palindrome generation on a 42S, however I did some up with this fragment on the HP49g+:

```

->STR
DUP
SREV
==

```

You'll need to attach library 256 for the SREV to be resolved properly (i.e. 256 ATTACH before entering the above fragment. You'll also want everything to stay integer (i.e. not approximate mode).

A final program that performs the search:

```

<<
 6
ALOG          10^x
WHILE
  1.
REPEAT
  1
  -
  DUP
  SQ          x^2
  ->STR
  DUP
  SREV
  ==
  << HALT >>
  IFT

```

```
END  
>>
```

70.5 bytes, checksum #AF30h

Running time is a couple of minutes under an hour for an agumented version that inserted a TICKS before the HALT.

- Pauli

*Edited: 2 May 2007, 7:32 p.m.*

## Re: HP42S Mini-Challenge: Optimizing !

*Message #4 Posted by [hugh steers](#) on 2 May 2007, 6:17 p.m.,  
in response to message #1 by Valentin Albillo*

hi valentin,

i started wondering if the so-called "196" algorithm was a good way to search for palindromes of a given size.

196 algorithm: given a number, reverse its digits, add to original number. repeat process until palindromic (or give up after too big). i figure that since your number is unique, unless the 196 can't hit a 12 digit number, it will find it by chance fairly quickly.

sure enough i get it after putting in 899. so it took me 799 trials (started at 100). end of the output looks like this:

```
870 8836886388  
871 15851  
872 1661  
873 2772  
874 3883  
875 4994  
876 23232  
877 47674  
878 878  
879 0  
880 0  
881 233332  
882 1881  
883 2992  
884 7117  
885 9339  
886 1136311  
887 0  
888 888  
889 881188  
890 881188  
891 79497  
892 3113  
893 5335  
894 7557  
895 9779  
896 22022  
897 46464  
898 898  
899 133697796331  
woot!
```

not sure if this would make a good approach for a 42 program. probably not.

## Re: HP42S Mini-Challenge: Optimizing !

*Message #5 Posted by [Paul Dale](#) on 2 May 2007, 6:26 p.m.,  
in response to message #4 by hugh steers*



Quote:

899 133697796331

I'm not sure you're on the right track here. You've found a 12 digit palindrome but 133697796331 is not a square number.

Palindromes of this size are very easy to find, choose any six digit number not ending with a zero reverse the digits and prepend. Finding the unique one which is also a square is harder.

- Pauli

## Re: HP42S Mini-Challenge: Optimizing !

Message #6 Posted by [Egan Ford](#) on 2 May 2007, 10:46 p.m.,  
in response to message #1 by [Valentin Albillo](#)

My first attempt at fast. I have not tested on real 42S yet, but with Free42 it runs in about 10 sec.

This differs from my brute force attempt in a number of ways.

Instead of calculating squares with  $X^2$ , squares are calculated by subtracting odd numbers. (A perfect square  $N^2$  is = to the sum of the first  $N$  odds). By using the squares I can cut the numbers of searches by half because perfect squares cannot end in 8,7,3 or 2. I can also skip 0 since palindromic numbers do not start with 0. So I only check numbers starting with 9,6,5,4 and 1.

There is no need to check every square, only check the squares ending with the starting number. I can determine the next square with that matches the lead digit by multiplying the next square deference by 10 and subtracting 90. This has to be done twice because there are two patterns of matching digits spaced 10 squares apart. This reduces the number of searches by 4/5ths. (A simple mod 10 check may be faster).

Overall the total number of iterations required vs. brute force is 1/10.

To further increase performance the check for palindromic exits early if any number does not match (brute force checked all digits). Loop unrolling also helps. This part needs more help.

Like my earlier post this is not 42S specific.

I'll include my Perl prototype, it is easier to read.

```

1      LBL "PP2"
2      9
3      0
4      XEQ B
5      9
6      1
7      XEQ B
8      6
9      0
10     XEQ B
11     6
12     1
13     XEQ B
14     5
15     0
16     XEQ B
17     5
18     1
19     XEQ B
20     4
21     0

```

```
22      XEQ B
23      4
24      1
25      XEQ B
26      1
27      0
28      XEQ B
29      1
30      1
31      XEQ B
32      LBL B
33      STO 04
34      X<>Y
35      STO 03
36      1
37      +
38      11
39      10^X
40      x
41      1
42      -
43      SQRT
44      IP
45      X^2
46      STO 05
47      LASTX
48      1
49      -
50      X^2
51      -
52      STO 06
53      LBL 00
54      RCL 05
55      10
56      MOD
57      RCL 03
58      X=Y?
59      GTO 01
60      RCL 06
61      STO- 05
62      2
63      STO- 06
64      GTO 00
65      LBL 01
66      RCL 04
67      X=0?
68      GTO 02
69      0
70      STO 04
71      RCL 06
72      STO- 05
73      2
74      STO- 06
75      GTO 00
76      LBL 02
77      RCL 03
78      11
79      10^X
80      *
81      STO 07
82      LBL 04
83      RCL 07
84      RCL 05
85      X<Y?
86      RTN
87      1E6
88      /
89      IP
90      LASTX
91      FP
92      STO 02
93      X<>Y
94      STO 01
95      10
96      MOD
97      10
98      RCLx 02
99      IP
100     X!=Y?
101     GTO 03
102     1E-1
```

```
103 RCLx 01
104 IP
105 10
106 MOD
107 10
108 RCLx 02
109 FP
110 10
111 x
112 IP
113 X!=Y?
114 GTO 03
115 1E-2
116 RCLx 01
117 IP
118 10
119 MOD
120 1E2
121 RCLx 02
122 FP
123 10
124 x
125 IP
126 X!=Y?
127 GTO 03
128 1E-3
129 RCLx 01
130 IP
131 10
132 MOD
133 1E3
134 RCLx 02
135 FP
136 10
137 x
138 IP
139 X!=Y?
140 GTO 03
141 1E-4
142 RCLx 01
143 IP
144 10
145 MOD
146 1E4
147 RCLx 02
148 FP
149 10
150 x
151 IP
152 X!=Y?
153 GTO 03
154 1E-5
155 RCLx 01
156 IP
157 10
158 MOD
159 1E5
160 RCLx 02
161 FP
162 10
163 x
164 IP
165 X!=Y?
166 GTO 03
167 GTO E
168 LBL 03
169 10
170 RCLx 06
171 90
172 -
173 STO- 05
174 20
175 STO- 06
176 GTO 02
177 LBL E
178 RCL 05
179 STOP
```

```
#!/usr/bin/perl
$lc=0;
```

```

print "9...\n";
a(9,0);
a(9,1);
print "6...\n";
a(6,0);
a(6,1);
#will not get here;
a(5,0);
a(5,1);
a(4,0);
a(4,1);
a(1,0);
a(1,1);
sub a
{
    my $leaddigit = shift;
    my $nexthigh = shift;
    my $highnum = ($leaddigit + 1) * 10**11 - 1;
    my $highsqrt = int(sqrt($highnum));
    my $nexthighsqrt = $highsqrt - 1;
    my $highsqr = $highsqrt**2;
    my $odd = $highsqr - $nexthighsqrt**2;
    while($highsqr % 10 != $leaddigit) {
        $highsqr -= $odd;
        $odd -= 2;
    }
    if($nexthigh) {
        $highsqr -= $odd;
        $odd -= 2;
        while($highsqr % 10 != $leaddigit) {
            $highsqr -= $odd;
            $odd -= 2;
        }
    }
    while($highsqr > $leaddigit*10**11) {
        $lc++;
        my $a = $highsqr;
        my $left = int($a / 1e6);
        my $right = $a - int($a / 1e6) * 1e6;
        if($left - reverse($right) == 0) {
            $s = $a**.5;
            print $s . "\t" . $a . "\n";
            print "loops:\t" . $lc . "\n";
            exit(0);
        }
        $highsqr -= $odd * 10 - 90;
        $odd -= 20;
    }
}

```

*Edited: 3 May 2007, 2:44 a.m.*

## Re: HP42S Mini-Challenge: Optimizing ! (Doh! Bug!)

Message #7 Posted by [Egan Ford](#) on 4 May 2007, 12:55 a.m.,  
in response to message #6 by [Egan Ford](#)

Line 80 above:

```
80      *
```

Should be

```
80      x
```

txt2raw.pl will ignore the \*. The above takes 10 times longer than it should. Below is a fixed version with a few other cleanups. Still not 42S specific.

Run times:

```

Free42 @ 1.7 GHz Pentium M:    1 sec
Emu42  @ 1.7 GHz Pentium M:   60 sec
Free42 @ 471 MHz PXA255:      70 sec

```

I'll key this in my 42S and report the time this weekend.

```
00 { 343-Byte Prgm }
01>LBL "PP4"
02 9
03 0
04 XEQ B
05 9
06 1
07 XEQ B
08 6
09 0
10 XEQ B
11 6
12 1
13 XEQ B
14 5
15 0
16 XEQ B
17 5
18 1
19 XEQ B
20 4
21 0
22 XEQ B
23 4
24 1
25 XEQ B
26 1
27 0
28 XEQ B
29 1
30 1
31>LBL B
32 STO 04
33 X<>Y
34 STO 03
35 1
36 +
37 11
38 10^X
39 ×
40 1
41 -
42 SQRT
43 IP
44 X^2
45 STO 05
46 LASTX
47 1
48 -
49 X^2
50 -
51 STO 06
52>LBL 00
53 RCL 05
54 10
55 MOD
56 RCL 03
57 X=Y?
58 GTO 01
59 RCL 06
60 STO- 05
61 2
62 STO- 06
63 GTO 00
64>LBL 01
65 RCL 04
66 X=0?
67 GTO 02
68 0
69 STO 04
70 RCL 06
71 STO- 05
72 2
73 STO- 06
74 GTO 00
75>LBL 02
```

```
76 11
77 10^X
78 RCL× 03
79 STO 07
80 GTO 04
81>LBL 03
82 10
83 RCL× 06
84 90
85 -
86 STO- 05
87 20
88 STO- 06
89>LBL 04
90 RCL 07
91 RCL 05
92 X<Y?
93 RTN
94 1E6
95 ÷
96 IP
97 LASTX
98 FP
99 STO 02
100 X<>Y
101 STO 01
102 10
103 MOD
104 10
105 RCL× 02
106 IP
107 X!=Y?
108 GTO 03
109 0.1
110 RCL× 01
111 IP
112 10
113 MOD
114 10
115 RCL× 02
116 FP
117 10
118 ×
119 IP
120 X!=Y?
121 GTO 03
122 0.01
123 RCL× 01
124 IP
125 10
126 MOD
127 100
128 RCL× 02
129 FP
130 10
131 ×
132 IP
133 X!=Y?
134 GTO 03
135 1E-3
136 RCL× 01
137 IP
138 10
139 MOD
140 1E3
141 RCL× 02
142 FP
143 10
144 ×
145 IP
146 X!=Y?
147 GTO 03
148 1E-4
149 RCL× 01
150 IP
151 10
152 MOD
153 1E4
154 RCL× 02
155 FP
156 10
```

```

157 ×
158 IP
159 X!=Y?
160 GTO 03
161 1E-5
162 RCL× 01
163 IP
164 10
165 MOD
166 1E5
167 RCL× 02
168 FP
169 10
170 ×
171 IP
172 X!=Y?
173 GTO 03
174 RCL 05
175 ENTER
176 SQRT
177 STOP
178 .END.

```

## Re: HP42S Mini-Challenge: Optimizing !

*Message #8 Posted by **J-F Garnier** on 3 May 2007, 3:11 p.m.,  
in response to message #1 by Valentin Albillo*

Well, here is my solution for the HP-42S:

```

00 { 156-Byte Prgm }
01>LBL "PAL12"
02 FIX 00
03 CF 29
04 1E11
05 STO 00
06 1
07 1
08 XEQ A
09 9
10 1
11 XEQ A
12 2
13 4
14 XEQ A
15 8
16 4
17 XEQ A
18 5
19 5
20 XEQ A
21 4
22 6
23 XEQ A
24 6
25 6
26 XEQ A
27 3
28 9
29 XEQ A
30 7
31 9
32 XEQ A
33 RTN

34>LBL A
35 RCL ST X
36 1
37 +
38 RCL× 00
39 SQRT
40 STO 02
41 Rv
42 RCL× 00
43 SQRT
44 IP

```

```

45 RCL ST X
46 10
47 MOD
48 -
49 +
50 STO 01
51>LBL 00
52 X^2
53 XEQ 01
54 RCL 02
55 RCL 01
56 10
57 +
58 STO 01
59 X<Y?
60 GTO 00
61 RTN

```

```

62>LBL 01
63 CLA
64 ARCL ST X
65 6
66 STO ST L
67>LBL 02
68 -1
69 AROT
70 ATOX
71 ATOX
72 X!=Y?
73 RTN
74 DSE ST L
75 GTO 02
76 RCL 01
77 X^2
78 VIEW ST X
79 STOP
80 RTN

```

And the HP-71B version, for free:

```

10 ! find 12-digit square palindrome
20 T=TIME
30 N=100000000000 ! 1E11
40 ! squares ending with '1', try numbers ending with '1' or '9'
50 K=1 @ R=1 @ GOSUB 150 @ R=9 @ GOSUB 150
60 ! squares ending with '4', try numbers ending with '2' or '8'
70 K=4 @ R=2 @ GOSUB 150 @ R=8 @ GOSUB 150
80 ! squares ending with '5', try numbers ending with '5'
90 K=5 @ R=5 @ GOSUB 150
100 ! squares ending with '6', try numbers ending with '4' or '6'
110 K=6 @ R=4 @ GOSUB 150 @ R=6 @ GOSUB 150
120 ! squares ending with '9', try numbers ending with '3' or '7'
130 K=9 @ R=3 @ GOSUB 150 @ R=7 @ GOSUB 150
140 END
150 A=(SQR(N*K) DIV 10)*10+R @ B=SQR(N*(K+1))
160 FOR I=A TO B STEP 10
170 A$=STR$(I*I)
180 IF A$=REV$(A$) THEN DISP I;A$;TIME-T @ PAUSE
190 NEXT I
200 RETURN

```

May I add that these programs can be slightly modified to find the only one 8-digit hexadecimal palindromic square?

J-F

## Re: HP42S Mini-Challenge: Optimizing !

Message #9 Posted by [Alex L](#) on 3 May 2007, 3:23 p.m.,  
in response to message #1 by [Valentin Albillo](#)

This is my first-ever submission to one of these challenges. I was aiming at part (1), but mostly just learning how to program my 42S.



41-byte, 25-step program, at the end displays both the base number in Y and the sought square in X. Uses only R01 and ALPHA. Fairly 42S-specific, I think, as it depends on the existence of a 12-digit integer representation to move into the ALPHA register with AIP.

I had started counting up from 316228, but then realized that I could save 3 bytes in step 01 by counting down from 1E6. Turns out to save execution time, too.

18s on Free42 @ 2.1GHz, and based on two partial runs, an estimated 11h25m on a physical 42S. Since I'm an HP calculator programming rookie, I'd guess someone on this forum can make this algorithm even shorter.

```

01 1E6
02 STO 01
03 LBL 01
04 1
05 STO- 01
06 RCL 01
07 X^2
08 CLA
09 AIP
10 LBL 02
11 ALENG
12 2
13 X>Y?
14 GTO 03
15 -1
16 AROT
17 ATOX
18 ATOX
19 X=Y?
20 GTO 02
21 GTO 01
22 LBL 03
23 RCL 01
24 ENTER
25 X^2

```

*Edited: 3 May 2007, 3:28 p.m.*

## Re: HP42S Mini-Challenge: Optimizing !

Message #10 Posted by [Karl Schneider](#) on 4 May 2007, 12:18 a.m.,  
in response to message #9 by Alex L

Hello, Alex --

Quote:

---

This is my first-ever submission to one of these challenges. I was aiming at part (1), but mostly just learning how to program my 42S.

---

Well, I'm very impressed with your elegant program. I believe that you've taken the approach that Valentin had in mind, and which I didn't quite see how to do, having not researched all available HP-42S string commands.

Quote:

---

Fairly 42S-specific, I think, as it depends on the existence of a 12-digit integer representation to move into the ALPHA register with AIP.

---

AIP (or J-F Garnier's "ARCL ST X") is indeed the key to making this approach work. If I were to tackle this problem with a C-language program, I would use "sprintf" or a non-standard library routine "itoa" to

convert an integer to a string, then compared pairs of digits, working from the outside inward. I thought that the HP-42S "ATOX" and "XTOA" would be analogous, but they weren't. However, ATOX *in conjunction with AIP* and AROT was just the ticket.

I've taken a similar approach, using numerical calculations instead of string operations to extract and remove the first and last digits of  $N^2$ . It's slower and more cumbersome.

Quote:

I'd guess someone on this forum can make this algorithm even shorter.

I don't see any particular way to make your algorithm much more concise, but the execution speed could be improved by using some basic heuristics that restrict, within appropriate ranges of N, which last-digit values of  $N^2$  to even check for.

Good job!

-- KS

*Edited: 4 May 2007, 12:52 a.m.*

### Re: HP42S Mini-Challenge: Optimizing !

Message #11 Posted by [Alex L](#) on 4 May 2007, 11:16 a.m.,  
in response to message #10 by Karl Schneider

Karl,

Quote:

Well, I'm very impressed with your elegant program. ... Good job!

Thank you! I'm especially happy with the generality of this algorithm. If you append 4 steps/6 bytes:

```
26 STOP
27 1
28 X!=Y?
29 GTO 01
```

then the program will display each palindromic square of 12 digits or fewer (36 in all, counting the trivially palindromic squares of 3, 2, and 1, only one other of which has an even number of digits). But it will take days on a physical 42S.

Quote:

the execution speed could be improved by using some basic heuristics that restrict, within appropriate ranges of N, which last-digit values of  $N^2$  to even check for

I'm enjoying studying the other submissions to this challenge to see slick ways to do exactly that.

-A

### Re: HP42S Mini-Challenge: Optimizing !

Message #12 Posted by [Allen](#) on 9 May 2007, 9:22 p.m.,

*in response to message #10 by Karl Schneider*

Quote:

I don't see any particular way to make your algorithm much more concise

Karl, I am surprised that you made no comment RE the 32 byte solution or the X/11 heuristic I added below, the former being 25% smaller than the previous post. I really enjoy the 'write a small program' challenges. Also enjoy the heuristics you added. In both case 1 and 3 (but not Valentin's case #2-speed/size challenge) The creation of these algorithms is mathematical poetry! You and Alex are both great writers, among others here. Hats off to all.

### **Some comments: HP42S Mini-Challenge**

*Message #13 Posted by **Karl Schneider** on 10 May 2007, 12:58 a.m.,  
in response to message #12 by Allen*

Quote:

Karl, I am surprised that you made no comment RE the 32 byte solution or the X/11 heuristic I added below,...

Hi, Allen --

I did incorporate the X/11 heuristic into my own solution, which reduced the execution time by more than 60%. Paul Brogger had included it in his submission, prior to yours. I hadn't even known of the theorem until then.

Your 32-byte program seemed to have the same basis as Alex' program. His algorithm was already taut, but there's always a way to save a few bytes...

Quote:

I really enjoy the 'write a small program' challenges.

I don't, in particular. It seems to me that reduction of program size to its absolute minimum defeats the true purpose of a programmable calculator: To allow the user to quickly create functional programmed solutions to a problem without the need to remember syntactical rules, spellings, formalities, and compilation procedures.

"Paring down" of a program may have been necessary for implementing anything non-trivial on the earliest programmables, but not on a HP-42S with 7 kB of RAM.

-- KS

*Edited: 10 May 2007, 1:18 a.m.*

### **Re: HP42S Mini-Challenge: Optimizing !**

*Message #14 Posted by **Werner** on 3 May 2007, 4:57 p.m.,  
in response to message #1 by Valentin Albillo*

I took the following approach: I generate the 12-digit palindromes, generating the first (and last) two digits separately making use of the knowledge that the number is a square (thus dividing the work by four, roughly),

and just blind force for the inner loop. It is not HP-42 specific.

timing: 1m13s @ 1.4Ghz size: 115 Bytes, regs R1-R5 used

```

00 { 115-Byte Prgm }
01*LBL "P12"
02 99
03 STO 05
04*LBL 05      generate xy00000000yx, with yx = R05^2 MOD 100
05 RCL 05
06 X^2
07 100
08 MOD
09 X=0?      can't start/end with zeroes
10 GTO 99
11 10
12 STO 04
13 %
14 ENTER
15 FP
16 100
17 *
18 +
19 IP
20 1e10
21 *
22 +
23*LBL 04
24 10
25 STO 03
26 RDN
27*LBL 03
28 10
29 STO 02
30 RDN
31*LBL 02
32 10
33 STO 01
34 RDN
35*LBL 01      inner loop
36 ENTER      test for square
37 SQRT
38 FP
39 X=0?
40 RTN
41 RDN
42 11e5      add 1 to innermost digits (6 and 7)
43 +
44 DSE 01
45 GTO 01
46 99e4      adjust for digits 5 and 8
47 -
48 DSE 02
49 GTO 02
50 99e3      adjust for digits 4 and 9
51 -
52 DSE 03
53 GTO 03
54 99e2
55 -
56 DSE 04
57 GTO 04
58*LBL 99
59 DSE 05
60 GTO 05
61 END

```

## Re: HP42S Mini-Challenge: Optimizing !

Message #15 Posted by [Paul Brogger](#) on 3 May 2007, 7:24 p.m.,  
in response to message #1 by Valentin Albillo

I wrote mine originally on the HP-33s, then copied it to Free42 on Windows. As such, it doesn't make use of any particular HP-42s features, and so isn't optimized for that machine.

It uses two registers, R00 and R01.

```

00 { 66-Byte Prgm }
01>LBL 00
02 99999          Iterate through all 6-digit first-halves,
03 STO 00          starting at 100,000

04>LBL 01
05 1
06 STO+ 00        Increment high-order six-digit section
07 0
08 RCL 00          Put it in x
09 XEQ 02
10 XEQ 02          Reverse
11 XEQ 02
12 XEQ 02          that
13 XEQ 02
14 XEQ 02          in y
15 Rv
16 RCL 00          and
17 1E6            splice
18 *              them
19 +              together
20 STO 01          (save 12-digit value, in case I need it later)
21 SQRT
22 FP
23 X!=0?          Is it the square of some integer?
24 GTO 01          no -- try next 6-digit value
25 RCL 01          yes! -- stop with 12-digit palindromic square in x
26 STOP

27>LBL 02
28 10             Take low-order digit
29 ÷              in x,
30 FP
31 LASTX
32 IP
33 Rv
34 +              and append it
35 10             to y, shifting that left
36 *
37 R^
38 RTN

```

Pretty fast (~53 sec.) on Free42Decimal (on 2.8GHz Win2000) and very slow (still running) on HP-33s.

(To use only one register, don't save in R01, and replace line 25 with a LASTx, x^2.)

*Edited: 3 May 2007, 10:44 p.m.*

## Re: HP42S Mini-Challenge: Optimizing !

Message #16 Posted by [Paul Brogger](#) on 4 May 2007, 2:30 a.m.,  
in response to message #15 by Paul Brogger

This one takes about a third the time of my previous attempt. It has (if I do say so myself) a pretty slick test for palindromicity (?) in section labeled LBL 02.

```

00 { 58-Byte Prgm }
01>LBL 00
02 316227
03 STO 00

04>LBL 01          Increment integer
05 1
06 STO+ 00
07 RCL 00
08 X^2            and square it
09 1E6
10 <div>          prior to palindrome test.

```

```

11>LBL 02      Assumes decimal point in center of
12 X=0?       even-length palindromic sequence in x.
13 GTO 03     If zero, we've found our result.
14 10
15 <mult>      Shift one digit left
16 FP
17 LASTX
18 IP
19 100        Then two digits right
20 <div>
21 IP
22 LASTX
23 FP
24 0.11       Divide middle two digits by .11
25 <div>
26 FP
27 X!=0?
28 GTO 01     Don't match? Try square of next integer.
29 Rv
30 +          Concatenate remaining fragments
31 GTO 02     and test next middle two digits

32>LBL 03
33 RCL 00
34 X^2
35 RTN

```

It uses only register R00.

*Edited: 9 May 2007, 5:33 p.m.*

## Re: HP42S Mini-Challenge: Optimizing !

Message #17 Posted by **Gerson W. Barbosa** on 3 May 2007, 9:18 p.m.,  
in response to message #1 by Valentin Albillo

Hi Valentin,

Quote:

1. Optimized for *minimum size*, regardless of speed

It was not my intention to participate on this one, although it's very interesting as always. I would try goal one at most. Looks like I was able to optimize for *minimum speed* only :-)

About 5 minutes (Free42 @ 500 MHz), which means about 46 hours on the real 42S.

```

00 { 64-Byte Prgm }
01>LBL "SP"
02 1E6
03 STO 09
04>LBL 01
05 1
06 STO- 09
07 6
08 STO 00
09 RCL 09
10 0
11 STO 08
12>LBL 00
13 X<>Y
14 IP
15 10
16 ÷
17 ENTER
18 FP
19 RCL 00
20 10^X

```

```

21 ×
22 STO+ 08
23 DSE 00
24 GTO 00
25 RCL 09
26 1E6
27 ×
28 RCL 08
29 +
30 SQRT
31 FP
32 X!=0?
33 GTO 01
34 1E6
35 RCL× 09
36 RCL+ 08
37 .END.

```

Best regards,

Gerson.

## Re: HP42S Mini-Challenge: Optimizing ! (final submission)

Message #18 Posted by [Egan Ford](#) on 5 May 2007, 1:41 p.m.,  
in response to message #1 by Valentin Albillo

Quote:

Enjoy ! :-)

I did. This is my final submission for part 3 (speed) of this mini challenge. One of my objectives from the start was to NOT be 42S specific (personal challenge). As for, "*Using reasonable, sound heuristics which can be rationalized in a few words is Ok*". I'll let you be the judge.

Answer:  $798,644 * 798,644 = 637,832,238,736$

Runtimes:

|                            |          |
|----------------------------|----------|
| Free42, 1.7 GHz Pentium M: | <1 sec   |
| Emu42, 1.7 GHz Pentium M:  | 23 sec   |
| Physical 42S:              | 1h, 2min |

Code suitable for import into Free42 or Emu42: <http://sense.net/~egan/pp9.txt.raw>.

I broke this problem down into two separate problems: iteration reduction and verification optimization.

Iteration reduction:

My initial brute force approach started at 999999 and counted down until a solution was found. I selected count down vs. count up because I was planning on using DSE (easier than ISE). This approach will make 201,355 attempts to find a solution. Heuristical methods will need to be used to reduce this.

Knowing that perfect squares must end in 0, 1, 4, 5, 6, or 9, I opted to count down from the largest 12 digit square ( $999999^2$ ) and ignore any that didn't start with 9, 6, 5, 4, or 1. This will cut the number of iterations roughly in half. 89,333 iterations to be exact. Since  $N*N =$  the sum of the first N odd numbers, counting down is easy. Just find the last odd:  $999999*2 - 999998*2$ . Then subtract 2 from the odd in a loop to get the difference to the next perfect square.

Of the perfect squares only a fraction will end in with a digit that matches the first. Is there a way to determine the next first/last matching digit perfect square? Yes, there is. Just sum 10 sequential odd numbers to get a result that ends in 0. Simply find the first perfect square with matching first/last digit by subtracting the odds,

then to get 10 odds down, take the next odd, multiply by 10, subtract 90. This approach does have one gotcha, there are 2 series of first/last matching squares, and both have to be searched, e.g.:

```

999999^2 = 999998000001 <= Start at top. End in 9? No, then subtract odd difference.
999998^2 = 999996000004 <= End in 9? No, then subtract odd difference.
999997^2 = 999994000009 <= End in 9? Yes, 10*odd diff - 90 -----
999996^2 = 999992000016
999995^2 = 999990000025
999994^2 = 999988000036
999993^2 = 999986000049 <= Opps, missed this one. 10 down-----
999992^2 = 999984000064
999991^2 = 999982000081
999990^2 = 999980000100
999989^2 = 999978000121
999988^2 = 999976000144
999987^2 = 999974000169 <-----
999986^2 = 999972000196
999985^2 = 999970000225
999984^2 = 999968000256
999983^2 = 999966000289 <-----
999982^2 = 999964000324
    
```

This happens because there is no guarantee that a downward count of the next odd will always end at 9. If ending at 7, 5, 3, or 1, then the next matching first/last digit will be less than 10 odds away.

```

(9 + 7 + 5 + 3 + 1 + 9 + 7 + 5 + 3 + 1) mod 10 = 0
(7 + 5 + 3 + 1 + 9 + 7 + 5 + 3) mod 10 = 0
(5 + 3 + 1 + 9 + 7 + 5) mod 10 = 0
(3 + 1 + 9 + 7) mod 10 = 0
(1 + 9) mod 10 = 0
    
```

To get around this problem without too much work I just did two passes. Pass 1 starts with the highest first/last matching square, pass 2 starts with the 2nd largest. Each pass jumps 10 squares at a time. This reduces the number of iterations by ~1/5. 20,271 iterations to be exact.

Lastly I started looking at the 2nd digits. Without much thought you can prove that the 2nd to last digit of all perfect squares is even, unless the last digit is 6.

E.g. take squares ending in 9. Only 3\*3 or 7\*7 end in 9, so...

|                |                     |
|----------------|---------------------|
| $x + 3$        | $x + 7$             |
| $x + 3$        | $x + 7$             |
|                |                     |
| $3x + 9$       | $(7x+4) + 9$        |
| $x^2 + 3x$     | $x^2 + (7x+0)$      |
|                |                     |
| $x^2 + 6x + 9$ | $x^2 + (14x+4) + 9$ |

2nd digit will be 6x, and even\*anything is even. This is true for 14x+4 as well (note the even carry digit). You can do the rest of this exercise in your head (i.e. avoid *doing all the theoretical work yourself with paper and pen*), just look at the carry digit, e.g. to end in 9 you must have 3\*3 or 7\*7, the carry digit is even (i.e. 0 or 4), to end in 6 you must have 4\*4 or 6\*6, the carry digit is 1 or 3 ending with a even + odd for the 2nd digit. IANS, implementing this will reduce the number of iterations by ~1/2. 8,889 iterations to be exact.

3rd digit? Too much brain power was needed, further optimization will need to be done in the verification.

Verification optimization:

The first check is the most important check. Taking a hint from Paul Brogger I cut out the center, divided by 11 and checked for FP = 0:

```

1E-5
x
IP
100
MOD
11
    
```



```

÷
FP
X!=0?

```

Other attempts that set up an efficient way to check the rest of the digits is a waste. The first digit check will happen at each iteration. The probability of a match is only 1:10 making the 2nd check take place ~1/10 of the iterations. Make the first check fast, make the rest source efficient.

More optimization can be done, but I made my ~1 hour time target.

Finally, I must state how awesome the 42S is. I did all my development using the VI editor and then using txt2raw.pl to convert to raw for import into Free42/Emu42. I was not looking forward to keying this into my 42S for a formal benchmark. After doing so, I must state that there is an attention to detail that I do not think I have seen with any other vertically oriented HP (48GX is close). The orientation of the menus and keys made for very accurate and quick work of entering this code. I applaud the 42S architects.

Source with comments:

```
00 { 279-Byte Prgm }
```

```
Main loop. DSE from 9 to 1. If 8,7,3,2 skip
since perfect squares only end in 9,6,5,4,1,0.
```

```
If '6' then note the 2nd digits will be odd (start with 9
count down by 2). Evens start with 8 and count down by 2.
This is stored in register 08.
```

```

01>LBL "PP9"
02 9
03 STO 09
04>LBL 09
05 8
06 STO 08
07 RCL 09
08 X=Y?
09 GTO 10
10 7
11 RCL 09
12 X=Y?
13 GTO 10
14 3
15 RCL 09
16 X=Y?
17 GTO 10
18 2
19 RCL 09
20 X=Y?
21 GTO 10
22 6
23 RCL 09
24 X!=Y?
25 GTO 11
26 1
27 STO+ 08
28>LBL 11
29 XEQ A
30>LBL 10
31 DSE 09
32 GTO 09
33 STOP

```

This is the first called subroutine. It DSE counts from 5 to 1 creating a sequence for LBL B with the first 2 digits to start searching form, (e.g. 98, 96, 94, 92, 90, 69, 67, ..., 10). This will also store the mirror image of the first to digits (REG 13). REG 04 (0 or 1) is used to select the 2 different series of matching first/last squares.

```
34>LBL A
35 5
36 STO 12
37>LBL 12
38 10
39 RCL× 09
40 RCL+ 08
41 STO 03
42 10
43 ÷
44 IP
45 RCL 03
46 10
47 MOD
48 10
49 ×
50 +
51 STO 13
52 0
53 STO 04
54 XEQ B
55 1
56 STO 04
57 XEQ B
58 2
59 STO- 08
60 DSE 12
61 GTO 12
62 RTN
```

This is where all the work is done. Starting from the largest two digit leading 12 digit number (e.g. 989999999999) find the first or 2nd (check REG 04) square with matching reversed last 2 digits.

```
63>LBL B
64 RCL 03
65 1
66 +
67 10
68 10^X
69 ×
70 1
71 -
72 SQRT
73 IP
74 X^2
75 STO 05
76 LASTX
77 1
78 -
79 X^2
80 -
81 STO 06
82>LBL 00
83 RCL 05
84 100
85 MOD
86 RCL 13
87 X=Y?
88 GTO 01
89 RCL 06
90 STO- 05
91 2
92 STO- 06
93 GTO 00
94>LBL 01
95 RCL 04
96 X=0?
97 GTO 02
98 0
99 STO 04
100 RCL 06
101 STO- 05
102 2
103 STO- 06
104 GTO 00
105>LBL 02
```

```
106 10
107 10^X
108 RCL× 03
109 STO 07
110 GTO 04
```

This is where ~90% of all the computation takes place. The first iteration starts at line 119. Center digits are checked, if no match GTO 03, 10\*next odd - 90 to get next square, subtract 20 from next odd to get next odd. If the two leading digits change, exit loop.

```
111>LBL 03
112 10
113 RCL× 06
114 90
115 -
116 STO- 05
117 20
118 STO- 06
119>LBL 04
120 RCL 07
121 RCL 05
122 X<Y?
123 RTN
124 1E-5
125 ×
126 IP
127 100
128 MOD
129 11
130 ÷
131 FP
132 X!=0?
133 GTO 03
```

Check last 4 pairs. If the centers match, start from the outside and work in. Since squares are deterministically calculated with matching first/last digits there is no need to check the outside. At most there are 4 checks.

```
134 4
135 STO 15
136>LBL 15
137 -2
138 RCL× 15
139 1
140 -
141 10^X
142 RCL 15
143 5
144 -
145 10^X
146 RCL× 05
147 IP
148 2
149 RCL× 15
150 2
151 +
152 10^X
153 MOD
154 ×
155 LASTX
156 10
157 MOD
158 X<>Y
159 IP
160 X!=Y?
161 GTO 03
162 DSE 15
163 GTO 15
164 RCL 05
165 ENTER
166 SQRT
167 STOP
```

168 .END.

Edited: 5 May 2007, 2:11 p.m.

**Re: HP42S Mini-Challenge: Optimizing !**

Message #19 Posted by **Karl Schneider** on 6 May 2007, 1:57 a.m.,  
in response to message #1 by Valentin Albillo

(NOTE: This post was edited to implement the heuristic regarding divisibility by 11, which was identified by others. Only two instructions in my program were changed, reducing execution time by more than 60%.)

To get a working and fast program for this challenge, I finally installed Thomas Okken's magnificent Free42 software that I had downloaded quite a while ago. It was quite easy to do; I ought to have done it a long time ago.

My intended approach was similar to the one elegantly implemented by "Adam L", which was to convert  $N^2$  to a string, then compare the outermost "digit-characters", working toward the middle from each end each time a match was found, and immediately jumping to the next  $N$  upon getting a mismatch. Not immediately seeing how to do that with HP-42S string functions, I implemented the same logic with mathematical calculations based on INT and MOD. This is slower and more cumbersome on a physical HP-42S, but it worked.

My "ideal" optimized program would incorporate heuristics 3 and 4 into Adam L's tidy code.

The heuristics:

1. It is faster and simpler to generate a square and iteratively check for its "palindromicity" than to generate palindromes and check for integer square roots. There are 900,000 possible 12-digit palindromes, which can also be cumbersome to generate.
2. The lowest integer  $N$  that produces a 12-digit square is 316,228; the largest is 999,999. The overall search should be restricted to this range of 683,772 possibilities.
3. A squared integer not divisible by 10 can end only with 1, 4, 5, 6, or 9. Since the last digit of  $N^2$  must match the first, there is no need to try values of  $N$  for which  $N^2$  is within the inclusive ranges {200,000 to 399,999} or {700,000 to 899,999}. Therefore,  $N = 447,214$  through 632,457 and  $N = 836,661$  through 948,683 can be bypassed *en masse*.
4. A palindrome having an even number of digits will be evenly divisible by 11. Therefore, all values of  $N$  that are *not* as such can be skipped over, eliminating 91% of all remaining possibilities.
5.  $N$  ending in 0 will yield an  $N^2$  ending in 00. If the first two digits were to match,  $N^2$  would be only a 10-digit number. Therefore, each  $N$  that is a multiple of 10 can be skipped over. In view of the preceding heuristic, however, this may not yield a significant reduction in processing time for the programming effort.
6. For a given value of the leading digit of  $N^2$ , only one or two ending digits of  $N$  will match it. However, checks for this heuristic are a bit cumbersome to implement, and may not save much execution time.

So, here's my program, which finds the unique solution *working upward from  $N = 316,228$* . It runs in only 1.8 seconds on Free42 Binary and 7.2 seconds on Free42 Decimal, on a PC with twin Pentium IV 3.0-GHz CPU's.

The program could be easily modified to search from  $N = 999,999$  downward. This would find the answer even faster, as it turns out.

Lines 52 and 53 (FIX 00 and RND) were necessary to eliminate floating-point arithmetic errors. Line 57 (ALL display format) is for debugging purposes.

```
00 { 148-Byte Prgm }
01>LBL "SQ12P"
02 316227
03 STO 00
04>LBL 00
05 1
06 STO+ 00
07 RCL 00
08 11
09 MOD
10 X!=0?
11 GTO 00
12 RCL 00
13 447214
14 X=Y?
15 GTO 06
16 CLX
17 836661
18 X=Y?
19 GTO 07
20 CLX
21 999999
22 X<>Y
23 X>Y?
24 STOP
25 X^2
26 1E11
27 STO 03
28 ÷
29 STO 02
30 XEQ 01
31>LBL 06
32 632455
33 STO 00
34 GTO 00
35>LBL 07
36 948683
37 STO 00
38 GTO 00
39>LBL 05
40 RCL 00
41 ENTER
42 X^2
43 STOP
44>LBL 01
45 RCL 02
46 ENTER
47 IP
48 STO 04
49 -
50 RCL 03
51 ×
52 FIX 00
53 RND
54 ENTER
55 ENTER
56 10
57 ALL
58 MOD
59 STO 05
60 -
61 STO 02
62 RCL 04
63 RCL 05
64 X!=Y?
65 GTO 00
66 RCL 02
67 X=0?
68 GTO 05
69 10
70 STO÷ 03
71 RCL 03
72 STO÷ 02
73 10
74 STO÷ 03
```

75 GTO 01

*Edited: 13 May 2007, 4:20 p.m.***32 byte, (20 steps in 55 sec.) solution for free42 Mini-Challenge***Message #20 Posted by [allen](#) on 6 May 2007, 9:04 a.m.,  
in response to message #1 by Valentin Albillo*

This was also my first occasion to write a 42s program, though the title of the challenge could be best titled "free42 challenge" since the minimum size contest is likely not practical on a REAL 42S. Accordingly, like Karl, I had to dust off the free42 installation from last year and learn how to use it. What a GREAT program!!!

I propose a 32 byte solution using the STAT register as the counter. (mainly because the \sigma+ command automatically puts the increment result on the stack eliminating the need for a 1 STO+ XX RCL XX to bring the value back to the stack.) Runtime is <1min on free42.

```

00 { 32-Byte Prgm }
01 CL\Sigma          ' Clear stat register
02>LBL 00           ' Begin counting loop
03 \Sigma+          ' Increment STAT register
04 X^2
05 CLA              ' Clear Alpha register
06 AIP              ' Pull result to Alpha reg
07 6
08 STO 01           ' Store counter for length loop
09>LBL 02           ' Begin palindromic check / length loop
10 -1
11 AROT             ' Rotate last char to front of ALPHA reg
12 ATOX             ' Pull last character code to X
13 ATOX             ' Pull first character code to X
14 X!=Y?           ' Are the first and last characters equal?
15 GTO 00           ' if not save time by ending loop early and go to counterloop
16 DSE 01           ' if they are, decrement and check for length
17 GTO 02           ' if too short, go to the length loop
18 X=0?            ' otherwise was the last result from an empty ALPHA reg?
19 GTO 00           ' if yes, return to counter
20 RCL 16           ' otherwise SUCCESS!!! - recall the stat N value

```

*Edited: 6 May 2007, 6:33 p.m. after one or more responses were posted***Re: 41 byte, 7 second solution for free42 Mini-Challenge***Message #21 Posted by [allen](#) on 6 May 2007, 6:13 p.m.,  
in response to message #20 by allen*

Using the heuristic that palindromes are divisible by 11, one can add 4 steps to the program and finish 90% faster:

```

00 {41-Byte Prgm }
01 CL\Sigma          ' Clear stat register
02>LBL 00           ' Begin counting loop
03 \Sigma+          ' Increment STAT register
04 X^2
05 121              ' ADDED TO CHECK ONLY MULTIPLES OF 11
06 *
07 CLA              ' Clear Alpha register
08 AIP              ' Pull result to Alpha reg
09 6
10 STO 01           ' Store counter for length loop
11>LBL 02           ' Begin palindromic check / length loop
12 -1
13 AROT             ' Rotate last char to front of ALPHA reg
14 ATOX             ' Pull last character code to X
15 ATOX             ' Pull first character code to X
16 X!=Y?           ' Are the first and last characters equal?

```

```

17 GTO 00      ' if not save time by ending loop early and go to couterloop
18 DSE 01      ' if the are, decrement and check for length
19 GTO 02      ' if too short, go to the length loop
20 X=0?        ' otherwise was the last result from an empty ALPHA reg?
21 GTO 00      ' if yes, return to counter
22 RCL 16      ' otherwise SUCCESS!!! recall stat N value
23 11
24 *           ' ADDED TO CONVERT couter to X^2 format where X is couter*11

```

This differs slightly from my initial 44 byte program where I used an (ATOX POSA x=0?) loop similar to Alex's above (ATOX ATOX X=Y?). I was hoping to use the ATOX and POSA commands to create an AND gate so I would not have to process both the length loop and the empty ALPHA loop.

[http://www.enterhp.com/images/42s\\_challenge.jpg](http://www.enterhp.com/images/42s_challenge.jpg)

### Re: 41 byte, 7 second solution for free42 Mini-Challenge

Message #22 Posted by [Alex L](#) on 8 May 2007, 12:34 p.m.,

in response to message #21 by allen

Add me to the "why didn't I think of that" category with the 11 heuristic.

That can be incorporated into my submission at a cost of 4 bytes and 0 steps (plus manually checking 999999), by changing step 01 to 999999, and step 04 to 11. This finishes in under 2 sec on Free42, which leads me to believe it should be just over an hour on a physical 42S, which puts it into the range of respectability. Perhaps I'll check. :)

Of course it's no longer necessarily going to work for the general case.

-- complete updated program --

```

01 999999
02 STO 01
03 LBL 01
04 11
05 STO- 01
06 RCL 01
07 X^2
08 CLA
09 AIP
10 LBL 02
11 ALENG
12 2
13 X>Y?
14 GTO 03
15 -1
16 AROT
17 ATOX
18 ATOX
19 X=Y?
20 GTO 02
21 GTO 01
22 LBL 03
23 RCL 01
24 ENTER
25 X^2

```

### Re: 41 byte, 7 second solution for free42 Mini-Challenge

Message #23 Posted by [Gerson W. Barbosa](#) on 8 May 2007, 9:31 p.m.,

in response to message #22 by Alex L

Hello Alex,

Congratulations for your tiny versions. The MOD(11) heuristics others have found is a killer one indeed. I added it to the simple 71B program I had written yesterday (too lazy to write a 42S or 33S version; besides, just a variation of what has already been written).

I've just run your latest version on my HP-42S: 1 hour 3 minutes.

Here is the HP-71 program:

```
10 DESTROY ALL @ T=TIME
20 FOR N=999999 TO 316228 STEP -11
30 X$=STR$(N*N) @ I=0 @ S=0
40 I=I+1
50 IF X$[I,I]#X$[13-I,13-I] THEN 80
60 S=S+1 @ IF I<6 THEN 40
70 IF S=6 THEN DISP X$;TIME-T @ END
80 NEXT N
>run
637832238736 15.02
```

15 seconds @ 500 MHz, about 26 minutes on the real 71B. 144 bytes.

By the way, the latest version of J-F Garnier's Emu71 (2006) is a pleasure to use: copy and paste to and from the DOS window works nicely. I have to remember to upgrade to the registered version, even though I still don't have the serial interface :-)

Regards,

Gerson.

## Re: HP42S Mini-Challenge: Optimizing !

Message #24 Posted by [Werner](#) on 7 May 2007, 7:49 a.m.,  
in response to message #1 by [Valentin Albillo](#)

Second try..

heuristics:

- palindromes with an even nr of digits are divisible by 11, so x has to be divisible by 11 as well.
- if x ends with digit i, y starts/ends with digit  $i^2 \text{ MOD } 10$  and x is between  $\text{SQRT}(i*10^{11})$  and  $\text{SQRT}((i+1)*10^{11})$

We'll loop over the 'ending digits' and determine the range to check.  
Within that range, only multiples of 11 ending in the same digit have to be checked.

timing: Emu42 @ 3Ghz: 9s

It should be noted that since the result is obtained with ending digit 4, counting upwards would've been faster still.

```
{ 115-Byte Prgm }
*LBL "PSX"
9
STO 01
*LBL 01      loop over i=9..1 step -1
RCL 01
X^2
10
MOD
le11
STO* ST Y
X<>Y
STO+ ST Y
XEQ 90      determine x boundaries
STO 02
RDN
XEQ 90
STO 03
*LBL 02      inner loop
X^2
```



```

1e6
/
ENTER
*LBL 03      palindrome test
RDN
X=0?
RTN          R03 contains x
10           xy,yx
/           x,yyx
IP
LASTX
FP           0,yyx  x
100
*
+
LASTX
IP
STO- ST Y   yy      x,x
11
MOD
X=0?
GTO 03
RCL 02
RCL 03
110         steps of 110 ensure that x remains divisble by 11 and
-           retains the same ending digit
STO 03
X#Y?
GTO 02
DSE 01
GTO 01
RTN
*LBL 90     determine x so that  $[11*(i + 10*x)]^2 < X$ 
SQRT
11
/
RCL 01
-
10
/
IP
10
*
RCL 01
+
11
*
END

```

## Re: HP42S Mini-Challenge: Optimizing !

Message #25 Posted by [Werner](#) on 7 May 2007, 3:36 p.m.,  
in response to message #24 by Werner

a few corrections: the intro should read:

- palindromes with an even nr of digits are divisible by 11, so x has to be divisible by 11 as well.

- if x ends with digit i, y starts/ends with digit  $j = i^2 \text{ MOD } 10$  and x is between  $\text{SQRT}(j*10^{11})$  and  $\text{SQRT}((j+1)*10^{11})$

Since x also has to be a multiple of 11, we have:

$$\text{SQRT}(j*10^{11}) < x < \text{SQRT}((j+1)*10^{11})$$

$$< 11*(10*z + i) <$$

We'll loop over the 'ending digits'  $i=9..1$  and determine the range to check.

Within that range, only multiples of 11 ending in the same digit have to be checked.

And the length of the program is 112 Bytes, not 115

## Re: HP42S Mini-Challenge: Optimizing !

Message #26 Posted by [Werner](#) on 8 May 2007, 2:17 a.m.,  
in response to message #25 by Werner

Third, and final, try.

$p = x^2$

Basically the same program as in #2, but counting the last two digits of  $x$ , and determining the corresponding range of  $p$ .

Runs in a true HP42S in under 3 minutes, uses R01-R03

```
{ 137-Byte Prgm }
*LBL "PS3"
99
STO 01
*LBL 01      loop over ij=99..1 step -1
RCL 01
X^2
100
MOD          xy = ending digits of palindrome
10
/
IP
LASTX
FP
X=0?
GTO 00
100
*
+           xy = starting digits
le10
STO* ST Y
X<>Y
STO+ ST Y
XEQ 90      determine x boundaries
STO 02
RDN
XEQ 90
STO 03
*LBL 02      inner loop
X^2
le6
/
ENTER
*LBL 03      palindrome test
RDN
X=0?
RTN         R03 contains x
10         xy,yx
/         x,yyx
IP
LASTX
FP         0,yyx  x
100
*
+
LASTX
IP
STO- ST Y  yy      x,x
11
MOD
X=0?
GTO 03
RCL 02
RCL 03
1100       steps of 1100 ensure that x remains divisible by 11 and
-         retains the same ending digits
STO 03
X#Y?
GTO 02
*LBL 00
DSE 01
GTO 01
RTN
*LBL 90      determine x so that  $[11*(ij - j*10 + 100*x)]^2 < X$ 
SQRT       endures x ends in ij and is divisible by 11
1100
/
IP
100
*
RCL 01
10
MOD
```

```
LASTX
*
RCL 01
-
-
11
*
END
```

## Re: HP42S Mini-Challenge: Optimizing !

Message #27 Posted by [Egan Ford](#) on 7 May 2007, 3:50 p.m.,  
in response to message #24 by Werner

Quote:

- palindromes with an even nr of digits are divisible by 11...

Ugggg! How did I miss this? It was trival to prove too.

I applied the following patch to my last submission and get 9s with Emu42 @ 1.7 GHz Pentium M.

Thanks.

```
1c1
< LBL "PP9"
---
> LBL "PP11"
87a88,94
> GTO 21
> GTO 22
> LBL 21
> RCL 05
> 11
> MOD
> X=0?
88a96
> LBL 22
112c120
< 10
---
> 110
114c122
< 90
---
> 11990
117c125
< 20
---
> 220
```

## Re: HP42S Mini-Challenge: Optimizing !

Message #28 Posted by [Howard Owen](#) on 7 May 2007, 6:16 p.m.,  
in response to message #27 by Egan Ford

Great, Egan!

But where am I going to get a *patch(1)* binary for my 42S?

8)

Regards,  
Howard

## Re: HP42S Mini-Challenge: Optimizing !

Message #29 Posted by [Egan Ford](#) on 7 May 2007, 6:39 p.m.,  
in response to message #28 by Howard Owen

Quote:

But where am I going to get a *patch(1)* binary for my 42S?

Sorry, source <http://sense.net/~egan/pp11.txt> and binary <http://sense.net/~egan/pp11.txt.raw> .

## Re: HP42S Mini-Challenge: My Original Solution & Comments

Message #30 Posted by [Valentin Albillo](#) on 9 May 2007, 7:21 p.m.,  
in response to message #1 by Valentin Albillo

Hi all,

First of all, thank you very much for the overwhelming response to this 42S mini-challenge. Awesome solutions have been produced and though I should pretty much be used to it by now, I'm continually amazed at the ingenuity displayed by so many contributors, both frequent posters and newcomers alike. I'm sure we all have learned a lot from these excellent solutions and added a lot of fine techniques and brilliant ideas to our arsenal of programming knowledge, not only HP42S-related but general in nature.

For the record, I'll give and briefly discuss my original solutions. I initially wrote the (b) case solution, then suitably modified it to also cover cases (a) and (c).

My rationale was as follows: the task consisted of finding a 12-digit palindromic square as easily and fast as possible. Two approaches came to mind immediately:

- Generate all squares in the required range ( $316228^2$  to  $999999^2$ , in steps of 11 (because a palindromic even-digit number is necessarily a multiple of 11, thus its square root must be as well as 11 is a prime number), and test them for palindromicity. This amounted to some 62000 candidates, thus some 31000 on average.
- Generate all 12-digit palindromes from 100000000001 to 980000000089 subject to some simple heuristics, and test them for squaredness.

Both approaches seemed feasible but I decided that it would probably be a lot easier and faster to test for squaredness (which can be done in just 3 fast steps) than testing for palindromicity, which is more involved and slow, so the second option seemed easier as long as I could devise a fast, simple procedure for directly generating 12-digit palindromic numbers and further, to only generate those which had a chance of being perfect squares, thus reducing the number of candidates to a reasonable minimum.

This I could do, so I opted for the second approach. My program for the case (b) below directly generates 12-digit palindromes in a very fast way, using pre-stored constants which are quickly initialized once at the beginning of the program, and taking all loop invariants out of the innermost loops, so that redundant arithmetic operations are avoided.

The following extremely simple heuristics are used:

- We only need to loop from 100000 to 999999, the first six digits of the palindrome, as the remaining 6 are simply the mirror image of these, thus a maximum of some 900000 loops would be needed

Further, a perfect square can only end in the following digits:

01,04,09,16,21,24,25,29,36,41,44,49,56,61,64,69,76,81,84,89,96

the termination 00 being discarded as otherwise the palindromic number would begin by 00 and thus be just a 10-digit number. These ending sequences must of course also appear (reversed) at the beginning of any candidate, thus limiting the maximum number of cases to try to some 210000 in the worst case, an average of about only 105000 statistically probable. This is about 3 times as many candidates as the first option, but requiring a much simpler and faster test per candidate so it seemed plausible to go this way.

Assuming I could generate the palindromic candidates very fast subject to these constraints, and as the squaredness test was just 3 fast steps, I considered that 105,000 cases (average) to try was perfectly feasible even on a physical HP42S. This is the resulting 72-step (157-byte) program:

```

01 LBL "P"          19 x              37 LBL 02          55 GTO 04
02 (see *1)        20 LASTX           38 RCL 04          56 Rdown
03 (see *1)        21 RCLx 04        39 STO 02         57 RCL+ 08
04 1000000100     22 LASTX           40 RCL 10         58 DSE 02
05 STO 06          23 RCL/ 04        41 LBL 03         59 GTO 03
06 100001E3       24 IP              42 RCL 04         60 RCL 07
07 STO 07          25 RCLx 05        43 STO 03         61 STO+ 10
08 1001E4         26 -              44 Rdown          62 DSE 01
09 STO 08          27 +              45 ENTER          63 GTO 02
10 11E5           28 VIEW ST X      46 LBL 04         64 RCL 06
11 STO 09          29 STO 11          47 ENTER          65 STO+ 11
12 10              30 RCL 04          48 SQRT           66 DSE 00
13 STO 04          31 STO 00          49 FP             67 GTO 01
14 99             32 LBL 01          50 X=0?           68 GTO 00
15 STO 05          33 RCL 04          51 GTO 05         69 LBL 05
16 LBL 00          34 STO 01          52 Rdown          70 LASTX
17 1E10           35 RCL 11          53 RCL+ 09        71 X^2
18 ATOX           36 STO 10          54 DSE 03         72 END

```

\*1:

- line 2 is alpha text formed by the following ASCII characters:

10,40,90,61,12,42,52,92,63,14,44,94,65,16,46

- line 3 is appended alpha text formed by the following ASCII characters:

96,67,18,48,98,69

All of them are keyable from the ALPHA entry menus. This is an image of how they should look like as program lines:

<http://i10.tinypic.com/4uke69e.gif>

As you can see, an added *finesse* is to have all 21 possible beginning (i.e., reversed ending) sequences stored as ALPHA characters in the ALPHA register, from which they are easily taken out, one at a time, with a simple ATOX instruction. This is fast and saves many program steps/bytes and/or registers.

The resulting program find the only solution,

$$\underline{637,832,238,736} = 798,644^2$$

in just 2 h 42 min in a physical HP42S, 85 seconds in Emu42 @ 2.4 Ghz, and 44 seconds in Free42 @ a very modest Palm Z100.

Once I had this solution, I created the one for case (c) by simply unrolling the innermost loop, like this:

```

...
41 LBL 03
42 ENTER
43 ENTER          50 ENTER          113 Rdown      (line 56 of (b))
44 SQRT          51 SQRT          114 RCL+ 08    (line 57 of (b))
45 FP           52 FP           ...           (etc)
46 X=0?        53 X=0?        ...
47 GTO 05      54 GTO 05      ...
48 Rdown       55 Rdown
49 RCL+ 09     56 RCL+ 09

```

which produces a 129-step (239-byte) program which, as compensation for these extra steps, runs much faster, finding the solution in 1 h 48 min in a physical HP42S, 56 seconds in Emu42 @ 2.4 Ghz, and 29 seconds in Free42 @ Palm Z100. Thus it's quite clear that when speed does matter a lot, and in certain architectures, unrolling the innermost loop or loops actually pays handsomely.

As for the case (a) solution, it was just the one for case (b) with all the heuristics and finesses removed, which made it much shorter but unbearably slow. We've seen much better case (a) solutions posted here so it doesn't bear posting it.

By the way, I'm including here my case (a) solution for the HP-71B as a bonus, which is the following 2-line (58-byte) program (STD display mode is assumed):

```

1 FOR I=999999 TO 316228 STEP -11 @ S$=STR$(I*I) @ IF S$=REV$(S$) THEN DISP I,S$
@ END
2 NEXT I

```

It does find the unique solution in just 3 seconds under Emu71 @ 2.4 Ghz, about 12 min. in a physical HP-71B. Apart from reversing the loop, I don't think it can be made much simpler :-)

Again, thanks a lots for your valuable and superb inputs and get ready for the next one, it will be tougher and that's a promise.

Best regards from V.

*Edited: 9 May 2007, 7:32 p.m.*

## Re: HP42S Mini-Challenge: My Original Solution & Comments

Message #31 Posted by [Gerson W. Barbosa](#) on 9 May 2007, 7:56 p.m.,  
in response to message #30 by Valentin Albillo

Hi Valentin,

Quote:

By the way, I'm including here my case (a) solution for the HP-71B as a bonus, which is the following 2-line (58-byte) program:

```

1 FOR I=999999 TO 316228 STEP -11 @ S$=STR$(I*I) @ IF S$=REV$(S$) THEN
DISP I,S$ @ END
2 NEXT I

```

I have printed out both the HP-71 and the Math Pac Owner's Manual. I should have printed out the one with REV\$ keyword :-)

Thanks for another MO&C, especially the extra bonus :-)

Best regards,

Gerson.

## Re: HP42S Mini-Challenge: My Original Solution & Comments

Message #32 Posted by [Valentin Albillo](#) on 10 May 2007, 9:00 a.m.,  
in response to message #31 by Gerson W. Barbosa

Hi, Gerson:

Gerson posted:

*"I have printed out both the HP-71 and the Math Pac Owner's Manual. I should have printed out the one with REV\$ keyword :-)"*

Thanks for your kind words of appreciation and for your posted contributions to this mini-challenge.

I'm sure you are already aware but just in case, the REV\$ keyword is not available in a bare-bones HP-71B. It resides in a number of LEX (Language EXtension) files, such as STRUTIL, for instance, which can be copied to RAM or used from some ROM or EPROM. It's also simple enough that it can be very easily POKEd in as well with a fairly small program or even manually.

For people using Emu71, the basic freeware install does include the STRUTIL LEX file already resident at :PORT(5), as you can check by using CAT, so REV\$ is already immediately available.

As I use Emu71 to develop my programs and create my challenges, mini-challenges, and articles, I usually include in them the functionality afforded by Emu71 right from installation, which means:

- all Math ROM keywords (e.g.: MAT A=INV(B))
- all HP-IL keywords (e.g.: BIT, etc)
- all STRUTIL keywords (e.g.: REV\$, RPT\$, etc)

Also, the physical HP-71B is typically available with an HP-IL ROM already plugged in, though getting a physical Math ROM is certainly much more difficult, but its incredible usefulness more than justifies any effort to get one and, IMHO, you don't have a full HP-71B unless you have one plugged in.

Best regards from V.

## 71B...

Message #33 Posted by [Gene](#) on 10 May 2007, 3:20 p.m.,  
in response to message #32 by Valentin Albillo

I'm fortunate enough to have a physical 71B with the math rom and extra ram installed \*internally\*.

Leaves front ports open for the 41 translator, JPC X, etc. :-)

## Re: 71B...

*Message #34 Posted by [Valentin Albillo](#) on 10 May 2007, 5:41 p.m.,  
in response to message #33 by Gene*

Yes, very interesting, good for you ...

What about the determinants ? :- ) :-)

Best regards from V.

## **Re: HP42S Mini-Challenge: My Original Solution & Comments**

*Message #35 Posted by [Gerson W. Barbosa](#) on 10 May 2007, 9:17 p.m.,  
in response to message #32 by Valentin Albillo*

Hi Valentin,

Quote:

-----  
I'm sure you are already aware but just in case, the REV\$ keyword is not available in a bare-bones HP-71B.  
-----

Yes, I knew REV\$ was not a standard keyword when I noticed it wouldn't run on my physical HP-71B. I thought it was because mine is 1BBBB version, so your explanation has been much appreciated.

I was not lucky enough to have owned one when it was released. It was simply out of my reach! But I am lucky enough to have one now with the Math ROM as per your advice. I have also a card reader, though I believe an RS-232 interface would be more useful. I'm about to add a 32KB RAM module, which should be enough.

Since I am not familiar with the HP-71B yet, my programs tend to be longer than they ought to be. For instance, to get the following output formatted the way I wanted

```
R(4)    50° 07' 06" NW
```

I had to use almost two full lines:

```
280 M$=CHR$(48*(2-LEN(STR$(M))))&STR$(M) @ S$=CHR$(48*(2-LEN(STR$(S))))&STR$(S)
285 DISP "R(";STR$(I);")";TAB(T);D$;CHR$(167);" ";M$;"' ";S$;CHR$(34);" ";X$
```

Perhaps this could have been done with format strings, but I haven't figured a way to use them in this case. Reading the manuals might help :-)

Best regards,

Gerson.

## **Re: HP42S Mini-Challenge: My Original Solution & Comments**

*Message #36 Posted by [Valentin Albillo](#) on 11 May 2007, 7:27 a.m.,  
in response to message #35 by Gerson W. Barbosa*

Hi, Gerson:

Gerson posted:



"Perhaps this could have been done with format strings, but I haven't figured a way to use them in this case."

Try this:

```

1 I=4 @ M=7 @ S=6 @ T=10 @ X$="NW" @ D$="50"
2 !
280 M$=CHR$(48*(2-LEN(STR$(M))))&STR$(M) @ S$=CHR$(48*(2-
LEN(STR$(S))))&STR$(S)
285 DISP "R(";STR$(I);")";TAB(T);D$;CHR$(167);" ";M$;"' ";S$;CHR$(34);"
";X$
290 !
300 DISP USING
" 'R(' ,D, ' ) ' ,5X,2A,B,2(X,2Z,B),X,2A";I,D$,167,M,39,S,34,X$

>RUN

R(4)      50° 07' 06" NW

R(4)      50° 07' 06" NW

```

where lines 1 and 2 simply set up some variables to mimic the ones you're using in your code, lines 280 and 285 are your own posted coded, and line 300 is my suggested version, which seems to do what you want in a simpler way.

As you can see in the sample RUN, both your code and my line 300 code do produce exactly the same output for this particular example of yours. You may want to fine-tune it as you need to cover other more general cases in your program.

If the exact same format is to be used more than once at several different places, put it in their own IMAGE statement (say line 900 IMAGE ..., and then simply DISP USING 900; .... This will be simpler and more easy to maintain, as you would need to change just the image at line 900 to have the changes propagate to all DISP statements using it, instead of having to change them one by one, individually.

Best regards from V.

## Re: HP42S Mini-Challenge: My Original Solution & Comments

Message #37 Posted by [Gerson W. Barbosa](#) on 11 May 2007, 10:28 a.m.,  
in response to message #36 by Valentin Albillo

Hi Valentin,

Considering the HP-71B is relatively new to me, I was pleased with my HP-71B port of a CASIO PB-700 program I wrote years ago, except for those two lines. I will follow your suggestion in the definitive version.

The Owner's Manual doesn't cover formatting strings properly. A glance at the Reference Manual seemed more promising to me. I will print it out as well.

Thank you very much for the free lesson! :-)

Best regards,

Gerson.

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## HP Forum Archive 17

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### HP10B2.exe HP 10BII Emulator

Message #1 Posted by [Bob Wang](#) on 1 May 2007, 3:45 p.m.

Ron Ross mentioned the HP 10BII Emulator.  
I have it on my desktop, and use it for "quick and dirty" TVM calculations.  
One tweak has to be made to extend expiration date of the program:

[Timestamp registry hack](#)

[HP 10BII Emulator](#)

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## HP Forum Archive 17

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**OT Renumber fpr Sharp PC-1500**

Message #1 Posted by [Karl-Ludwig Butte](#) on 1 May 2007, 1:30 p.m.

Hi All,

I hope you don't mind asking for a hint or link to a Renumber command for the Sharp PC-1500. I looked through all the few links I got with Google but couldn't find one except one commercial offer. Isn't there any Renumber routine out there ? I wonder. Thank you very much in advance.

Kind regards

Karl

**Re: OT Renumber fpr Sharp PC-1500**

Message #2 Posted by [Dave Boyd](#) on 1 May 2007, 1:45 p.m.,  
in response to message #1 by [Karl-Ludwig Butte](#)

Quote:

I hope you don't mind asking for a hint or link to a Renumber command for the Sharp PC-1500. I looked through all the few links I got with Google but couldn't find one except one commercial offer. Isn't there any Renumber routine out there ? I wonder. Thank you very much in advance.

I believe the Radio Shack TRS-80 PC-2 was an OEM version of the Sharp PC-1500 - and that they used the same BASIC. There's a nice resource page for the Pc-1500/PC-2 here, including a link to the PC-2 manual, which you probably already found: <http://www.pc1500.com/>

If the BASIC was indeed the same, then there isn't a built-in renumber command. My copy of the PC-1500 manual is at home -- I'll check tonight for you.

I loved my PC-2. I still think the tiny 4-pen printer/plotter was pretty darned cool. It's fun to dig it out and show it off every few years. Last time I had to build a new battery pack for the printer...

**Re: OT Renumber fpr Sharp PC-1500**

Message #3 Posted by [Bill \(Smithville, NJ\)](#) on 1 May 2007, 2:37 p.m.,  
in response to message #1 by [Karl-Ludwig Butte](#)

Hi Karl,

As Dave has already pointed out, there's a great PC-1500 web page.

One way of doing it, would be to write it to the cassette port, save it as wave file on PC and then convert to text file where you could easily use a small program to renumber the source listing. You could also use the PC emulator to test the program out before reversing the Text to Wav and then using the cassette in to get it back

into the PC-1500.

A little klutzy, but do-able. I've used this method to dump a listing of a large program from a ROM cartridge to the PC and then print the listing for further study.

Good Luck,

Bill

### **Re: OT Renumber fpr Sharp PC-1500**

*Message #4 Posted by [Peter Geiser](#) on 1 May 2007, 4:04 p.m.,  
in response to message #1 by Karl-Ludwig Butte*

Hi Karl

There is a RENUMBER in one of the Toolkits there were sold commercially.

It would be possible to write one in Basic, but you need to know how the line numbers are set up.

The number of a line is a 2-Byte binary number in memory, you need to PEEK it, change it, and POKE it back into the memory. A line of BASIC starts with the line number (2 Bytes), 1 Byte for the length of the line, then the BASIC-Tokens and commands, and finally as the end of the line the byte 0Dh (13 dec).

Depending on your RAM modules, the area for BASIC programs starts at 40C5, 38C5, 20C5 or 00C5 (all hex).

Best regards

Peter

### **Re: OT Renumber fpr Sharp PC-1500**

*Message #5 Posted by [Namir](#) on 1 May 2007, 4:54 p.m.,  
in response to message #4 by Peter Geiser*

Of course the renumbering task has to correctly renumber GOTO and GOSUB statements too. So the utility has to scan each line for the GOTO and GOSUB tokens and alter their parameters.

### **Re: OT Renumber fpr Sharp PC-1500**

*Message #6 Posted by [Peter Geiser](#) on 4 May 2007, 6:06 p.m.,  
in response to message #5 by Namir*

Namir

You know everything! I indeed forgot about that bit.

Btw., if the number in the GOTO, GOSUB or THEN (if followed by a line number) statement becomes longer, you will have to adjust the line length byte as well.

Thanks

Peter

### **Re: OT Renumber fpr Sharp PC-1500**

*Message #7 Posted by [Karl-Ludwig Butte](#) on 3 May 2007, 3:06 a.m.,*

*in response to message #4 by Peter Geiser*

Thanks to all of you who responded and your hints about programming a renumber function (I already guessed that I have to do it myself).

Kind regards

Karl

---

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## HP Forum Archive 17

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### Ok, non-extended BASIC programs for matrix work - where?

Message #1 Posted by [Gene](#) on 30 Apr 2007, 9:27 p.m.

Suppose you have a BASIC capable machine without any real math extensions but that has numeric arrays.

I thought there would be somewhere on the web programs to do matrix determinant and inverses for arbitrary  $M \times M$  matrices, for example.

Can't find them.

Anyone have hints?

Won't do any good if it has specialized functions. Just basic arithmetic, loops, and matrices. :-)

### Re: Ok, non-extended BASIC programs for matrix work - where?

Message #2 Posted by [Namir](#) on 30 Apr 2007, 10:44 p.m.,  
in response to message #1 by Gene

Gene,

Numerical Recipes (Cambridge Press) the BASIC version is a very good book. I think the code for this book is in QuickBasic or QBasic, and is therefore a bit more structures.

McGraw Hill published in 1981 two volumes "Basic Scientific Subroutines" by Ruckdeschel. The code in this book is the old line-numbered BASIC. It should have subroutines for matrix manipulation.

If you can live with Visual Basic (version 3) code, then I wrote the book "Mathematical Algorithms in Visual Basic for Scientists & Engineers". Unfortunately you need VB 3 to read this companion disk!

I do have a VB Class (for Excel VBA and VB6) that does vector and matrix operations from scratch. The code is well commented and should be easy to follow.

Namir

### Re: Ok, non-extended BASIC programs for matrix work - where?

Message #3 Posted by [Valentin Albillo](#) on 30 Apr 2007, 10:49 p.m.,  
in response to message #1 by Gene

Hi, Gene:

Too late here (4:50 A.M) so I'm going to bed right now but you may want to have a look at these URLs

[Matrix inversion](#)

[Matrix determinant](#)

which I found instantly by googling searching for 'matrix inversion "next i" "next j"' and variants like that. You might try as well if the links I provided aren't what you need.

Hope it helps.

Best regards from V.

**Thanks, Valentin...that looks like what I want!**

*Message #4 Posted by **Gene** on 30 Apr 2007, 10:53 p.m.,  
in response to message #3 by Valentin Albillo*

I was doing searches on "Basic determinant -visual" etc stuff.

Plan to use these with the Sharp Wizard 8000S I now have with the BASIC card. I'm curious to see how accurate it will be with all the array elements in double precision.

**Re: Thanks, Valentin...that looks like what I want!**

*Message #5 Posted by **GE** on 2 May 2007, 11:40 a.m.,  
in response to message #4 by Gene*

Do you have the 32K or the 128K version of the Basic card ?  
I think the 8000 + 128K Basic card is the best Sharp computer ever.

**Re: Thanks, Valentin...that looks like what I want!**

*Message #6 Posted by **Gene** on 2 May 2007, 12:49 p.m.,  
in response to message #5 by GE*

I only have the 32K version...so far. :-)

I really like the double-precision mode when in Basic.

I did the usual 9 sin cos tan atan acos asin a minue ago and got 9.0000000000000000005 as the answer. NOT BAD.

I'm hoping to put in these BASIC matrix programs into it and run them in double precision mode to see how they do.

I'm hoping to use Valentin's "really mean" matrices he posted here and in Datafile to see how the determinant and inverse do.

That's why I'm hoping to find non-special function containing BASIC programs for matrix work to use on the 8000 model.

**Re: Thanks, Valentin...that looks like what I want!**

*Message #7 Posted by **Rodger Rosenbaum** on 2 May 2007, 3:07 p.m.,  
in response to message #6 by Gene*

Hi, Gene,

You might also want to try the "Savage" benchmark.

<http://www.hpnmuseum.org/cgi-sys/cgiwrap/hpnmuseum/archv016.cgi?read=103356#103356>



**Savage in double precision on the Wizard 8000 w/Basic card**

Message #8 Posted by **Gene** on 2 May 2007, 4:05 p.m.,  
in response to message #7 by Rodger Rosenbaum

The value returned for A is 2499.9999999999999999

Again, not bad.

**Re: Savage in double precision on the Wizard 8000 w/Basic card**

Message #9 Posted by **Rodger Rosenbaum** on 3 May 2007, 2:32 a.m.,  
in response to message #8 by Gene

Quote:

\_\_\_\_\_

The value returned for A is 2499.9999999999999999

Again, not bad.

\_\_\_\_\_

If the benchmark were carried with 23 digit arithmetic, and used round-to-even, the result *should* be 2499.9999999999999993.

Your actual result is very good, compared to what other calculators get on this benchmark.

Apparently, in a running program, intermediate results are kept to 23 digits, with the final result given to 20 digits. This is good, and not typical of other calculators, AFAIK.

However, on most calculators, when functions such as trig functions are calculated, the higher internal precision returns a result which is then rounded (or truncated) to the lesser displayed precision. Then the display precision value probably only has a few ULP's of error. The full internal precision function value, on the other hand, probably has hundreds of ULP's of error, and this may be visible in results from programs using those internal values. This doesn't seem to have happened here, and that makes me wonder if they might even use more than 23 internal digits sometimes.

**The Durabrand 828 calculates that way, sort of anyway**

Message #10 Posted by **Palmer O. Hanson, Jr.** on 3 May 2007, 9:21 p.m.,  
in response to message #9 by Rodger Rosenbaum

Rodger:

You wrote in part

Quote:

\_\_\_\_\_

... Apparently, in a running program, intermediate results are kept to 23 digits, with the final result given to 20 digits. This is good, and not typical of other calculators, AFAIK.

However, on most calculators, when functions such as trig functions are calculated, the higher internal precision returns a result which is then

rounded (or truncated) to the lesser displayed precision. Then the display precision value probably only has a few ULP's of error. The full internal precision function value, on the other hand, probably has hundreds of ULP's of error, and this may be visible in results from programs using those internal values. This doesn't seem to have happened here, and that makes me wonder if they might even use more than 23 internal digits sometimes.

---

A currently available machine which performs in that manner (sort of, at least) is the Durabrand 828. It returns pi, square roots, trigonometric functions and calculated results to the display register which are typically correct to sixteen digits in the truncated sense. It displays results rounded to ten digits and stores results truncated to twelve digits in data registers. I tested the word length using a modification of the your test by calculating  $100000000/7 - 14285714$  and saw 0.28571428 in the display confirming that the word length is sixteen digits.

If you enter arcsin arccos arctan tan cos sin 9 and press EXE you get 8.999999998 in the display with 8.999999998078897 in the display register which is stored in a data register as 8.99999999807.

If you store each intermediate result, with a sequence such as sin 9 -> A EXE , cos A -> A EXE , etc., you effectively truncate each intermediate result from sixteen digits to twelve digits and get 9.000007164 in the display with 9.000007164103007 in the display register which is stored in a data register as 9.0000071641

### **Re: The Durabrand 828 calculates that way, sort of anyway**

*Message #11 Posted by **Rodger Rosenbaum** on 4 May 2007, 12:14 a.m.,  
in response to message #10 by Palmer O. Hanson, Jr.*

I've been thinking about calculator arithmetic tests that don't use the higher math functions, because those vary a lot among calculators, and the IEEE spec doesn't define their accuracy.

Here is a test that only checks the calculator's basic arithmetic accuracy. It is based on the observation that if you reciprocate certain integers twice, you don't get the original integer back, and indeed you shouldn't on a finite precision BCD machine.

For example, type  $6 \frac{1}{x} \frac{1}{x}$  and you should see 5.99999999... on any calculator that does rounded arithmetic properly. If you see exactly 6 then the calculator isn't displaying all the digits in the result, or it's a "pleaser", like the HP30 (you should get 6.00000...0002 if it truncates properly).

So, the idea is to program a loop, apply  $1/x$  twice for a range of integers, each time subtracting the result from the original integer that was reciprocated, and summing the absolute values of those small differences. This is another of my "what should we get" tests, because the result is determinate; there is a correct result, depending on how many digits are used, and the rounding mode.

Here's the program:

```
10 N=500 REM NUMBER OF ITERATIONS
20 S=0 REM INITIALIZE RUNNING SUM
30 FOR I = 1 TO N
```

```
40 S=S+ABS(I-1/(1/I))
50 NEXT I
60 PRINT S
```

The  $1/x$  function is required by the IEEE standard to give properly rounded results, so there should be one correct result from the program from any calculator that complies with the standard.

The square root function is also specified by the IEEE, so line 40 in the program can be modified to:

```
40 S=S+ABS(I-SQRT(I)*SQRT(I))
```

and the program should give a specific result on a compliant machine.

This can be done on a non-programmable machine, with a lot of button pushing, but it's more convenient on a programmable machine!

The HP-71 is a good machine to test this on, because it is known to have IEEE compliant basic arithmetic, and its rounding modes can be changed.

The result using  $1/x$  in line 40, with 500 iterations and OPTION ROUND NEAR set, is 6.803E-8.

With OPTION ROUND ZERO (truncating arithmetic), the result is 6.672E-8.

Both these results are exactly what they should be for a 12 digit machine.

I'm sure you'll want to try it on your own calculators.

A mini-challenge would be to verify the correct result for various numbers of digits used in the calculations, and with different rounding modes.

### More on testing arithmetic

*Message #12 Posted by [Palmer O. Hanson, Jr.](#) on 4 May 2007, 4:21 a.m., in response to message #11 by Rodger Rosenbaum*

Rodger:

You wrote:

Quote:

I've been thinking about calculator arithmetic tests that don't use the higher math functions, because those vary a lot among calculators, and the IEEE spec doesn't define their accuracy. ..."

It will take me a while to digest this. In the meantime I offer a response to a suggestion that you made later in this thread:

Quote:

Try doing the sin cos tan atan acos asin test all on one command line with starting values of 6,7,8,10,11, and 12 degrees and see if the results are all as good as when starting with 9 degrees.

I did those values and some more with my Durabrand 828 with the following results:

| N  | N - f(N)  |
|----|-----------|
| 5  | 3.153E-09 |
| 6  | 3.233E-09 |
| 7  | 2.730E-09 |
| 8  | 6.021E-10 |
| 9  | 1.921E-09 |
| 10 | 5.934E-10 |
| 11 | 3.791E-10 |
| 12 | 4.073E-10 |
| 13 | 6.103E-10 |
| 14 | 8.093E-10 |
| 15 | 1.433E-09 |
| 20 | 8.937E-10 |
| 25 | 5.447E-10 |
| 30 | 3.095E-10 |
| 60 | 6.158E-10 |

where all of the values in the second column are positive. I'll get some results for this test with some other machines before moving on to some of your proposed tests.

Question: Does anyone know how someone settled on 9 as the test integer to be used for this test?

Palmer

### **Re: More on testing arithmetic**

*Message #13 Posted by [Klaus](#) on 4 May 2007, 5:21 a.m.,  
in response to message #12 by Palmer O. Hanson, Jr.*

Yes, because the test number should be a bit away from 0 (as some algorithms have special cases for args near zero), and it should be a single keystroke to enter the number (possibly through the blister pack in stores).

*Edited: 4 May 2007, 5:22 a.m.*

### **Re: Thanks, Valentin...that looks like what I want!**

*Message #14 Posted by [Palmer O. Hanson, Jr.](#) on 4 May 2007, 10:05 p.m.,  
in response to message #7 by Rodger Rosenbaum*

Message No. 15 in the thread on the Savage benchmark as posted by Gerson Barbosa on 2 December 2006 quoted the Wlodek article as

Quote:

...on older HP calculators trig is accurate to almost 12 digits, but the policy of removing the last two digits, instead of leaving them hidden, can lead to less accuracy too. Newer HP calculators with a Saturn CPU work to 15 digits precision (and accuracy) internally, but round results to only 12 digits at the end of each calculation - the TI-74 works to 14 digits accuracy and precision, and leaves all 14 digits on the stack (with 4 hidden digits), so the final accuracy of the TI-74 result is 2500.0000291436.

I don't have all of my references here in North Carolina but my recollection is that the TI-74, and its predecessors the CC-40 and TI-99/4, operate with base 100. The result is that some calculations are done to 13 digits and some to 14. In this particular case when  $A < 10$  the value of A will have been stored to 13 digits not 14. I don't know what that means for the end result.

**Re: Thanks, Valentin...that looks like what I want!**

Message #15 Posted by **GE** on 7 May 2007, 3:59 a.m.,  
in response to message #14 by Palmer O. Hanson, Jr.

I think I recall that the TI74 and TI95 don't use CORDIC but polynomial approximations.

**Re: Thanks, Valentin...that looks like what I want!**

Message #16 Posted by **Rodger Rosenbaum** on 2 May 2007, 3:59 p.m.,  
in response to message #6 by Gene

Quote:

I did the usual 9 sin cos tan atan acos asin a minue ago and got 9.0000000000000000005 as the answer. NOT BAD.

Gene, would you post all the intermediate results from this test?

**Re: Thanks, Valentin...that looks like what I want!**

Message #17 Posted by **Gene** on 2 May 2007, 4:19 p.m.,  
in response to message #16 by Rodger Rosenbaum

The D stands for double precision.

```
sin 9 = 1.5643446504023086901D-01
cos   = 9.9999627274288502412D-01
tan   = 1.7454999855488660791D-01
atan  = 9.9999627274288502409D-01
acos  = 1.5643446504023144653D-01
asin  = 9.00000000000000335019
```

Funny, but when it is typed in as one command line, I still get the 9.0000000000000000005 result.

Hmm...

**The table of the forensic results...**

Message #18 Posted by **Gene** on 2 May 2007, 4:22 p.m.,  
in response to message #17 by Gene

Contains an entry for the Sharp E-500 showing both results I have obtained - one in a single calculation, the other step by step.

<http://forensics.calcinfo.com/>

**Re: The table of the forensic results...**

*Message #19 Posted by **Rodger Rosenbaum** on 2 May 2007, 6:15 p.m.,  
in response to message #18 by Gene*

Note that footnote "m" on that site says of the two different values: "Unexplained different results from different contributors."

I guess we know the reason for the different results now!

### **Re: The table of the forensic results...**

*Message #20 Posted by **Gene** on 2 May 2007, 6:19 p.m.,  
in response to message #19 by Rodger Rosenbaum*

Yes, we do. Very odd. Wonder what it is doing in a chain calculation that is different from operating on a double-precision intermediate result?

Hmm..

### **Re: Thanks, Valentin...that looks like what I want!**

*Message #21 Posted by **Rodger Rosenbaum** on 2 May 2007, 6:21 p.m.,  
in response to message #17 by Gene*

What do you get if you type all on one command line:

```
1/7-.142857142857
```

### **Wizard 8000 results**

*Message #22 Posted by **Gene** on 2 May 2007, 10:14 p.m.,  
in response to message #21 by Rodger Rosenbaum*

0.0000000000001 in single precision mode and 1.4285714285D-13 in double precision mode.

### **Re: Wizard 8000 results**

*Message #23 Posted by **Rodger Rosenbaum** on 3 May 2007, 2:19 a.m.,  
in response to message #22 by Gene*

Quote:

```
0.0000000000001 in single precision mode and 1.4285714285D-13  
in double precision mode.
```

From this result we can see that the calc is using 23 digits internally in double precision mode, and displaying 20 digits.

But, it didn't round the result properly; it should have gotten 1.4285714286D-13, and the issue of "round-to-even" doesn't even arise. It just truncated the result.

Now about the forensic result:

```
sin 9 = 1.5643446504023086901D-01  
cos   = 9.9999627274288502412D-01  
tan   = 1.7454999855488660791D-01  
atan  = 9.9999627274288502409D-01
```

*there's a 1 ULP error here; the correct result of atan(1.7454999855488660791D-01) is 9.99996272742885024098463D-01, which should have rounded to 9.9999627274288502410D-01. The result is simply truncated.*

acos = 1.5643446504023144653D-01

*The correct result of acos(9.9999627274288502409D-01) is 1.5643446504023144644D-01, an error of 9 ULP's.*

asin = 9.00000000000000335019

This is really not too bad for trig functions for these arguments.

No doubt, when you evaluate this test all on one command line, the calculator is keeping intermediate results to 23 digits instead of just 20 digits as when you do it a step at a time, and so you get better accuracy.

If the test is carried out starting with 9 degrees, using 23 digit arithmetic with round-to-even, the result should be 8.999999999999999467, rather than the 9.000000000000000005 you actually got.

It's possible that the result starting from 9 degrees is especially good just by accident, due to compensating errors.

Carrying 24 digits, the result should be 9.000000000000000015.

Carrying 25 digits, the result should be 9.000000000000000001.

Try doing the sin cos tan atan acos asin test all on one command line with starting values of 6,7,8,10,11, and 12 degrees and see if the results are all as good as when starting with 9 degrees.

It appears that the calculator is truncating at least some of the time, when rounding would be better.

### **Result for the SHARP PC-1475**

*Message #24 Posted by [Valentin Albillo](#) on 3 May 2007, 3:25 p.m.,  
in response to message #6 by Gene*

Hi,

The result for the [SHARP PC-1475](#) model is (DEGrees mode):

```
>ASN ACS ATN TAN COS SIN 9#
```

```
9.00000000000000000005
```

Best regards from V.

*Edited: 3 May 2007, 3:26 p.m.*

### **Re: Result for the SHARP PC-1475**

*Message #25 Posted by [Gene](#) on 3 May 2007, 4:18 p.m.,  
in response to message #24 by Valentin Albillo*

Double precision is very nice. I'll try the simple inversion routine in double precision and post the results.

### **That over-rated trigonometric forensic!**

Message #26 Posted by [Karl Schneider](#) on 5 May 2007, 2:38 a.m.,  
in response to message #6 by Gene

Quote:

I did the usual

```
"9 sin cos tan atan acos asin"
```

a minute ago and got 9.000000000000000005 as the answer.

All --

I know that this topic has been discussed before, but I'm still chagrined that this "calculator forensic" procedure remains so commonly accepted as a *de facto* standard for ostensibly assessing the quality of a calculator's general accuracy.

The prescribed mathematical calculation is

```
asin(acos(atan(tan(cos(sin(9 deg))))))
```

in degrees mode, for which the exact answer is 9. Usually, the answer returned by handheld calculators is not 9, but very close to it -- within 0.0000151% (8.9999864267) for Saturn-based models, 0.00464% (9.000417403) for Spice/HP-41/Voyager models, and 0.0453% (9.004076901) for the venerable HP-35. The HP-30S returns the exact answer of 9 in this test, because it uses 80-bit floating-point math that provides about 24 internal digits, then rounds those results that are extremely close to integers, in order to help filter out the inexactitude of floating-point representation.

The computational sequence is mathematically "symmetrical", but not particularly useful in common practice. Why would one take the tangent of a sine of a cosine? If the units of 9 are degrees, what are the units of sine of 9 degrees for the cosine calculation? The angular unit is assumed to be degrees, but sine produces a plain ol' number without any units of measurement.

Much of the inaccuracy is introduced by roundoff error when results are internally multiplied by  $180/\pi$  ( $\approx 57.29578$ ) as the last step in the arc-functions to convert a radian-valued output to degrees. Smaller roundoff inaccuracies are also introduced during calculation of the trigonometric functions, in which each input is *divided* internally by  $180/\pi$ .

Obviously, the more *internal* digits a calculator has, the less susceptible it is to the unit-conversion errors. More *external* digits reduce roundoff errors in the final result of each calculation that is fed to the next one. The Saturn-based models have 12 external and 15 internal digits; the Spice/HP-41/Voyager models have 10 external and 13 internal. The HP-35 has 10 external and presumably fewer than 13 internal.

For comparison's sake, try the same computational sequence in radians mode, in order to eliminate the errors of converting between degrees and radians. The starting value will be  $9*(\pi/180)$  radians, which is mathematically identical, save for the small roundoff error of *that* computation.



Saturn-based models give 0.157079632681, for an error of about 1.273E-09%.

Spice/HP-41/Voyager models give 0.1570796319, for an error within 5.093E-07%.

Quite an improvement, I'd say -- four orders of magnitude smaller in each case. It is also noteworthy that the relative errors of the Saturn-based models and their immediate predecessors differ by roughly 2.5 orders of magnitude, in either degrees or radians mode. This is consistent with the two extra internal and external digits the Saturn-based models carry.

Radians mode is not available on the HP-35, but the HP-45 produces a result of 0.1570796336, for an error of 5.730E-07%. (A "thanks" to Gerson Barbosa)

Another difference of the HP-35 from the later models is that it does not seem to maintain ten *significant* digits to match its ten *displayed* digits. For example, the results of the three trigonometric functions are as follows:

| Model  | $\tan(\cos(\sin(9 \text{ deg})))$ |
|--------|-----------------------------------|
| HP-42S | 0.0174549998555                   |
| HP-11C | 0.01745499985                     |
| HP-35  | 0.0174549998                      |

The above is not intended to assert that the "forensic technique" has no value. The number of internal, external (displayable), and significant digits carried, as well as the algorithmic sophistication, will be reflected in the final result obtained. Still, it is instructive to know why a given result was obtained, and to use diagnostic/forensic calculations that are valid in real-world applications.

-- KS

*Edited: 6 May 2007, 12:04 a.m. after one or more responses were posted*

## Re: That over-rated trigonometric forensic!

Message #27 Posted by **Gerson W. Barbosa** on 5 May 2007, 9:50 a.m.,  
in response to message #26 by Karl Schneider

Hello Karl,

Quote:

Why would one take the tangent of a sine of a cosine? If the units of 9 are degrees, what are the units of sine(9 deg)?

You're right! The only real life example involving the computation of two chained trigonometric functions I can think of now is  $\cos(\text{atan}(Q/P))$ . I sometimes calculate power factors this way only as a convenience: 7 keystrokes versus 9 keystrokes on the HP-45, on which  $x^2$  is not a shifted function, when compared to the equivalent  $P/\sqrt{P^2 + Q^2}$ , for  $P=4$  and  $Q=3$ .

Quote:

No radians mode is available for the HP-35, but someone could try these with an HP-45.

0.1570796336 -> 5.730E-07%

Best regards,

Gerson.

### **Re: That over-rated trigonometric forensic!**

*Message #28 Posted by **Gerson W. Barbosa** on 5 May 2007, 11:16 a.m.,  
in response to message #27 by Gerson W. Barbosa*

Quote:

I sometimes calculate power factors this way only as a convenience: 7 keystrokes versus 9 keystrokes on the HP-45, on which  $x^2$  is not a shifted function, when compared to the equivalent  $P/\sqrt{P^2 + Q^2}$ , for  $P=4$  and  $Q=3$ .

Ok, on the HP-45 one could try also this 7-keystroke sequence:

```
3 ENTER 4 ->P 4 / 1/x
```

### **Trigonometrics for power factor**

*Message #29 Posted by **Karl Schneider** on 5 May 2007, 2:51 p.m.,  
in response to message #27 by Gerson W. Barbosa*

Hi, Gerson --

Quote:

The only real life example involving the computation of two chained trigonometric functions I can think of now is  $\cos(\text{atan}(Q/P))$ . I sometimes calculate power factors this way...

Being in the same line of work, I sometimes use the inverse calculation:  $Q/P = \tan(\cos^{-1}(\text{pf}))$ . For a power factor of 0.95, the magnitude of reactive power  $Q$  is about one-third that of the active power  $P$ .

However, these calculations are not the same as, for example, taking the cosine of a sine.  $Q/P$  is a dimensionless number;  $\text{atan}$  and  $\text{acos}$  produce an angle that has some unit of measure, which is the required input to  $\tan$  and  $\cos$ . Granted, the radian is *physically* dimensionless, but it is still a unit of measure.

-- KS

### **Re: That over-rated trigonometric forensic!**

*Message #30 Posted by **Cameron Paine** on 5 May 2007, 11:48 a.m.,  
in response to message #26 by Karl Schneider*

An aside from a person who only ever uses trigonometry (these days) for weekend carpentry projects...

I'm not qualified to comment on the usefulness of the chain calculation as a determinant of calculator accuracy or applicability. However I thought its original usefulness was precisely because its "inaccuracy" provided something akin to a fingerprint of the underlying calculation engine. That fingerprint allowed a curious person to guess at the genealogy of a particular calculator. In this context it says more about the possible relationships between different calculators than it does about their suitability for a particular application.

Cameron

## Try this simple inversion routine, Gene

Message #31 Posted by [Valentin Albillo](#) on 3 May 2007, 3:17 p.m.,  
in response to message #4 by Gene

Hi, Gene:

In addition to the code in the links I posted, try this extremely simple routine written and tested in plain vanilla BASIC:

```
>LIST

1000 REM dimension and read matrix from sample data
1010 RESTORE : READ N : DIM B(N,N)
1020 FOR I=1 TO N : FOR J=1 TO N : READ B(I,J) : NEXT J : NEXT I
1030 REM computing inverse
1040 FOR P=1 TO N : K=B(P,P)
1050 FOR I=1 TO N : FOR J=1 TO N : IF P<>J AND P<>I THEN B(I,J)=B(I,J)-
B(I,P)*B(P,J)/K
1060 NEXT J : NEXT I
1070 FOR I=1 TO N : B(I,P)=B(I,P)/K : B(P,I)=-B(P,I)/K : NEXT I :
B(P,P)=1/K : NEXT P
1080 REM output
1090 FOR I=1 TO N : FOR J=1 TO N : PRINT "B(";I;" ";J;" )=";B(I,J) : NEXT J
: NEXT I : END
1100 REM data for sample 4x4 matrix
1110 DATA 4
1120 DATA 6,-1,-3,1,-2,0,1,3,2,-1,0,1,-3,2,-1,0

>RUN

B( 1 , 1 )=-5
B( 1 , 2 )=-6
B( 1 , 3 )= 23
B( 1 , 4 )= 9
B( 2 , 1 )=-11
B( 2 , 2 )=-13
B( 2 , 3 )= 50
B( 2 , 4 )= 20
B( 3 , 1 )=-7
B( 3 , 2 )=-8
B( 3 , 3 )= 31
B( 3 , 4 )= 12
B( 4 , 1 )=-1
B( 4 , 2 )=-1
B( 4 , 3 )= 5
B( 4 , 4 )= 2

>
```

which will generically work for NxN matrices and you can easily customize for your particular input or output requirements.

Because of its extreme simplicity (the inversion code is just 4 lines) this routine won't work if there are any 0 elements in the main diagonal or if they do appear there while inverting, something which could be easily corrected with a few extra lines of code, but I don't think that's necessary for testing purposes: simply use it "as is" for examples where no 0's get in the way,

such as my [Mean Matrices \(tm\)](#), for example, or randomly generated matrices.

Should you absolutely need to run it with some sample matrix which has that problem, exchanging two rows or two columns usually solves the problem (unless the matrix is singular, of course) or you can try to add the necessary code to skip 0 pivots till the next iteration (just an extra line of code, really).

Best regards from V.

### **Great, that worked...now, about that AM#1 matrix...**

*Message #32 Posted by [Gene](#) on 3 May 2007, 4:48 p.m.,  
in response to message #31 by [Valentin Albillo](#)*

What I really want to do is test the Wizard 8000 w/the double precision BASIC card on those tough matrices you posted here and in Datafile V24N4P10.

This routine won't do that, of course, since those were 7x7.

And, alas, the BASIC on the card is not very enhanced. That's why I was looking for a vanilla BASIC determinant and inverse listing.

It really is a nice unit. Just want it to play with the big dogs!

### **Re: Great, that worked...now, about that AM#1 matrix...**

*Message #33 Posted by [Valentin Albillo](#) on 3 May 2007, 7:16 p.m.,  
in response to message #32 by [Gene](#)*

Hi, Gene:

Gene posted:

*"This routine won't do that, of course, since those were 7x7. And, alas, the BASIC on the card is not very enhanced. That's why I was looking for a vanilla BASIC determinant and inverse listing."*

I beg your pardon but I don't understand. The routine above is as generic as it can be, you just need to change the DATA statements to:

```
1110 DATA 7
1120 DATA ... the 49 elements of your 7x7 matrix
```

and there you are. As for vanilla BASIC, the above routine is absolutely plain vanilla, it uses nothing which isn't standard BASIC.

If that DIM B(N,N) troubles your BASIC, just remove line 1110 DATA 4 or DATA 7 or whatever and the corresponding READ N at line 1010 and simply directly specify DIM B(4,4) or DIM B(7,7) instead.

If this routine doesn't run in your particular card or machine, then I'm not sure it does actually support plain vanilla BASIC ... Good luck and

Best regards from V.

**Re: Great, that worked...now, about that AM#1 matrix...**

*Message #34 Posted by [Gene](#) on 3 May 2007, 8:05 p.m.,  
in response to message #33 by [Valentin Albillo](#)*

My fault. Sometimes English is tough for us Americans. I had mis-read your description of the code. I thought it would ONLY work for 4x4 matrices. Why? I'm stupid sometimes. :-)

It ran perfectly for the smaller data statements. I'll try AM#1 later and we'll see what it can do.

As Homer Simpson would say "Doh!"

**Re: Great, that worked...now, about that AM#1 matrix...**

*Message #35 Posted by [Gene](#) on 3 May 2007, 8:33 p.m.,  
in response to message #34 by [Gene](#)*

And, the version you provided works just fine on the Sharp Wizard 8000 w/the BASIC card. I had simply misread / not read carefully your (obviously now) clear instructions. :-)

Gene

**Re: Great, that worked...now, about that AM#1 matrix...**

*Message #36 Posted by [Valentin Albillo](#) on 3 May 2007, 9:05 p.m.,  
in response to message #35 by [Gene](#)*

Great, glad to hear that.

Try AM#7 as well if you can. It's even more troublesome ...

Best regards from V.

**AM#1 row 7 inverse results...**

*Message #37 Posted by [Gene](#) on 3 May 2007, 10:34 p.m.,  
in response to message #36 by [Valentin Albillo](#)*

```
(7,1) = -96360789.999826628746
(7,2) = -320207.99999942387722
(7,3) = 537451.99999903302359
(7,4) = -2323662.9999958192904
(7,5) = 11354926.999979570331
(7,6) = -30196487.999945670803
(7,7) = 96509953.999826360353
```

**Re: AM#1 row 7 inverse results...**

*Message #38 Posted by [Rodger Rosenbaum](#) on 4 May 2007, 3:38 a.m.,  
in response to message #37 by [Gene](#)*

I'm surprised by your results. I would have expected better. You got 5 correct digits except for the 3rd item which has 4 (but almost 5) correct digits.

The condition number of the matrix is nearly  $10^{11}$ , which means that you should lose 11 digits in your results. If you do 20 digit arithmetic, you should have gotten about 9 correct digits.

The HP50 gets 4 correct digits. It uses 15 digit arithmetic internally, so  $15 - 11$  (the exponent of the condition number) is 4, the number of correct digits we should expect.

Perhaps this is because the routine you used doesn't do full pivoting.

Prof. Kahan's routine should do better.

### **Re: AM#1 row 7 inverse results...**

*Message #39 Posted by Gene on 4 May 2007, 4:17 p.m.,  
in response to message #38 by Rodger Rosenbaum*

Hi Rodger!

Are you sure about correct digits?

Valentin's article in Datafile says that the last row of the inverse should be:

Value 7,1: -96360787 compared to my computed -96360789.999, so I have 7 correct digits here.

Value 7,2: -320208 compared to -320207.999999, which is truly 5 digits, but oh so close to more.

Value 7,3: 537452 compared to computed 537451.999999, again, 5 correct but ...

Value 7,4: -2323663 compared to computed -2323662.99999, which is 6 digits, but...

Value 7,5: 11354927 compared to computed 11354926.9999, which is 7 digits.

Value 7,6: -30196488 compared to computed -30196487.9999, which is 7 digits.

Value 7,7: 96509954 compared to computed 96509953.999, which is 7 digits.

That's an average correct of 6.28 digits correct across the 7 elements, not counting the instances where it was off by 0.001 or less. :-)

The actual values only average 7.28 real digits across the 7 elements.

The HP71B in the datafile article using Valentin's Method 1 only got an average of 1.43 digits correct for the last row of the inverse, for the record.

Aren't there more correct digits from the Sharp 8000 than you indicated? :-)

### **Re: AM#1 row 7 inverse results...**

*Message #40 Posted by **Rodger Rosenbaum** on 5 May 2007, 4:45 p.m.,  
in response to message #39 by Gene*

Sheesh!!

You're quite right!

I was using the 1st row to compare your results, not the seventh!

They're quite similar, if you ignore the signs, which I did.

### **AM#7 Row 7 inverse results**

*Message #41 Posted by **Gene** on 4 May 2007, 8:19 a.m.,  
in response to message #37 by Gene*

```
(7,1) = -133357.00188984163849
(7,2) = 952047.01349177555456
(7,3) = 3994038202.6008614399
(7,4) = 68560103.971588342704
(7,5) = -497464616.04973872238
(7,6) = -6667765.0944911542154
(7,7) = -3995675584.6240653375
```

### **Modifications to Valentin's program...**

*Message #42 Posted by **Gene** on 4 May 2007, 8:21 a.m.,  
in response to message #41 by Gene*

I made the matrix B and the constant K both double precision. Everything else was single precision. I think those are the values that were used in the computations.

### **Re: Modifications to Valentin's program...**

*Message #43 Posted by **Rodger Rosenbaum** on 4 May 2007, 3:55 p.m.,  
in response to message #42 by Gene*

Quote:

I made the matrix B and the constant K both double precision. Everything else was single precision. I think those are the values that were used in the computations.

This is much better. The condition number of the matrix is about 3E12, so you should expect somewhat less than  $20 - 12 = 8$  correct digits. Your results have 7 and 8 digits correct. Very nice.

---

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## HP Forum Archive 17

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### HP-41CV won't power card reader?

Message #1 Posted by [Bob Cortopassi](#) on 30 Apr 2007, 7:02 p.m.

I have two 41CV's. One is a fullnut and the other a halfnut. The card reader works perfectly in the halfnut, but not the fullnut. In the fullnut, it never "engages" and grabs the card when inserted.

Other than the card reader problem, the fullnut works perfectly... I even tried inserting an Advantage ROM in the #4 slot where the card reader plugs in. The module is recognized and I can do a catalog 2 without error.

Any ideas??

Thanks, Bob

### Re: HP-41CV won't power card reader?

Message #2 Posted by [Les Wright](#) on 30 Apr 2007, 7:39 p.m.,  
in response to message #1 by [Bob Cortopassi](#)

It could be in the fullnut the batteries are potent enough to run the calculator but not enough to drive the motor in the card reader. I have a halfnut CX and fullnut CV and whenever I do any card reading (and especially writing) I make sure the stronger set of batteries I have is in the calculator. One of the two sets is just fine to do about anything I want EXCEPT drive the card reader.

Try swapping your battery sets between calculators first.

Does CAT 2 on the fullnut list the routines in the Card Reader when the reader is installed?

Les

### Re: HP-41CV won't power card reader?

Message #3 Posted by [Bob Cortopassi](#) on 30 Apr 2007, 8:02 p.m.,  
in response to message #2 by [Les Wright](#)

I should have mentioned that I did already try a battery swap. Your cat 2 suggestion was a good one, though. I did that, and the fullnut does indeed see the card reader functions when it's plugged in.

Thanks, Bob

### Re: HP-41CV won't power card reader?

Message #4 Posted by [Les Wright](#) on 30 Apr 2007, 9:03 p.m.,  
in response to message #3 by [Bob Cortopassi](#)

The only thing I can think off is that there is something fishy with Port 4 that renders it adequate to detect the Advantage and Card Reader ROMs but not enough to power the card reader.



I suspect there could be some wear or fraying of the plating on the contacts. I was having weird behaviour in with the card reader in my CV, and on taking the calc apart I noted there was some crimping of the contact along an edge of the male connector for Port 4. I gently flattened the crimping with a thumbnail, gave everything a good clean with 99% isopropanol, and all is fine since.

I don't know if this is your problem specifically, but it seems that the issue is in your fullnut calculator, not in the card reader.

Les

### **Re: HP-41CV won't power card reader?**

*Message #5 Posted by [Ron](#) on 1 May 2007, 9:28 a.m.,  
in response to message #3 by Bob Cortopassi*

Did you try BRAND NEW (shouting) batteries in the full nut? It sure sounds like a battery problem to me. As I remember it, this is how I discovered that my full nut took more juice than my half nut. The same used batts would run my reader in my half nut, but not in my full nut. New batts in my full nut did the trick.

### **Re: HP-41CV won't power card reader?**

*Message #6 Posted by [David Smith](#) on 1 May 2007, 12:50 p.m.,  
in response to message #1 by Bob Cortopassi*

The problem is most likely corrosion on the battery/port connector strip. Open up the machine and clean all the contacts with 91%+ isopropyl alcohol.

Could also be related to bad screw posts not keeping the circuits clamped together well, or wear on the port contacts.

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## HP Forum Archive 17

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### **HP 48GX ON button not working**

Message #1 Posted by **James** on 30 Apr 2007, 12:07 p.m.

I had a problem that I believe was a non functioning ON button, but is now working. I rescently replaced the batteries and am not sure if that is what fixed the problem. Are there issues with buttons intermittantly working and contact? How to fix a poor contacting button?

---

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## HP Forum Archive 17

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**HP 29C 1-2-3 keys not working**

Message #1 Posted by [Olivier TREGER](#) on 30 Apr 2007, 11:55 a.m.

Hello,

I'm the happy owner of a nice-looking 29C that's unusable because "1","2" and "3" keys don't respond.

I've tried to open it but, of course, since the keyboard PCB is stuck to the face bezel, I can't even check the status of this row of keys.

Does anyone know how to dismount the KB PCB from the chassis?

Thanks for help, Olivier

**Re: HP 29C 1-2-3 keys not working**

Message #2 Posted by [Eric Smith](#) on 30 Apr 2007, 5:12 p.m.,  
in response to message #1 by Olivier TREGER

Does the multiply key work?

With three keys in a row not working (and most likely the fourth as well), the problem is more likely to be the contact between the keyboard PCB and the logic PCB. Check that the spring terminal isn't too compressed to make good contact.

**Re: HP 29C 1-2-3 keys not working**

Message #3 Posted by [Olivier TREGER](#) on 30 Apr 2007, 6:22 p.m.,  
in response to message #2 by Eric Smith

Eric,

You're right: the multiply key is out. What do you call the spring terminal?

**Re: HP 29C 1-2-3 keys not working**

Message #4 Posted by [Eric Smith](#) on 30 Apr 2007, 6:28 p.m.,  
in response to message #3 by Olivier TREGER

Those are the pins that are soldered to the logic board, and press into the plated-through holes in the keyboard PCB. The portion that fits into the hole is bifurcated and springy so that it makes electrical contact. It's also possible that some contaminant has gotten onto the contact or into the plated-through hole.

If it's not a problem with the contact pin, the next likely cause is ESD damage to the ACT (processor chip). But the mechanical contact is the more likely failure mechanism.

**Re: HP 29C 1-2-3 keys not working**

*Message #5 Posted by [Olivier TREGER](#) on 30 Apr 2007, 8:33 p.m.,  
in response to message #4 by Eric Smith*

How do you suggest that I access the area between keys and their PCB? I've noticed that they're kept together using melted plastic "sticks" (can't find the right term).

Is there a way to dismount that without making the calc unusable?

**Re: HP 29C 1-2-3 keys not working**

*Message #6 Posted by [Eric Smith](#) on 1 May 2007, 1:14 a.m.,  
in response to message #5 by Olivier TREGER*

You shouldn't need to take the keyboard apart. There is no common failure mode that would be on the top side of the PCB and would affect the entire row of keys.

**Re: HP 29C 1-2-3 keys not working**

*Message #7 Posted by [Olivier TREGER](#) on 1 May 2007, 12:11 p.m.,  
in response to message #6 by Eric Smith*

So... any diagnostic/advice?

**Re: HP 29C 1-2-3 keys not working**

*Message #8 Posted by [Ronald P](#) on 1 May 2007, 4:29 p.m.,  
in response to message #7 by Olivier TREGER*

Hi,

There are 2 possible solutions

If there is some dirt:

1) Use an ultrasonic cleaner, rinse afterwards with clean (distilled) water, blow t dry with compressed air then let it dry fully over 1 day.

If it is a corrode contact:

Use contact spray (I normally use Contact 900) press the buttons many times, let it soak, and press again the buttons a number of times, try to wriggle the keyboard a bit etc. Clean the keyboard again with the ultrasonic as described above.

Do NOT use the Ultrasonic to long or you will also remove the key text maybe.

Success

Ronald

**Re: HP 29C 1-2-3 keys not working**

*Message #9 Posted by [Eric Smith](#) on 2 May 2007, 5:02 p.m.,  
in response to message #7 by Olivier TREGER*

As I've said, there is almost zero chance that the problem is in the keyboard itself, if it

affects the entire row. It's highly likely (>90%) that it is the contacts **between** the keyboard and the logic board. One of the contacts is dirty or bent, or is not making contact with the plating of the hole it inserts into, or the hole is dirty.

You can test the keyboard with a multimeter, by probing the holes for the appropriate matrix position. The information needed is on the HPCC schematics CD. I don't have my copy handy. The general approach is to set the multimeter to ohms (resistance). With the key not pressed, the resistance should be near infinite. With it pressed, it should be near zero (under 10 ohms).

Measure the contact resistance of a working switch first to verify that your test setup is working. Then if you can measure the correct resistances for the non-working keys in both the open and closed positions, that will tell you that the keyboard itself is OK, and that there is no reason to disassemble it further.

If the multimeter shows the keyboard is OK, then you need to check the inter-board contacts carefully.

I wouldn't do any ultrasonic cleaning or washing until checking with the multimeter.

### **Re: HP 29C 1-2-3 keys not working**

*Message #10 Posted by **Olivier TREGER** on 3 May 2007, 2:10 p.m.,  
in response to message #9 by Eric Smith*

Eric,

Here is what I sent to Randy (FixThatCalc) to describe my problem:

Quote:

None of the holes shows any sign of corrosion. If you except some cosmetic details, the functional part of the calc itself seems perfect... except the row of keys.

Now, when I try the calc outside of its chassis, simply sliding the battery pack at the right place, I notice that depending on where I touch the back solderings (on the left part of the PCB, when I face the keyboard), "2" and "3" often work, "1" and "x" being harder to "wake up".

Looking at the soldered pins and the ICs gives no clue of where the failure may reside.

Does this ring a bell to you? Especially touching the soldered part of the pins on the PCB?

### **Re: HP 29C 1-2-3 keys not working**

*Message #11 Posted by **Eric Smith** on 3 May 2007, 3:37 p.m.,  
in response to message #10 by Olivier TREGER*

That makes it sound like the problem is the pin contacts, as I've been saying all along.

## **Re: HP 29C 1-2-3 keys not working**

*Message #12 Posted by **Randy** on 3 May 2007, 3:41 p.m.,  
in response to message #11 by Eric Smith*

Olivier, back in January, I sent you a photo so that we could identify which version of keyboard you had. I never heard back from you about this until a few days ago at which point I had forgotten about the earlier exchanges.

For the sake of those trying to help and to avoid duplication of effort, lets pick up that thread here publicly.

I've posted that photo originally sent below. I've added a small white circle and line pointing to the area that I think is the problem. I said I think it is the problem because I'm making an assumption about which version keyboard you have.

If memory serves me correctly, all 29C keyboards I've seen use snap domes formed on a plastic sheet, similar to the later 30 series keyboards. This is very different from the formed strips of the classic keyboards which were used on the early Woodstocks. The photo shows a 25 keyboard on the left with the flex strips, the keyboard on the right is a later model 29C keyboard with plastic domes. Notice that on the 25 keyboard you can see metal through the holes where the contacts are. There are no holes on the 29C keyboard due to the differences in construction.

The problem is most likely caused by a failure of the plastic heat stake(s) that hold the epoxy fiberglass part of the board against the flexing domed sheet. The heat stakes fail and the two halves loose connection(s). The area that I have circled is where the connection is made to the common of your keyboards problem row. The plate-thru hole connects to the tear-drop trace you can see through the board. The large circle is where the common of the plastic dome sheet connects to the circuit. It is only the pressure created by the surrounding heat stakes that hold them in contact. If the heat stakes fail, as is typical in that area since that is where most of the battery corrosion occurs, you're left with an intermittent keyboard.

Given the design of the molded part that has failed, there is little chance of a permanent repair. Any use of epoxies or the like will only result in frozen, non-moving keys. Small screws cannot be used as the surrounding plastic is only the diameter of the heat stake that has sheared off.

If that is indeed what has happened to your keyboard, I'm fresh out of ideas that would fix it.

[http://fixthatcalc.com/images/mohpc/woodstock\\_keyboards.jpg](http://fixthatcalc.com/images/mohpc/woodstock_keyboards.jpg)

*Edited: 3 May 2007, 4:50 p.m.*

## **Re: HP 29C 1-2-3 keys not working**

*Message #13 Posted by **Eric Smith** on 3 May 2007, 5:05 p.m.,  
in response to message #12 by Randy*

You could verify Randy's hypotheis using the multimeter test approach I described earlier. That would tell you without a doubt whether the

problem is the keyboard itself, or the interconnect between the keyboard and logic board.

**Re: HP 29C 1-2-3 keys not working**

*Message #14 Posted by **Olivier TREGER** on 3 May 2007, 6:11 p.m.,  
in response to message #12 by Randy*

Randy,

First of all, accept my apologies for not having checked my mail... My iMac serves me as an info-warehouse but... I failed to drill th einfo out of it. Computers don't replace memory.

I've just checked the back of the keyboard PCB and, you're right: some heat stakes are missing, especially around keys 1,2,3.

Is there anything you can fix if I send you this one too (just to make my 19C less lonely...)? Or is a 29C keyboard a part that can be found with some patience?

Thanks and again, sorry for not checking my own archives :|

**Re: HP 29C 1-2-3 keys not working**

*Message #15 Posted by **Etienne Victoria** on 5 May 2007, 4:33 a.m.,  
in response to message #14 by Olivier TREGER*

Hello Olivier,

I'll gladly send you a complete 29C keyboard (free).

Just drop me a mail.

Cordialement

Etienne

*Edited: 5 May 2007, 4:33 a.m.*

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## HP Forum Archive 17

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**HP34c decimal point/comma interchange for display**

Message #1 Posted by [Jason](#) on 30 Apr 2007, 12:58 a.m.

Hi

How do you change/alternate the comma/decimal point option on the display on HP34c - currently showing a comma as a decimal point between int/frac & a decimal point/dot as a 1000's separator on large integer display. I think it is a simple key stroke command sequence to interchange - anyone know what it is?

Thanks Jason

**Re: HP34c decimal point/comma interchange for display**

Message #2 Posted by [Valentin Albillo](#) on 30 Apr 2007, 2:20 a.m.,  
in response to message #1 by Jason

Hi,

No key sequence but an internal jumper. Have a look at:

<http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv013.cgi?read=36588>

Best regards from V.

**Re: HP34c decimal point/comma interchange for display**

Message #3 Posted by [Mike T.](#) on 30 Apr 2007, 5:58 a.m.,  
in response to message #2 by Valentin Albillo

I've successfully done this on my own HP33C (which is similar).

However opening the case can be a bit nerve racking, as it can all go wrong if you are unlucky. If you haven't already seen it then I'd suggest you take a look at this guide to [spice repairs](#).

That jumper isn't hard to spot, particularly as the picture in the thread referenced above is so clear, but be warned that it is quite a bit smaller than it looks, so you will need a fine point on a your soldering iron..! (Not really a job for an amateur plumber like myself).

Mike T.

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## HP Forum Archive 17

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### 17bii+ ROM

Message #1 Posted by [Tim](#) on 29 Apr 2007, 11:40 a.m.

Hi -

I love my 17bii+, and would love to get an emulator for it. Seems that the hp42 emulator will work if I can get a ROM image for the 17bii (and having played around the the Free42 emulator, it's pretty sweet!).

Does anyone know if the newer 17bii+ version can do a ROM dump and/or if that + ROM will work with the emulator? All the documentation seems to just refer to the 17bii. Assuming it's workable I'm planning to beg borrow buy or steal a 48g so that I can get a ROM image for this. Would the newer 49g or 50 also work as a host?

Email me offline with any other suggestions on a solution: pierson\_2001 <at> yahoo <dot> com.

Thanks!

--Tim

### Re: 17bii+ ROM

Message #2 Posted by [Eric Smith](#) on 30 Apr 2007, 3:37 a.m.,  
in response to message #1 by Tim

There isn't any publicly available emulator for the 17bii+, and there isn't any known way to dump its ROM. Emulating a 17bii or 17B is the closest you're going to get.

### Re: 17bii+ ROM

Message #3 Posted by [Les Wright](#) on 30 Apr 2007, 9:58 a.m.,  
in response to message #1 by Tim

I can't help you with your request by I am delighted that someone other than me really likes the 17bii+ as well. Due to mistimed eBay bids I ended up with a second one, NIP, and the few offers I have received for it are a laughable fraction of what I paid for it. The Canadian reseller who sold me my 12cp and 49G+ last year tells me that now the 50G and 12c are his big movers, but he has a large inventory of the 17bii+ that no one seems to want. I had offered the 17bii+ to him in partial trade toward a 50G, whereupon he advised me he had more of the former than he knew what to do with.

Free42 is amazing but is technically a simulator, not an emulator, and I use it regularly, particularly on my old Sony Clie and newer Palm TX. Emu42 is the actual emulator, and I must admit I don't use it much. The internal 25-digit precision of Free42 is far too enticing for me. Moreover, even though Free42 is not entirely bug free, Thomas promptly responds to bug notifications and continually upgrades the software. It is important to note that Free42 implements features of the actual calculator in original code, which means it usually does not give identical results to Emu42 or the 42S. The built-in integrator is a case in point--on Free42 it is faster and will report back an estimated uncertainty in the result that is usually more refined than on the actual calculator. Being able to understand the source code a little helps me understand where these numbers come from, whereas the original calculator is more of a black box.

Keep on enjoying the 17bii+. Looks like the fan club is very small.

Les

### Re: 17bii+ ROM

Message #4 Posted by [Tim](#) on 30 Apr 2007, 12:24 p.m.,  
in response to message #3 by Les Wright

Bummer - I'm a huge fan of my 17bii+. Mainly need it for all the finance stuff, which is why the 42s is less useful. Most finance dorks prefer the 12c, but honestly I think the 17bii+ is much easier to use, and the solver is great too for all the other things I might want to throw in there.

If anyone can help out on the 17bii front for the emulator, it'd be greatly appreciated, since it looks like I'm SOL trying to dump my 17bii+ - I'd love to have it running in Windows or on my PDA...

Cheers,

--Tim

### Re: 17bii+ ROM

Message #5 Posted by [Ron Ross](#) on 30 Apr 2007, 12:42 p.m.,  
in response to message #4 by Tim

You can download an exe file for the Hp10Bii. It is a financial / business calculator w/o a solver. However it has the TVM solver and other financial functions that you may find acceptable. It is an algebraic model and this file is readily available to find via google (may even be on Hp's own site). You get no solver, but it is a decent low end financial calculator with moderate stats functions. (no RPN mode for this model though)

Hp also released the ROM of the 48 & 49G series graphics calculators. Both include built in finance applications and you can load up any other programs as if they were the real calculator onto your PC. This opens up a large realm of software that is available from hpcalc.org as well. These two also have a solver that is much better and more powerful than the solver included with the 17B series (and just a bit more complex).

One last option is to look for an Hp41c model emulator/simulator and then load a stat pack and Real estate module into it. This may be the hardest to readily acquire, but a persistent search on WWW should turn up something.

Your closest to use and approximation of the Hp17b series will be the Hp48G emulator, but may be a bit more complex to configure to what you want. The Hp10Bii is something you should look at. Granted it will have NO solver, be algebraic, but it will look like an Hp 17Bii with a similar keyboard layout.

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## HP Forum Archive 17

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### Differential Equations on the 49G+ and 50G

Message #1 Posted by [Les Wright](#) on 28 Apr 2007, 12:15 p.m.

That guru of programs for the the HP41, J-M Baillard, recently sent to me some routines to solve first and second-order ODEs by the Bullrisch -Stoer method, and I have some interest in adapting them for the 49G series, since, to be frank, I am really pretty underwhelmed with the built-in differential equation solver of my 48G and 49G+. Baillard's programs work really well on the 41-series and are lightning fast when I run them (no modification necessary) in Free42 both on PC and my Palm TX, so I am interested to see how the algorithm fares on the 49G+

I am finding that translating RPN to RPL is not for the faint of heart, and I am wondering if anyone out there knows if someone has already devised Bullrisch-Stoer ODE solvers for the 49G series. I don't mind a little challenge, but I don't want to completely reinvent the wheel.

Les

### Re: Differential Equations on the 49G+ and 50G

Message #2 Posted by [John](#) on 28 Apr 2007, 1:21 p.m.,  
in response to message #1 by Les Wright

Make sure you have checked the items at the link below.

<http://www.hpcalc.org/search.php?query=differential>

### Re: Differential Equations on the 49G+ and 50G

Message #3 Posted by [Les Wright](#) on 28 Apr 2007, 1:35 p.m.,  
in response to message #2 by John

Thank you! I have done a more specific search of hpcalc.org and haven't come up with anything that specifically refers to Bullrisch-Stoer. Perhaps some of the package you have have found implement it as an option, but in that case I expect the author(s) would have made specific mention in the description. Will take a look at some of the documentation of the routines and see what turns up.

Les

### Re: Differential Equations on the 49G+ and 50G

Message #4 Posted by [JM Baillard](#) on 30 Apr 2007, 4:48 p.m.,  
in response to message #3 by Les Wright

Hi everyone,

I have not ( yet? ) written a Bulirsch-Stoer program for the HP48  
( it's in the pipeline for the HP-41 to solve systems of ODEs )  
but I think that the built-in RKF is quite good.

In my RKF menu, there are

```
'X'   for the variable
'Y'   for the function(s)
'F'   for the routine that must calculate dy/dx
'tol' to specify the tolerance
'DIF' that contains the short program
```

```
<< { X Y F }  tol  ROT  RKF  DROP2  Y  >>
```

For example, to solve the system

```
dy/dx = -yzu      y(0)=1
dz/dx = x(y+z-u) z(0)=1
du/dx = xy-zu     u(0)=2
```

```
-Store 0 in 'X'
-Store the vector [ 1 1 2 ] in 'Y'
----- 10^(-11) in 'tol'
-and store the following subroutine in 'F'
```

```
<<  Y  OBJ->  DROP  ->  Y  Z  U
  <<  Y  Z  U  *  *  NEG
      Y  Z  +  U  -  X  *
      X  Y  *  Z  U  *  -  3  ->ARRY
  >>
>>
```

-Then to compute  $y(1)$   $z(1)$   $u(1)$  place 1 in the stack ( level 1 )  
and press the [DIF] key

-It gives in 77 seconds

```
y(1) = 0.258207906452
z(1) = 1.15762398074
u(1) = 0.842178311747
```

-It seems difficult to do faster in RPL  
-I've written an 'RK8' program for the HP-48  
that uses an 8th-order Runge-Kutta method  
and it yields almost the same results in 65s  
with stepsize = 0.1 but there is no error-estimate.

-Les, thank you for your appreciation  
but am I really a guru ? just an amateur.

Regards,  
JMB.

## Re: Differential Equations on the 49G+ and 50G

Message #5 Posted by [Les Wright](#) on 30 Apr 2007, 5:37 p.m.,  
in response to message #4 by JM Baillard

This is amazing! Quite ingenious.

The simple system given as an example on pages 19-5 and 19-6 of the HP48G User's Guide led me to believe that the calculator could handle vector-valued equations only when the arrays in question consisted of static numeric constants. Your example demonstrates that the built-in ODE integrator can indeed handle a broader range of problems provided that the equations are set up correctly and the derivative vector is computed "on the fly" as your procedure F does.

Thanks for sharing this with us. It helps me put more faith in the HP49+ Runge-Kutta ODE integrator, and I will experiment with it a bit more before embarking on the daunting task of Bulirsch-Stoer for the HP48/49. My RPL skills aren't nearly that good yet.

Les

### Re: Differential Equations on the 49G+ and 50G

Message #6 Posted by [Les Wright](#) on 30 Apr 2007, 7:25 p.m.,  
in response to message #5 by Les Wright

Quote:

---

The simple system given as an example on pages 19-5 and 19-6 of the HP48G User's Guide

---

Just a little more info for those who may not know what I am talking about.

The Guide provides as an example the ODE  $y'' = .5y' + .5y + .5t + 1$  with initial condition  $y(0) = 0$  and  $y'(0) = 0$ . The example renders this equation as vector equation  $w' = fw*w + c*(.5t+1)$ , where  $w = [y \ y']$ ,  $fw = [[0 \ 1] \ [.5 \ .5]]$ , and  $c = [0 \ 1]$ .

JMB's approach to this problem would render the desired F subroutine as merely

```
<< Y OBJ-> DROP -> Y Z
  << Z
    X Y Z + + 2 / 1 +
    2 ARRAY->
  >>
>>
```

and store 0 in X and [0 0] in variable Y before executing the little routine DIF. This of course solves the system

$$\begin{aligned} dy/dx &= z & y(0) &= 0 \\ dz/dx &= (x + y + z)/2 + 1 & z(0) &= 0 \end{aligned}$$

which is equivalent to the original second order ODE.

I find JMB's approach much easier to follow.

Les

### Re: Differential Equations on the 49G+ and 50G

Message #7 Posted by [Les Wright](#) on 1 May 2007, 3:00 a.m.,  
in response to message #6 by Les Wright

Quote:

---

I find JMB's approach much easier to follow.

---

Just for the record, I should point out that the entry for RKF in the 49G+ AUR does NOT explicitly mention that the solution can be a vector. Nor does the lengthier description in the User's Guide on page 16-70 make this clear. One can infer it from the sample problem given on page 16-64 which uses a Solve dialog box rather than a command line solution. I

suspect there are a lot of functions in the 48 and 49 series calculators whose full power and scope are not fully and clearly disclosed. I never would have known how to use RKF in this way had JMB not pointed it out.

Les

### **Re: Differential Equations on the 49G+ and 50G**

*Message #8 Posted by [Les Wright](#) on 30 Apr 2007, 5:52 p.m.,  
in response to message #4 by JM Baillard*

Quote:

-It gives in 77 seconds

$y(1) = 0.258207906452$   $z(1) = 1.15762398074$   $u(1) = 0.842178311747$

My 49G+ returns the exact same result with your very same parameters in about 45 seconds. I would gather that the 50G is just as fast.

The solution appears much more quickly for less demanding tolerance levels--e.g., the default of .0001, or 1e-8.

Les

### **Re: Differential Equations on the 49G+ and 50G**

*Message #9 Posted by [Les Wright](#) on 30 Apr 2007, 7:34 p.m.,  
in response to message #4 by JM Baillard*

Quote:

-Les, thank you for your appreciation but am I really a guru ? just an amateur.

Actually, you under-value your prodigious contributions.

Your higher math programs in the HP41 software library on this site are remarkable for their sheer number and for the fact that they far surpass anything that has been widely available before, including routines in the original User's Library solution books. Your programs are more concise, quicker, and, from what I can tell, about as accurate as one can be on a 10 digit calculator that rounds results every time they are output to the stack.

Frankly, I haven't seen anything quite like this since the 1980s, when our very own Namir Shammass was probably the most prolific contributor of programs to HP41 User's Library catalogue.

Keep on churning out great programs, and hopefully some of the recent work you have shared with me directly will find its way to this site the next time Dave does an update.

Les

### **Re: Differential Equations on the 49G+ and 50G**

Message #10 Posted by **Les Wright** on 1 May 2007, 12:28 p.m.,  
in response to message #4 by JM Baillard

Quote:

-and store the following subroutine in 'F'

```
<< Y OBJ-> DROP -> Y Z U
  << Y Z U * * NEG
      Y Z + U - X *
      X Y * Z U * - 3 ->ARRY
  >>
>>
```

I wonder if decomposing the input vector in one step with V-> and recomposing the the output in one step with ->V3 would speed things up a little?

I have to agree with you now that the built-in RKF function is quite good--provide that one is aware how to fully take advantage of it. I continue to be intrigued that the AUR entries for both the 49G+ and 48G are so limited. I guess that the authors assume that anyone wanting to use the ODE solver routines are knowledgeable enough about setting up their problems they would have figured it out eventually.

I would be really interested in seeing your RK8 routine as well.

Les

## Re: Differential Equations on the 49G+ and 50G

Message #11 Posted by **JM Baillard** on 1 May 2007, 4:35 p.m.,  
in response to message #10 by Les Wright

Hi,  
Thank you for all these appreciations!  
Here is the 'RK8' program for the HP-48

```
<< OVER 1 SWAP
  START DUP 5 PICK ->NUM 4 PICK * DUP2 2 / + 6 PICK ->NUM
  5 PICK * DUP2 + 4 / 4 PICK + 7 PICK ->NUM 6 PICK * DUP
  .896181193363 * ROT .211711500866 * - 3 PICK 7 / + 4 PICK
  + 7 PICK ->NUM 6 PICK * OVER .576671472696 * OVER
  .065148509147 * + 4 PICK .185506853511 * + 5 PICK + 8 PICK
  ->NUM 7 PICK * OVER -.463455389641 * OVER .386524626691 *
  + 4 PICK .377293769304 * + 5 PICK .199636993645 * + 6 PICK
  + 9 PICK ->NUM 8 PICK * OVER .328517213142 * OVER
  9.79004561593E-2 * + 4 ROLL .349705286318 * - 4 ROLL
  3.30255113145E-2 * - 4 PICK .128986292977 * + 5 PICK + 8
  PICK ->NUM 7 PICK * OVER -1.18686838868E-2 * OVER 9 / + 4
  PICK 2.00216599311E-3 * + 5 PICK 14 / + 6 PICK + 9 PICK
  ->NUM 8 PICK * OVER -.632546160696 * OVER .957605344019 *
  + 4 PICK .152777777778 * + 5 PICK 9.08696110082E-3 * - 6
  PICK 32 / + 7 PICK + 10 PICK ->NUM 9 PICK * OVER
  -1.81086308294 * OVER 1.06249844677 * + 4 PICK 2.03108313917
  * + 5 PICK .637931350185 * - 6 PICK 9 / + 7 PICK 14 / + 8
  PICK + 11 PICK ->NUM 10 PICK * OVER -2.22915821019 * OVER
  .940109451962 * + 4 PICK 7.55384044212 * + 5 ROLL
  7.16495155323 * - 5 ROLL 2.45138043242 * + 5 ROLL
  .551220563073 * - 6 PICK + 9 PICK ->NUM 8 PICK * 5 ROLL +
  9 * ROT 64 * + 3 ROLL + 49 * + 180 / +
  NEXT
>> ( #62676d , 1032 bytes )
```

32 bytes may be saved if you replace

10 by 1 ALOG , 49 by 7 SQ ... and so on ...

4 inputs are needed:

level 4: a program ( or its name ) that computes the derivative  
of the (n+1)-vector [ x y1 ... yn ]  
Since  $dx/dx = 1$  the first component is always 1  
level 3: the stepsize h  
level 2: the number of steps N  
level 1: the initial value [ x y1 ... yn ]

-For example, the system of 3 differential equations above  
with  $h = 0.1$  ,  $N = 10$ :

```
<< OBJ-> DROP -> X Y Z U
<< 1 Y Z U * * NEG
    Y Z + U - X *
    X Y * Z U * - 4 ->ARRY
>>
>> ENTER
0.1 ENTER
10 ENTER
[ 0 1 1 2 ] and press the [RK8] key
```

-It yields ( in 61 seconds ) in level 1

```
[ 1 0.258207906459 1.1576239808 0.842178311686 ]
```

-With  $h = 0.05$  and  $N = 20$  the result is:

```
[ 1 0.258207906457 1.1576239808 0.842178311706 ]
```

-It's probably faster with an HP-49G or 50G

Regards,  
JMB.

## Re: Differential Equations on the 49G+ and 50G

Message #12 Posted by [Les Wright](#) on 2 May 2007, 1:10 p.m.,  
in response to message #11 by JM Baillard

This is amazing! It will take a few minutes to move it over to my HP49G+ and edit all of the << and -> to their proper symbols, but I look forward to experimenting with it.

I anticipate that the routine will give excellent and quick results, especially if one is satisfied with at most 9 or so significant digits. Since the many rational coefficients that are required are rounded to twelve decimal digits, I anticipate that accumulated rounding error would readily supersede the  $O(h^9)$  global truncation error at some point. I have encountered the same sort of problem in porting Gauss-Legendre integration to the 49G+--the calculator is very good at computing weights and sample points, but the accumulated rounding errors tend to obscure the benefits of carrying out quadratures to a high degree.

I anticipate the actual formulae are much more complicated than the classical RK4 method or even the somewhat more complex RKF45 Runge-Kutta-Fehlberg method. What is your source? Abramowitz and Stegun doesn't go up that high!

Many thanks,



Les

**Re: Differential Equations on the 49G+ and 50G**

Message #13 Posted by [Les Wright](#) on 2 May 2007, 7:59 p.m.,  
in response to message #12 by Les Wright

Quote:

\_\_\_\_\_

I anticipate that accumulated rounding error would readily supersede the  
 $O(h^9)$  global truncation error

\_\_\_\_\_

Actually, this is incorrect--an eighth order RK method would have  $O(h^8)$  global truncation error, by definition, and  $O(h^9)$  at each step.

Les

**Re: Differential Equations on the 49G+ and 50G**

Message #14 Posted by [Les Wright](#) on 2 May 2007, 1:40 p.m.,  
in response to message #11 by JM Baillard

Quote:

\_\_\_\_\_

-It's probably faster with an HP-49G or 50G

\_\_\_\_\_

Actually it is a lot faster.

On my 49G+, the 10 step version of your example returns the exact same result as you get in 26 seconds. The 20 step version does likewise in--you guessed it--52 seconds.

Excellent bit of work. I am fascinated by RPL code that has such an obvious awareness of what is happening on the stack at all times. I am not so confident and use a lot of local variables instead, and I believe my programs are not as small or fast as they could be.

Please keep writing great stuff like this and sharing it. And this is a small nudge to Dave--a update of the software library is long overdue! ;) Yes, I know you have to squeeze it around 80 hours of week of scanning!

Les

**Re: Differential Equations on the 49G+ and 50G**

Message #15 Posted by [JM Baillard](#) on 2 May 2007, 6:25 p.m.,  
in response to message #14 by Les Wright

Hi Les,

this 'RK8' program for the HP-48 uses  
the same formula as the 'RK8' program for the HP-41  
( cf "Runge-Kutta Methods for the HP-41" )

The source is:

J.C. Butcher - "The Numerical Analysis of Ordinary Differential  
Equations" - John Wiley & Sons - ISBN 0-471-91046-5

Roundoff errors don't seem very important,

even in the last digits.

Regards,  
JMB.

## Re: Differential Equations on the 49G+ and 50G

Message #16 Posted by [Les Wright](#) on 2 May 2007, 8:26 p.m.,  
in response to message #15 by JM Baillard

Quote:

Hi Les,

this 'RK8' program for the HP-48 uses  
the same formula as the 'RK8' program for the HP-41  
( cf "Runge-Kutta Methods for the HP-41" )  
The source is:  
J.C. Butcher - "The Numerical Analysis of Ordinary  
Differential  
Equations" - John Wiley & Sons - ISBN 0-471-91046-5

Roundoff errors don't seem very important,  
even in the last digits.

Regards,  
JMB.

I found the HP41 routine and the reference--thank you.

I am happily corrected about the rounding errors. I find that integrating the IVP  $y' = y^2 + 1$ ,  $y(0) = 0$ , gives 11 correct digits with 12 steps, and the 12th digit is off by just 1 ULP. Increasing step number doesn't improve the situation. I think that's pretty impressive!

I wonder if there is any way of improving results with Richardson extrapolation? My preliminary impression is no--doing four steps, then eight steps, then extrapolating on the assumption that the procedure is of order 8 doesn't improve things much and doesn't give nearly as good results as just bashing ahead with 12 steps in the first place!

Les

## Re: Differential Equations on the 49G+ and 50G

Message #17 Posted by [Les Wright](#) on 3 May 2007, 9:25 p.m.,  
in response to message #4 by JM Baillard

Quote:

-It seems difficult to do faster in RPL  
-I've written an 'RK8' program for the HP-48  
that uses an 8th-order Runge-Kutta method  
and it yields almost the same results in 65s  
with stepsize = 0.1 but there is no error-estimate.

Actually, I have learned that if I can spare a couple of extra minutes on a problem your RK8 method applied twice can generate rough error estimates.

As an 8th order method, stepsize halving should (in theory) roughly improve the error by a factor of  $2^{-8} = 1/256$ . This means if I run the problem twice with stepsize  $2h$  and then stepsize  $h$ , the difference in results can give a rough measure of the estimated error for each run. I won't regurgitate the algebra, which is actually not too difficult, but it seems to me that the error of the  $2h$  run is of the order of  $256/255$  times this difference, and the error of the  $h$  run is roughly the difference divided by  $255$ .

I have experimented with this with some simple problems and find that the error estimates are actually pretty good, especially in those admittedly ideal situations where the analytical solution of the DE is nice and smooth and continuous with an infinity of well behaved higher derivatives that make the Taylor series upon which the error estimates are based a reasonable approximation of reality. The bottom line is that the difference between two runs can yield some meaningful information, and, if one is willing to take the time, one can get a sense of the result the solution is approaching.

I must confess that I do in some cases like routines such as this one where the number of iterations are set a priori by me, since I know it is going to end some time! Adaptive schemes that converge according to some desired tolerance may actually never converge, or take for ever. I would prefer to know as soon as possible whether a particular problem is stiff or just ill-posed.

I think your RK8 is in some ways a desirable alternative to the HP48/49 series built-in RKF45 adaptive solver. I am also impressed at how well it ports to these calculators, and how quickly I was able to get it onto my calculator via SD card. The HP41 version is excellent too, but is of course slower and really requires a card reader or extended memory so that one need only enter and store all of those constants once. I also think it would well on the HP42S--the constants can be stored and saved in a vector and swapped for the REGS variable as required. But I would have to hope like heck not to reset the memory at my next battery swap!

Les

*Edited: 3 May 2007, 9:27 p.m.*

## **Re: Differential Equations on the 49G+ and 50G**

*Message #18 Posted by **JM Baillard** on 4 May 2007, 5:19 p.m.,  
in response to message #17 by Les Wright*

Hi,

step doubling is always a good idea to provide an error-estimate.  
It can also be used to get a 9th-order method by the formula  
(  $256 y(h/2) - y(h)$  )/255 if it is applied at each step.

I've searched higher order formulas on the web,  
but they seem to be kept secret...  
or sold at a high price!

Regards,  
JMB.

## **Re: Differential Equations on the 49G+ and 50G**

*Message #19 Posted by [Les Wright](#) on 5 May 2007, 8:57 a.m.,  
in response to message #18 by JM Baillard*

Quote:

---

I've searched higher order formulas on the web,  
but they seem to be kept secret...  
or sold at a high price!

---

For practical use, I think that higher order routines are really more of a theoretical curiosity than anything.

I think your RK8 routine is about as complex as anyone using a handheld calculator could reasonably desire. Indeed, the 48/49 series implementation of RKF45 is also pretty powerful too. I really wish that the HP literature documented it better--I had to do a bit of outside reading to learn more about the algorithm and develop an appreciation about how clever it was. It really takes a lot of ingenuity to develop formulae that allow for both 4th and 5th order estimations while using the same set of computed coefficients.

Les

---

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## HP Forum Archive 17

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### More on the 49G+ and rechargeables

Message #1 Posted by [Les Wright](#) on 28 Apr 2007, 12:04 p.m.

I decided to splurge on a Duracell brand rapid charger, which, as advertised, will bring cells up to a full charge in a few minutes. It was not a cheap option--on sale I got mine for about USD52 + taxes, but this includes 4 AA 2400 mAh cells, for which I have other uses. But since I am concerned about the waste of disposables the higher frontend cost seems reasonable.

A full charge easily seems to give me quite a few days of very regular use. As someone in the earlier thread pointed out, voltage and capacity, as reported by Edwin Cordoba's BatStatus, drop fairly quickly to about 3.9V and 50% respectively, and seem to hover there for quite awhile. Indeed, I have yet to use the calculator until the low battery icon starts displaying--perhaps I should for the sake of the battery life. The cells take a few minutes to charge in the rapid charger, during which the backup cell seems to do a fine job preserving calculator memory. I have also gotten in the habit of regularly backing up main memory and flags to the SD card, and have a little program that automates the process.

In short, it looks like I can use NiMH cells with the 49G+ and run little risk of losing my work. It seems that rechargeable cells are actually a suitable alternative for the 49G+ and 50G after all, despite official recommendations to the contrary. NiMH seem to do the trick for me, and it looks like that there could be even better alternatives out there, like hybrid cells and rechargeable alkalines and the like.

Les

### Is fast charging OK??

Message #2 Posted by [Dave Shaffer](#) on 29 Apr 2007, 7:45 p.m.,  
in response to message #1 by Les Wright

Does anybody know if really rapid charging has any bad effects (i.e. shorter lifetime) on the NiMH cells? My charger for these things is quite leisurely (overnight, at least, for a full charge). After a couple of years of fairly light use, my AA batteries are still working well, although I have the feeling that I am beginning to see a shortening of how long they last per charge. They've been through fewer than 30 charge/discharge cycles.

### Re: Is fast charging OK??

Message #3 Posted by [James M. Prange \(Michigan\)](#) on 29 Apr 2007, 10:57 p.m.,  
in response to message #2 by Dave Shaffer

I don't really know, but from what I've read, slow charging (as with a charger really designed for NiCd cells) is bad for NiMH cells. "Quick" charging (although I don't, offhand, know which rates) is supposed to be better for NiMH cells.

Also, if using a charger that charges 2 cells in series only, and 1 of the cells doesn't need as much charging as the other, then it will be over-charged, resulting in a shorter lifetime. Try to get a charger that charges each cell individually, especially when you're using an odd number of cells in a device, as in a 49g+. The best are supposed to be those that use a "negative Delta-V" method to determine when to switch to a trickle-charge mode or stop charging completely.

I really don't have that much experience with NiMH cells, but so far, the only problem that I've noticed (other than the self-discharge and relatively sharp drop at the end of the discharge curve) is that all of the NiMH AA and AAA cells that I have are slightly larger (longer, larger diameter, and corners not rounded as much) than is typical with ordinary alkaline cells, resulting in a tight fit in some devices.

I haven't tried the "hybrid" (NiMH + alkaline?) cells, but I've read that they're supposed to have a much slower self-discharge rate, but on the other hand, can be recharged maybe only half as many times as more conventional NiMH cells.

Regarding the rechargeable alkaline cells, specifically Rayovac Renewal cells, I was lucky with them (no damaged calculators), but note that they can't be successfully recharged all that many times, and worst of all, my experience was that after being recharged several times, they started leaking while in the charger. I decided not to use them any more.

Regards,  
James

*Edited: 30 Apr 2007, 2:10 a.m.*

### **Re: Is fast charging OK??**

*Message #4 Posted by [Les Wright](#) on 30 Apr 2007, 9:41 a.m.,  
in response to message #3 by James M. Prange (Michigan)*

My Duracell quick charger has dedicated "lanes", it seems--indeed, if one loads a fully charged cell into it along with a discharged cell, it will give an error condition (blinking LED) until the full cell is removed. So it seems smart that way.

If the quick charger is a little harder on on NiMH cells vs. a standard charger, so be it. I have no illusions about NiMH cells lasting forever either. But still, from a "green" perspective, I would rather go through a set of NiMH AAA cells in my 49G+ every couple of years than piles of alkalines, even if it really isn't that much cheaper in the long run. Indeed, my spouse and I have tried to make a commitment to using NiMH cells around the house wherever we can in things like electric toothbrushes, TV and VCR remote control units, battery operated clocks, my beard trimmer, the remote mouse on her computer, etc. About the only thing around here that doesn't use NiMH cells are the cordless phones, my older calculators, and the smoke alarms.

The one advantage to all this is that my previously neglected 49G+ is now getting regular use--I feel liberated in using the machine knowing that when the cells run low it is little time and hassle to rejuice the cells. I don't seem to have the keyboard problem on this unit (yet), so I want to give it a good workout and get to know the machine more before I go to the expense of the 50G.

Les

### **Re: More on the 49G+ and rechargeables**

*Message #5 Posted by [Rich Messeder \(US\)](#) on 30 Apr 2007, 10:44 a.m.,  
in response to message #1 by Les Wright*

I had the same question myself, in a general sense. So I searched the web for "NiMH batteries" and got boatloads of hits. Very useful info, though I don't recall exactly which sites I browsed. I use NiMH for nearly everything. My understanding is that the newer batteries decline slower than the older batteries, due to changes in technology. I keep my recharged batteries in the fridge; they hold a charge much longer that way. I use the battery check feature in my 49 and 50 periodically to check the voltage levels so that I am not caught unaware

when the battery dies. I have a small plastic case in which I carry 4 cells (now) for the 50. It seems that charger technology is getting smarter and cheaper.

Rich

## rechargeables

*Message #6 Posted by [Sam Levy](#) on 30 Apr 2007, 2:26 p.m.,  
in response to message #5 by Rich Messeder (US)*

Thank you for your interest in Sanyo batteries.

Please do not store your batteries in your refrigerator. The difference in temperature in your home and the refrigerator is really not enough of a difference to make it worth storing them in the refrigerator. Due to safety reasons, we recommend that you do not store your NiMh cells in your refrigerator with your food items.

Please let us know if we may be of any further assistance.

Best regards,

SANYO Energy <http://www.sanyobatteries.com>

Thank you for your interest in Sanyo batteries.

Please do not store your batteries in your refrigerator. The difference in temperature in your home and the refrigerator is really not enough of a difference to make it worth storing them in the refrigerator. Due to safety reasons, we recommend that you do not store your NiMh cells in your refrigerator with your food items.

Please let us know if we may be of any further assistance.

Best regards,

SANYO Energy

REPLACE THIS TEXT WITH YOUR LISTING

## Re: rechargeables

*Message #7 Posted by [Eric Smith](#) on 30 Apr 2007, 6:34 p.m.,  
in response to message #6 by Sam Levy*

For NiMH cells perhaps the refrigerator doesn't extend the life much, but it definitely does for alkalines.

The concern about contaminating food is exaggerated. Just keep the batteries in a sealed plastic container. It's not likely that they will leak, but if they do, the container will keep them from contaminating anything else.

Do not keep any normal consumer-grade batteries in a freezer. My mother tells me that when she worked in surgery, certain kinds of batteries were kept frozen. However, normal batteries are not designed for that, and freezing them may damage them and cause leakage.

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## HP Forum Archive 17

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**Precision Surveying Solutions L L C**

Message #1 Posted by [Forrest Switzer](#) on 28 Apr 2007, 1:38 a.m.

I just got my April issue of The American Surveyor magazine "A foot in the past... An eye to the future" and there is a great article in it about the DC50 along with some great pictures and pictures of the line of HP Calculators that were used in surveying leading up to the HP 50G. This can be found at [www.TheAmericanSurveyor.com](http://www.TheAmericanSurveyor.com) and under the "articles" link. Look near the bottom of the list in a Product Review by Al Pepling,LS.

Tim Wessman is named in the article. "...and the software benefitted tremendously from Tim's programming skill."

Way to go Tim. The article is good, the pictures are good and I'll bet the product is good.

I just wish I had received my magazine earlier in April.

I hope I did the link correctly. If not maybe Tim can fix it for me.

Forrest

**Re: Precision Surveying Solutions L L C**

Message #2 Posted by [Howard Owen](#) on 28 Apr 2007, 2:46 a.m.,  
in response to message #1 by Forrest Switzer

Man, that guy is a real fan! What a wonderful writeup. Congratulations on a great product!

You can tell that the working surveyor who wrote the referenced article hated the 49G+ keyboard as much as the "purists" on this site, and welcomed the fixed 50G model too. I can't express how great it is to see that working code brought forward from the 41, and through the 48GX, finally landed on a 50G based product with the double threat of long experience and cutting edge tech. (Twin BT radios - cool!) Together they make what looks to be a huge winning combination. *That's* how the values I treasure in the old machines can make a difference in the present day - by embracing new technology, but retaining the timeless core of great engineering knowhow!

Regards,  
Howard

**Re: Precision Surveying Solutions L L C**

Message #3 Posted by [Tim Wessman](#) on 28 Apr 2007, 10:49 a.m.,  
in response to message #2 by Howard Owen

He is quite a fan. Al is doing another entire article dealing with nothing but field usage as well. There will also be an article about the company, how we were started, goals, etc. Naturally, it is quite exciting for us.

Professional Surveyor is working on a review, and POB asked one of our best customers (who has already written some userRPL progs because he likes it so much) to write one.

Sales are picking up as a result of weather and reviews. In the past 2 days, we sold about \$35k. If this keeps up, I'll be able to collect a paycheck soon! :-)

TW

### **Re: Precision Surveying Solutions L L C**

*Message #4 Posted by **Forrest Switzer** on 28 Apr 2007, 6:19 p.m.,  
in response to message #3 by Tim Wessman*

Tim,

Wow, all three magazines!!! It will be interesting to see how the other two review. I assume you have an idea about their reviews, and they are positive. It is really great to see this considering how dominate TDS is. Watch out though, TDS or Carlson may make you an offer you can't refuse. Carlson sucked up Simplicity, but I kinda think Simplicity was hoping that would happen.

And, the pay check thing is important also.

By the way I am not worried about the quote or the above exclamation marks. I might as well say eBay and be tripple dammed.

Forrest

### **Re: Precision Surveying Solutions L L C**

*Message #5 Posted by **Howard Owen** on 28 Apr 2007, 7:03 p.m.,  
in response to message #3 by Tim Wessman*

To amplify a point I made above, It's likely this reviewer would not have been as enthusiastic about a 49G+ based product, even though I'm sure you guys would have made the best of the keyboard issues using software. The point for HP is this: to win a spot in the niche you used to dominate, you must pay attention to some of the things that were important to you back then. In particular, the build quality matters for professional equipment. It's clear that some folks at HP still hold up those values, just as it is clear that they have had to fight an uphill battle to see them expressed. Way to go, guys, and keep it up!

Regards  
Howard

### **Re: Precision Surveying Solutions L L C**

*Message #6 Posted by **Tim Wessman** on 28 Apr 2007, 10:52 a.m.,  
in response to message #1 by Forrest Switzer*

[http://www.theamericansurveyor.com/PDF/TheAmericanSurveyor\\_Pepling-DC50\\_April2007.pdf](http://www.theamericansurveyor.com/PDF/TheAmericanSurveyor_Pepling-DC50_April2007.pdf)

Direct link.

TW

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## HP Forum Archive 17

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### **Auction - Definitely Collector Related**

Message #1 Posted by [Howard Owen](#) on 27 Apr 2007, 1:20 p.m.

(Warning: eBay link)

Has anyone ever heard of anything like this [Rack Mounted Calculator Demo Unit](#) said to come from the "estate of Loveland, CO HP calculator engineer" and to have been "engineered to demonstrate and test early model HP Calculators?" I see no mention of anything like this here at the museum. If this thing is related to development of the HP-35, well..

Regards,  
Howard

### **Re: Auction - Definitely Collector Related**

Message #2 Posted by [Ron](#) on 27 Apr 2007, 3:17 p.m.,  
in response to message #1 by Howard Owen

Saw one on eBay just yesterday. ;^)

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## HP Forum Archive 17

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### **HHC2007 in London, October 13-14, 2007**

Message #1 Posted by [Gene](#) on 26 Apr 2007, 10:26 p.m.

Some news from Wlodek:

13-14 Oct 2007, location is Imperial College, London again, Themes include HP-35 35th anniversary and other HP calc anniversaries, HPCC 25th anniversary, etc

### **Re: HHC2007 in London, October 13-14, 2007**

Message #2 Posted by [Tony Duell](#) on 27 Apr 2007, 2:15 p.m.,  
in response to message #1 by Gene

Very little has, AFAIK, been formalised yet, but I believe this will be a much less formal affair than the previous 2-day conferences.

The HPCC committee have decided that as the 1-day 'mini-conferences' were enjoyed by everyone who attended, then this event should be a 2-day 'midi conference', in much the same style. A handful of talks on HP calculators and related topics given by people who truly love the machines (and the aspect they're talking about). I believe it will be free for HPCC members, no idea what the policy is on non-members attending.

I think that members will have to organise their own food and accomodation, the club is not doing this.

I believe there will be no proceedings, rather summaries of the talks will be printed in Datafile (HPCC journal)

### **Re: HHC2007 in London, October 13-14, 2007**

Message #3 Posted by [Howard Owen](#) on 27 Apr 2007, 2:32 p.m.,  
in response to message #1 by Gene

What would be the best London area airport to fly into and out of? I'm itching to spend some frequent flyer miles. 8) Any recommendations on hotels? (I know London is regarded as expensive. I'd like to spare my budget in spite of that, if possible.)

Regards,  
Howard

### **Re: HHC2007 in London, October 13-14, 2007**

Message #4 Posted by [Gene](#) on 27 Apr 2007, 2:47 p.m.,  
in response to message #3 by Howard Owen

Howard, you can always spend from frequent flyer miles to fly ME to London.

Big :-)

See you in San Diego!

**Re: HHC2007 in London, October 13-14, 2007**

*Message #5 Posted by **Howard Owen** on 27 Apr 2007, 7:49 p.m.,  
in response to message #4 by Gene*

I'm looking forward to attending both meetings. The only thing that could mess up my plans would be some customer requirement I couldn't schedule around the travel. But sorry, you can't have my miles even if that happens. 8)

Regards,  
Howard

**Re: HHC2007 in London, October 13-14, 2007**

*Message #6 Posted by **Dan M (Vermont, USA)** on 27 Apr 2007, 9:38 p.m.,  
in response to message #3 by Howard Owen*

The last time I was at Imperial College :- ) I had a very pleasant and relatively inexpensive stay at the Baden-Powell House. This is a hostel -and more- run by the Scouts ("Boy Scouts") in London. It is adjacent to both Imperial College and the Subway stop from Heathrow. It helps, price-wise, if you are a "member of the Scouting family," but it is not necessary. The worst of it was I didn't have any extra time to hang out there. I instead lollygagged around with a bunch of calculator nerds, go figure.

The accommodations were clean, comfortable, friendly, well-priced, etc, etc. Very nice.

I don't know the details, but was clued in by somebody on the plane, to avoid the "Heathrow Express" if you arrive at Heathrow airport and are going to go near Imperial College. Yes, it is much more expensive and moves faster, but it drops you off at Paddington Station which is at least one train/subway transfer away from where you want to be. And, if it is morning rush hour when you get there, which it easily can be, and if you have one or more pieces of luggage with you, and if you are tired from being on an airplane all night, you are far better off taking the much cheaper and slower Subway from Heathrow directly to your destination. I have no idea about public transportation options at any of the other London airports. Heathrow has always worked well for me, or worked well enough, anyway.

Have a fun time this fall, I will miss both meetings, as far as I know.

**Re: HHC2007 in London, October 13-14, 2007**

*Message #7 Posted by **Howard Owen** on 28 Apr 2007, 12:43 a.m.,  
in response to message #6 by Dan M (Vermont, USA)*

Thanks very much for the advice, Dan That was exactly the sort of thing I was looking for!

Regards,  
Howard

**Re: HHC2007 in London, October 13-14, 2007**

*Message #8 Posted by **Meindert Kuipers** on 27 Apr 2007, 2:58 p.m.,  
in response to message #1 by Gene*

I'll be there!

Meindert

**Re: HHC2007 in London, October 13-14, 2007**

*Message #9 Posted by [Raymond Del Tondo](#) on 27 Apr 2007, 6:18 p.m.,  
in response to message #1 by Gene*

I'll be there, too.

Hey Matthias, Christoph, Meindert, Peter, hope to see you there:-)

Raymond

**Re: HHC2007 in London, October 13-14, 2007**

*Message #10 Posted by [Matthias Wehrli](#) on 28 Apr 2007, 4:48 a.m.,  
in response to message #9 by Raymond Del Tondo*

I'll try my best to see you this time.... Raymond: I'm not familiar in London, maybe I need some german help....

Matthias

**Re: HHC2007 in London, October 13-14, 2007**

*Message #11 Posted by [Namir](#) on 29 Apr 2007, 1:31 p.m.,  
in response to message #10 by Matthias Wehrli*

Matthias,

I sent you an email regarding possibly meeting you.

Namir

**Re: HHC2007 in London, October 13-14, 2007**

*Message #12 Posted by [Matthias Wehrli](#) on 29 Apr 2007, 2:04 p.m.,  
in response to message #11 by Namir*

Got you mail and replied... Anyone interesting too? During the Ascension Day in Switzerland.

**Re: HHC2007 in London, October 13-14, 2007**

*Message #13 Posted by [Namir](#) on 29 Apr 2007, 4:58 p.m.,  
in response to message #12 by Matthias Wehrli*

Will be nice to get together with other folks from around Basel.

Namir

**Re: HHC2007 in London, October 13-14, 2007**

*Message #14 Posted by [Peter Geiser](#) on 29 Apr 2007, 3:35 p.m.,  
in response to message #9 by Raymond Del Tondo*

I don't know yet whether I can attend, although it does interest me. And London is always worth a visit.

I'd be interested in getting more information.

Thank you  
Best regards  
Peter

**Re: HHC2007 in London, October 13-14, 2007**

*Message #15 Posted by [John Smitherman](#) on 29 Apr 2007, 4:01 p.m.,  
in response to message #14 by Peter Geiser*

We visited London last summer and I got a chance to slip into the Science Museum (<http://www.sciencemuseum.org.uk/>) for a few hours. It's well worth the time. Most on the forum would enjoy the computing exhibit:

<http://www.sciencemuseum.org.uk/visitmuseum/galleries/computing/ondisplay.aspx>

Have fun!

Regards,

John

**Re: HHC2007 in London, October 13-14, 2007**

*Message #16 Posted by [Howard Owen](#) on 29 Apr 2007, 5:29 p.m.,  
in response to message #15 by John Smitherman*

There is a a working Difference Engine around London somewhere, IIRC.

**Re: HHC2007 in London, October 13-14, 2007**

*Message #17 Posted by [Geir Isene](#) on 28 Apr 2007, 9:58 a.m.,  
in response to message #1 by Gene*

I've seen none of you guys. I'll try my best to be there.

**Re: HHC2007 in London, October 13-14, 2007**

*Message #18 Posted by [Tony Duell](#) on 29 Apr 2007, 5:19 a.m.,  
in response to message #17 by Geir Isene*

I am planning on being there (I live in london) and may well bring along a few toys for you to look at (and look inside). There are a couple of things that would keep me away (ask me privately if you're curious), though.

If I attend I intend to give a talk, but on something other than the HP35. I'll leave that machine for the rest of you ;-)

As regards transport, nearer the time (because these things can change) I can give details of public transport to Imperial College. The best airport to fly into would be Heathrow, it has a Tube (London Underground railway) station with a direct train to South Kensington (nearest tube station to Imperial College).

I cannot offer help with accomodation, nor can I accomodate anyone. My spare bed is covered to a depth of about 3 feet in HP80-series machines, BBC micros, PC parts, etc. And to get to said bed you have to climb over a PERQ, a MINC, a MicroVAX and an HP9100B.

As I said, I assume non-members (of HPCC) can attend, but I don't know the details. What I do know is

that there will be no registration or payment on the day -- quite reasonable members of the HPCC committee would rather hear the talks than collect people's details.

## **Re: HHC2007 in London, October 13-14, 2007**

*Message #19 Posted by [Wlodek Mier-Jedrzejowicz](#) on 30 Apr 2007, 9:04 p.m.,  
in response to message #18 by Tony Duell*

### **Some information about the London meeting:**

As Tony Duell says, HPCC members would rather listen to talks and presentations about our favourite HP devices than spend time signing in pre-registered folks and registering others at the door.

In fact the organizers would rather not spend time organizing - but some organization will be needed! So we are aiming for a semi-formal meeting like our own mini-conferences, or the meetings Matthias Wehrli has arranged in Basel, rather than a formal conference. That should give people more freedom - for example to visit the Science Museum - 5 minutes' walk from the meeting place - and see their computing collection including the working Difference Engine.

Baden-Powell House is also 5 minutes from the meeting place and a good choice for affordable accommodation - if you can get it - fortunately there are more rooms free there and elsewhere in October than earlier in the year.

The underground (tube, metro, subway) stations nearest the College are South Kensington and Gloucester Road - check them out on the map at [www.tfl.gov.uk/assets/downloads/colourmap.pdf](http://www.tfl.gov.uk/assets/downloads/colourmap.pdf) - Heathrow Airport is at the lower left of this map and the blue line (Piccadilly Line) goes directly from there to Gloucester Road and South Kensington, approximately 14 stations down the line - the exact count depends on which terminal you come from at Heathrow and whether all the stations along the route are open.

Our present policy is not to charge a formal registration fee but to try to cover all expenses from HPCC funds - and just possibly from requests for donations - but these will certainly not be obligatory. Not printing proceedings will save a lot of expenses.

What would be very helpful would be to know roughly how many people plan to come, so we can book meeting rooms of an appropriate size. We shall be putting pages about the conference, including this request, on our web site [www.hpcc.org](http://www.hpcc.org) nearer the dates.

I hope to meet many of you there and am delighted to read on this thread that many friends have already decided to come - see you all!

Wlodek Mier-Jedrzejowicz

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## HP Forum Archive 17

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### HP 41 doesnt work

Message #1 Posted by [Juergen Richter](#) on 26 Apr 2007, 4:28 p.m.

I have a Problem with my 41 cv. I Changed the Batteries and a short time latter nothing goes. I took new batteries and nothing goes. Is there an special shortcut to reset the Computer.

Otherwise I need an diskription how i can open the calculator to search for malcontacts.

The Batteriecontacts are looking good.

Thanks for your help

Juergen

### Re: HP 41 doesnt work

Message #2 Posted by [Ron](#) on 26 Apr 2007, 5:02 p.m.,  
in response to message #1 by Juergen Richter

So far, every malfunctioning 41 I've seen has been either corroded contacts, or broken posts. Since your contacts are clean, I suspect it's a cracked/broken post. There is a screw under each foot, going into a post. If a post is cracked, there is poor contact between the electronics in the two halves of the calc. Depending upon how bad the posts are, they may be repairable. Check them out, and post your findings. I think many people here have experience repairing these.

### Re: HP 41 doesnt work

Message #3 Posted by [Juergen Richter](#) on 27 Apr 2007, 3:40 p.m.,  
in response to message #2 by Ron

Thanks to all that have answered.

Bevor opening the calculatot I tried the other tests.

Then i opend the calculator.

Indeed there was a little corrosin an the contacts between the both halves. when i desambled the calculator (The posts are fortunatly ok) i found it and removed it.

So again Thank you Jürgen

### Re: HP 41 doesnt work

Message #4 Posted by [Frank B. \(Germany\)](#) on 27 Apr 2007, 4:12 a.m.,  
in response to message #1 by Juergen Richter

Before opening it you might want to go the the articles section and read article 149 ("Reseting an HP41").

Frank.

**Re: HP 41 doesnt work**

*Message #5 Posted by [Chiu Yiu Wai](#) on 27 Apr 2007, 11:48 a.m.,  
in response to message #1 by Juergen Richter*

On my experience,one situation also out of consideration,and it can make hp41 can not turn on,"the spring of battery holder", the "spring" was dead form "elastic deformation" it has not enough force to push up the battery to contact the battery terminal.Maybe you can try add some metal foil between spring and battery,may be solve your problem.

Wish it can help you.

---

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## HP Forum Archive 17

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### graphing polar coordinates

Message #1 Posted by [Sara Linn](#) on 25 Apr 2007, 7:59 p.m.

If I have an equation ie.  $r=8+7\sin x$  how could I graph that on a polar coordinate system with my hp50g?

Thanks a lot :D

### Re: graphing polar coordinates

Message #2 Posted by [Tim Wessman](#) on 25 Apr 2007, 8:37 p.m.,  
in response to message #1 by Sara Linn

You could always look in the manual. . .

Go into the plotting form, select polar, go to the F= menu, press ADD, you'll see  $R1(x)=$  . . . i bet you can figure it out from there.

TW

### HP's learning module on plotting polar functions

Message #3 Posted by [Gene](#) on 26 Apr 2007, 3:05 p.m.,  
in response to message #2 by Tim Wessman

[http://h20331.www2.hp.com/Hpsub/downloads/50gWorking\\_with\\_Polar\\_Plots.pdf](http://h20331.www2.hp.com/Hpsub/downloads/50gWorking_with_Polar_Plots.pdf)

This should help quite a bit too.

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## HP Forum Archive 17

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**HP49+ - Backing Up Calculator State**
 Message #1 Posted by [Les Wright](#) on 25 Apr 2007, 4:04 p.m.

I am trying to create a "one touch" routine that will, as much as possible, back up the entire state of my calculator to the SD card.

The commands are simple enough to backup the home directory (ARCHIVE) and flag settings (RCLF then STO to a variable of form :3:FLAGS, for example).

However, I would like my little program to be as thorough as possible, and I was wondering if there is any easy way write the entire contents of IRAM, ERAM, and FLASH (ports 0, 1, 2) to backup objects on the SD card, as effortlessly as ARCHIVE does for the HOME directory.

At this point this is largely an academic point--I don't store program objects or variables in ports 0 thru 3, and since I install libraries from the SD card I have the originals to reinstall manually if I ever have to. But it is a curiosity and it would be neat to know if anyone else has ever considered it.

As for backing up user key assignments, I must admit this interests me not at all. The HP49+ keyboard is busy enough without me make a dogs breakfast of it with my own assignments, so I don't use them. But if these assignments can be recalled and saved to a backup object, like flags can, that would be good to know.

many thanks, Les

**Re: HP49+ - Backing Up Calculator State**
 Message #2 Posted by [Giancarlo \(Italy\)](#) on 26 Apr 2007, 3:18 a.m.,  
 in response to message #1 by Les Wright

Hi Les.

You may want to have a look at this post of John H. Meyers' on a looong thread on comp.sys.hp48:

[http://groups.google.com/group/comp.sys.hp48/tree/browse\\_frm/thread/b556b30be73ff9f942e5c13528971d4?num=21&q=backup+HOME+directory&\\_done=%2Fgroup%2Fcomp.sys.hp48%2Fbrowse\\_frm%2Fthread%2Fb556b30be73ff9f9%2F641d6fee23c0feb%3Flnk%3Dgst%26q%3Dbackup%2BHOME%2Bdirectory%26rnum%3D1%26#doc\\_641d6fee23c0feb](http://groups.google.com/group/comp.sys.hp48/tree/browse_frm/thread/b556b30be73ff9f942e5c13528971d4?num=21&q=backup+HOME+directory&_done=%2Fgroup%2Fcomp.sys.hp48%2Fbrowse_frm%2Fthread%2Fb556b30be73ff9f9%2F641d6fee23c0feb%3Flnk%3Dgst%26q%3Dbackup%2BHOME%2Bdirectory%26rnum%3D1%26#doc_641d6fee23c0feb)

There were some interesting tips, IIRC.

Hope this helps.

All the best.

Giancarlo

**Re: HP49+ - Backing Up Calculator State**
 Message #3 Posted by [Antonio Maschio \(Italy\)](#) on 26 Apr 2007, 6:26 a.m.,  
 in response to message #2 by Giancarlo (Italy)

Here's mine

```
<<
3: BACK49P PURGE 3: BACK49P ARCHIVE[ln]
3: KEYS49P PURGE RCLKEYS 3: KEYS49P STO 3:[ln]
FLAG49P PURGE RCLF 3: FLAG49P STO[ln]
>> ARCH STO
```

and another useful too:

```
<<
3: KEYS49P EVAL STOKEYS[ln]
3: FLAG49P EVAL STOF[ln]
3: BACK49P RESTORE[ln]
>> REST STO
```

Change 3: to 2: if you don't have an SD card. After RESToring, the calculator resets. This preserve settings and the rest.

-- Antonio

**Re: HP49+ - Backing Up Calculator State**
 Message #4 Posted by [Les Wright](#) on 26 Apr 2007, 9:25 a.m.,  
 in response to message #3 by Antonio Maschio (Italy)

Thanks, Antonio, mine looks very similar, but my original question asked if one can go one step further--namely, backup port memory in backup objects on the SD card?

Let's say I have libraries installed in ports 1 and 2--is there a convenient, one step way to backup those ports the same way ARCHIVE backups the HOME directory to a single backup object? My combing over the AUR would suggest no. But I would like to try. It would be a shame to lose things from port memory and have to reinstall each library individually. But if that is the way it needs to be, so be it.

Les

**Re: HP49+ - Backing Up Calculator State**
 Message #5 Posted by [Giancarlo \(Italy\)](#) on 26 Apr 2007, 9:45 a.m.,  
 in response to message #4 by Les Wright

Hi Les.

Quoting from:

[http://groups.google.com/group/comp.sys.hp48/tree/browse\\_frm/thread/b556b30be73ff9f942e5c13528971d4?num=21&q=backup+port+memory+in+backup+objects+on+the+SD+card&\\_done=%2Fgroup%2Fcomp.sys.hp48%2Ffrowse\\_frm%2Fthread%2Fb556b30be73ff9f9%2F641d6fee23c0feb%3Flnk%3Dgst%26q%3Dbackup%2Bport%2Bmemory%2Bin%2Bbackup%2Bobjects%2Bon%2Bthe%2BBD%2Bcard%26rnum%3D1%26#doc\\_641d6fee23c0feb](http://groups.google.com/group/comp.sys.hp48/tree/browse_frm/thread/b556b30be73ff9f942e5c13528971d4?num=21&q=backup+port+memory+in+backup+objects+on+the+SD+card&_done=%2Fgroup%2Fcomp.sys.hp48%2Ffrowse_frm%2Fthread%2Fb556b30be73ff9f9%2F641d6fee23c0feb%3Flnk%3Dgst%26q%3Dbackup%2Bport%2Bmemory%2Bin%2Bbackup%2Bobjects%2Bon%2Bthe%2BBD%2Bcard%26rnum%3D1%26#doc_641d6fee23c0feb)

"ALL objects (except libraries) that are stored into ports are also \*automatically\* enclosed within a Backup object, basically to provide a single consistent structure within the contiguous memory of a port, giving every stored object a length and a name"

so that a built-in capability seems not to be available.

But you can use specific piece of software, like this one:

<http://www.hpcalc.org/details.php?id=5955>

which is commented as follows:

"This 688-byte program allows you to backup all the data of your HP 49G+ into the SD card in just a few seconds. You can select to save Home and/or any port(s) in any path of port 3. Tested with ROM 1.23. By Jorge Cevallos M."

Hope this helps.

Best regards.

Giancarlo

**Re: HP49+ - Backing Up Calculator State**
 Message #6 Posted by [Les Wright](#) on 26 Apr 2007, 11:11 a.m.,  
 in response to message #5 by Giancarlo (Italy)

Perfect! Exactly what I was looking for.

Doesn't backup flags and user key assignments, but that is easy enough to incorporate into a custom routine which, among other tasks, calls the software.

Thanks for the tip!

Les

### Re: HP49+ - Backing Up Calculator State

Message #7 Posted by [Giancarlo \(Italy\)](#) on 26 Apr 2007, 4:31 p.m.,  
in response to message #6 by Les Wright

Les,

I'm very glad to have proved helpful.

Once in a blue moon, it's good to give and not only to take something from this fantastic Forum :)

Warmest regards.

Giancarlo

### Re: HP49+ - Backing Up Calculator State

Message #8 Posted by [James M. Prange \(Michigan\)](#) on 26 Apr 2007, 9:42 p.m.,  
in response to message #1 by Les Wright

Quote:

I am trying to create a "one touch" routine that will, as much as possible, back up the entire state of my calculator to the SD card.

I expect that it's possible.

Quote:

The commands are simple enough to backup the home directory (ARCHIVE) and flag settings (RCLF then STO to a variable of form :3:FLAGS, for example).

Or just store the list in a global variable, which will be included in the archive.

Quote:

However, I would like my little program to be as thorough as possible, and I was wondering if there is any easy way write the entire contents of IRAM, ERAM, and FLASH (ports 0, 1, 2) to backup objects on the SD card, as effortlessly as ARCHIVE does for the HOME directory.

Well, first off, on the 49 series (except perhaps the 48gII, which I'm not very familiar with), I'd recommend not using port 0 for anything, unless perhaps some library requires that it be in port 0. So why is it there? Well, because it is useful on the 48 series, because a port is required for using libraries, but not everyone owns an SRAM card for his 48SX or 48GX, and of course the other models can't use a card. You might think as port 0 as being somewhat like a RAM disk on a DOS system; if you don't have the hardware, then simulate it with software. A major disadvantage of using port 0 is that it shares the same pool of memory with "System RAM", so using it reduces the amount of free memory. Another disadvantage is that a memory clear clears port 0 as well. But with the 49 series, you have other ports built-in, so why use port 0?

Quote:

At this point this is largely an academic point--I don't store program objects or variables in ports 0 thru 3, and since I install libraries from the SD card I have the originals to reinstall manually if I ever have to. But it is a curiosity and it would be neat to know if anyone else has ever considered it.

Sure, Wolfgang's Filer6 program includes includes an ->SD-> card operation, capable of moving selected or all port objects to a flash card. See <http://page.mi.fu-berlin.de/raut/WR49/index.htm#General>. It also has other advantages; I prefer it to the built-in filer.

Quote:

As for backing up user key assignments, I must admit this interests me not at all. The HP49+ keyboard is busy enough without me make a dogs breakfast of it with my own assignments, so I don't use them. But if these assignments can be recalled and saved to a backup object, like flags can, that would be good to know.

That's not an issue anyway, because the user key assignments and alarm information are stored in the hidden subdirectory, and are included within an archive. Of course, when you RESTORE the archive, some of the alarms may be past due, so I suppose that it would be a good idea to check them.

But you wanted all objects in a port to be backed up to the card, not just the libraries. A very simple and easy (but not "one-touch") way is to tag all of them in the filer, and then use it to copy them to the card. But writing a UserRPL program to do it seems pretty straight-forward.

Traditionally, existing objects in ports can't be overwritten; if you want to replace one, you have to purge it first. This first program behaves like that; it errors out the first time that it can't store a file on the card.

```

%%HP: T(3)F(,);
@ For 49+ or 50g.
@ Program to copy all objects from port 0, 1, or 2 to a flash card.
@ Will error out ("Object In Use") if the file already exists in the directory
@ on the flash card.
@ There must be enough free system memory available to hold the largest object
@ in the port, plus a little more.
@ There must be enough available capacity on the memory card to hold all of
@ the objects from the port.
@ Arguments:
@ Level 2: Real or zint, port number to copy objects from.
@ Level 1: String, directory on the card to store the files in, in the form
@ "DIR1/DIR2/DIR3". Use just an empty string, "", to store them in
@ the root directory. To key in the / character, press ALPHA (if
@ needed), then press RightShift, and then press the divide key.
@ Results from the BYTES command:
@ Checksum: #784Eh
@ Size: 149.
<<<
/* + @ Begin program.
SWAP PVAR5 DROP @ Append to path.
1. @ List of port variable names.
OVER SIZE @ Loop index initial value.
FOR n @ Loop index final value.
DUP n GET @ Tagged port variable name.
DUP RCL @ Port variable object.
SWAP DTAG @ Untagged port variable name.
IF @
DUP TYPE 28. == @ Library number?
THEN @
"L" SWAP + @ Prepend "L".
ELSE @
\>STR @ Quoted name within string.
2. OVER SIZE 1. - SUB @ Remove "*" name delimiters.
END @
4. PICK SWAP + @ Prepend path string.
3. \>TAG @ Tag with port number for memory card.
STO @ Store object as file on memory card.
NEXT @ Discard path and list.
DROP2 @
>> @ End program.

```

But suppose that you want to store the files on the card, even if they already exist there? That's an easy modification. This next program will replace existing files **without warning**.

```

%%HP: T(3)F(,);
@ For 49+ or 50g.
@ Program to copy all objects from port 0, 1, or 2 to a flash card.
@ Will replace same-named files without warning.
@ There must be enough free system memory available to hold the largest object
@ in the port, plus a little more.
@ There must be enough available capacity on the flash card to hold all of the
@ objects from the port.
@ Arguments:
@ Level 2: Real or zint, port number to copy objects from.
@ Level 1: String, directory on the card to store the files in, in the form
@ "DIR1/DIR2/DIR3". Use just an empty string, "", to store them in
@ the root directory. To key in the / character, press ALPHA (if
@ needed), then press RightShift, and then press the divide key.
@ Results from the BYTES command:
@ Checksum: # C9E8h
@ Size: 154.
<<<
/* + @ Begin program.
SWAP PVAR5 DROP @ Append to path.
1. @ List of port variable names.
OVER SIZE @ Loop index initial value.
FOR n @ Loop index final value.
DUP n GET @ Tagged port variable name.
DUP RCL @ Port variable object.
SWAP DTAG @ Untagged port variable name.
IF @

```

```

DUP TYPE 28. == @ Library number?
THEN
  'L' SWAP + @ Prepend 'L'.
ELSE
  \->STR @ Quoted name within string.
  2. OVER SIZE 1. - SUB @ Remove "*" name delimiters.
END
4. PICK SWAP + @ Prepend path string.
3. \->TAG @ Tag with port number for memory card.
DUP PURGE @ Purge file if it exists.
STO @ Store object as file on memory card.
NEXT
DROP2 @ Discard path and list.
\>> @ End program.

```

How about one that asks what to do if the file already exists? That doesn't seem as if it ought to be too difficult, but I was surprised at how much time I spent chasing down typos, as well as some things that I meant to type in, but apparently didn't; maybe I needed a little food to power my brain? I really should remember to eat when I need to. Anyway, this one seems to work now.

```

$$$F: T(3)F(.);
@ For 49g+ or 50g.
@ Program to copy all objects from port 0, 1, or 2 to a memory card.
@ Will ask whether to replace a file.
@ There must be enough free system memory available to hold the largest object
@ in the port, plus a little more.
@ There must be enough available capacity on the memory card to hold all of
@ the objects from the port.
@ Arguments:
@ Level 2: Real or zint, port number to copy objects from.
@ Level 1: String, directory on the card to store the files in, in the form
@ "DIR1/DIR2/DIR3". Use just an empty string, "", to store them in
@ the root directory. To key in the / character, press ALPHA (if
@ needed), then press RightShift, and then press the divide key.
@ Results from the BYTES command:
@ Checksum: # D168h
@ Size: 493.5
\<< @ Begin program.
\< @ Beginning of recursive subprogram for file exists.
PICK3 @ Untagged port variable name string.
"\010already on card.\010Press R to replace.\010Press S to skip.\010Press Q to quit." @
+ @ Concatenate strings.
CLLCD @ Clear display.
3. DISP @ Prompt for keystroke.
0. WAIT @ Wait for keystroke.
CLLCD @ Clear display.
IF @ Ignore keyplane.
CASE
  DUP 52. == @ R pressed?
  THEN @
  DROP @ Discard key value.
  DUP PURGE @ Purge file from card.
  STO @ Store object as file on memory card.
END
  DUP 53. == @ S pressed?
  THEN @ Discard key value, name, and object.
  END @
  51. == @ Q pressed?
  THEN @
  5. DROPN @ Clean up stack.
  0. DOERR @ Error out.
  END @
  \<-s EVAL @ Recurse.
END
\>> @ End of subprogram for file exists.
\> \<-s @ Bind.
\<< @ Begin local defining procedure.
+ @ Append to path.
SWAP FVARS DROP @ List of port variable names.
1. @ Loop index initial value.
OVER SIZE @ Loop index final value.
FOR n @
  DUP n GET @ Tagged port variable name.
  DUP RCL @ Port variable object.
  SWAP DTAG @ Untagged port variable name.
  IF @
  DUP TYPE 28. == @ Library number?
  THEN @
  'L' SWAP + @ Prepend 'L'.
  ELSE @
  \->STR @ Quoted name within string.
  2. OVER SIZE 1. - SUB @ Remove "*" name delimiters.
  END @
  DUP UNROT @ Copy to level 3.
  5. PICK SWAP + @ Prepend path string.
  3. \->TAG @ Tag with port number for memory card.
  DUP2 @ Copy for error condition.
  IFERR @ Trap error.
  STO @ Try storing object as file on memory card.
  THEN @
  IF @
  ERRN #9h == @ "Object in Use" error?
  THEN @
  IF @
  -55. FC? @ Last argument saved?
  THEN @
  DROP2 @ Discard extra object and name.
  END @
  \<-s EVAL @ Execute subprogram.
  ELSE @
  ERRN DOERR @ Execute any other error.
  END @
  ELSE @
  DROP2 @ Discard extra object and name.
  END @
  DROP @ Discard the string.
  NEXT @
  DROP2 @ Discard path and list.
\>> @ End local defining procedure.
\>> @ End program.

```

I really admire the input form in Jorge's BCKP21, but I'm too lazy to attempt that.

A bigger problem would be automatically restoring the files to a port, as there doesn't seem to be any built-in RPL (or assembly language) method of getting a list of the files on the card (or in one of it's directories). Using the filer is easy enough, but [SDFiler](#) may well include that capability (I haven't tried it yet).

Quote:

many thanks,

many welcomes, and,

Regards,

James

### Re: HP49+ - Backing Up Calculator State

Message #9 Posted by [Giancarlo \(Italy\)](#) on 27 Apr 2007, 2:31 a.m.,  
in response to message #8 by [James M. Prange \(Michigan\)](#)

James,

hats off to your post!! (and I feel this is a very well-spent pair of exclamation marks :-)

An outstanding piece of information and education of User RPL programming at the same time.

I'm really delighted and I'm gonna bookmark and save it for any future reference.

Thank you & best regards.

Giancarlo

### Re: HP49+ - Backing Up Calculator State

Message #10 Posted by [Les Wright](#) on 27 Apr 2007, 4:18 a.m.,  
in response to message #8 by [James M. Prange \(Michigan\)](#)

Wow!

This wildly beyond anything I dreamed of when making my original query.

For whatever reason, I prefer to back up flags to a separate file on the SD card and restore them before restoring the rest of the archive, very much as in Antonio's little routine. My little routine is quite similar--indeed, the file names are actually the only thing that is really any different.

I agree with you that it is unwise to put anything in port 0 and I frankly never do.

This discussion has got me wondering how desperately important it is for me to back up ports 1 and 2 to the SD card, since automating the process is not as straightforward as backing up main memory, flags, and key assignments. The fact is, I only use ports 1 and 2 to store libraries, and in the unfortunate and unlikely event that these libraries get erased (ON-A-F and dead main batteries do not erase ports 1 and 2, and the backup button cell seems in good shape on my unit), it is a simple matter to copy the desired libraries back over from the SD card to the desired ports and reattach them via ON-C.

My interest in "total backup" is linked to my newfound preference for powering the unit with NiMH cells. One of the great advantages of the 49 series is SD storage capability. It is fast and robust, unlike the fussy and delicate magnetic cards of the 41 series and the at-times complicated serial port interface of the 48 series.

Indeed, I would make the admittedly bold statement that there is absolutely no excuse for the truly serious user of 49g+ or 50g not to have an SD card in the calculator for backup at all times. Granted, there was a time when such memory was not cheap--just four years ago I paid 130CAD (about 110USD) for a 128MB MemoryStick for my Sony Clie!--but nowadays the smaller size cards, which are more than adequate for use with the the relatively tiny files created by these calculators are so cheap it seems that some sellers can't even give the things away! Indeed, the 128MB card I use with my 49G+ was a throw-in accessory with a digital recorder I bought. It is woefully inadequate for serious sound recording and will only accomodate a few minutes of a 96kHz/24bit WAV file, so I wasted no time in getting 2GB card for that device. But the little card is positively huge as far as the 49G+ is concerned--I could back up my existing memory hundreds of times over and still have lots of space.

So my low-level solution right now is the little program similar to Antonio's, which I assign to a the global variable BKUP. I hit that key several times when using the calculator, always before turning it off after a session. And every so often I copy the contents of the SD card to a folder on my PC. Overkill?--perhaps. But it is just so quick and easy especially when I consider that using WALL to backup my 41CX takes 11 magnetic cards, a few minutes of time, fairly fresh batteries, and organization lest I mix up the cards! And I am ever mindful that the much celebrated 42S, 32SH, and 15C don't have any backup capacity at all.

As for backing up port memory, I can do that less frequently and by using either James's code or the very easy to use BCKP21.

Les

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**HHC2007 HP Handheld Conf 9/29-30 in San Diego**

Message #1 Posted by [Jake Schwartz](#) on 25 Apr 2007, 4:02 p.m.

It's finally time to announce the HHC2007 U.S. HP Handhelds Conference, to be held in San Diego, California on September 29th and 30th. The event is scheduled to be held at the HP facility there, where the majority of the Calculator team is located. One of the themes of this year's affair is "The 35th Anniversary of the HP35" and we are asking those attendees who own HP35s to bring them along as a show of support for three and a half decades of Hewlett-Packard Calculator development.

For all the details on conference registration, recommended hotel location, speaker signups, etc. check out <http://holyjoe.net/hhc2007/> on the web. There will be updates posted on a regular basis, so check back at the website for attendee and speaker lists as they become available, as well as links to any HP Handheld-related news that is relevant. As all the other times, going back to the original PPC Conference at the HP Santa Clara office in 1979, it should be an interesting weekend.

Hoping to see you in San Diego in September,

Jake Schwartz

**Re: HHC2007 HP Handheld Conf 9/29-30 in San Diego**

Message #2 Posted by [Les Wright](#) on 25 Apr 2007, 4:27 p.m.,  
in response to message #1 by Jake Schwartz

Is there corresponding information to be had about the UK conference two weeks later?

Les

**Re: HHC2007 HP Handheld Conf 9/29-30 in San Diego**

Message #3 Posted by [Jake Schwartz](#) on 25 Apr 2007, 4:57 p.m.,  
in response to message #2 by Les Wright

I believe that the HPCC Group may be preparing something for their website at <http://www.hpcc.org>, however I don't know when it will appear.

Jake

**Re: HHC2007 HP Handheld Conf 9/29-30 in San Diego**

Message #4 Posted by [Howard Owen](#) on 25 Apr 2007, 6:39 p.m.,  
in response to message #1 by Jake Schwartz

I'd say "I'll be there with bells on" except for two things. First, it rarely snows in San Diego in any season, let alone Fall, and second, to be topical I'd have to say "I'll be there with beepers on!"

Regards,



Howard

**Re: HHC2007 HP Handheld Conf 9/29-30 in San Diego**

*Message #5 Posted by [Karl Schneider](#) on 26 Apr 2007, 1:23 a.m.,  
in response to message #1 by Jake Schwartz*

Thanks, Jake.

I'll make plans to be there, and hope to tie in a family visit, as well.

I'll bring my gift HP-35, my 2004 HP-33S with one bug that ought to be fixed with subsequent releases, and an HP-32SII for comparison.

-- KS

**Great! Please fill out the "I expect to attend" form on the HHC2007 webpage! :-)**

*Message #6 Posted by [Gene](#) on 26 Apr 2007, 7:34 a.m.,  
in response to message #5 by Karl Schneider*

That will help us keep track of who plans to come.

Be good to see you Karl! Gene

**Re: HHC2007 HP Handheld Conf 9/29-30 in San Diego**

*Message #7 Posted by [Rich Messeder \(US\)](#) on 26 Apr 2007, 11:40 a.m.,  
in response to message #1 by Jake Schwartz*

Too bad that it is after the school year begins...I'm pretty busy after that.

Rich

**Re: HHC2007 HP Handheld Conf 9/29-30 in San Diego**

*Message #8 Posted by [Namir](#) on 26 Apr 2007, 2:02 p.m.,  
in response to message #1 by Jake Schwartz*

Jake,

Thank you for the information!!! I will be there. I have my airline ticket! I will have to leave Saturday night because my step-son is getting married on Sunday. However, I figured spending at least the most part of Saturday on this very special occasion, will be a minimum for me.

Namir

**Re: HHC2007 HP Handheld Conf 9/29-30 in San Diego**

*Message #9 Posted by [Rich Messeder \(US\)](#) on 29 Apr 2007, 8:07 a.m.,  
in response to message #1 by Jake Schwartz*

While I cannot attend due to prior commitments, I have a few items, (that I think are probably on the minds of others, as well). I used to be active in the PPC back in the 1980s, and have many fond memories of the club, its activities, and the Journal.

I am involved in University activities now, and wish that HP would return to the position that it had decades ago as preeminent in the HHC field. It is noteworthy to me that college texts refer to TI machines, and many professors don't even know how to use RPN machines. Yet, in the past year alone, my discussions of the benefits of RPN have led several Engineering and Physical Science students to borrow one of my calculators and eventually purchase their own. Two of them were outspoken critics of the idea that RPN could be worth considering in light of TI's dominance in the field of education and the fact that TI machines are used extensively in grades below college. One of their comments, prior to actually testing an RPN machine, was that RPN was too difficult for beginners to learn. My own experience contradicts this belief, and their opinion on the subject changed, too, once they had tried RPN.

I don't know where the future of HHCs is headed, but the need for them appears to be still strong. Education should be about providing our students with the most efficient tools and methods to acquire knowledge and to explore the scientific world. I think that HP HHCs have been the best tool for the job until the recent past. Though I still will not use anything but an HP, I opine that HP has lost the edge.

HP should give serious thought to making inroads in the lower educational circles, to getting their products showcased at universities and high schools, and to getting the benefits of RPN into texts.

WRT the latest offering at the high end, the HP 50g can benefit greatly from an upgraded display (more resolution), increased data entry history, and a host of other features that have been mentioned here. I hope that HP will have folks at the conference who will take the suggestions of attendees seriously.

I recall a number of years ago when I was working at a nuclear facility. I used an HP HHC extensively in my work, and was well-known at the site for my opinions about the benefits of RPN in general and HP's quality in particular.

On one occasion, I was working on reactivity calculations with another engineer who was critical of the "weird-ness" of RPN. The small group of engineers present suggested an impromptu face-off using the calculations at hand. The HP 15C was a clear winner, and, as a result, one of the Ph. D.s switched to HP within a few months (after asking me to demonstrate further capability that the 15C had that the current TI devices did not).

On another occasion, I had moved up to a new machine, and that new product had keyboard problems (sound familiar, HP 49 users?). I had been used to entering my data and being confident that the result would be correct. When I discovered that this was not the case, I called HP, //who assigned a field engineer to handle my problem// because they were concerned about their reputation in the nuclear field. I eventually wound up with a new device in the same series that did not have the problem (which I still have). Can you imagine this in today's HP climate?

I look forward to hearing about the conference and to seeing the direction that HP chooses for the future. We don't need a rah-rah nostalgic look at the past as much as we need dedication to quality and excellence in the future.

Rich

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### **Correspondence between Sharp PC-XXXX and Sharp EL-YYYY models?**

Message #1 Posted by [gene](#) on 25 Apr 2007, 2:35 p.m.

Does anyone have a table (or can put one together) of model equivalence for Sharp handheld PCs?

For example, the Sharp PC-1421 and EL-5510 are the same model.

What other "equivalents" are out there?

### **Re: Correspondence between Sharp PC-XXXX and Sharp EL-YYYY models?**

Message #2 Posted by [Valentin Albillo](#) on 25 Apr 2007, 4:42 p.m.,  
in response to message #1 by [gene](#)

Hi, Gene:

[List of SHARP PC models, all versions](#)

Best regards from V.

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**HP-71B, CMT-CR-128K memory module**

Message #1 Posted by [John Pierce](#) on 25 Apr 2007, 1:27 p.m.

Much to my surprise, I just read where the CMT 128K memory module for the HP-71B retains its memory when detached from the HP71B. I opened the memory module and found a very small (smaller than a dime) battery pack with no identifying marks. The voltage across the contacts was .883 volts. Can anyone help me identify this battery so I can get a new one. Thanks. John Pierce

**Re: HP-71B, CMT-CR-128K memory module**

Message #2 Posted by [Rodger Rosenbaum](#) on 25 Apr 2007, 3:04 p.m.,  
in response to message #1 by John Pierce

It's undoubtedly a 3 volt lithium cell. It should have a part no. on the cell, but if not, any lithium cell that fits will work. Check the Digikey catalog. Be sure to get a cell with tabs for easy soldering without damaging the cell. And watch the polarity!

**Re: HP-71B, CMT-CR-128K memory module**

Message #3 Posted by [John Pierce](#) on 25 Apr 2007, 6:29 p.m.,  
in response to message #2 by Rodger Rosenbaum

Thanks Roger, This is the first time I have been to Digikey's website. Very impressive. John Pierce

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### 50g/48GX vs. 71B matrix operations--getting slightly different results

Message #1 Posted by [Egan Ford](#) on 24 Apr 2007, 11:32 p.m.

The 50g, 48GX, and the 71B all have the same Saturn processor (50g emulated). All 3 have the same machine epsilon (the smallest  $n$  where  $n+1=1$ ,  $n>0$ ) and the same random number generator.

First generate a large (order 20+) random square matrix and vector with values ranging from  $-1/2$  to  $1/2$ .

Next solve for  $x$  ( $Ax=b$ ):

50g/48GX:

b A / (x on stack)

71B:

MAT x=SYS(A,b)

Compare  $x$  on both systems. They are exactly the same, as are  $A$  and  $b$  (assuming the random seeds are the same).

Next check the accuracy of the matrix operations ( $Ax-b$ ):

50g/48GX:

A x \* b - (Z on stack)

71B:

MAT Z=A\*X @ MAT Z=Z-B

Compare  $Z$  on both systems. Some of the values differ by 1 ULP. Why?

Output of my test:

| 50g/48GX        | 71B             |    |
|-----------------|-----------------|----|
| .0000000000001  | .0000000000001  |    |
| -.0000000000007 | -.0000000000007 |    |
| .0000000000002  | .0000000000002  |    |
| -.0000000000009 | -.0000000000009 |    |
| .0000000000007  | .0000000000007  |    |
| -.0000000000005 | -.0000000000005 |    |
| -.0000000000003 | -2.9E-12        | != |
| -.0000000000001 | -.0000000000001 |    |
| .0000000000009  | .0000000000009  |    |
| .0000000000006  | .0000000000006  |    |
| .0000000000015  | .0000000000015  |    |
| .0000000000005  | .0000000000005  |    |
| .0000000000001  | .0000000000001  |    |
| -.0000000000001 | -.0000000000001 |    |
| -1.3E-12        | -1.4E-12        | != |
| 2.1E-12         | 2.1E-12         |    |
| -.0000000000017 | -.0000000000016 | != |
| -.0000000000012 | -.0000000000012 |    |
| .0000000000001  | .0000000000001  |    |
| .0000000000004  | .0000000000004  |    |

## 50g/48GX code (put N on stack. A, b, x will be saved):

```

%%HP: T(3)A(R)F(.);
\<< MEM DROP MEM TICKS 0. 0. 0. 0. 1. \-> N M1 T1 M2 T2 T3 S E
  \<< 1. RDZ 1. N
    FOR I .5 RAND -
      NEXT N \->ARRY 1. N
    FOR I 1. N
      FOR J .5 RAND -
        NEXT N \->ARRY
      NEXT N ROW\-> MEM 'M2' STO 'A' STO 'b' STO TICKS 'T2' STO b A / 'x' STO TICKS 'T3' STO x
OBJ\-> OBJ\-> DROP \->LIST \GSLIST 'S' STO 0. FIX "ORDER: " N + "EST MEM USED: " N N 1. + * 8.
* + "MEM USED: " M1 M2 - + "FREE MEM: " M2 + 2. FIX "ARRAY TIME: " T2 T1 - B\->R 8192. / +
"SOLVE TIME: " T3 T2 - B\->R 8192. / + "FLOPS: " 2. 3. / N 3. ^ * 3. 2. / N 2. ^ * + T3 T2 -
B\->R 8192. / / \->NUM + "TOTAL TIME: " T3 T1 - B\->R 8192. / + STD "SUM(x): " S + "eps: "
  WHILE E 1. + \->NUM 1. \=/
  REPEAT E 2. / \->NUM 'E' STO
  END E + 6. FIX "RESIDUAL 1: " A x * b - RNRM E A CNRM N * * / + "RESIDUAL 2: " A x * b -
RNRM E A CNRM x CNRM * * / + "RESIDUAL 3: " A x * b - RNRM E A RNRM x RNRM * * / +
  \>> 13. \->LIST 1.
  \<< 10. CHR +
  \>> DOSUBS \GSLIST 'RM.TXT' STO STD
\>>

```

## 71B code (Enter N when prompted. A, B, X, Z in RAM):

```

10 STD @ DESTROY ALL @ OPTION BASE 1 @ RANDOMIZE 1
20 H=13 @ DIM L$(H)[80]
30 M=INT(SQR(MEM/2/8))-1
40 INPUT "N=",STR$(M);N
50 M1=MEM @ REAL A(N,N),B(N,1) @ M2=MEM @ REAL X(N,1) @ M3=MEM
60 DISP "INITIALIZING ARRAYS..."
70 T1=TIME
80 FOR I=1 TO N @ B(I,1)=.50-RND @ NEXT I
90 FOR I=1 TO N @ FOR J=1 TO N @ A(I,J)=.50-RND @ NEXT J @ NEXT I
100 DISP "SOLVE..."
110 T2=TIME @ MAT X=SYS(A,B) @ T3=TIME @ BEEP
120 S=0 @ FOR I=1 TO N @ S=S+X(I,1) @ NEXT I
130 E=1
140 IF E+1#1 THEN E=E/2 @ GOTO 140
150 REAL Z(N,1)
160 MAT Z=A*X @ MAT Z=Z-B
170 L$(1)="ORDER:"&STR$(N)
180 L$(2)="EST MEM USED:"&STR$(N*(N+1)*8)
190 L$(3)="MEM USED:"&STR$(M1-M3)
200 L$(4)="FREE MEM:"&STR$(M2)
210 L$(5)="ARRAY TIME:"&STR$(T2-T1)
220 L$(6)="SOLVE TIME:"&STR$(T3-T2)
230 FIX 2
240 L$(7)="FLOPS:"&STR$(N^3/(T3-T2))
250 STD
260 L$(8)="TOTAL TIME:"&STR$(T3-T1)
270 L$(9)="SUM(x):"&STR$(S)
280 L$(10)="eps:"&STR$(E)
290 FIX 6 ! STD ! FIX 6
300 V$=CHR$(124)&CHR$(124)
310 U$=CHR$(95)
320 L$(11)=V$&"Ax-b"&V$&U$&"oo/(eps*"&V$&"A"&V$&U$&"1*N)= "
330 L$(11)=L$(11)&STR$(RNORM(Z)/(E*CNORM(A)*N))
340 L$(12)=V$&"Ax-b"&V$&U$&"oo/(eps*"&V$&"A"&V$&U$&"1*"&V$&"x"&V$&U$&"1)= "
350 L$(12)=L$(12)&STR$(RNORM(Z)/(E*CNORM(A)*CNORM(X)))
360 L$(13)=V$&"Ax-b"&V$&U$&"oo/(eps*"&V$&"A"&V$&U$&"oo*"&V$&"x"&V$&U$&"oo)="
370 L$(13)=L$(13)&STR$(RNORM(Z)/(E*RNORM(A)*RNORM(X)))
380 STD
385 FOR I=1 TO H @ DISP L$(I) @ NEXT I @ GOTO 400
390 CALL SCROLLW(L$( ),H)
400 ! DESTROY A,B,X,Z,L
410 END

```

Edited: 25 Apr 2007, 12:16 a.m.

## Re: 50g/48GX vs. 71B matrix operations--getting slightly different results

Message #2 Posted by [Egan Ford](#) on 25 Apr 2007, 12:54 a.m.,  
in response to message #1 by Egan Ford

More info. If you use the swapdisk MATHROM it will be less like the 50G/48GX.

Perhaps my MATHROM has bug fixes (but not enough fixed :-).

| 50g/48GX        | 71B (my MATHROM) | 71B (swapdisk MATHROM) |
|-----------------|------------------|------------------------|
| .0000000000001  | .0000000000001   | -.0000000000001        |
| -.0000000000007 | -.0000000000007  | -.0000000000007        |
| .0000000000002  | .0000000000002   | .0000000000003         |
| -.0000000000009 | -.0000000000009  | -.0000000000005        |
| .0000000000007  | .0000000000007   | .0000000000002         |
| -.0000000000005 | -.0000000000005  | -.0000000000002        |
| -.0000000000003 | -2.9E-12         | 7.E-13                 |
| -.0000000000001 | -.0000000000001  | -.0000000000007        |
| .0000000000009  | .0000000000009   | .0000000000004         |
| .0000000000006  | .0000000000006   | .0000000000006         |
| .0000000000015  | .0000000000015   | .0000000000003         |
| .0000000000005  | .0000000000005   | .0000000000006         |
| .0000000000001  | .0000000000001   | .0000000000004         |
| -.0000000000001 | -.0000000000001  | -.0000000000009        |
| -1.3E-12        | -1.4E-12         | 4.1E-12                |
| 2.1E-12         | 2.1E-12          | -4.3E-12               |
| -.0000000000017 | -.0000000000016  | -.0000000000018        |
| -.0000000000012 | -.0000000000012  | -.0000000000014        |
| .0000000000001  | .0000000000001   | -.0000000000002        |
| .0000000000004  | .0000000000004   | .0000000000008         |

### Re: 50g/48GX vs. 71B matrix operations--getting slightly different results

Message #3 Posted by [Rodger Rosenbaum](#) on 25 Apr 2007, 2:03 a.m.,

in response to message #2 by Egan Ford

Is *your* MATHROM the official hardware version sold by HP, or is it burned into an EEPROM?

### Re: 50g/48GX vs. 71B matrix operations--getting slightly different results

Message #4 Posted by [Egan Ford](#) on 25 Apr 2007, 2:07 a.m.,

in response to message #3 by Rodger Rosenbaum

Burned, came on EPROM.

### Re: 50g/48GX vs. 71B matrix operations--getting slightly different results

Message #5 Posted by [Rodger Rosenbaum](#) on 25 Apr 2007, 2:19 a.m.,

in response to message #1 by Egan Ford

You don't need to go to anywhere near that much trouble to see the differences.

Start with this matrix:

```
[[ 888445 887112 ]
 [ 887112 885781 ]]
```

Invert it.

On an HP71 or HP48S, you will get:

```
[[ 1279847.88527 -1281771.02151 ]
 [ -1281771.02151 1283697.0475 ]]
```

On an HP48G, HP49, HP49G+ or HP50G (in approximate mode), you will get:

```
[[ 885436.50322 -886766.985569 ]
 [ -886766.985569 888099.46714 ]]
```

The HP48G and its successors have matrix arithmetic that was reworked by Paul McClellan to use 15 digit arithmetic for internal operations, rounding to 12 digits only occurring after everything is done.

The HP71 and HP48S rounded internal operations to 12 digits at intermediate steps in the carrying out of matrix operations.

**Re: 50g/48GX vs. 71B matrix operations--getting slightly different results**

Message #6 Posted by **GE** on 25 Apr 2007, 6:49 a.m.,  
in response to message #5 by Rodger Rosenbaum

On the Casio 9860, you get for the inverse :

[ 888781 -887112]

[-887112 888445]

This answer seems to be exact. How do you explain this ???

**Re: 50g/48GX vs. 71B matrix operations--getting slightly different results**

Message #7 Posted by **Rodger Rosenbaum** on 25 Apr 2007, 9:13 a.m.,  
in response to message #6 by GE

Quote:

On the Casio 9860, you get for the inverse :

[ 888781 -887112]

[-887112 888445]

This answer seems to be exact. How do you explain this ???

Did you make a typo when you copied the 1,1 element of the inverse?

I don't know anything about the Casio 9860, so I can only guess about why it gets the exact result. (The HP50 also gets the exact result when it's in exact mode.)

What does the 9860 get for the determinant of the original matrix?

What does it get for  $885781 * 888445 - 7.8696E11$  (do the calculation in one step if you can) ?

What does it get for  $1 / 7 - .142857$  ?

The HP48G, etc., usually uses the LU decomposition to determine the determinant of a matrix, but for a 2x2 matrix, it does it directly. Perhaps the 9860 treats a 2x2 matrix specially when inverting, and therefore gets an exact result.

**Re: 50g/48GX vs. 71B matrix operations--getting slightly different results**

Message #8 Posted by **GE** on 25 Apr 2007, 10:47 a.m.,  
in response to message #7 by Rodger Rosenbaum

Hi Rodger, this machine is the non-CAS current top of the line Casio. It is the fastest non-CAS machine ever. See Xerxes' speed tests in the Articles section.

Yes there was a typo, the [1,1] element is 885781.

It gets the determinant of the original matrix as exactly 1 (det M -1 gives Zero).

$885781 * 888445 - 7.8696E11$  returns 7700545.

$1/7 - .142857$  returns  $1.42857143e-07$ , and  $1/7 - .142857142857$  returns  $1.43e-13$ .

Casios are notorious for rounding  $N + \epsilon$  to  $N$  ( $N$  integer) when  $\epsilon$  is small, a bad



behavior.

You are probably right for the special case of dimension 2.

**Re: 50g/48GX vs. 71B matrix operations--getting slightly different results**

Message #9 Posted by [Rodger Rosenbaum](#) on 25 Apr 2007, 2:59 p.m.,  
in response to message #8 by GE

Quote:

1/7-.142857 returns 1.42857143e-07, and 1/7-.142857142857 returns 1.43e-13.  
Casios are notorious for rounding  $N+\epsilon$  to  $N$  ( $N$  integer) when  $\epsilon$  is small, a bad behavior.  
You are probably right for the special case of dimension 2.

It looks like they're keeping 15 digits in displayed results, and therefore, using at least 15 digits for internal calculations.

**Re: 50g/48GX vs. 71B matrix operations--getting slightly different results**

Message #10 Posted by [Egan Ford](#) on 25 Apr 2007, 10:02 a.m.,  
in response to message #5 by Rodger Rosenbaum

Quote:

You don't need to go to anywhere near that much trouble to see the differences.

The 71B code was intended to act as a memory check. That is why it defaults to the largest  $N$  that will fit into memory. I wrote this to check some used RAM I purchased, but when the residuals didn't match EMU71 I got concerned. I used the 50G as a tie breaker, but as demonstrated above that didn't help either. As for the memory check, the residuals did match after I used matching Math ROMs in my 71B and EMU71.

Quote:

The HP71 and HP48S rounded internal operations to 12 digits at intermediate steps in the carrying out of matrix operations.

Thanks, that is helpful. I will use a 48SX for comparison. Now please tell me why there are two different Math ROMs for the 71B both with a version of 1A. Are there others?

Thanks again.

**Re: 50g/48GX vs. 71B matrix operations--getting slightly different results**

Message #11 Posted by [Rodger Rosenbaum](#) on 25 Apr 2007, 2:55 p.m.,  
in response to message #10 by Egan Ford

Would you try running the following little program with each of the MATHROM's you have, and posting the results?

```
10 OPTION BASE 1 @ DIM C(5) @ COMPLEX R(4)
20 READ C
30 MAT R=PROOT(C)
40 MAT DISP R;
```

100 DATA 1,4,6,4,1

You may have to type DELAY 9,0 before you run the program. Then you can press enter repeatedly to see each root.

edited for grammar :-(

*Edited: 25 Apr 2007, 8:57 p.m. after one or more responses were posted*

**Re: 50g/48GX vs. 71B matrix operations--getting slightly different results**

*Message #12 Posted by [J-F Garnier](#) on 25 Apr 2007, 3:32 p.m.,  
in response to message #11 by Rodger Rosenbaum*

Here are the results (Egan was so kind to send me a copy of "his" Math LEX that I named "math1x" for convenience):

```
>lex math1x off @ lex math1a on
>run
(-1,0)
(-.9999999501113,0)
(-1.00000024944,4.89897948557E-7)
(-1.00000024944,-4.89897948557E-7)
>
>lex math1a off @ lex math1x on
> run
(-1,0)
(-1,0)
(-1,0)
(-1,0)
```

Impressive!

Rodger, it seems you know very well this Math Lex version, can you tell us more?

J-F

**Re: 50g/48GX vs. 71B matrix operations--getting slightly different results**

*Message #13 Posted by [Egan Ford](#) on 25 Apr 2007, 5:05 p.m.,  
in response to message #12 by J-F Garnier*

I get the same results.

**Re: 50g/48GX vs. 71B matrix operations--getting slightly different results**

*Message #14 Posted by [Rodger Rosenbaum](#) on 25 Apr 2007, 8:54 p.m.,  
in response to message #12 by J-F Garnier*

That is a MATHROM that I modified about 20 years ago so that the internal 15-form arithmetic was properly rounded to even just like the 12-form arithmetic.

I was curious as to just how much improvement could be had by doing this, and the PROOT function shows the improvement. The 4th order polynomial with equal roots is solved exactly, but not the 5th and higher! The overall improvement is fairly small except for some special cases.

This LEX got out to the world by mistake! I didn't take care of the details of NAN's, INF's, etc., so this LEX shouldn't be relied on.

I didn't change the version to 1x because I didn't ever expect to release it. It would be good to make that change so that it isn't confused with the real thing.

---

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## HP Forum Archive 17

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### **HOWARD OWEN! Hey, look over here!**

*Message #1 Posted by [Bob Blaylock](#) on 24 Apr 2007, 6:54 p.m.*

Less subtle attempts to get your attention don't seem to have been entirely successful. Based on a terse mention in another of your postings, of having known a Bob Blaylock, I think I am indeed the Bob Blaylock that you once knew.

If you want to catch up, write me at Bob (at) Blaylock (dot) to (Yes, that's ".to" at the end of the address, where you usually expect to see something more normal, like ".com" or ".net".)

*Edited: 24 Apr 2007, 10:39 p.m.*

---

### **Re: HOWARD OWEN! Hey, look over here!**

*Message #2 Posted by [Howard Owen](#) on 24 Apr 2007, 11:29 p.m.,  
in response to message #1 by [Bob Blaylock](#)*

You've got mail, Bob. 8)

Regards  
Howard

---

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## HP Forum Archive 17

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### HP-41 in Space - Shuttle Training Manual

Message #1 Posted by [Bill \(Smithville, NJ\)](#) on 24 Apr 2007, 3:44 p.m.

Hello All,

I just received the Space Shuttle DVD from World Space Flight News. It has just about every type of shuttle manual including the:

Hewlett-Packard 41 Calculator/Shuttle Portable  
Onboard Computer Training Manual.

It's a 45 page manual dated November 1985. It covers both the HP-41 and the Grid Computer. A lot of it covers pretty basic HP-41 operating procedures.

But there are a few tidbits of interest:

1. HP-41C were used on the early flights. They were retired to be used as training units once the HP-41CV became available. What's interesting is that they did not use the HP-41CX, even though they were using the time module on some programs.
2. The 41C was outfitted with x-functions, two x-memory and the time module under normal use.
3. Programming is not covered.
4. All of the shuttle flight programs must be run in the User mode.
5. Programs are loaded from the digital cassette drive. Reading in the programs also reassigns the keys, initializes the variables and sets the flags.
6. A brief description is given for the six programs:
  - Center of Gravity
  - Orbit
  - Alarm/Hex
  - Landing
  - Proximity Operations
  - Tail
7. Now for the real teaser - They refer you to the "HP-41 Flight Procedures Handbook" for details on each program. That handbook is not on the DVD and, so far, I can find no other reference to it.
8. One very interesting plug in module is the "HP-41 Tone Amplifier". This would plug in place of one of the other modules and be used with the Alarm/Hex program.

That's about it. Sure wish I could find that HP-41  
Flight Procedures Handbook.

Bill

*Edited: 24 Apr 2007, 3:47 p.m.*

## **Re: HP-41 in Space - Shuttle Training Manual**

*Message #2 Posted by **Karl-Ludwig Butte** on 25 Apr 2007, 5:58 a.m.,  
in response to message #1 by Bill (Smithville, NJ)*

Hi Bill,

thanks a lot for sharing these infos. A Google-search with "HP-41 Flight Procedures Handbook" brought no hits but "Flight Procedures Handbook" produced a few at least. Alas, the links showed no trace of HP-41. It seems there were several Flight Procedures Handbooks with different content.

Kind regards

Karl

---

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## HP Forum Archive 17

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**HP-75CX**

Message #1 Posted by [Matthias Wehrli](#) on 24 Apr 2007, 2:09 p.m.

Got a HP-75CX from one of you, thanks. Can someone tell us more about this version? We all know the C and the D version. My 75CX shows Version aaaaaa and 14271 K memory (without a 8k expansion). The calculator is labeled 75CX, like the 75C and the 75D are...

Matthias

**Re: HP-75CX**

Message #2 Posted by [Eric Smith](#) on 25 Apr 2007, 7:28 p.m.,  
in response to message #1 by Matthias Wehrli

75CX was one of the pre-release designations.

At one point, the plan was to have 8K and 16K units, which would have been the 75C and 75D. I'm not sure whether the 75CX was before or after that. But the 8K unit was dropped, and the 16K was introduced as the 75C. By mistake, a photo showing a 75D was in the press kit.

The 75D designation was used later, but had nothing to do with the RAM size.

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## HP Forum Archive 17

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### HP 15C Simulator - Change Comma to Decimal Point

Message #1 Posted by [Paul](#) on 24 Apr 2007, 10:30 a.m.

I would like to know how to change the radix from a comma to a decimal point in Torsten Manzow's HP 15c simulator?

Does anyone have an email for him?

Paul

### Re: HP 15C Simulator - Change Comma to Decimal Point

Message #2 Posted by [Torsten](#) on 24 Apr 2007, 10:42 a.m.,  
in response to message #1 by Paul

There are several ways to change the settings:

- Press <Alt>-<.> or <Alt>-<,>
- Press <Alt>-<O> or right click the area around the display and choose "1.000,00 -> 1,000.00" from the pop-up menu.

The HP-15C simulator contact address can be found in the online help. Press <F1> on the simulator.

Torsten Manz

### Re: HP 15C Simulator - Change Comma to Decimal Point

Message #3 Posted by [Paul](#) on 24 Apr 2007, 10:56 a.m.,  
in response to message #2 by Torsten

Torsten,

Thank you very much for responding so quickly and the simulator. You have made my day.

Paul

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## HP Forum Archive 17

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### HP50g DESOLVE Help

Message #1 Posted by [Chuck](#) on 24 Apr 2007, 10:05 a.m.

On page 14-3 of the 50G Users manual are some commands to use the DESOLVE. The second example is entering:

```
[ 'd1d1y(t)+5*y(t)=2*COS(t/2)' 'y(0)=6/5' 'd1y(0)=-1/2' ]
```

```
ENTER 'y(t)' ENTER DESOLVE
```

The solution "should" be in terms of sine and cosine, as is reported in the manual. Mine keeps the solution in terms of the complex expressions  $e^{(a+bi)}$ , etc. I can certainly do the rewriting myself, but what possible setting am I missing to have the calculator to convert to sines and cosines?

The modes I am using are: soft menus, RPN, RAD, Complex, 't' var, the usual... But I must be overlooking something.

Any suggestions?

Thanks, all.

### Re: HP50g DESOLVE Help

Message #2 Posted by [Happy HP User](#) on 24 Apr 2007, 9:53 p.m.,  
in response to message #1 by Chuck

Using ROM version 2.09:

1) the variable stored in 'VX' should be 't'

2) the machine should be in radians, real, exact mode: you should see RAD XYZ R = 't' at the screen top

With that done, on my 50g:

```
[ 'd1d1y(t)+5*y(t)=2*COS(t/2)' 'y(0)=6/5' 'd1y(0)=-1/2' ]
```

```
'y(t)'
```

DESOLVE returns, and after one minor simplification:

```
'COS(t*1/2)*8/19+COS(t*SQRT(5))*74/75-SQRT(5)/10*SIN(t*SQRT(5))'
```

Not bad for a handheld, Maple's closed form for this ODE is quite similar.

### Re: HP50g DESOLVE Help

Message #3 Posted by [John](#) on 24 Apr 2007, 10:02 p.m.,  
in response to message #2 by Happy HP User

Of course, flag settings are probably to blame.

One thing you could do is completely reset your 50g, or post your complete flag settings to let us see what flags are set.

### Re: HP50g DESOLVE Help

Message #4 Posted by **Chuck** on 24 Apr 2007, 11:49 p.m.,  
in response to message #2 by Happy HP User

Hmmm. No go. So here's a simpler one that I tried...

```
[ 'd1d1y(T)+y(T)=0' 'y(0)=2' 'd1y(0)=0' ]
'y(T)'
```

DESOLVE returns (after a simplification)

$$y(T) = \frac{(e^{iT})^2 + 1}{e^{iT}}$$

It would be nice if it just gave back  $2\cos(T)$ . :(

The obvious modes shown on the screen are: RAD XYZ BIN C='T'

In the CAS MODES I have Complex checked, and Simp Non-Rational checked.

The system flags that are checked are {27, 34, 40, 56, 57, 68, 76, 82, 90, 103, 117, 119}

My version number is #2.09

Any more clues????

Thanks.

*Edited: 24 Apr 2007, 11:52 p.m.*

### Re: HP50g DESOLVE Help

Message #5 Posted by **Happy HP User** on 25 Apr 2007, 10:12 a.m.,  
in response to message #4 by Chuck

Change COMPLEX to REAL mode. The shortcut key method is press and hold LEFT SHIFT, then press and release the TOOL key. This is a toggle between COMPLEX to/from REAL mode. You should see the 'C' change to an 'R' and vice versa when this key sequence is done.

At the top of the screen, you should see RAD XYZ DEC R='T'

Otherwise, solve your difeqs with Maple or Matlab...

### Re: HP50g DESOLVE Help

Message #6 Posted by **Chuck** on 25 Apr 2007, 12:27 p.m.,  
in response to message #5 by Happy HP User

Quote:

At the top of the screen, you should see RAD XYZ DEC R='T'

Otherwise, solve your difeqs with Maple or Matlab...

Ahhh. The Real mode makes sense now. Thanks. Normally I DO use Mathematica, or occassionally Maple, (when not not doing them on paper) but it's hard to carry my desktop computer around with me. ;) Also, I need to know what my students are capable of doing with their magic black boxes!!!

Thanks again.

CHUCK

*Edited: 25 Apr 2007, 12:32 p.m.*

**Re: HP50g DESOLVE Help**

*Message #7 Posted by [Happy HP User](#) on 25 Apr 2007, 8:14 p.m.,  
in response to message #6 by Chuck*

Your're welcome! Oh, you're students are so lucky to be able to use such marvels as an HP50!

**Re: HP50g DESOLVE Help**

*Message #8 Posted by [Ron Allen](#) on 26 Apr 2007, 12:41 a.m.,  
in response to message #6 by Chuck*

I see you got this "Complex" problem around to a "Real" solution. My 50, even with ROM still degraded to 2.08, wants to use complex equivalents when the DE lends itself to complex solutions. (I carried a K & E "Deci-lon," scabbard and all, when I was a student [ University of New Orleans, 1967 and Tulane University.]

I agree with you that Chuck's students have a wonderful, portable solution to quicker understanding and modeling of engineering challenges.

Regards,

Ron

*Edited: 26 Apr 2007, 12:46 a.m.*

**Re: HP50g DESOLVE Help**

*Message #9 Posted by [Rich Messeder \(US\)](#) on 26 Apr 2007, 11:18 a.m.,  
in response to message #6 by Chuck*

Where do you teach, Chuck? And at HS or college/university?

Rich

**Re: HP50g DESOLVE Help**

*Message #10 Posted by [Chuck](#) on 26 Apr 2007, 7:55 p.m.,  
in response to message #9 by Rich Messeder (US)*

Hi Rich. I'm at a two-year college in Washington state. We're covering harmonic motion,

damped, undamped, and forced, using a number of tools. Several kids have the HP50G which is blowing the socks off the TI's. I'm amazed at some of the things it does. When I did this in college as a student, "all" I had was the HP-11C. But that was about 10-years post-sluderule times, so I thought I was in fat city.

---

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## HP Forum Archive 17

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**HP 33S formula solver**

Message #1 Posted by [Sam Levy](#) on 23 Apr 2007, 1:34 p.m.

HP describes it as " Multiple-variable expression storage and evaluation". You may write an equation with multiple variables and SOLVE\_ for the one of your choice. Each variable is then shown from storage or you may insert a value and it proceeds to a solution. This is in addition to expressions you can integrate or programmed solutions. I had not seen this feature before.

**Re: HP 33S formula solver**

Message #2 Posted by [John](#) on 23 Apr 2007, 1:37 p.m.,  
in response to message #1 by Sam Levy

Yes, this has been around for years.

Welcome to the 21st century. Glad to have you here.

**Re: HP 33S formula solver**

Message #3 Posted by [Vieira, L. C. \(Brazil\)](#) on 23 Apr 2007, 2:45 p.m.,  
in response to message #1 by Sam Levy

Hi;

the first one having this feature as a 'built in' was the HP28C, IIRC. The HP41 and the HP15C (thanks to Karl) can be programmed to do so, but they lack a built-in resource for this case.

Others like the HP27S, the HP39G series, the whole HP4xG, the HP50G and some others also have it.

Cheers.

Luiz (Brazil)

**Re: HP 33S formula solver**

Message #4 Posted by [bill platt](#) on 23 Apr 2007, 4:21 p.m.,  
in response to message #3 by Vieira, L. C. (Brazil)

Didn't the 18c have this feature before the 28c?

**Re: HP 33S formula solver**

Message #5 Posted by [Ron Ross](#) on 23 Apr 2007, 4:28 p.m.,  
in response to message #4 by bill platt

Technically yes, but both were released so close to each other that Scientific, technical types often overlook the 18C.

**Re: HP 33S formula solver**

Message #6 Posted by [Vieira, L. C. \(Brazil\)](#) on 23 Apr 2007, 7:14 p.m.,  
in response to message #5 by Ron Ross

Oops! My bad...

Good to know, thank you both.

In fact, I have the original HP Journal issue with both HP18C and HP28C in the front cover. I actually missed that...

Cheers.

Luiz (Brazil)

**Re: HP 33S formula solver**

Message #7 Posted by [Mike \(Stgt\)](#) on 24 Apr 2007, 3:39 a.m.,  
in response to message #3 by Vieira, L. C. (Brazil)

IMHO the Solver was even ported to DOS -- on the HP200LX. You may even run it on Windows using the 200LX Connectivity Pack or emulators of the calculators you mentioned. <G>

Ciao.....Mike

**Re: HP 33S formula solver**

Message #8 Posted by [Norris](#) on 23 Apr 2007, 4:44 p.m.,  
in response to message #1 by Sam Levy

If you like the Solver on the 33S, you might also like the "Multiple Equation Solver" (MES), an even more powerful feature found on HP 48, 49, and 50 series calculators. The MES allows you to group several equations together, and will automatically switch between them as necessary to solve for a given variable.

Example: you enter and group three related equations for the properties of circles:

$$\begin{aligned} C &= \text{PI} * D \\ A &= \text{PI} * R^2 \\ D &= 2 * R \end{aligned}$$

where A = area, C = circumference, D = diameter, and R = radius.

Then you can enter a value for C, and then ask the MES to calculate the value of A. None of the equations above directly link C and A. But the MES will find A anyway: it will automatically use the first equation to calculate D, then the third equation to calculate R, then the second equation to calculate A.

The MES, unlike the 33S Solver, also recognizes units. For example, if C is entered as '6\_in', then the MES will calculate A as '2.8648\_in^2'

*Edited: 23 Apr 2007, 4:45 p.m.*

**Re: HP 33S formula solver**

Message #9 Posted by [Karl Schneider](#) on 24 Apr 2007, 12:15 a.m.,  
in response to message #1 by Sam Levy

Quote:

---

HP describes (*the HP 33S formula solver*) as "Multiple-variable expression storage and evaluation". You may write an equation with multiple variables and SOLVE\_ for the one of your choice. Each variable is then shown from storage or you may insert a value and it proceeds to a solution. This is in addition to expressions you can integrate or programmed solutions.

---

Hi, Sam --

I'm not sure if your post is a statement of personal revelation or an indirect request for more details, but I'll assume the latter...

The predecessor of the HP-33S -- namely, the HP-32SII -- to my knowledge is the only other model with all of the capabilities you mention, to include solving and integration of *both* equations *and* programmed functions.

RPL-based models allow solving and integration of algebraic expressions (and even multiple expressions in the case of the HP-48/49/50-series, as mentioned previously). Solving and integration of functions written as RPL programs cannot be done in a direct, straightforward manner, as far as I know.

Many models going back to the HP-34C in 1979 allowed solving and integration of single-input, single-output programmed functions. A few Pioneer-series algebraic models from the late 1980's allowed solution of multi-variable equations, but not integration.

Luiz (Hi!) stated in reply:

Quote:

---

... The HP41 and the HP15C (thanks to Karl) can be programmed (*for use with multiple-input functions*), but they lack a built-in resource for this case.

---

"thanks to Karl" might be just a tad generous, but I did present a technique for doing so in the following MoHPC article, which provides some detailed background about SOLVE and INTEG on the RPN-based models:

<http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/articles.cgi?read=556>

Happy reading!

-- KS

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## HP Forum Archive 17

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### hp 33s

Message #1 Posted by [e.young](#) on 22 Apr 2007, 11:11 a.m.

I've been away from the forum for a while. Are there any news or rumors about a possible redesign of the HP 33S?

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## HP Forum Archive 17

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### HP 12C in Hemispheres Magazine

Message #1 Posted by [bink](#) on 22 Apr 2007, 7:49 a.m.

Hi,

The HP 12C is mentioned in the Updates section of the April 2007 United Airlines Hemispheres magazine.

[Hemispheres](#)

Click on Updates

"Celebrating the Tool / Possibly the most seminal invention in accounting since the W-2 form, the Hewlett-Packard 12c financial calculator has been around since the year that DeLorean Motor Company delivered its first automobile. To celebrate 25 successful tax seasons, HP released a limited edition of the 12c that brings with it five modes, a 400-step memory capacity, and tools for amortization, bond yield calculation, cash-flow analysis, and depreciation. A 25th-anniversary edition DeLorean might drive faster and a 25th-anniversary edition of Blade Runner would certainly offer more excitement, but having endured Reagan, Clinton, and both Bush administrations, the 12c financial calculator has proved its staying power. \$79.99; hp.com"

### Copyright VIOLATION!!!

Message #2 Posted by [Namir](#) on 22 Apr 2007, 9:44 a.m.,  
in response to message #1 by [bink](#)

I don't think you can copy the text, since, my guess, you don't have the copyright for it. Mentioning the link and putting your own comments are fine.

Namir

*Edited: 22 Apr 2007, 9:45 a.m.*

### Re: Copyright VIOLATION!!!

Message #3 Posted by [John](#) on 22 Apr 2007, 11:58 a.m.,  
in response to message #2 by [Namir](#)

Actually, short quotes such as this one are permitted without violating copyright. A link was also provided, so this would not be a problem.

You can quote a few sentences, but not pages worth of material and be ok.

### Re: Copyright VIOLATION!!!

Message #4 Posted by [Karl Schneider](#) on 22 Apr 2007, 3:03 p.m.,  
in response to message #2 by [Namir](#)

Most publications state a specific word-count limit for quotes or excerpts. I found no detailed guidelines at

the following sub-link:

<http://www.hemispheresmagazine.com/legal.html>

I seriously doubt that United Airlines would make an issue about something of this nature. It amounts to free advertising at no cost for the publisher, or any undeserved benefit to the quoter.

-- KS

*Edited: 22 Apr 2007, 3:06 p.m.*

### **Info on fair use**

*Message #5 Posted by [Geir Isene](#) on 22 Apr 2007, 4:00 p.m.,  
in response to message #4 by Karl Schneider*

[Info on fair use](#) [Wikipedia]

*Edited: 22 Apr 2007, 4:00 p.m.*

### **Re: Copyright VIOLATION!!!**

*Message #6 Posted by [Walter B](#) on 22 Apr 2007, 6:37 p.m.,  
in response to message #2 by Namir*

Come down to earth, Namir, don't exaggerate. Capitals plus 3 exclamation marks for such a small quotation ... I tend to second Karl in this matter.

*Edited: 22 Apr 2007, 6:40 p.m.*

### **Re: Copyright VIOLATION!!!**

*Message #7 Posted by [Namir](#) on 22 Apr 2007, 10:05 p.m.,  
in response to message #6 by Walter B*

I'll see how you react when someone copies from your own work without permission.

### **Re: Copyright VIOLATION!!!**

*Message #8 Posted by [Howard Owen](#) on 23 Apr 2007, 1:08 a.m.,  
in response to message #7 by Namir*

That was your stuff? Go figure.

Yes, well, we know that inflight magazines are particular targets of copyright abuse. There must be something about the cabin pressure at 35,000 feet that just turns ordinarily law-abiding travellers into rapacious, file-trading, market-hating pirates!

Either that, or it's all the iPods up there..

Regards,  
Howard

### **Re: Copyright VIOLATION!!!**

*Message #9 Posted by [Namir](#) on 23 Apr 2007, 9:50 a.m.,*

*in response to message #8 by Howard Owen*

Howard,

I don't write for airlines. So it's not my stuff. But I have written many books and yes deem copying and pasting just like that, with no permission, to be wrong.

The links the other folks provided don't really represent references to US government websites on copyright laws. I take what Wikipedia says with a grain of salt!

Namir

### **Re: Copyright VIOLATION!!!**

*Message #10 Posted by **Egan Ford** on 23 Apr 2007, 12:18 p.m.,  
in response to message #9 by Namir*

This link may help everyone:

<http://www.copyright.gov/fls/fl102.html>

IOW, it is a grey area and in the context of this thread everyone may be right.

I'll risk the wrath of the Copyright office and provide a few quotes:

"...examples of activities that courts have regarded as fair use:...summary of an address or article, with brief quotations, in a news report..."

"The safest course is always to get permission from the copyright owner before using copyrighted material."

Interestingly, Google has no problem with leveraging fair use, type:

Hewlett-Packard 12c site:hemispheresmagazine.com from google.com, then click cashed.

Also interesting is the legal notice: <http://www.hemispheresmagazine.com/legal.html>

*Edited: 23 Apr 2007, 12:26 p.m.*

### **Re: Copyright VIOLATION!!!**

*Message #11 Posted by **bill platt** on 23 Apr 2007, 12:32 p.m.,  
in response to message #10 by Egan Ford*

Or, more to the point, the tests for infringement are as follows (this is excerpted from the link <http://www.copyright.gov/fls/fl102.html>):

1. the purpose and character of the use, including whether such use is of commercial nature or is for nonprofit educational purposes;
2. the nature of the copyrighted work;
3. amount and substantiality of the portion used in relation to the copyrighted work as a whole; and

4. the effect of the use upon the potential market for or value of the copyrighted work.

Now look at each test in the context of the disputed quotation.

1. Purpose and character: clearly not commercial.

2. Nature of work: a review in teh context of advertising

3. amount and substantiality: Well, it is the whole text of one subject of a multi-subject advertising review. So it is substantial, but again based on the other three tests, there is no harm.

4. Effect on value: clearly not negative. The quotation brings in more business than it destroys. In fact it destroys nothing.

**get real Namir :-)**

*Message #12 Posted by [bill platt](#) on 22 Apr 2007, 8:55 p.m.,  
in response to message #2 by Namir*

%

**Re: get real Namir :-)**

*Message #13 Posted by [Namir](#) on 22 Apr 2007, 10:12 p.m.,  
in response to message #12 by bill platt*

I think the link is more than enough to take anyone who is curious to read the original text. The copying was not necessary to inform us.

**Re: to Namir**

*Message #14 Posted by [Andrés C. Rodríguez](#) on 23 Apr 2007, 8:10 p.m.,  
in response to message #13 by Namir*

Links are not forever, and there is no warranty that the publisher will keep an inflight magazine issue online forever (it has bandwidth and storage costs to consider, among other things).

So perhaps, when in the future someone tries to take a look to HP12C advertisements (something many people here does, looking for 1970 ads), he/she will just find a broken link.

A quotation will be sort of a fossil, a small clue of how things were...

IMHO this case doesn't amount to a copyright violation.

**Re: Copyright VIOLATION!!!**

*Message #15 Posted by [Thor Lansen](#) on 23 Apr 2007, 12:14 a.m.,  
in response to message #2 by Namir*

Yes you can, but you got to change the font!

**Re: Copyright VIOLATION!!!**

Message #16 Posted by **Frank Boehm** on 23 Apr 2007, 12:09 p.m.,  
in response to message #2 by Namir

Citing with mentioning the source is no problem, not even in the USA 8) Posting whole chapters would be a different thing though.

**Re: Copyright VIOLATION!!!**

Message #17 Posted by **Steve Borowsky** on 23 Apr 2007, 8:05 p.m.,  
in response to message #16 by Frank Boehm

To abandon reason on the alter of a pure idea is likely to be inherently destructive. We live in an age where intellectual property is reaching dangerous extremes. Chemical, agricultural, and medical corporations are seeking to copyright the very substances of life. If a patented seed by chance blows onto a farmer's land, germinates, and bears fruit, the farmer is then, according to current law, financially beholden to the corporation holding the patent, even though no action in violation of patent law was taken by him. Disney got it's start by introducing Mickey Mouse in a cartoon parodying a popular film of the day, in other words, via a derivative work. Today such actions are the subject of lawsuits, to the detriment of our cultural enrichment. Intellectual property deserves its due respect and protection under the law, but I can only hope that in the course of time our grasping, possessive, and greedy nature does not bankrupt our culture in the feverish pursuit of its autocratic ends.

**OK ... OK ... I overreacted!**

Message #18 Posted by **Namir** on 24 Apr 2007, 9:37 a.m.,  
in response to message #1 by bink

I do find the debate interesting. After reading the fine comments left by folks that I do respect, I will say that I did overreact. Having written many books I am (over?) sensitive to casual quoting.

Namir

**Re: OK ... OK ... I overreacted!**

Message #19 Posted by **John** on 24 Apr 2007, 9:59 a.m.,  
in response to message #18 by Namir

Can we quote you on that?

Grin.

**Re: OK ... OK ... I overreacted!**

Message #20 Posted by **Namir** on 24 Apr 2007, 10:53 a.m.,  
in response to message #19 by John

It's right there big as day <wide grin> ... maybe I should have used bigger fonts if that was even possible??? And when the link is gone ... it's gone and we can go back bashing "the" auction site, and so and so calculator-auction sellers, and answering questions about how to switch comma radixes to decimals on the physical HP-15C calculators, and so on!!

Talk about shooting myself in the foot!!!!

**HELP!! I need the distraction of a good math challenge that would even keep a Cray computer**

**busy!!**

<laughing hard>

Namir

*Edited: 24 Apr 2007, 10:56 a.m.*

**Re: OK ... OK ... I overreacted!**

*Message #21 Posted by **Giancarlo (Italy)** on 24 Apr 2007, 11:33 a.m.,  
in response to message #20 by Namir*

Valentin,  
are you listening? :-)

Best regards.  
Giancarlo

**Re: OK ... OK ... I overreacted!**

*Message #22 Posted by **John Smitherman** on 24 Apr 2007, 11:45 a.m.,  
in response to message #20 by Namir*

"HELP!! I need the distraction of a good math challenge that would even keep a Cray computer busy!!"

Namir, if you need a math challenge use this link to find the problems from the 1985 - 2006 Putnam Competitions:

<http://www.unl.edu/amc/a-activities/a7-problems/putnamindex.shtml>

Enjoy!

Regards,

John

**Re: OK ... OK ... I overreacted!**

*Message #23 Posted by **Namir** on 24 Apr 2007, 4:27 p.m.,  
in response to message #22 by John Smitherman*

John,

I meant I need the challenge for "others" to get busy (said with tongue and cheeks). As for me I am always looking at different kinds of algorithms.

Namir

**Re: OK ... OK ... I overreacted!**

*Message #24 Posted by **GE** on 25 Apr 2007, 6:58 a.m.,  
in response to message #23 by Namir*

Here are some funny numerical questions, not the caliber of VA's stuff but you could try it :

1. What is the interval of definition of  $\log(\text{abs}(\text{tg}(355/(226+x))))$  ?
2. find the solutions of :  $0 = x^2/30 + 0.99*\sin(7*x)$
3. Calculate the first 100 terms of :  $U_0=1, U_1=1,$   
 $U_{n+2}=U_{n+1}-\text{Sqrt}(\text{abs}(6-U_n^2))/U_{n+1}$
4. Find the square triangle (english?) with integer sides, minimal perimeter, and maximal area, that area being less than 1000.

Questions like this show how graphical calculators allow us to "see" solutions manually.  
Enjoy.

**Re: OK ... OK ... I overreacted!**

*Message #25 Posted by **GE** on 27 Apr 2007, 5:52 a.m.,  
in response to message #24 by GE*

OK, here is :

1. All reals apart from the interval ]1,9190491358E-05 to 1,9190491414E-05[ on my example of machine, depends on precision thereof (the better, the smaller).
  2. typing error, I must check.
  3. Graphs as a series of strange segments heavily depending on calculator precision
  4. sides are 23, 60 and 68
- Granted, not very exciting...

**Re: OK ... OK ... I overreacted!**

*Message #26 Posted by **Geir Isene** on 24 Apr 2007, 3:41 p.m.,  
in response to message #20 by Namir*

This shows greatness, Namir. My respect for you.

**Re: OK ... OK ... I overreacted!**

*Message #27 Posted by **Namir** on 24 Apr 2007, 4:27 p.m.,  
in response to message #26 by Geir Isene*

Thank you Geir!!

<bow down>

Namir

**Re: OK ... OK ... I overreacted!**

*Message #28 Posted by **Steve Borowsky** on 24 Apr 2007, 11:49 a.m.,  
in response to message #18 by Namir*

Quote:

I do find the debate interesting. After reading the fine comments left by folks that I do respect, I will say that I did overreact. Namir

That's OK Namir, so did I!

*Edited: 24 Apr 2007, 11:50 a.m.*

**Re: OK ... OK ... I overreacted!**

*Message #29 Posted by [Namir](#) on 24 Apr 2007, 4:31 p.m.,  
in response to message #28 by Steve Borowsky*

Well things did not get out of hand and no one lost their cool. Just an honest discussion.

Namir

**Re: OK ... OK ... I overreacted!**

*Message #30 Posted by [Howard Owen](#) on 24 Apr 2007, 11:35 p.m.,  
in response to message #29 by Namir*

Actually, the [head] tag

**will let you shout**

in one large font. But as you can see, it sets off the "loud" text on a line by itself. Not that I would encourage anyone to

**shout unnecessarily!!**

you understand. 8)

Regards,  
Howard

---

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## HP Forum Archive 17

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### Equation library on HP48GII

Message #1 Posted by [Mike Ingle](#) on 21 Apr 2007, 8:21 p.m.

The equation library on the HP50G is two libraries in port 2. I tried beaming these libraries from a Build 91 HP50G to a Build 39 HP48GII, and to my surprise, have a working equation library on the HP48GII. It also has 8KB free, so this is not terribly useful.

Send the libraries using RECN on the 48GII, since the GII has no port 2. Recall each library from the variable, purge the variable, then store it to port 0. If you do not purge the variable first, the larger library does not fit in memory. Turn the calculator off and on. You now have an equation library option in APPS.

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## HP Forum Archive 17

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### HP-65 Medical Pac 1 Manual?

Message #1 Posted by [Dan W.](#) on 21 Apr 2007, 4:47 p.m.

Hi all,

I recently bought the Museum documentation DVD and I must say it is well put together and exhaustive. Highly recommended!

However there is one manual I am looking for that is not on the disk. It is the manual for the HP-65 Medical Pac 1 Cardiopulmonary.

Anyone know where I could obtain one?

TIA

-- Dan

### Re: HP-65 Medical Pac 1 Manual (Where to get)

Message #2 Posted by [Frank Travis](#) on 25 Apr 2007, 2:14 p.m.,  
in response to message #1 by Dan W.

One place that has older HP calculators, manuals, and accessories is [www.internationalcalculator.com](http://www.internationalcalculator.com) I have dealt and made several purchases with its owner/manager Don O'Rourke for several years. He does not have everything listed on website. You may have to call to ask him.

### Re: HP-65 Medical Pac 1 Manual (Where to get)

Message #3 Posted by [Dan W](#) on 27 Apr 2007, 2:08 p.m.,  
in response to message #2 by Frank Travis

Thanks Frank for the idea. I did e-mail them - no luck though. This must be a very obscure program Pac. -  
- Dan

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### "Wired" on calculators

Message #1 Posted by [Julián Miranda \(Spain\)](#) on 21 Apr 2007, 4:46 p.m.

I haven't visited this Forum recently and maybe it has been already commented. There is a little calculator review in the last Wired magazine issue. The TI-89 precedes the HP-50g.

You can read it [here](#)

### Re: "Wired" on calculators

Message #2 Posted by [Happy HP User](#) on 22 Apr 2007, 10:07 a.m.,  
in response to message #1 by [Julián Miranda \(Spain\)](#)

Thanks for providing the link. It's an interesting article, not because of what's in it, but what's not. Obviously written by a casual user of calculators, there is almost no description as to what each model actually does. Still, the fact that someone wrote something is good, as I can't recall seeing calculators compared anywhere else in the mass media.

### Re: "Wired" on calculators

Message #3 Posted by [Joseph Biden](#) on 22 Apr 2007, 11:21 p.m.,  
in response to message #1 by [Julián Miranda \(Spain\)](#)

Can you copy the text from the article, and post it all here?

JUST KIDDING!!!

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**HP 41 CV dead?**

Message #1 Posted by [Richard Z.](#) on 21 Apr 2007, 11:58 a.m.

When I try to power on my HP 41CV fullnut, all I get is a single beep (after a second) and a blank display.

What's the old girl trying to tell me?

When I try a reset, I momentarily see the the top-half segments of the first four characters.

RZ

**Re: HP 41 CV dead?**

Message #2 Posted by [Calculator Expert](#) on 21 Apr 2007, 3:40 p.m.,  
in response to message #1 by Richard Z.

Sounds like you are screwed. Tell you what. If you send me the calculator and a \$10- bill, I will happily dispose it for you.

**Re: HP 41 CV dead?**

Message #3 Posted by [Mike Ingle](#) on 21 Apr 2007, 7:48 p.m.,  
in response to message #1 by Richard Z.

I had one of those. Press the case down tightly while pressing the power switch. Works? If so, probably the plastic screw sockets are cracked and there is no pressure holding the circuit board in contact with the display. I used longer screws and some glue to hold it together and now have a working calculator. Clean the contacts while you are at it.

**Re: HP 41 CV dead?**

Message #4 Posted by [Les Wright](#) on 22 Apr 2007, 12:40 a.m.,  
in response to message #1 by Richard Z.

If you are not a DIY type, as I am not, a trip to FixThatCalc.com is money well spent. Randy will rebuild the cracked posts, clean the thing well, and send it back to you with fresh batteries.

**Re: HP 41 CV dead?**

Message #5 Posted by [Julio Ponce](#) on 4 May 2007, 2:37 p.m.,  
in response to message #4 by Les Wright

If you wish you can repair the cracked posts by your self, the repair consiste of a few drops of cyanocrylate glue, and a wrap of fine wire around the posts until the glue had thoroughly set. then close the calculator carefully.

**Re: HP 41 CV dead?**

*Message #6 Posted by [David Smith](#) on 5 May 2007, 11:41 p.m.,  
in response to message #5 by Julio Ponce*

CA glue is a VERY poor fix. It will almost certainly fail in short order. The only (fairly) reliable fix is to use a plastic welding solvent like methylene chloride (available in small bottles at most good hobby shops). It melts the plastic and allows it to be rejoined like a weld in metal.

**Re: HP 41 CV dead?**

*Message #7 Posted by [Ron](#) on 6 May 2007, 8:37 a.m.,  
in response to message #6 by David Smith*

Do you know a brand name to ask for?

**Re: HP 41 CV dead?**

*Message #8 Posted by [Jeff O.](#) on 7 May 2007, 7:32 a.m.,  
in response to message #7 by Ron*

<http://h1069375.hobbyshopnow.com/ProdInfo/AMB/450/AMB110-450.jpg> ..

**Re: HP 41 CV dead?**

*Message #9 Posted by [David Smith](#) on 8 May 2007, 12:24 a.m.,  
in response to message #7 by Ron*

Another product name is Tenax. Both available at HobbyTown. Ambroid is cheaper...

**Re: HP 41 CV dead?**

*Message #10 Posted by [Ron](#) on 8 May 2007, 9:45 a.m.,  
in response to message #9 by David Smith*

This was the reason for my question. As I recall, someone in the past mentioned that Tenax contains cyanocrylate, which they recommended. I may be doing something incorrectly, but I have had poor results with Tenax.

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### 82104 Card Reader Assembly

Message #1 Posted by [Jeff Davis](#) on 21 Apr 2007, 9:54 a.m.

I see there is an article on repairing the card reader. Is there a schematic or step by step procedure anywhere with pics to show how the card reader is assembled. I am in the process of assembling an MLDL2000. Step by step would be nice. Please let me know.

### Re: 82104 Card Reader Assembly

Message #2 Posted by [Jeff Davis](#) on 22 Apr 2007, 9:56 a.m.,  
in response to message #1 by Jeff Davis

Can anyone Instruct me on how the springs are assembled? The rest of the card reader is a no brainer.

### Re: 82104 Card Reader Assembly

Message #3 Posted by [Vieira,L. C. \(Brazil\)](#) on 22 Apr 2007, 6:52 p.m.,  
in response to message #2 by Jeff Davis

Hi, Jeff;

I'll add some pics tomorrow (have lost the ones I had after formatting the HD one of these times...). I have a disassembled unit I can show it, somehow. I'll take the pictures with sunlight, it is better. Not that hard to assemble, once you see how it is done, though...

Cheers.

Luiz (Brazil)

### Re: 82104 Card Reader Assembly

Message #4 Posted by [Meindert Kuipers](#) on 23 Apr 2007, 3:35 a.m.,  
in response to message #2 by Jeff Davis

The instructions at [this contribution](#) will show the bigger steps. Installing the springs is a bit tricky. I use superglue to fix the metal part to the plastic. Please be careful when installing, the two plastic parts are different for left and right!

Meindert

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## HP Forum Archive 17

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### **New article on making replacement 82001 classic**

*Message #1 Posted by [Don Shaffer](#) on 21 Apr 2007, 9:02 a.m.*

I finally had time to prepare the item on the replacement battery design for the classic 82001 battery pack. I had discussed this as a topic a while ago and some poeple said I needed to announce this as an ad. Dave suggested that I add some information as an article, also some people have asked for some photos. The article should answer these all requests. Take a look.

### **Re: New article on making replacement 82001 classic**

*Message #2 Posted by [Cameron Paine](#) on 22 Apr 2007, 7:41 a.m.,  
in response to message #1 by Don Shaffer*

Your article was fascinating Don. Thanks for taking the time to write it up. I'm sure there will be more than a few people lining up to give their calculators a second or third (fourth even?) wind.

Cameron

### **Re: New article on making replacement 82001 classic**

*Message #3 Posted by [Don Shaffer](#) on 10 May 2007, 7:25 p.m.,  
in response to message #2 by Cameron Paine*

Thanks for taking some time to review the item. I have finally gotten my process working fairly well. I have these already listed on ebay and plan to continue having a supply for anyone interested in obtaining classic type pack similar to the original design.

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## HP Forum Archive 17

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### Creating local variables in RPL

Message #1 Posted by [Les Wright](#) on 20 Apr 2007, 10:09 p.m.

I am wondering if there are any more elegant ways of creating local variables aside from using ->.

I am trying to port some short C programs to the HP48/49, and since I haven't yet gotten to the stage where I do everything on the stack with things like PICK, DUP, and ROT I find I use quite a few local variables to keep track of things. In my programs, I am finding I have programs within programs, since local variable declarations need to be set apart from the routine in which they are used by <<. If I have, say, 8 local variables to declare, I have a rather inelegant declaration looking like this: << 0 0 0 0 0 0 0 0 -> a b c d e f g h << prgm >> >>. This of course is nested in another pair of <<>> brackets since I need to take my input off the stack into yet other local variables, so my overall program form may look like this:

```
<< -> x y << 0 0 0 0 0 0 0 0 -> a b c d e f g h << prgm >> >> >>
```

This is my RPL analogy to a function in C of the form float func(x,y).

Of course, I know that the zeros can (and should where possible) be initialized with values based on the x and y input, or whatever other starting values the program uses. My point is that this seems to be a rather complicated way to do a very simple thing.

Am I over complicating this? I must admit I came up with this approach by trial and error--took me a few hours, for example, to figure out that a local variable declaration must be followed immediately by an opening <<.

Grateful for whatever wisdom you can offer.

Les

### Re: Creating local variables in RPL

Message #2 Posted by [James M. Prange \(Michigan\)](#) on 20 Apr 2007, 11:06 p.m.,  
in response to message #1 by [Les Wright](#)

I assume that you mean in UserRPL, as using local variables in SysRPL is rather different; more flexible, but perhaps more complicated.

Try changing:

```
<< -> x y << 0 0 0 0 0 0 0 0 -> a b c d e f g h << prgm >> >> >>
```

to:

```
<< 0 0 0 0 0 0 0 0 -> x y a b c d e f g h << prgm >> >>
```

to create local variables x and y with two objects from the stack, and local variables a through h with initial values of 0, and then within << prgm >>, when the desired values become available, use 'a' STO, 'b' STO, etc. to replace the values of the existing local variables.



Current ROM revisions (starting with 1.19-4) for the 49 series also include the commands LOCAL for creating and initializing local variables from a list and UNBIND for deleting local variables, but I think that they're intended for ALG mode, and I don't know whether they can be used in RPN mode.

Regards,  
James

## Re: Creating local variables in RPL

Message #3 Posted by **Ron Allen** on 21 Apr 2007, 8:19 p.m.,  
in response to message #1 by Les Wright

I have had some similar problems with LOCALS. It seems that the syntax wants to follow the minimum control path here, but don't assume that I have it figured out yet.

Here's what I think I know about it.

First, the local variables want to serve only the current program and the one being called by the level defining such variables LOCAL. If you do use a compiler, you can be a little more flexible. Since you apparently use the documentation, I advise using the "Advanced User Reference Manual" AND THE USER MANUAL. They seem to combine at times to resolve some things.

There is a method with a compiler, at least by indirect reference which might help some in your quest. Rather than try to paraphrase the method, I'll just point you to the subject - COMPILED LOCAL VARIABLES. This method ostensibly will allow you to use locals in all the succeeding program levels called directly in sequence after the initiating definition. This means that any definition performed at level 3 treats the COMPILED LOCAL designation using special naming convention will be treated as LOCAL within the sequence. Better research it yourself.

Best of luck,

Ron

## Re: Creating local variables in RPL

Message #4 Posted by **James M. Prange (Michigan)** on 22 Apr 2007, 3:34 a.m.,  
in response to message #3 by Ron Allen

In UserRPL:

A procedure (program or algebraic object) can use any local variable already existing or defined for it, provided that a more recently created local variable with the same name doesn't exist.

In other words, an "inner" procedure can use a local variable defined for any "outer" procedure, but an outer procedure can't use any local variable defined only for its inner procedures.

A new, entirely separate, local variable can be defined with the same name as an already existing local variable. Only the most recently created (inner-most) existing local variable with a particular name is accessible.

Note that the index of FOR loop is actually a local variable, existing for as long as the loop is running, so suppose that I define a local variable n for a program, and then use n as a FOR loop index name; in that case, any use of n within the loop uses the loop index, not the local variable n previously defined for the program.

Also, local names can be the same as command names, library command names, or global names. So you could have a local variable named, for example, SIN, or i, or e, in which case only the local variable could be accessed, not the command with the same name.

If you use the HALT command, or various other commands that suspend program execution, any existing local variable is retained, and may be used while the "suspended environment" exists, as long as a newer local variable with the same name doesn't exist.

I'd forgotten about "compiled local variables". Starting with the 48G series, any name beginning with a <- character will be compiled as a local name, even if a local variable with that name doesn't currently exist and isn't being created. This simplifies using a local variable within a program (to be stored in a global variable) which will be called by name from within another program which defines that local variable. But note that compiling the name as local doesn't actually create a local variable; to use a local variable, it has to be currently defined.

If you try to evaluate a local name for which no local variable is currently defined, you get (what else?) an "Undefined Local Name" error.

Regards,  
James

### **Re: Creating local variables in RPL**

*Message #5 Posted by [Ron Allen](#) on 22 Apr 2007, 7:46 p.m.,  
in response to message #4 by James M. Prange (Michigan)*

Thanks, James, for the details on local variables! As usual you show considerable research into the subject.

I am sure you understand this structure as you do the rest of it. I am puzzled by the distinguishing characteristics between RPN and RPL PROGRAMMING. Is it somehow similar to BASIC in that it can be compiled by USERRPL or run under an Interpreter? There so many good things hinted at by the instructions, but they fail ME) to produce the end result I think I am reading into it.

I think I will try to organize this thought in another post more on point by tomorrow and generate a question then. Kind of confusing in this topic.

Ron

### **Re: Creating local variables in RPL**

*Message #6 Posted by [Les Wright](#) on 22 Apr 2007, 10:23 p.m.,  
in response to message #4 by James M. Prange (Michigan)*

Quote:

\_\_\_\_\_

In other words, an "inner" procedure can use a local variable defined for any "outer" procedure, but an outer procedure can't use any local variable defined only for its inner procedures.

\_\_\_\_\_

I have capitalized on this fact in a little routine I just wrote to compute the incomplete beta function by its continued fraction expansion. The local variables a, b, and x are used both in the outer procedure, and in the inner procedure that specifically computes the continued fraction. Indeed, whether or not  $x < (a+1)/(a+b+2)$  determines whether a, b and x are passed "straight" to the inner procedure or whether b, a, and 1-x are passed to a, b, and x in the inner procedure and the complementary function is

computed by a reflection formula.

Despite James' initial advice, I have found that breaking up my local variable definitions in a "nested" way makes my programs easier to read and makes it very clear (at least to me) which procedure a local variable is local to.

Les

### **Re: Creating local variables in RPL + RPL IN GENERAL**

*Message #7 Posted by **Ron Allen** on 23 Apr 2007, 11:48 p.m.,*

*in response to message #6 by Les Wright*

Really enjoy the knowledge that flows between you two. I wonder if you or some will take on some relatively simple subjects, simple to many on this forum - but sometimes confusing to me.

What is the essential difference between RPL and RPN? Is it like the difference in Excel between the live,interpreted language of RPN and the pre-programed structure of the same language, with some few exceptions, referred to as RPL? A language that can be programmed and compiled via C++ or other compilers into machine language for more rapid execution. Using the case of "COMPILED LOCAL" variables, is this a description of variables compiled by the machine language compiler or by the process that uses the interpreter level, RPL, being a structured object made up of RPN commands, etc.?

In my book this would be very similar to BASIC INTERPRETER and QBASIC or VBASIC. By the way, I am speaking of the 50. So, does the COMPILED LOCAL VARIABLE have the flexibility discussed when it operates fully compiled as machine language or "compiled" as RPL? Is there a third alternative?

One more question, please. Is my system up-to-date and ready to share with Excel and Word? I get "Version HP50-C Revision #2.08"

Thanks,

Ron

*Edited: 23 Apr 2007, 11:53 p.m.*

### **Re: Creating local variables in RPL + RPL IN GENERAL**

*Message #8 Posted by **Karl Schneider** on 24 Apr 2007, 12:52 a.m.,*

*in response to message #7 by Ron Allen*

Hi, Ron --

Quote:

What is the essential difference between RPL and RPN?

Flippant answer:

RPN is like a sharp, no-nonsense dress shirt and trousers, but **RPL is like a leisure suit.**

Serious answer:

RPN is a means of calculation by postfix operation, in which operands are maintained in a stack, and operators are not stored, but are executed immediately upon request.

RPL is an adaptation of RPN to an object-oriented LISP-like structure, in which all forms of data -- simple forms such as actual numbers or display-setting values, or compound forms such as entire programs, entire matrices, or algebraic expressions -- are represented as "object types" that are carried in a dynamic-depth stack. Operations invariably "consume" their inputs, so that compound inputs are not preserved for subsequent use or re-trial unless previously saved to a named variable.

-- KS

**Re: Creating local variables in RPL + RPL IN GENERAL**  
*Message #9 Posted by **Ron Allen** on 24 Apr 2007, 2:44 a.m.,  
in response to message #8 by Karl Schneider*

Karl a favorite professor used to say, "There's no such thing as a flippant answer, just flippant questions."

\*\*\*\*\*

I always wondered how anyone could flunk a course in quantum theory when the possible answers to multiple response questions were:

\*\*\*\*\*

probably so

probably not

who knows

who cares

not sure about the "uncertainty" principle

get a half-life!

\*\*\*\*\*

Seriously, Karl. Thanks!

*Edited: 24 Apr 2007, 2:01 p.m.*

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## HP Forum Archive 17

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### **OT: (humor) English is hard!**

Message #1 Posted by [Ren](#) on 20 Apr 2007, 10:57 a.m.

As this is an international forum that communicates in English (usually!), this posting is to remind native English speakers, of the difficulty others have learning our tongue.

My brother sent it to me this morning.

Ren

dona nobis pacem

Subject: English is hard

Can you read these right the first time?

- 01) The bandage was wound around the wound.
- 02) The farm was used to produce produce.
- 03) The dump was so full that it had to refuse more refuse.
- 04) We must polish the Polish furniture.
- 05) He could lead if he would get the lead out.
- 06) The soldier decided to desert his dessert in the desert.
- 07) Since there is no time like the present , he thought it was time to present the present.
- 08) A bass was painted on the head of the bass drum.
- 09) When shot at, the dove dove into the bushes.
- 10) I did not object to the object.
- 11) The insurance was invalid for the invalid.
- 12) There was a row among the oarsmen about how to row.
- 13) They were too close to the door to close it
- 14) The buck does funny things when the does are present.
- 15) A seamstress and a sewer fell down into a sewer line.
- 16) To help with planting, the farmer taught his sow to sow.

- 17) The wind was too strong to wind the sail.
- 18) Upon seeing the tear in the painting I shed a tear.
- 19) I had to subject the subject to a series of tests.
- 20) How can I intimate this to my most intimate friend?

Let's face it - English is a crazy language. There is no egg in eggplant, nor ham in hamburger; neither apple nor pine in pineapple. English muffins weren't invented in England or French fries in France. Sweetmeats are candies while sweetbreads, which aren't sweet, are meat. We take English for granted. But if we explore its paradoxes, we find that quicksand can work slowly, boxing rings are square and a guinea pig is neither from Guinea nor is it a pig.

And why is it that writers write but fingers don't fing, grocers don't groce and hammers don't ham? If the plural of tooth is teeth, why isn't the plural of booth, beeth? One goose, 2 geese. So one moose, 2 meese? One index, 2 indices? Doesn't it seem crazy that you can make amends but not one amend? If you have a bunch of odds and ends and get rid of all but one of them, what do you call it?

If teachers taught, why didn't preachers praught? If a vegetarian eats vegetables, what does a humanitarian eat? Sometimes I think all the English speakers should be committed to an asylum for the verbally insane. In what language do people recite at a play and play at a recital? Ship by truck and send cargo by ship? Have noses that run and feet that smell?

How can a slim chance and a fat chance be the same, while a wise man and a wise guy are opposites? You have to marvel at the unique lunacy of a language in which your house can burn up as it burns down, in which you fill in a form by filling it out and in which, an alarm goes off by going on.

English was invented by people, not computers, and it reflects the creativity of the human race, which, of course, is not a race at all. That is why, when the stars are out, they are visible, but when the lights are out, they are invisible.

PS. - Why doesn't "Buick" rhyme with "quick"

You lovers of the English language might enjoy this .

There is a two-letter word that perhaps Has more meanings than any other two-letter word, and that is "UP."

It's easy to understand UP , meaning toward the sky or at the top of the list, but when we awaken in the morning, why do we wake UP? At a meeting, why does a topic come UP? Why do we speak UP and why are the officers UP for election and why is it UP to the secretary to write UP a report?

We call UP our friends. And we use it to brighten UP a room, polish UP the silver, we warm UP the leftovers and clean UP the kitchen. We lock UP the house and some guys fix UP the old car . At other times the little word has a real special meaning. People stir UP trouble, line UP for tickets, work UP an appetite, and think UP excuses. To be dressed is one thing but to be dressed UP is special.

And this UP is confusing: A drain must be opened UP because it is stopped UP. We open UP a store in the morning but we close it UP at night.

We seem to be pretty mixed UP about UP! To be knowledgeable about the proper uses of UP, look the word UP in the dictionary. In a desk-sized dictionary, it takes UP almost 1/4th of the page and can add UP to about thirty definitions. If you are UP to it, you might try building UP a list of the many ways UP is used. It will take UP a lot of your time, but if you don't give UP , you may wind UP with a hundred or more. When it threatens to rain, we say it is clouding UP. When the sun comes out we say it is clearing UP .

When it rains, it wets the earth and often messes things UP.

When it doesn't rain for awhile, things dry UP.

One could go on and on, but I'll wrap it UP, for now my time is UP , so..... Time to shut UP.....!

Oh...one more thing:

What is the first thing you do in the morning & the last thing you do at night? U P

**Re: OT: (humor) English is hard!**

*Message #2 Posted by [Antonio Maschio \(Italy\)](#) on 20 Apr 2007, 12:30 p.m.,  
in response to message #1 by Ren*

Very, very, very good. I like this kind of linguistic jokes.

Perhaps because I'm not English.

-- Antonio

**Re: OT: (humor) English is hard!**

*Message #3 Posted by [Ron](#) on 20 Apr 2007, 3:03 p.m.,  
in response to message #1 by Ren*

And don't forget; black berries are green when they're red!

**Re: OT: (humor) English is hard!**

*Message #4 Posted by [Giancarlo \(Italy\)](#) on 20 Apr 2007, 5:42 p.m.,  
in response to message #1 by Ren*

Hi Ren.

Your post is a very good example of what I mean when I use to tell my friends that hang out at forums is an unexpectedly good way of improving one's English knowledge :-)

Thank you for your funny and instructive contribution.

Best regards.

Giancarlo

**Re: OT: (humor) English is hard!**

*Message #5 Posted by [Hal Bitton](#) on 20 Apr 2007, 6:15 p.m.,  
in response to message #1 by Ren*

Fantastic...I love it.

I watched the comedian Gallagher do a skit on the inconsistencies of english in one of his shows about 20 (or more) years ago...he had a lot of material to work with! It was one of the funniest things I ever saw. Does any one else remember this show?

Best regards, Hal

**Re: OT: (humor) English is hard!**

*Message #6 Posted by [Steve Fennell](#) on 20 Apr 2007, 7:59 p.m.,  
in response to message #1 by Ren*

Here's another: we park in the driveway but drive on the parkway.

**Re: OT: (humor) English is hard!**

Message #7 Posted by [bill platt](#) on 20 Apr 2007, 10:02 p.m.,  
in response to message #1 by Ren

These are great. They remind me that French (and all languages) are full of idiomatic expressions that get "outsiders" into humorous situations!

This also reminds me that once upon a time I saw a very clever short that was composed entirely of the spelling anomalies--it was virtually unreadable! What I mean is things like starting a word with the "f" sound but spelled GH as in "enough" viz "fathom" would be spelled GHETHIM or something, "telephone" would be TELAGHOAN etc. (You might have noticed that I was stretching the unstressed vowels pretty far there--in other words a tremendous number of words have the same phoneme in the unstressed vowel position--yet they can be spelled with virtually any vowel. This is at the root of a number of common mis-spellings.)

Edited: 20 Apr 2007, 10:09 p.m.

**Re: OT: (humor) English is hard!**

Message #8 Posted by [Sleazey](#) on 20 Apr 2007, 10:39 p.m.,  
in response to message #7 by bill platt

How about George Bernard Shaw's observation that the phonetic spelling of "fish" is "ghoti"?

Take the "gh" from rough, the "o" from women, and the "ti" from station, and it's pronounced fish!

Who says spelling in English is hard?

**Re: OT: (humor) English is hard!**

Message #9 Posted by [M currie](#) on 21 Apr 2007, 12:24 a.m.,  
in response to message #8 by Sleazey

Dr. Seuss had a book called "The Tough Coughs as he Ploughs the Dough."

**Re: OT: (humor) English is hard!**

Message #10 Posted by [Bruce H](#) on 21 Apr 2007, 12:12 p.m.,  
in response to message #9 by M currie

"A rough-coated, dough-faced, thoughtful ploughman strode through the streets of Scarborough:  
after falling into a slough, he coughed and hiccupped."

**Re: OT: (humor) English is hard!**

Message #11 Posted by [Chuck](#) on 21 Apr 2007, 12:45 p.m.,  
in response to message #1 by Ren

These are great! I also like the "rules of English" that are broken, such as, "i before e except after c". Problem is, we live in a WEIRD SOCIETY!

**Re: OT: (humor) English is hard!**

Message #12 Posted by [Ren](#) on 21 Apr 2007, 5:26 p.m.,  
in response to message #11 by Chuck



As I've seen it quoted...

" i before e, except after c, except when it sounds like a, as in neighbor and weigh,

except for when weird foreign concierges seize neither science nor conscience from the heights of society"

Or as they often say about the US and Great Britain, "two countries separated by a common language".

B^)

Ren dona nobis pacem

**Re: OT: (humor) English is hard!**

*Message #13 Posted by **Ron** on 22 Apr 2007, 11:25 p.m.,  
in response to message #12 by Ren*

I just had a week-long class, taught by a Brit. As an American, I thought several times that it seemed like English was his second language. 8^)

**Re: OT: (humor) English is hard!**

*Message #14 Posted by **Eddie Shore** on 21 Apr 2007, 9:54 p.m.,  
in response to message #1 by Ren*

Very entertaining post, Ren. English is a funny language. Grammer mistakes make me giggle the most, especially run-on sentences.

**Re: OT: (humor) English is hard!**

*Message #15 Posted by **Bram** on 23 Apr 2007, 10:15 a.m.,  
in response to message #1 by Ren*

What is the first thing you do in the morning & the last thing you do at night? U P

Well, actually, that's the second first thing I do in the morning after switching off the alarm clock, and the second last (counted backwards, you might say) thing in the evening, just before winding UP the bloody machine again.

;-)

**Re: OT: (humor) English is hard!**

*Message #16 Posted by **Gilles Collas** on 25 Apr 2007, 7:45 a.m.,  
in response to message #1 by Ren*

Yes, it is ... Learn French then .... :-))

**Re: OT: (humor) English is hard!**

*Message #17 Posted by **Tom F** on 25 Apr 2007, 10:23 a.m.,  
in response to message #1 by Ren*

This was a pretty funny read as I read through it...

:)

TomF

**Re: OT: (humor) English is hard!**

*Message #18 Posted by [marc](#) on 28 Apr 2007, 3:53 a.m.,  
in response to message #1 by Ren*

So, i think we should learn Esperanto. It's much more logical :-) People who like calculators also like logical things! ;-)

**Re: OT: (humor) English is hard!**

*Message #19 Posted by [Ren](#) on 30 Apr 2007, 12:06 p.m.,  
in response to message #18 by marc*

Quote:

So, i think we should learn Esperanto. It's much more logical :-) People who like calculators also like logical things! ;-)

A couple years ago, I read somewhere... "More people on earth speak Klingon than Esperanto"

B^)

(A friend of mine was teaching his dog to respond to Klingon commands.)

Ren

dona nobis pacem

---

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## HP Forum Archive 17

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### AME Port Extender

Message #1 Posted by [MikeG](#) on 20 Apr 2007, 12:10 a.m.

I have recently acquired one AME port extender for the HP41 unfortunately with no documentation, and that's what I'm inquiring about. Does anyone have any information on this item.

Thanks in advance

### Re: AME Port Extender

Message #2 Posted by [Tony Duell](#) on 20 Apr 2007, 4:40 a.m.,  
in response to message #1 by [MikeG](#)

What do you need to know? I have one of these units, no manual, but I traced out the schematic and it's really simple.

A few things to get you started :

It plugs into any port on any HP41. It ignores the select lines on the port.

There are DIP switches at the front to enable/disable slots 1-6 and switches on the side to select which port slots 5 and 6 act like.

The 4 slots labelled 1 2 3 and 4 act like the corresponding ports on the HP41. So you can't have a ROM module in Port 1 of the HP41 and Port 1 of the extender (well, not unless one takes the high half of the page, the other the low half). You could have, say, an HPIL module in port 1 of the HP41 and a ROM module in port 1 of the extender without problems

The 2 slots labelled 5 and 6 can be set using 2 DIP switches each to act like any of the 4 ports on the HP41. Since you can use the front switches to enable/disable a particular slot, you could put a ROM module in slot 1, and in slot 5 (set to slot 1) provided only one is enabled at a time.

I forget what slot 7 is. I think it's another Port 4 by default, but you can add a couple of wires inside the extender to make it controllable by the last 2 (normally unused) DIP switches.

You can put a PX28 battery inside the extender to maintain the contents of RAM (HP41C memory modules, extended memory modules) when you unplug the extender from the HP41. There's a toggle switch that turns on an LED when pushed one way if that battery is good. Pushed the other way it checks the HP41's batteries.

Let me know what else you need to know

### Re: AME Port Extender

Message #3 Posted by [MikeG](#) on 20 Apr 2007, 10:21 a.m.,  
in response to message #2 by [Tony Duell](#)

Thanks for the info. I tried out the unit by plugging it into port 4, the other three ports were taken up by the

following: Quad memory, X functions, Math1.

When I plugged the unit in and turning the calculator on the display was corrupted so I immediately turned it off and unplugged the extender. Turning the calculator back on resulted in "Memory Lost" displayed where by hitting R/S would bring me into PRGM mode, in the end I had to disconnect the batteries to restore the 41.

The extender's configuration is as follows:

A. I replaced the A544 battery and performed the battery test = OK B. The DIP switches on the bottom of the unit were configured with 6 = on, 5 = on, 4-1 off C. The DIP switches on the side of the unit were configured with 1-4 = on, 5-6 = off (ON = number depressed..right) This corresponds to what I ascertained from the description on the case as the proper configuration to enable ports 5 and 6 while having the unit plugged into port 4 of the HP41.

The result after the extender was plugged in and a Circuits I module plugged into port 5 was that the 41 wouldn't turn on, removing the extender resulted in having to go through the restore method described above.

Looking back on your response, I'm beginning to think that you cannot have any modules plugged into the 41 since the extender ignores the port lines as you indicated, is this true?

Either I must be seriously doing something wrong (most likely) or the extender is malfunctioning (not much there). Again I appreciate any advice.

Thanks

*Edited: 20 Apr 2007, 10:25 a.m.*

### **Re: AME Port Extender**

*Message #4 Posted by **Richard Garner** on 20 Apr 2007, 11:06 a.m.,  
in response to message #3 by MikeG*

I had a Port-X-Tender years ago. It sounds like you have a port sharing problem. Remove the Math Module and try it again. If it works without the Math Module in, then plug the Math Module into one of the X-Tender ports and run a catalog 2 to see if the module shows up for use. I remember I ran into a port sharing problem and had to block that port on the X-Tender from being shared with the dip switches.

### **Re: AME Port Extender**

*Message #5 Posted by **Tony Duell** on 20 Apr 2007, 1:06 p.m.,  
in response to message #3 by MikeG*

Quote:

Thanks for the info. I tried out the unit by plugging it into port 4, the other three ports were taken up by the following: Quad memory, X functions, Math1.

When I plugged the unit in and turning the calculator on the display was corrupted so I immediately turned it off and unplugged the extender. Turning the calculator back on resulted in "Memory Lost" displayed where by hitting R/S would bring me into PRGM mode, in the end I had to disconnect the batteries to restore the 41.

The extender's configuration is as follows:

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---

No. What that has done is make ports 5 and 6 both act like (IIRC) port 4. There is no reason why you have to have those 2 slots set to port 4 if you plug it into port 4.

Quote:

---

The result after the extender was plugged in and a Circuits I module plugged into port 5 was that the 41 wouldn't turn on, removing the extender resulted in having to go through the restore method described above.

Looking back on your response, I'm beginning to think that you cannot have any modules plugged into the 41 since the extender ignores the port lines as you indicated, is this true?

---

No. The RAM modules (normal and extended), HPIL module, printer, timer module all have their own spaces in the memory map and will never conflict with ROM modules. So unless your maths and circuits modules ended up in the same port, you shouldn't have any problems at all.

Quote:

---

Either I must be seriously doing something wrong (most likely) or the extender is malfunctioning (not much there). Again I appreciate any advice.

Thanks

---

It's always possible there's a broken wire in the cable, or dirty contacts somewhere...

## **Re: AME Port Extender**

*Message #6 Posted by **Eric Smith** on 20 Apr 2007, 4:53 p.m.,  
in response to message #5 by Tony Duell*

Quote:

---

The RAM modules (normal and extended), HPIL module, printer, timer module all have their own spaces in the memory map and will never conflict with ROM modules.

---

In more detail:

The 82106A memory modules and 82170A quad memory module must not be used on a 41CV or 41CX, which already contain the full complement of normal memory. Only one 82170A may be used on the 41C, and may not be combined with any 82106A modules.

The 82180A extended function/memory module and 82182A time module must not be used on a

41CX, which already incorporates their functionality.

No more than two 82181A extended memory modules may be used, and if one is plugged into an even port, the other must be plugged into an odd port. On a 41C or 41CV, the 82181A is generally only useful if you also install an 82180A.

Only one printer may be used. The 82143A printer and 82442A IR printer module cannot be used together. If either is used with an HP-IL module, the switch on the HP-IL module must be set to disable the HP-IL printer functions.

The service ROM will not work with an HP-IL module with printer functions disabled, because disabling the printer functions moves them to page 4, which is where the service module is addressed.

### **Re: AME Port Extender**

*Message #7 Posted by [Jake Schwartz](#) on 20 Apr 2007, 4:56 p.m.,  
in response to message #1 by MikeG*

Hi Mike,

I am the author of the AME Port X Tender manual and I believe I still have some hard copies remaining. If you'd like one, I would be glad to mail it to you. Just send me email with your address.

Jake Schwartz

### **Re: AME Port Extender**

*Message #8 Posted by [MikeG](#) on 20 Apr 2007, 5:18 p.m.,  
in response to message #7 by Jake Schwartz*

Hi Jake,

I really appreciate your offer my address is mgeorge2ATstny.rr.com I think at this point I'm in need of RTF :) again thanks for offering the manual, and for all the replies back. This is an excellent forum for enthusiast/support.

Mike

### **Re: AME Port Extender**

*Message #9 Posted by [Juan J](#) on 20 Apr 2007, 10:12 p.m.,  
in response to message #8 by MikeG*

Hello Mike,

I have one of these. Presently I do not have the manual at hand (I am at work, away from home)but do remember a couple things.

It is supposed to connect in Port 3. You can activate ports 1 through 4 of the Port Extender using the DIP switches, which gives you access to multiple modules through Port 3. Ports 5 and 6 can behave like the 41's Ports 1 through 4 by toggling the DIP switches on the right side of the extender. Care must be taken with this; otherwise the 41 will crash.

A typical configuration can be two Extended Memory modules in Ports 1 and 2, an Application Pac (for instance, the Advantage Pac) on Port 3. CAT 2 will report the Pac and you will have 600 Extended

Memory registers. I use an HP-41C with a Quad Memory Module on Port 1, Extended Memory/Functions Module on Port 2, the Port Extender with the above mentioned modules on it, and a Card Reader.

Port 7 is used to plug in the 82143A printer, the 82153A Wand or the HP-IL Module. I do not remember how to enable it but it has to do with the front DIP switches.

Hope this helps.

---

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## HP Forum Archive 17

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### Two new Datafile articles online (PDF format)

Message #1 Posted by [Valentin Albillo](#) on 19 Apr 2007, 8:39 p.m.

Hi, all

I've just updated [my HP calc web site](#) to include two additional Datafile articles written by me, freely downloadable in PDF format, namely:

- **"HP-71B Sudoku Generator & Coach"**

This completes my *Sudoku Trilogy* with a 14-page article featuring a Sudoku Generator & Coach which can generate an essentially infinite number of puzzles per the user's specifications, including number of empty places, symmetries and, optionally, guaranteed uniqueness and solvability without guessing ever being necessary, in a fully ergonomic, printable format. The coach part can give appropriate hints of various types, one by one, guaranteed to be deductible by the user in the given order, either fully completing the puzzle or stopping midway, both for the self-generated puzzles and externally provided ones.

- **"Long Live the HP-25 !"**

7-page article to commemorate the HP-25, my first HP calculator ever and one of the most memorable classics ever made. The article includes some fond personal remembrances of those golden times, as well as a thorough explanation of why the HP-25 made such an impact back then, all of it conveniently laced with two awesome programs written in the 70's by two enthusiastic youths, namely my friend Fernando del Rey and myself. Single-stepping through the code is a revealing experience, where you can see what can be done in less than 40 steps and how everything fits together and works as if by magic.

and last but not least ...

- **"Boldly Going - Identifying Constants"**

This is my latest published Datafile article, which isn't available online but featured in the current Datafile issue, V26N2 pp24-37. It's a 14-page article which includes a truly awesome (if simple) program which allows *ye goode olde* HP-71B to perform some rather impressive 'symbolic' feats. The program does *not* require any additional ROMs or files, just a bare bones HP-71B, and can be converted to any other suitably fast HP model or emulator with minimum effort.

Have a look at the very first page of the article which tells it all (the full 14-page article boasts more than 40 worked out examples, including the five shown in this first page, as well as three detailed *extensions*, the last being an 'exercise' for the reader, solution included ! :-)

<http://i14.tinypic.com/4ibordg.gif>

That's all. Hope you enjoy the two new uploaded articles and

Best regards from V.



*Edited: 20 Apr 2007, 7:33 a.m.*

**Re: Two new Datafile articles online (PDF format)**

*Message #2 Posted by **Valentin Albillo** on 22 Apr 2007, 1:32 p.m.,  
in response to message #1 by Valentin Albillo*

Hi all,

My HP calc web site has had over 400 hits in the last two days, which is many times the usual rate, so thanks a lot for your interest in my articles.

And of course, any and all comments are most welcome.

Best regards from V.

**Re: Two new Datafile articles online (PDF format)**

*Message #3 Posted by **Gerson W. Barbosa** on 22 Apr 2007, 2:14 p.m.,  
in response to message #2 by Valentin Albillo*

Hello Valentin,

I am particularly fond of the "Long Live the HP-XX !" series articles. I am glad you keep on producing them. Thanks a lot!

Gerson.

**Re: Long Live ! Series**

*Message #4 Posted by **Valentin Albillo** on 22 Apr 2007, 2:59 p.m.,  
in response to message #3 by Gerson W. Barbosa*

Hi, Gerson:

Thank you very much for your unfailing interest in my humble productions, really much appreciated.

As for the "Long Live Series", the following articles have already appeared published in Datafile, though still not available as online PDF downloads:

- Long Live the HP-34C !
- Long Live the HP-71B !
- Long Live the HP-35 !

and another one is already written but not yet sent for publication, namely "**Long Live the HP-67 !**".

Unlike Wlodek, I do not intend to cover every HP calculator under the sun nor limit myself exclusively to HP calculators. I may, for instance, write "Long Live" articles about some outstanding ROM or peripheral, as well as some nice HP microcomputers, such as the HP-85.

But all in all, it won't be a very long series, just the models I know best and like the most.

Best regards from V.

**Re: Two new Datafile articles online (PDF format)**

Message #5 Posted by **GE** on 24 Apr 2007, 4:07 a.m.,  
in response to message #2 by Valentin Albillo

Thank you for those articles. And I am still wondering why I'm not a Datafile subscriber yet...

**Re: Two new Datafile articles online (PDF format)**

Message #6 Posted by **Valentin Albillo** on 24 Apr 2007, 7:36 a.m.,  
in response to message #5 by GE

Hi, GE:

GE wrote:

*"Thank you for those articles. And I am still wondering why I'm not a Datafile subscriber yet... "*

Thanks to you for your kind words, GE, much appreciated.

Actually, encouraging words like that do wonders to provide the necessary motivation to try and write new articles. Otherwise, imagine how one would feel if, after spending most of the scarce free time available in a whole month to develop and write down a full 14-page article (program included), one would then get no feedback whatsoever, be it positive or negative. It would leave quite an 'empty' feeling and a strong urge to allocate time to more rewarding endeavours ... :-)

As for not being a Datafile subscriber yet, unless you've tried to and there were some problems while processing your subscription, I would encourage you to become one: the cost is truly minimal, you'll be supporting the last great HP fan magazine out there, and the very best part is you'll find yourself eagerly awaiting for your issue every other month, reliving that wonderful feeling we had back in our youth, in the golden PPC days.

Which is more, you could even consider submitting your own articles and comments, the more the merrier. Meanwhile, my very next "Boldly Going" series article is really going to both break new grounds and prove immensely valuable in actual use, I'm really proud of it. Stay tuned !

Best regards from V.

**Re: Two new Datafile articles online (PDF format)**

Message #7 Posted by **Tony Duell** on 27 Apr 2007, 1:48 p.m.,  
in response to message #6 by Valentin Albillo

I have thought long and hard about posting this, but I really can't let it pass.

Quote:

As for not being a Datafile subscriber yet, unless you've tried to and there were some problems while processing your subscription, I would encourage you to become one: the cost is truly minimal, you'll be supporting the last great HP fan magazine out there, and the very best part is you'll find yourself eagerly awaiting for your issue every other month, reliving that wonderful feeling we had back in our youth, in the golden PPC days.

If you consider the cost to be 'truely minimal' and you approve of supporting HPCC, then why don't YOU pay the membership fee each year rather than convincing the committee to give you free membership in exchange for articles.

Many other members write articles and still pay the membership fee. Others put time and effort into the club in other ways -- and still pay the membership fee.

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## HP Forum Archive 17

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### OT- Binary Watch

Message #1 Posted by [Mike H](#) on 19 Apr 2007, 5:04 p.m.

I didn't know if I should laugh or get out my credit card...

Recent Skymall ad...

BINARY CODE WATCH Hard-core techies love this watch. So do design devotees. Red lights on the green circuit-board face represent powers of two: 2, 4, 8, 16, 32. A series of electrical impulses turns them on (1) or off (0), displaying the time in binary code. If you know the code, you can tell the time, amazing those around you who don't have a clue. Water-resistant to 100 ft., watch has a stainless-steel case and soft leather band. Face is 1 5/8" across.

<http://images.skymall.com/images/products/68/16/06/102131804x.jpg>

### Re: OT- Binary Watch

Message #2 Posted by [Geir Isene](#) on 19 Apr 2007, 5:10 p.m.,  
in response to message #1 by Mike H

Don't laugh. I wear one every day. No kiddin'

### Re: OT- Binary Watch

Message #3 Posted by [Gerson W. Barbosa](#) on 19 Apr 2007, 7:10 p.m.,  
in response to message #1 by Mike H

"There are 10 types of people in this world: those who understand binary and those who don't." And those who do would need no power of two in decimal base printed above the LEDs :-)

Edited: 19 Apr 2007, 7:11 p.m.

### Re: OT- Binary Watch

Message #4 Posted by [Geir Isene](#) on 20 Apr 2007, 7:32 a.m.,  
in response to message #3 by Gerson W. Barbosa

It is to ease the transition from the one type to the other 9, or the nine to the one (whichever you prefer)

### Re: OT- Binary Watch

Message #5 Posted by [Ren](#) on 20 Apr 2007, 10:49 a.m.,  
in response to message #1 by Mike H

I've seen that ad a number of times and the one thing I don't "get".

The "hour" display is 4 LED's, the hour shown in the picture is "13" (8+4+1). Yet, 4 LED's can only display

up to "15" hours...

So.... If the watch can't display 24 hours (that would require 5 "hour" LED's), why is it displaying "13"?

After that I haven't even bothered to decipher the minutes.

Ren

dona nobis pacem

### marketing strikes again

Message #6 Posted by [Don Shepherd](#) on 20 Apr 2007, 11:28 a.m.,  
in response to message #5 by Ren

Good point. I'll bet the picture wasn't from a production watch, but was created by the marketing guys who obviously goofed it. I bet the watch really only displays hours 0-12.

### Re: marketing strikes again

Message #7 Posted by [Geir Isene](#) on 20 Apr 2007, 4:48 p.m.,  
in response to message #6 by Don Shepherd

Yes, it only goes to 12 :)

### Re: OT- Binary Watch

Message #8 Posted by [Paul Brogger](#) on 22 Apr 2007, 2:04 a.m.,  
in response to message #5 by Ren

Apparently, you're a card-carrying member of the target demographic. (They might do well to *aim* a little better . . . )

### Re: OT- Binary Watch

Message #9 Posted by [Philip Reagan](#) on 20 Apr 2007, 5:10 p.m.,  
in response to message #1 by Mike H

Yes, I have one too. Friends call it my geek watch. I generally wear it on important days such as Sunday at Church. I get a lot of questions and interest and they want to know how to tell what time it is. Unfortunately, it only takes about 10-15 seconds before they say, "never mind" and loose interest in how to tell the time.

FYI, there is no provision to tell AM or PM unfortunately nor is their a calender. It is a fun watch however.

### Re: OT- Binary Watch

Message #10 Posted by [Geir Isene](#) on 21 Apr 2007, 4:57 a.m.,  
in response to message #9 by Philip Reagan

Quote:

\_\_\_\_\_  
FYI, there is no provision to tell AM or PM  
\_\_\_\_\_

I never had the need for a watch to tell me night from day.

## Re: OT- Binary Watch

Message #11 Posted by [Matt Kernal \(US\)](#) on 21 Apr 2007, 3:04 p.m.,  
in response to message #1 by Mike H

At last September's HHC2006, folks were asking to see Eric Smith's watch - which IIRC, was this [Nixie Tube](#) model (don't miss the Quicktime movie :-). The first HP-01 watch I had ever seen (in person), was also worn by Eric - at the HHC1998 (or 99?) in Vancouver, WA.

People often ask "What is that?" when they point at the [BCD Clock](#) in my office. I can rattle off the time instantly (because they don't notice the regular clock-radio sitting behind the BCD clock ;-).

Matt

## Re: OT- Binary Watch

Message #12 Posted by [Wayne Brown](#) on 27 Apr 2007, 1:51 p.m.,  
in response to message #11 by Matt Kernal (US)

My office clock has the hours marked in multiples of pi radians:  $\pi/6$  for one o'clock, followed by  $\pi/3$ ,  $\pi/2$ ,  $2\pi/3$ ,  $5\pi/6$ , etc. It's fun to watch people staring at it and trying to figure out how to read it. Eventually, most of them realize they can just ignore the numbers, since the hour marks are in the same places as on a regular clock. :-)

---

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## HP Forum Archive 17

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### Polar Coordinates

Message #1 Posted by [Sara](#) on 19 Apr 2007, 10:28 a.m.

I don't know how to convert from regular to polar coordinates (&back) on my HP 50g. Any ideas? Thanks

### Re: Polar Coordinates

Message #2 Posted by [Vieira, L. C. \(Brazil\)](#) on 19 Apr 2007, 11:40 a.m.,  
in response to message #1 by Sara

Hi;

the HP50G deals with number representation for both polar and rectangular coordinates in a way you can show each representation without actually converting the numbers themselves. Anyway, in the MODES menu you can choose either rectangular or polar representation. The calculator will not actually convert the number, just show it in the selected mode. Given a complex number in any format in the display, the HP50G has the following functions:

ARG - returns the angle of the polar representation  
 ABS - returns the absolute value of the polar representation  
 RE - 'extracts' the real part of the number  
 IM - 'extracts' the complex part

You can download [this training module](#) and [this other one](#) for further information.

Luiz (Brazil)

*Edited: 19 Apr 2007, 11:44 a.m.*

### Re: Polar Coordinates

Message #3 Posted by [Hal Bitton](#) on 19 Apr 2007, 12:12 p.m.,  
in response to message #1 by Sara

Hi Sara,

Go to the MTH menu (left shifted SYMB key), and the VECTR sub menu (far left), and press NXT. You will see RECT (rectangular) and CYLIN (polar) soft key labels on the far left. Enter your coordinates in a suitable format (x,y) for rectangular, or (magnitude,<angle) for polar (note that the less than symbol really represents the angle symbol, which is accessed by ALPHA right shift 6 on the calculator. Once you get the coordinates on level 1 of the stack, simply select rectangular or cylindrical (using the F1 and F2 soft keys) to convert. If you key in coordinates in one system (say rectangular), and the the other system is selected (in this case CYLIN), the conversion will take place as soon as you hit the enter key, and vise-versa.

This is rather keystroke intensive compared to the old machines (where you just threw two numbers onto the stack and hit the P<R key), but bear in mind that with the 50G, you don't have to convert to do vector arithmetic. (I.E. you can add two sets of polar coordinates without having to convert them to rectangular and back again...the calculator will do that for you).

Best regards, Hal



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### Casio FC-1000 manual? Anyone?

Message #1 Posted by [Gene](#) on 19 Apr 2007, 9:44 a.m.

I've searched and can't find a manual for the FC-1000. Does anyone here have it in PDF form or a link to one?

TIA, Gene

### Re: Casio FC-1000 manual? Anyone?

Message #2 Posted by [Giancarlo \(Italy\)](#) on 19 Apr 2007, 9:56 a.m.,  
in response to message #1 by Gene

Hi Gene.

Please have a look at:

<http://www.usersmanualguide.com/casio/calculators/fc-1000>

That should be what you're looking for.

Hope this helps.

Best regards.

Giancarlo

### Re: Casio FC-1000 manual? Anyone?

Message #3 Posted by [Gene](#) on 19 Apr 2007, 1:50 p.m.,  
in response to message #2 by Giancarlo (Italy)

Hi. Yes, I had seen that.

But, when you click on that link, you get a "Not found" error.

So, still in search of a manual. :-)

### Re: Casio FC-1000 manual? Anyone?

Message #4 Posted by [Bill \(Smithville, NJ\)](#) on 19 Apr 2007, 3:15 p.m.,  
in response to message #3 by Gene

Hi Gene,

Try following:

[Casio NZ](#)

Do a search for FC1000. They have a scanned copy of it in English.

If you have problem downloading it, send me your e-mail and I'll send you the copy I downloaded.

Bill

---

**Perfect! Thanks Bill... n/t**

*Message #5 Posted by [Gene](#) on 19 Apr 2007, 5:02 p.m.,  
in response to message #4 by Bill (Smithville, NJ)*

n/t

---

**Re: Casio FC-1000 manual? Anyone?**

*Message #6 Posted by [Valentin Albillo](#) on 19 Apr 2007, 7:22 p.m.,  
in response to message #1 by Gene*

Hi, Gene:

I've downloaded and looked at the manual and it seems a pretty interesting machine.

Matter of fact, it can be considered like the Financial version of my Casio fx-7500g, which seems to be identical to yours, only Scientific instead of business (and with nearly 2x the memory), as if they were the 'equivalents' of the HP-12C and HP-11C, respectively.

My scientific fx-7500g is an awesome machine, unbelievably small, capable, and fast, much faster than most HP models, and with a very nice graphic and alpha screen. I'd love to see some of your comments, tests, and even reviews when you get to know your business model and write some programs for it. I'm even considering writing some review and programs for my scientific model in comparison with equivalent HP ones. Your review and mine would make a fine couple of paired articles :-)

Best regards from V.

---

**Re: Casio FC-1000 manual? Anyone?**

*Message #7 Posted by [Bruce H](#) on 20 Apr 2007, 10:40 a.m.,  
in response to message #6 by Valentin Albillo*

Quote:

\_\_\_\_\_

My scientific fx-7500g is an awesome machine ...

\_\_\_\_\_

What's the key travel like on yours? I have an FC1000 and the keys have zero travel. They all work okay it's just that they make it pretty uncomfortable to use.

---

**Re: Casio FC-1000 manual? Anyone?**

*Message #8 Posted by [Bruce H](#) on 20 Apr 2007, 10:45 a.m.,  
in response to message #7 by Bruce H*

I forgot to add...

I trust that you have seen [this latest one](#) from Casio?

## HP Forum Archive 17

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**HP 5061-7287 MATH STAT PAC MODULE**

Message #1 Posted by [Roland Storz](#) on 19 Apr 2007, 5:54 a.m.

Hello, does somebody know where to get a copy of the manual for the Math/Stat Pac Module of the HP 41 series ?  
? Many thanks in advance, Roland

**Re: HP 5061-7287 MATH STAT PAC MODULE**

Message #2 Posted by [Namir](#) on 19 Apr 2007, 9:48 a.m.,  
in response to message #1 by Roland Storz

The musuem CD have them. You can buy a single CD that has these manuals. CHeck the web site for the link that lists what's on the CDs.

Namir

**Re: HP 5061-7287 MATH STAT PAC MODULE**

Message #3 Posted by [Klaus](#) on 19 Apr 2007, 10:04 a.m.,  
in response to message #1 by Roland Storz

It is also available on the internet, but do buy the museum's CD-set. It is really great!

**Re: HP 5061-7287 MATH STAT PAC MODULE**

Message #4 Posted by [Roland Storz](#) on 19 Apr 2007, 12:29 p.m.,  
in response to message #1 by Roland Storz

Namir, Klaus, thanks to both of you, I did cross-check the museum, you can find anythink you can imagine, however I couldn't find the manual for this specific math/stat module, did I miss something? Regards, Roland

**Re: HP 5061-7287 MATH STAT PAC MODULE**

Message #5 Posted by [Monte Dalrymple](#) on 19 Apr 2007, 1:29 p.m.,  
in response to message #4 by Roland Storz

The Math/Stat module didn't come with its own manual. Included with the module was a copy of the manual for the Math Pac and a copy of the manual for the Stat Pac. The Math/Stat Pac effectively just combined those two modules into one housing.

Monte

**Re: HP 5061-7287 MATH STAT PAC MODULE**

Message #6 Posted by [Dan M \(Vermont, USA\)](#) on 19 Apr 2007, 1:27 p.m.,  
in response to message #1 by Roland Storz

I believe that this particular PAC was a repackaging of the "Math Pac" and the "Stat Pac" into one module. As such, it shipped with 2 manuals, one for "Stat Pac" and another for "Math Pac" and didn't have one manual all to itself.

Plugging in this one (combined) module acts the same as plugging in one "Math Pac" module and one "Stat Pac" module, except it only takes up one Port.

Hope this helps,

Dan M.

---

**Re: HP 5061-7287 MATH STAT PAC MODULE**

*Message #7 Posted by [Roland Storz](#) on 20 Apr 2007, 3:15 a.m.,  
in response to message #1 by Roland Storz*

...that helps, thanks a lot to all of you, Roland

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## HP Forum Archive 17

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### **solving inequalities with my 50G**

Message #1 Posted by [Hal Bitton](#) on 18 Apr 2007, 9:11 p.m.

OK, I must be going crazy...the other night (with my 50g) I was merrily solving inequalities for a variable (checking my son's homework;)using the far right soft key labeled "solve" in the s.solve menu. (As a very simplistic example, for the inequality  $X < 3Y$  in level 1 of the stack, I would key Y into the command line and press the solve soft key...the result could be  $Y > X/3$ ).

Just now, I'm trying to do the same thing again and I get a window that says "Solve Error: Parameters not allowed". So now I'm thinking maybe I wasn't using the solve soft key the other night...or maybe a flag or setting is not configured properly...or maybe I'm just losing my marbles 8/ ---->ooooo  
Anyway, any help on this would be greatly appreciated. Thanks, and best regards, Hal

### **Re: solving inequalities with my 50G**

Message #2 Posted by [Ron Allen](#) on 27 Apr 2007, 1:24 p.m.,  
in response to message #1 by Hal Bitton

Hal, did you get answered?

I don't recall ever getting solutions for inequalities as a part of CAS or anywhere within the solvers. That doesn't mean it isn't designed to or specified to. A solve error, "parameters not allowed" would be the message expected, at least to me. I can generate that response every time on my 50.

Regards,

Ron

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## HP Forum Archive 17

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### **"Orange" and "white" shift keys.**

Message #1 Posted by [Bob Blaylock](#) on 18 Apr 2007, 5:31 p.m.

I have found several instances in which instructions on how to do a particular thing on an HP48 calculator make reference to "orange" and "white" shift keys.

I haven't had any trouble figuring out that where I see these, the intent is to refer to the two up-and-to-one-side keys between the ON key and the alpha key. But on my HP48G, the up-right key is green, and the up-left key is lavender.

Apparently, HP hasn't been consistent in its use of color for these keys on different variants of the HP48.

So, I have a question and a comment.

First, the comment: When specifying instructions for doing something on an HP48, please be aware that not all HP48s use the same colors as yours in the same way, so referring to these keys by color isn't helpful to someone who has a calculator that uses different colors.

Second, on those HP48 calculators that do use orange and white, which is which?

### **Re: "Orange" and "white" shift keys.**

Message #2 Posted by [allen](#) on 18 Apr 2007, 5:52 p.m.,  
in response to message #1 by Bob Blaylock

the 50g has orange and white not the 48 series. ( orange and blue or teal and lavender. Cheers -al  
[http://www.enterhp.com/images/50g\\_0002-512.jpg](http://www.enterhp.com/images/50g_0002-512.jpg) [http://www.enterhp.com/images/HP48SX\\_121505-512.jpg](http://www.enterhp.com/images/HP48SX_121505-512.jpg) [http://www.enterhp.com/images/gx\\_0032-512.jpg](http://www.enterhp.com/images/gx_0032-512.jpg)

*Edited: 18 Apr 2007, 6:02 p.m. after one or more responses were posted*

### **Re: "Orange" and "white" shift keys.**

Message #3 Posted by [John](#) on 18 Apr 2007, 6:00 p.m.,  
in response to message #2 by allen

There have been no 48SX, 48S, 48GX, or 48G calculators that used Orange and White shift keys.

The color scheme is the same for ALL the 48SX and 48S models that HP sold.

The color scheme is the same for ALL 48GX and 48G models that HP sold.

Without a link to the specific statement to which you are referring, we can't help you more than this.

### **OT: About the photo on the 50G packaging :-)**

Message #4 Posted by [Matt Kernal \(US\)](#) on 18 Apr 2007, 6:25 p.m.,

*in response to message #2 by allen*

I've always felt sorry for those two guys on the 50G packaging.

You know it gotta be hard having some guy's arm attached to the side of your head. And the guy in the blue shirt must have a sore back since he's always leaning over ;^)

12345 to delete (somebody ought to delete this rubbish)

**Re: OT: About the photo on the 50G packaging :-)**

*Message #5 Posted by **Tim Wessman** on 18 Apr 2007, 10:57 p.m.,  
in response to message #4 by Matt Kernal (US)*

Since you mentioned the guys on the front cover. . . the first time I saw a 50G box I thought it was Cyrille for a second. :-)

<http://hpmad.homeip.net/img/full/house/house4.jpg>  
<http://hpmad.homeip.net/img/full/house/basement2.jpg>

TW

**Re: OT: About the photo on the 50G packaging :-)**

*Message #6 Posted by **Matt Kernal (US)** on 19 Apr 2007, 11:32 a.m.,  
in response to message #5 by Tim Wessman*

WOW! You weren't kidding Tim! That second one is eerily similar ;-) And this is the guy that programs our 50G's ROM??

(Actually Cyrille is a really GREAT professional - very, very intelligent, really down-to-earth, and just hilarious to be around).

Matt

**Re: OT: About the photo on the 50G packaging :-)**

*Message #7 Posted by **John Kono** on 20 Apr 2007, 6:48 a.m.,  
in response to message #4 by Matt Kernal (US)*

Quote:

\_\_\_\_\_

I've always felt sorry for those two guys on the 50G packaging.

You know it gotta be hard having some guy's arm attached to the side of your head. And the guy in the blue shirt must have a sore back since he's always leaning over ;^)

\_\_\_\_\_

At least it's better than the 49g+ packaging. I was never quite sure whether the guy on the right-hand side of that picture knew he was holding a calculator and not a tricorder...

**Re: OT: About the photo on the 50G packaging :-)**

*Message #8 Posted by **Matt Kernal (US)** on 20 Apr 2007, 3:27 p.m.,  
in response to message #7 by John Kono*

Quote:

At least it's better than the 49g+ packaging. I was never quite sure whether the guy on the right-hand side of that picture knew he was holding a calculator and not a tricorder...

That's right.. something about the IR window wasn't quite right. it certainly wasn't a 49G+.

**Re: OT: About the photo on the 50G packaging :-)**

*Message #9 Posted by **John Kono** on 21 Apr 2007, 12:41 a.m.,  
in response to message #8 by Matt Kernal (US)*

Quote:

That's right.. something about the IR window wasn't quite right. it certainly wasn't a 49G+.

Speaking of not-quite-right photos... Take a look at the small picture on the back of the 50g User's Manual. Ain't Photoshop grand? :)

**Re: "Orange" and "white" shift keys.**

*Message #10 Posted by **James M. Prange (Michigan)** on 18 Apr 2007, 6:49 p.m.,  
in response to message #2 by allen*

And on the 49g+, the LeftShift is green and the RightShift red.

From HP's site, it looks as if the 48gII's LeftShift is sort of dark blue, and it's RightShift is red.

I agree that identifying a shift key by colour is poor communication. Even though I have all of the RPL models except the 48gII, I wouldn't know which shift key is a particular colour on any given model without actually taking a look at the calculator.

Regards,  
James

**Re: "Orange" and "white" shift keys.**

*Message #11 Posted by **Howard Owen** on 18 Apr 2007, 9:17 p.m.,  
in response to message #10 by James M. Prange (Michigan)*

I agree. "Left Shift" and "Right Shift" is the way to go in describing these keys.

The color wouldn't be a bad means of communicating the difference if it weren't for the color scheme changes over the years. At least the current scheme is high-contrast.

Regard,  
Howard.

P.S.

I once knew a Bob Blaylock in my Apple ][ days.



**Bob Blaylock -- Apple ][ days -- Howard Owen**

*Message #12 Posted by **Bob Blaylock** on 18 Apr 2007, 11:50 p.m.,  
in response to message #11 by Howard Owen*

Quote:

P.S.

I once knew a Bob Blaylock in my Apple ][ days.

As it happens, I tried sending you a message, some days ago, through this forum's email feature, asking if you might be the same Howard Owen that I once knew many years ago. I never got a reply. Apparently, this forum's email system doesn't work very well.

Anyway, it now seems very likely that you are indeed the Howard Owen that I once knew, and that I'm the Bob Blaylock that you once knew. I suppose if we're going to do any catching-up, we should take this off of this forum...

My email address is constructed as follows (to foil spammers):

username: bob

domain name: blaylock.to

(Yes, that really is ".to" where you expect to see something more common like ".com" or ".net". And of course, you put them together with an at sign, but you knew that.)

**Re: "Orange" and "white" shift keys.**

*Message #13 Posted by **Dan W** on 19 Apr 2007, 1:39 p.m.,  
in response to message #10 by James M. Prange (Michigan)*

Just a couple of days ago I found this site while browsing for info on the HP-65:

<http://www.wendycarlos.com/colorvis/color3.html>

This gal does Human Factors analysis on the use of colors. Interesting stuff. She's also apparently an HP fan. She concludes at the bottom that the color choices for the HP-65 were "... the best possible color choices for the huge majority of color deficient people".

-- Dan

**Re: "Orange" and "white" shift keys.**

*Message #14 Posted by **Dave Boyd** on 19 Apr 2007, 2:50 p.m.,  
in response to message #13 by Dan W*

Quote:

This gal does Human Factors analysis on the use of colors. Interesting stuff. She's also apparently an HP fan. She concludes at the bottom that the color choices for the HP-65 were "... the best possible color choices for the huge majority of color deficient people".

She's rather famous for several reasons, not least as a musician -- she was an early advocate of music synthesis, and has/had a giant Moog synth -- she did the soundtrack for "Tron". Her entire site is worth reading.

**Re: "Orange" and "white" shift keys.**

*Message #15 Posted by **Walter B** on 20 Apr 2007, 1:38 a.m.,  
in response to message #13 by Dan W*

Great site! Thanks, Dan, for pointing to it!

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## HP Forum Archive 17

[ [Return to Index](#) | [Top of Index](#) ]**Substitute variables on a array of equations...***Message #1 Posted by [regisxp](#) on 18 Apr 2007, 2:29 p.m.*

Hi all!

I have a function that returns me a array with two equations... Something like this:

 $[x^2+y \quad X^2-2y]$ 

Is there any way that i can use to substitute X and Y by real numbers, like; x=2 and y=1

And get an array with the responses: [5 2]

Thanks a lot!!!

**Re: Substitute variables on a array of equations...***Message #2 Posted by [Vieira, L. C. \(Brazil\)](#) on 18 Apr 2007, 8:06 p.m.,  
in response to message #1 by [regisxp](#)*

Hi;

one of the simplest way would be creating the variables 'x' and 'y' then attributing them the values you want to. Consider this:

```
[x^2+y x^2-2y] [ENTER]
2 'x' [STO]
1 'y' [STO]
[->NUM]
```

Alternatively you can store the initial expression in a separate variable, say 'EQ1', with the following sequence:

```
[x^2+y x^2-2y] 'EQ1' [STO]
2 'x' [STO]
1 'y' [STO]
'EQ1' [->NUM]
```

This way, you could attribute x and y other values, say 3 and 4, like this:

```
3 'x' [STO]
4 'y' [STO]
'EQ1' [->NUM]
```

There are other ways, for sure. This is one of them, though.

Cheers.

Luiz (Brazil)

*(PS: there may be errors, I have no calculator at hands, now...)*

*Edited: 18 Apr 2007, 8:10 p.m.*

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## HP Forum Archive 17

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### Repair of keyboard HP 55

Message #1 Posted by [Kees van der Sanden](#) on 18 Apr 2007, 1:57 p.m.

I own a HP 55 calculator. This calculator works fine except for three keys, marked ., 1 and 2. These keys are functional but missing the click feeling. Can this be repaired easily and do I need spare parts?

### Re: Repair of keyboard HP 55

Message #2 Posted by [Gerson W. Barbosa](#) on 18 Apr 2007, 5:59 p.m.,  
in response to message #1 by [Kees van der Sanden](#)

Quote:

\_\_\_\_\_

This calculator works fine except for three keys, marked ., 1 and 2.

\_\_\_\_\_

One EE trainee who worked with us had an HP-49G+ on which these same keys were broken (he'd put pieces of papers around the key slots to hold them in place). [Benford's law](#) as observed in calculators? This was first noticed in logarithmic tables (first pages, the ones with numbers beginning with 1 and 2, were much more worn and smudged than later pages).

No keys in my HP-45 have lost that click feeling yet :-). However, on occasions keys '2' and '3' bounce if I don't press them firmly.

Quote:

\_\_\_\_\_

Can this be repaired easily and do I need spare parts?

\_\_\_\_\_

I think <http://www.fixthatcalc.com> can fix it for you, in case you're loath to open it yourself and try to discover what is wrong. Once I was able to fix a similar problem in an HP-15C, but that was a spare unit and I wouldn't mind if anything went wrong.

Regards,

Gerson.

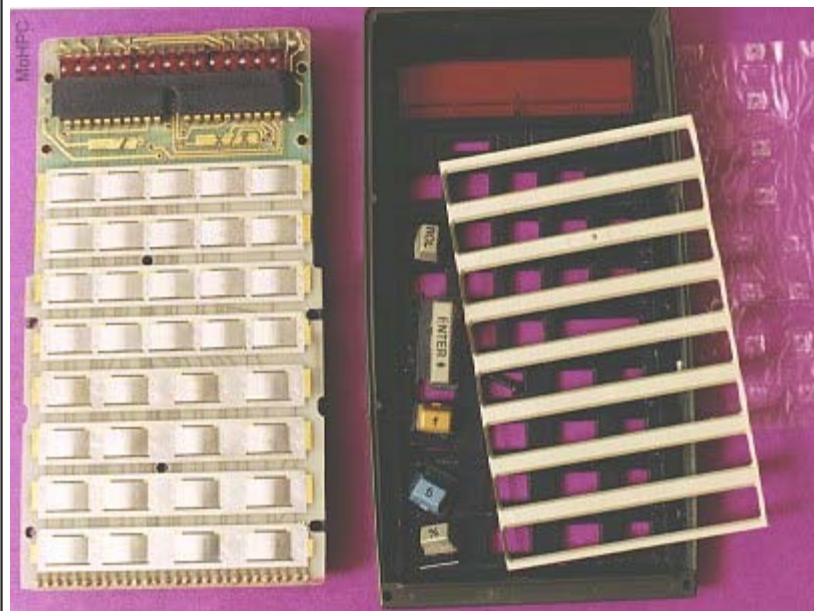
*Edited: 18 Apr 2007, 6:01 p.m.*

### Re: Repair of keyboard HP 55

Message #3 Posted by [Randy](#) on 18 Apr 2007, 8:01 p.m.,  
in response to message #1 by [Kees van der Sanden](#)

The loss of tactile feedback in LED classic machines is due to a failure of the key strip. In the photo below, the keyboard assembly is on the left, you can see the small projections where each key is. The flexing strips develop stress fractures at the base of each hinge point, when they fail, they work electrically but you lose the mechanical feedback.

The only source for a replacement strip is from another HP classic machine but it is not an easy task to remove and graft a replacement on to the original as they are spot welded in place. They can be soldered but the results are not always 100%, the best solution is to replace the entire assembly. Unfortunately, the keyboard of the 55 is unique due to the timer/pgm/run switch.



### Re: Repair of keyboard HP 55

Message #4 Posted by [Vieira, L. C. \(Brazil\)](#) on 18 Apr 2007, 8:18 p.m.,  
in response to message #1 by Kees van der Sanden

Hi;

My HP55 has the same problem with the [1] key. I noticed that there is a small crack at the side of the flex strip, and I hope it does not break definitely. I use the calculator only when I want to check some particular operation or to test programs, procedures, specifically for it.

Hope you succeed.

Cheers.

Luiz (Brazil)

*Edited: 18 Apr 2007, 8:20 p.m.*

### Re: Repair of keyboard HP 55

Message #5 Posted by [Ronald P](#) on 19 Apr 2007, 7:18 a.m.,  
in response to message #4 by Vieira, L. C. (Brazil)

Hello,

I have reasonable good experiences with rewelding the strip: Loosen the strip and soldering it back to the welding points. The trick is in soldering the strip back with the right curvature. If done well, it will be as new, if not....

If the strip is broken however, you will have to salvage one from a other keyboard.

If you need more help, I am located in the Netherlands around Utrecht so we could call if needed.

Ronald.

### **Re: Repair of keyboard HP 55**

*Message #6 Posted by [Kees van der Sanden](#) on 20 Apr 2007, 1:32 a.m.,  
in response to message #5 by Ronald P*

I want to thank you all for your replies.

I will open the calculator and see what causes the problem. Hope I can fix it. If I succeed I will write an article about it.

Ronald, please click on my name and send me an email, your experience could be very helpfull.

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## HP Forum Archive 17

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### **(OT) Anyone Going - Trenton Computer Festival?**

Message #1 Posted by **Bill (Smithville, NJ)** on 18 Apr 2007, 10:59 a.m.

Anyone planning on attending the Trenton Computer Festival on April 28 & 29?

See link:

[Trenton Computer Festival](#)

I'll probably be going on the 28th, but could make it either day. Please let me know if you're going and maybe we could have a HP calculator lunch.

Bill

*Edited: 19 Apr 2007, 4:53 a.m.*

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## HP Forum Archive 17

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### NiMH batteries in the HP48 and 49 series

Message #1 Posted by [Les Wright](#) on 18 Apr 2007, 1:19 a.m.

As I get exasperated with how my 49G+ gobbles batteries, and I fret about the the cost and the waste, I am contemplating investing in a few of the highest rated AAA NiMH batteries I can find and seeing how I make out. I understand that the main beef with rechargeables and the 48 and 49 series is that they can conk out without adequate "low bat" warning and you lose the memory of the calculator. As the life of newer rechargeables increases, I am wondering if anyone has had better luck with the NiMH solution as opposed to plowing thru piles of alkalines. I find that just sitting around doing nothing is enough for my 49G+ to kill a set of batteries in a few short weeks. The 48G is much kinder to batteries, but still once under regular use it gobbles the alkalines too.

Les

### Re: NiMH batteries in the HP48 and 49 series

Message #2 Posted by [Rodger Rosenbaum](#) on 18 Apr 2007, 3:52 a.m.,  
in response to message #1 by Les Wright

I posted some info about this on comp.sys.hp48 last year:

Quote:

I used a variable bench power supply to run 3 calculators, and reduced the voltage until the low battery indicator came on in the display. These are the results.

| Calculator | Total voltage when<br>low batt came on | Per cell voltage when<br>low batt came on |
|------------|--|---|
| HP-48G     | 3.20 volts                             | 1.067 volts                               |
| HP-49G+    | 3.45 volts                             | 1.15 volts                                |
| HP-50G     | 4.85 volts                             | 1.2125 volts                              |

If you replace your (alkaline) batteries when the low battery indicator first comes on, the HP-50G will have significantly shorter run time.

See the discharge characteristic at: <http://data.energizer.com/PDFs/E92.pdf> and you will see that if you only discharge to 1.2125 volts per cell, you will have used less than half the energy in the cell. Also, note that the HP-48G in allowing the cell voltage to drop to 1.067 volts has used about 85% of the energy in the cell. (These are eyeball estimates)

The high turn-on voltage for the low battery indicator on the HP50 may be a good thing when using NiMH or NiCAD batteries.

If the low battery indicator turned on at slightly more than 1 volt per cell (which is good when using alkalines), the NiMH cells would be on a very steep part of the discharge curve, only minutes away from exhaustion.

But the HP50's low battery indicator comes on at 1.2125 volts per cell (my HP50 does so; I don't

know about any others). Eyeballing the NiMH discharge curve, this looks to me like the cells would be about 70% discharged, so there is ample time to change them.

The slightly lower per cell voltage when the low battery indicator comes on will mean that NiMH cells will be more discharged in an HP49G+ than in an HP50, but I think you will still have a bit of time before they completely die.

Note that the HP49G+ has a lithium memory backup battery, so that even if the main batteries die, you won't lose your memory contents, although some of the settings may be lost if you leave the main batteries out for a long time.

I've been using NiMH's in my HP50 with great success for about 9 months now.

### **Re: NiMH batteries in the HP48 and 49 series**

*Message #3 Posted by [Vieira, L. C. \(Brazil\)](#) on 18 Apr 2007, 9:20 a.m.,  
in response to message #2 by Rodger Rosenbaum*

Hi;

I've been using 750mAh to 1100mAh NiMH cells in about all of my 48/49/50 series. Only my HP48SX, the oldest of them, is still powered by regular alkalines.

I cannot complain. Although the NiMH cells need constant recharging, about one time a month if I use the calculator in a daily basis, I can tell I have not been buying batteries for some time. As a consequence, no disposal chemicals...

My 2¢.

Luiz (Brazil)

### **Re: NiMH batteries in the HP48 and 49 series**

*Message #4 Posted by [James M. Prange \(Michigan\)](#) on 18 Apr 2007, 3:29 p.m.,  
in response to message #2 by Rodger Rosenbaum*

Interesting; the other measurements that would be useful would be the current draw under various conditions.

Although the calculators still run after the low battery indicator comes on, if I recall correctly, they'll refuse to do any external I/O.

Unfortunately, my first impression is that my 50g is as much of a battery hog as my 49g+.

I seem to have good luck using NiMH cells in the 49g+ and 50g, but still use alkaline cells in the 48 series and 49G, which aren't so hard on batteries. But if you're going to be doing a lot of external I/O, particularly via IR, it may be better to use NiMH cells in the 48 series as well.

Of course, if you use rechargeable cells, you should have a spare set easily available.

My general impression is that the power requirements (from highest to lowest) are something like this: writing to flash, via IR I/O, via wire I/O (except via USB with the 50g), running a program, on (idle), off, and for the 48 series, coma mode.

Of course the 50g can be powered externally via the USB port, in which case the battery isn't even

required.

Regards,  
James

## Re: NiMH batteries in the HP48 and 49 series

*Message #5 Posted by **Rodger Rosenbaum** on 20 Apr 2007, 1:52 a.m.,  
in response to message #4 by James M. Prange (Michigan)*

Also from the newsgroup:

Here's what I posted back on March 24, 2006:

" I made some measurements of the current consumption of the HP49G+ with standard alkalines installed:

| Condition of measurement   | Current drain |
|----------------------------|---------------|
| Calc on, doing nothing     | 18 mA         |
| Calc on, holding ON down   | 75 mA         |
| Calc running a program     | 65 mA         |
| Calc on, pressing RED key  | 30 mA         |
| Calc on, pressing BLUE key | 30 mA"        |

and:

" I have two HP49G+'s. The older one draws 29 uA when off and the newer draws 14 uA when off."

and finally:

" Here are the measurements from my new HP50:

| Condition of measurement     | Current drain |
|------------------------------|---------------|
| Calc off                     | 28.4 uA       |
| Calc on, doing nothing       | 14.6 mA       |
| Calc on, holding ON down     | 82.5 mA       |
| Calc running a program       | 73.1 mA       |
| Calc on, pressing ORANGE key | 25.8 mA       |
| Calc on, pressing WHITE key  | 25.8 mA       |

So, you can expect about the same battery life with the HP50 as with the HP49G+, although the HP50 will wear out 4 rather than 3."

### **Re: NiMH batteries in the HP48 and 49 series**

*Message #6 Posted by [Vieira, L. C. \(Brazil\)](#) on 18 Apr 2007, 9:58 a.m.,  
in response to message #1 by Les Wright*

Hi, Les;

Quote:

I find that just sitting around doing nothing is enough for my 49G+ to kill a set of batteries in a few short weeks. The 48G is much kinder to batteries, but still once under regular use it gobbles the alkalines too.

I'd guess it is due to the base clock, somehow higher in the 48GII, HP49G+ and HP50G.

Cheers.

Luiz (Brazil)

### **Re: NiMH batteries in the HP48 and 49 series**

*Message #7 Posted by [Tim Wessman](#) on 18 Apr 2007, 10:05 a.m.,  
in response to message #1 by Les Wright*

In powering our data collection system ([www.pssllc.com](http://www.pssllc.com)) we've learned lots about batteries.

Most interesting is that certain units respond differently to the same sets of batteries. Some calculators appear to respond with a low voltage message much earlier than others.

One in particular, will give 8 full hours of use after the first low voltage warning. That is powering two long range (up to 1700' working range!) Bluetooth adapters and an external communication circuit board. The same set of batteries, charged in the same manner, will only last 3 hours past the warning on other units.

Some units will run for 3 days consistently moving in and out of the "low voltage" warning level, and then moving above the threshold.

In short, I've learned never to replace the batteries until the calculator refuses to turn on. I often get several more days out of my rechargeables on my "non" data collector units.

TW

### **Re: NiMH batteries in the HP48 and 49 series**

*Message #8 Posted by [Dia C. Tran](#) on 18 Apr 2007, 10:50 a.m.,  
in response to message #7 by Tim Wessman*

I am thinking of getting the 50G and I don't know how much of a power hog it is. With my 48SX and 48GX the alkalines last a long time so I don't think it's good idea to use NiMH with them as the NiMH has short shelf life.

### **NiMH batteries**

*Message #9 Posted by [Sam Levy](#) on 18 Apr 2007, 11:16 a.m.,  
in response to message #8 by Dia C. Tran*

NiMH cells do self discharge faster than alkaline cells. I think you could do an exchange on a regular basis so you are always on full. I have 2 smart chargers from La Crosse US or foreign voltage through Thomas distributing. I use them in toothbrushes, flashlights, TV remotes, RF headphones, pocket rasios, CD players and even to run a self opening trashbasket!

**Re: NiMH batteries**

*Message #10 Posted by [Dave Shaffer](#) on 18 Apr 2007, 2:22 p.m.,  
in response to message #9 by Sam Levy*

"even to run a self opening trashbasket!"

Wow - does it open as you (or what it senses to be trash) approach, or does it open periodically and demand to be fed?!?!

PS don't let your calculators get too close!

**Re: NiMH batteries**

*Message #11 Posted by [Sam Levy](#) on 18 Apr 2007, 4:59 p.m.,  
in response to message #10 by Dave Shaffer*

My niece who cares for me said she wanted a trashbasket with a lid, and found a battery operated one. It has an optical proximity sensor and is supposed to run from 4 D cells. The charger kits I bought for AA and AAA had bodies that used AA to substitute for C or D cells and that runs it..for a long time. we had it near the fridge but it kept opening, so it is nearer the wall. Priced at 100 she bought it at a discount warehouse for 50. Nice seal too. Sorry Dave,

**Re: NiMH batteries in the HP48 and 49 series**

*Message #12 Posted by [Patrick R](#) on 19 Apr 2007, 2:46 a.m.,  
in response to message #8 by Dia C. Tran*

Panasonic has a new series of NiMHs, the Infinium series (AA and AAA sizes are available). They claim that after one year of storage, this new battery still has 80% of its initially stored capacity. So this could be a good alternative to alkalines and standard NiMHs. I use them in my digital SLR.

Nevertheless I continue using alkalines in my HP48 and HP49.

**Re: NiMH batteries in the HP48 and 49 series**

*Message #13 Posted by [Les Wright](#) on 19 Apr 2007, 9:06 p.m.,  
in response to message #1 by Les Wright*

I have bought a set of 1000mAh NiMH Duracells, about which I am optimistic given the great experience I have with 2650 mAh AA Duracells in my 82240 printer.

After a full charge, Edwin Cordoba's BatStatus reports the cells as having 85% capacity, which makes sense to me since I believe NiMHs have slightly lower voltage than alkalines.

It will be interesting to see how much use I get out of this single charge.

Les

### **Re: NiMH batteries in the HP48 and 49 series**

*Message #14 Posted by [Les Wright](#) on 22 Apr 2007, 10:34 p.m.,  
in response to message #13 by Les Wright*

I am finding that with pretty regular use a full charge gives me a few days of use at least. BatStatus seems to suggest that the battery drains quickly to about 50% capacity, and after that the drain seems to slow.

Thanks to the backup battery, I don't worry about memory loss. Even if I didn't have the backup cell, I regularly back up my HOME directory to SD card using ARCHIVE and my flags to a list variable using RCLF. That way, if the calculator resets or loses memory, I can recover most if not all of its last saved state.

Les

### **Re: NiMH batteries in the HP48 and 49 series**

*Message #15 Posted by [David Smith](#) on 24 Apr 2007, 8:19 a.m.,  
in response to message #14 by Les Wright*

NiCad cells peak at about 1.4V and NiMH about 1.33 V after charging. This voltage rapidly drops to a fairly steady 1.2V for about 90% of the charge remaining. It then falls very rapidly. Consider it fully discharged at 1V. The 1.2V plateau is probably where your calc says 50% remaining... I suspect it will stay around 50% for quite a long time. Also the battery will self discharge at about 1% a day.

### **Re: NiMH batteries in the HP48 and 49 series**

*Message #16 Posted by [Les Wright](#) on 25 Apr 2007, 4:26 p.m.,  
in response to message #15 by David Smith*

This is proving to be my experience exactly.

I recently went out of town on a business trip and since I couldn't take my entire collection I chose one toy and made it the 49G+, which has seen more use in the past two weeks than in the last year. With quite a bit of use this week BatStatus reports a capacity of about 50% and it has hovered around there for a couple of days.

With the decent quality of the NiMH batteries, the backup wafer cell, the availability of pretty rapid chargers (my Sony camera charger will give the cells a full charge in a couple of hours, albeit only two at a time), and the ability to back up regularly and quickly to an SD card (and keep in mind that the smaller capacity cards which are more than adequate for calculator use are now dirt cheap), I can think of no good reason at all to go back to using alkalines, unless I am in a real pinch.

This was a really good discovery to make. Until now, I used the 49G+ only lightly, since the high battery drain seemed so wasteful. Now, I don't worry about this. Of course, now that the calculator is seeing more use, it may be a matter of time before the infamous keypad failure sets in. I have put off getting a 50G--frankly, it seems to me that it is basically the same calculator, albeit with an improved keyboard and some extra goodies and USB power if desired and a broader repertoire of interface options.

Les

## HP Forum Archive 17

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### Exclamation Points are Good!

Message #1 Posted by [Palmer O. Hanson, Jr.](#) on 17 Apr 2007, 11:21 p.m.

The article "Elements of E-Style" on pages 48 and 50 of the April 16 issue of *The New Yorker* reviews a new book *Send: The Essential Guide to Email for Office and Home* which offers a system of proper usage and protocol. The review states in part

"...The authors, astonishingly, come out in favor of exclamation points ('Thanks!!!!' is way friendlier than 'Thanks', ..."

I immediately thought of the rants which appeared in this forum on the subject of exclamation points.

### Re: Exclamation Points are Good!

Message #2 Posted by [Charlie O.](#) on 17 Apr 2007, 11:40 p.m.,  
in response to message #1 by [Palmer O. Hanson, Jr.](#)

I think the same applies to CAPS. My mother had an email machine and preferred caps as they were easier to see. She made lots of errors that I would give anything to still see. She died the day after I returned from Denver recovering from my own problem. I try to overlook the petty complaints about how people present their messages and wish others would do likewise.

### Re: Exclamation Points are Good!

Message #3 Posted by [Katie Wasserman](#) on 18 Apr 2007, 1:20 a.m.,  
in response to message #2 by [Charlie O.](#)

Charlie,

I'm sorry for your loss.

I feel like you do, people that didn't grow up with email should be given a lot of slack in the way they use it.

-Katie (who's been using email since the days of the ARPANET and still makes plenty of mistakes)

### Re: Exclamation Points are Good!

Message #4 Posted by [Geir Isene](#) on 18 Apr 2007, 1:59 a.m.,  
in response to message #3 by [Katie Wasserman](#)

However, there should be nothing wrong with trying to educate people to write e-mails and posts that is received in the best possible way. How the post or e-mail is received is largely the responsibility of the writer.

[Geir's e-mail rules](#)

### **Re: Exclamation Points are Good!**

*Message #5 Posted by [Walter B](#) on 18 Apr 2007, 2:28 p.m.,  
in response to message #4 by Geir Isene*

... and let's remember always: this is an international forum and customs vary a lot on this world. This includes the use of words and marks. As stated in transaction theory: it counts what the receiver understands.

### **Re: Exclamation Points are Good!**

*Message #6 Posted by [Earl Kubaskie](#) on 20 Apr 2007, 12:11 a.m.,  
in response to message #5 by Walter B*

I wonder where the anti-CAPS thing started. Early on, we didn't have 'puters that DID lower case. Some of us were proud to have a teletype terminal hooked up printing via baudot codes, and lc just wasn't there!

Meanwhile, here I am today in the CAD world. Lower case is so rare in engineering drawings that we spend half our life with caps-lock on. Then some wannabe dictator flames us for posting in caps. The term "Get a life" comes to mind.

### **Re: Exclamation Points are Good!**

*Message #7 Posted by [Palmer O. Hanson, Jr.](#) on 20 Apr 2007, 9:49 p.m.,  
in response to message #6 by Earl Kubaskie*

The article that I quoted on the subject of exclamation points began with the following paragraph:

"E-mail isn't the most self-conscious medium; haste and volume encourage many correspondents to forget themselves. Still, everyone settles on a style. The lower-case non-punctuators, the serial capitalizers, the rhetorical questioners, the subpoena-anticipators, the posterity watchers: **they all have** their reasons, and **their conceits.**"

The emphasis is mine.

All this talk about capitals and lower case reminds me of Archie and Mehitabel in the poetry of Don Marquis. Does anyone else remember "CAPITALS AT LAST!!!!!"

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## HP Forum Archive 17

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**CQ, CQ, CQ -- Calculator Fans**

Message #1 Posted by [Katie Wasserman](#) on 17 Apr 2007, 5:04 p.m.

I recently got my HF ham radio license and was wondering if there are any hams here that might be interested in forming a net (informal group) to talk about calculators (HP calculators mostly one would presume) on a regular basis.

I suspect that the intersection of: calculator fans, ham radio operators, people that like nets and that live within say a 1500 miles of me is quite small. So I'm not expecting a big response, it's just a thought.

73,

Katie (W2LP)

**Re: CQ, CQ, CQ -- Calculator Fans**

Message #2 Posted by [bill platt](#) on 17 Apr 2007, 6:43 p.m.,  
in response to message #1 by Katie Wasserman

W2LP de N3LPX U R 5-9.

88^0 N3LPX.

P.S. there are a lot of hams around here. I had an informal list going that I misplaced--over a dozen of them.

I think Bill (smithville) is one of them?, as is at least one of the Brasilians. Is it Gerson? I can't remember!

If my 10 meter rig weren't in storage! I'd get right out though I suspect we'd need 75 meters to hear each other.

**Re: CQ, CQ, CQ -- Calculator Fans**

Message #3 Posted by [Bill \(Smithville, NJ\)](#) on 17 Apr 2007, 7:05 p.m.,  
in response to message #2 by bill platt

Yep, I'm one also - just not too active at present.

Maybe we could do a net using EchoLink.

73,

Bill

WD9EQD

**Re: CQ, CQ, CQ -- Calculator Fans**

Message #4 Posted by [Katie Wasserman](#) on 18 Apr 2007, 12:58 a.m.,  
in response to message #3 by Bill (Smithville, NJ)

Bill and Bill,

We're certainly in 75/80 meter range. Echolink is another possibility that would allow the rest of the world to participate, even if the flow of conversation isn't quite as smooth as HF is.

N3LPX it looks like you geocache too (?), maybe we can make it a calculator/Geocaching net :) BTW, my geocaching signature item (TeamKay) is an HP6S solar -- I got a boat load of them from a closeout place.

73,

W2LP

**Re: CQ, CQ, CQ -- Calculator Fans**

*Message #5 Posted by [bill platt](#) on 18 Apr 2007, 11:50 a.m.,  
in response to message #4 by Katie Wasserman*

Hi Katie.

I guess you googled my call sin. Wow, that's pretty funny! I have never geocached, but when I first heard of geocaching I posted to that forum. And there it is, found by google!

**Re: CQ, CQ, CQ -- Calculator Fans**

*Message #6 Posted by [Katie Wasserman](#) on 18 Apr 2007, 12:31 p.m.,  
in response to message #5 by bill platt*

Big Brother is really here.

**Re: CQ, CQ, CQ -- Calculator Fans**

*Message #7 Posted by [Dave Shaffer](#) on 17 Apr 2007, 7:42 p.m.,  
in response to message #1 by Katie Wasserman*

You didn't JUST get your license if your call is W2LP?!?! Have you been a Tech for a while?

73,

Dave W8MIF

**Re: CQ, CQ, CQ -- Calculator Fans**

*Message #8 Posted by [Katie Wasserman](#) on 18 Apr 2007, 12:39 a.m.,  
in response to message #7 by Dave Shaffer*

I got my tech license a few years ago, but just upgraded to general and extra (on the same day) when they dropped the code requirement. I've never been able to learn CW despite many attempts, so I was happy when the rules changed. The 1x2 call sign is a vanity call that I just got -- I was k1kdx and found that no one got that right the first 10 times I gave it on the air.

**Re: CQ, CQ, CQ -- Calculator Fans**

*Message #9 Posted by [Anthony L. Mach](#) on 20 Apr 2007, 1:45 a.m.,  
in response to message #8 by Katie Wasserman*

Congrats on the upgrade!

I had to put down the calculators for a few days here to work on an old Ten-Tec Triton IV. The PTO is stuck due to the not-so-sweet marriage of metal and plastic.

vy 73 de AB9IO sk sk..

Tony

**Re: CQ, CQ, CQ -- Calculator Fans**

*Message #10 Posted by [Charlie O.](#) on 17 Apr 2007, 11:30 p.m.,  
in response to message #1 by Katie Wasserman*

Hi Katie,

I haven't been licensed since 1959 when my interests turned to cars and bikes. My sign was KN0PFJ and would have become KOPFJ had I continued. If I had your mail address I would like to send you something. You should have my email.

Charlie O. in Phoenix

**Re: CQ, CQ, CQ -- Calculator Fans**

*Message #11 Posted by [Katie Wasserman](#) on 18 Apr 2007, 1:05 a.m.,  
in response to message #10 by Charlie O.*

You've got mail.

**Re: CQ, CQ, CQ -- Calculator Fans**

*Message #12 Posted by [Bruce Bergman](#) on 18 Apr 2007, 12:51 a.m.,  
in response to message #1 by Katie Wasserman*

10 meters would be about the only way to communicate over my way, unless you're traveling. :-) I don't hang out on any of the lower bands these days. There's always packet!

N7HAW bruce

(Congrats by the way!)

**Re: CQ, CQ, CQ -- Calculator Fans**

*Message #13 Posted by [Katie Wasserman](#) on 18 Apr 2007, 1:04 a.m.,  
in response to message #12 by Bruce Bergman*

Thanks Bruce.

10 meters, I guess if we can wait several years for the sun to do its thing. I haven't played with packet much, but I was thinking that real-time phone (or may SSTV) is what's missing from this forum.

73,

Katie

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# HP Forum Archive 17

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## HP41cv sticky keys

Message #1 Posted by [Michael Sayers](#) on 17 Apr 2007, 12:22 p.m.

A couple of the keys on my 41cv are causing problems: they now require additional pressure to register. Is there anything I can do to remedy this?

## Re: HP41cv sticky keys

Message #2 Posted by [Dave Johnson](#) on 17 Apr 2007, 5:18 p.m.,  
in response to message #1 by Michael Sayers

Yeah, just order a replacement from Educalc

## Re: HP41cv sticky keys

Message #3 Posted by [Randy](#) on 17 Apr 2007, 7:54 p.m.,  
in response to message #2 by Dave Johnson

Quote:

\_\_\_\_\_

Yeah, just order a replacement from Educalc

\_\_\_\_\_

If that were the case, you could just send it to HP to have it repaired... but that ended in 1995 or so.

Sherman, set the wayback machine...

## Re: HP41cv sticky keys

Message #4 Posted by [Randy](#) on 17 Apr 2007, 7:52 p.m.,  
in response to message #1 by Michael Sayers

Dirt is the usual offender. The common repair method from the archives (Courtesy of David Smith):

\*\*\*\*\*

Each switch dome has a small hole under it that you can clean the switch through. You need to make a tiny wire brush out of three wire brush bristles twisted together in a pin vise, trimmed even. Place a drop of 90%+ isopropyl alcohol on the offending switch hole, dip the brush in more alcohol, and gently "scritch" around in the hole.

Keep the alcohol off the display window. It leaves a white stain.

\*\*\*\*\*

I can add to that by saying do not over do things and break a bristle off inside the switch dome.

\*\*\*\*\*

The next logical question:

HP41 Disassembly from the "repairs" section:

Remove the battery pack. There are four screws underneath the feet that are held on with adhesive. Peel up the feet and remove the screws. The back will come away easily. This calculator will not work properly if the case halves are not held securely together. Over-tightening the screws can strip the threads and lead to a malfunction.

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## HP Forum Archive 17

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### HP-71B Math ROM IDS !?

Message #1 Posted by [Valentin Albillo](#) on 16 Apr 2007, 10:27 a.m.

Hi, all:

Does anyone have (or can tell me where to find) the commented assembly language listings for the source code of the HP-71B Math ROM ?

I'm not sure if there is some official HP documentation for it (the equivalent of the System ROMs IDS volumes), or else if some knowledgeable individuals took on the hard work of disassembling the ROM and create some documented listings of it.

This failing, any listings or documentation about its internal routines, data structures, entry points, etc. would be most welcome. Thanks in advance and

Best regards from V.

### Re: HP-71B Math ROM IDS !?

Message #2 Posted by [Eric Smith](#) on 16 Apr 2007, 1:01 p.m.,  
in response to message #1 by Valentin Albillo

HP didn't publish any documentation on the internals of the Math ROM. I've heard of one person disassembling it.

### Re: HP-71B Math ROM IDS !?

Message #3 Posted by [Mike \(Stgt\)](#) on 17 Apr 2007, 3:48 a.m.,  
in response to message #1 by Valentin Albillo

That would be a nice to have. But even in the VASM listings of the HP-41 (NoMaS) all programers comments are discarded in the math routines. If you look just for "Math on Machines" or such kind of stuff see at [Numerical Recipes](#).

Ciao.....Mike

### Re: HP-71B Math ROM IDS !?

Message #4 Posted by [Eric Smith](#) on 17 Apr 2007, 3:55 a.m.,  
in response to message #3 by Mike (Stgt)

Quote:

even in the VASM listings of the HP-41 (NoMaS) all programers comments are discarded in the math routines.

It is my understanding that the core math routines were never commented. The documentation consisted of

detailed annotated flow charts, which were maintained separately from the source code.

The mainframe VASM listings were not sanitized in any way before PPC published them.

## Re: HP-71B Math ROM IDS !?

*Message #5 Posted by **Valentin Albillo** on 17 Apr 2007, 5:58 a.m.,  
in response to message #3 by Mike (Stgt)*

Hi, Mike & Eric:

Thanks for your help. I'm not looking for general math routines or such but for specific Math ROM internal details.

I'm just finishing a program for the HP-71B, to be featured in a future article in Datafile belonging to my new "Boldly Going" series which, although already offering impressive performance, it would nevertheless benefit enormously in terms of speed and accuracy if only I could implement a couple of LEX keywords which would have to perform some pretty intricate numeric array processing and arithmetic.

Being able to have a look at Math ROM assembly language listings would provide the necessary examples on how to parse and decompile MAT keywords, how to efficiently access array elements, and how to use internal Math ROM routines to do most of the grudgery, such as converting values back and forth between their usual 12-digit representation and the internal 15-digit form with extended exponents.

Having that kind of 'sample code' to have a look at, I would be able to concentrate in the specific math in my routine and so would be able to complete it with 1% the effort and time than if I have to try and concoct parsing, etc, starting from scratch. Due to my ever increasing lack of enough free time for these endeavours, this would surely mean the difference between being able to do it or not doing it at all.

If any of you can supply such details, either taken from existing Math ROM listings or from other sources (perhaps LEX files implementing some MAT-style keywords and such), I would be very obliged indeed. Specifically I would need to have a look at sample code to:

- Parse and decompile a MAT-style keyword (e.g.: MAT R=GINIT(N), MAT A=EVAL(A,X) )
- Efficiently access elements in a numeric array, both recall and storage
- Convert elements taken from the array in 12-digit form to 15-digit for processing, then back to 12-form for storage in the result array.
- Details (entry point, parameters, conditions on entry & exit, etc) of useful routines in the Math ROM to help with basic matrix operations such as arithmetic, scaling, zeroing, etc.

Thanks in advance if you can help with some of this, and

Best regards from V.

## Re: HP-71B Math ROM IDS !?

*Message #6 Posted by **J-F Garnier** on 17 Apr 2007, 7:00 a.m.,  
in response to message #5 by Valentin Albillo*



Hi Valentin,

I don't know many LEX that implemented MAT-style keywords. I remember one LEX from PPC-Paris, but I'm not sure it was fully fool-proof, I will look if I can recover it.

If you want examples of Math processing, the HP71 IDS is of course a valuable source, but also the [JPC Rom](#) source files (that I'm proud to have rebuilt last year :- ) e.g. the div.a or combarr.a modules. Most comments are in French...

J-F

**Thanks a lot, J-F. [NT]**

*Message #7 Posted by [Valentin Albillo](#) on 18 Apr 2007, 10:54 a.m.,  
in response to message #6 by J-F Garnier*

Best regards from V.

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## HP Forum Archive 17

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### 49g+/50g v.92 ROM Upgrade

Message #1 Posted by [John Kono](#) on 16 Apr 2007, 2:55 a.m.

I happened to notice that HP is offering this "ROM" update and I was wondering if anybody has updated a 49g+. If so, I've got a couple of questions...

- 1) Having looked through the zip file and the HP site, I can't seem to find any information on what issues this update actually addresses. Does anyone have a list of bug fixes included or something?
- 2) What version of the firmware (i.e. version as reported by the VERSION command) does this upgrade include?

Thanks!

### Re: 49g+/50g v.92 ROM Upgrade

Message #2 Posted by [James M. Prange \(Michigan\)](#) on 17 Apr 2007, 8:38 p.m.,  
in response to message #1 by John Kono

Quote:

I happened to notice that HP is offering this "ROM" update and I was wondering if anybody has updated a 49g+.

Yes, both the 49g+ and 50g. The 48gII emulator included with Debug4x also uses this update, although I don't know whether it's yet used for the (non-flash) ROM in the newest 48gII units.

Rather interestingly, with a slight modification to a .KML file, this update can also be downloaded from the emulated 49G to a real 49G as well.

Quote:

If so, I've got a couple of questions...

Quote:

1) Having looked through the zip file and the HP site, I can't seem to find any information on what issues this update actually addresses. Does anyone have a list of bug fixes included or something?

Apparently, HP's current policy is to not list which issues have been addressed by an update. However, the readme.txt file included with Bernard Parisse's latest ROM does list changes since 2.01; see <http://www-fourier.ujf-grenoble.fr/~parisse/english.html>. For some known issues, also see <http://bugs.hpcalc.org/>, and for other hints, try a search of the comp.sys.hp48 usenet group archive; see [http://groups.google.com/advanced\\_search?](http://groups.google.com/advanced_search?)

Quote:

2) What version of the firmware (i.e. version as reported by the VERSION command) does this upgrade include?

Well, on a 50G, it will report "Version HP50-C", on a 49g+, "Version HP49-C, and anything else (48gII or 49G) "Version HP48-C", in any case, followed by "Revision #2.09".

In any case, updating either the 49g+ or 50g is very easy, and I advise using this update, unless you care to update to Bernard's "Version HPxx-G Revision #2.10-7".

By the way, the "v.92" designation no doubt comes from this ROM being build 92.

Regards  
James

### Re: 49g+/50g v.92 ROM Upgrade

Message #3 Posted by [John Kono](#) on 20 Apr 2007, 1:49 a.m.,  
in response to message #2 by James M. Prange (Michigan)

Quote:

Rather interestingly, with a slight modification to a .KML file, this update can also be downloaded from the emulated 49G to a real 49G as well.

Nifty! I may have to try that at some point. Thanks for the tip!

Quote:

Well, on a 50G, it will report "Version HP50-C", on a 49g+, "Version HP49-C, and anything else (48gII or 49G) "Version HP48-C", in any case, followed by "Revision #2.09".

That's what I was looking for. Thanks!

Quote:

By the way, the "v.92" designation no doubt comes from this ROM being build 92.

That's pretty much what I figured. The most annoying thing about the update package is that it doesn't indicate anywhere what firmware versions it applies to, or how to check whether or not it's already been applied. Frustrating.

Interestingly enough, I just got a recently manufactured 50g (CNA710xxxxx) and it still has the rev 2.08 image. I guess the update hasn't made it to manufacturing yet.

Thanks for the info, and I'll be looking into Bernard Parisse's release. It looks like it has some interesting enhancements.

John

*Edited: 20 Apr 2007, 1:53 a.m.*

## Re: 49g+/50g v.92 ROM Upgrade

Message #4 Posted by [Mike \(Stgt\)](#) on 20 Apr 2007, 4:20 a.m.,  
in response to message #2 by James M. Prange (Michigan)

Well, ah, probably I get the answer RMF, anyway: I tried Bernard's Version on Emu48 and get "HP48-G Revision #2.10-7" displayed. An elder ROM from Bernard correctly displayed "HP49-...". In the KML I define Model X in both cases. TIA 4 all hints.

Ciao.....Mike

## Re: 49g+/50g v.92 ROM Upgrade

Message #5 Posted by [James M. Prange \(Michigan\)](#) on 20 Apr 2007, 6:49 p.m.,  
in response to message #4 by Mike (Stgt)

The revisions 2.08, 2.09, and 2.10-7 ROMs were apparently intended for only the ARM-based models (48gII, 49g+, and 50g), and never check for the possibility that they're actually running on a 49G. The VERSION command (which can be decompiled with Nosy) first checks whether it's a "Big Apple" (49g+ or 50g), and if so, whether it's a 50g. If it's a Big Apple but not a 50g, then it must be a 49g+. If it's not a Big Apple, then it must be a 48gII, right?

But it appears that the ROM code is actually developed using a 49G, or perhaps more likely, an emulated 49G. The PC based emulator doesn't emulate the ARM processor or ARM-emulated "Saturn+" (AKA "Saturnator") processor with its additional opcodes as used in the ARM based models, but only the "hardware Saturn" with its legacy opcodes as used in the 49G. So at that point in development, it can run just fine on a 49G, although it does misidentify which model it's running on. As a final step, some legacy code is replaced with faster Saturn+ routines.

Bernard's revision 2.10-7 is also available as a .flash file for the 49G.

For information on installing 2.08 or 2.09 on a 49G, see this [comp.sys.hp48 thread](#).

Regards,  
James

*Edited: 20 Apr 2007, 6:54 p.m.*

## Re: 49g+/50g v.92 ROM Upgrade//200LX

Message #6 Posted by [Mike \(Stgt\)](#) on 23 Apr 2007, 6:16 a.m.,  
in response to message #5 by James M. Prange (Michigan)

Thank you very much for your long explanation. And tnx a lot 4 the link to the comp.sys.hp48 thread where I found mentioned VM/CMS -- my favourite OS.

With your help I now understand Bernard Parisse's statement some time ago, when he offered "the last CAS for the HP49G". Formerly I understood it as announcement to stop any further work on it. The other way round: Bernard will focus on the ARM-based machines (well, that's in conflict with the 2.10-7 .flash he offers for the 49G). Anyway, the ROMs he offers run fine in Emu48 versions with a revision code that ends with a "+". I found one on [Bernard's site](#) and one is bundled with [Bill's Debug4x](#) (quite new, last compile 4/17/2007).

In this context I remember Christoph Gießelink's statement at the last Allschwil meeting: he has nothing to do with those "+"-Versions of Emu48, the developement is just based on the Emu48-freeware (GNU General Public License), but that's all. He is a purist and his emulators are as close

as possible to the real HW. To emulate the ARM-based machines in a similar manner would be quite some work.

Now a little subject drift: how difficult would it be to do an emulator of similar quality as Emu48/Emu42 etc. for the HP200LX? Yes, I know, it sounds dull to emulate a DOS-machine on a PC. But i) the Connectivity Pack does not the "virtual multitasking" of the 200LX, ii) there are replacements for several applications running on Windows with some restrictions, and iii) we have "Felix" (alas not the latest revision) but not all DLLs to run the code compiled for the target HW. So where are the experts which may point to the right direction or say "stop, almost impossible"?

Ciao.....Mike

BTW, Christoph! I hope to find some time that we may meet between the Allschwil events. M.

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## HP Forum Archive 17

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### **New version of MLDL2000 Software posted**

Message #1 Posted by [Meindert Kuipers](#) on 15 Apr 2007, 2:41 p.m.

Hello all,

I have been working on the M2kM software this weekend, and released a new version. This can be downloaded from [hp41.kuipers.to](http://hp41.kuipers.to). Apart from fixing one or two minor issues, the big changes are:

- The HP41 Disassembler is now integrated in M2kM ROM/SR Handler. Note that this only works with a ROM loaded in the ROM tab. The disassembler will work on complete ROMs with a FAT, and will also decode User Code. It is not complete yet, but will work most of the time. The listing is shown in a separate window, where code can be copied form and pasted in a text editor for saving.
- The contents listing of the MLDL2000 can be downloaded in the Settings Register tab of the ROM/SR Handler by using the "List MLDL" button. In combination with the view of the HP41 Pages, it is now much easier to manage the Settings Registers. Double clicking a ROM will now automatically add it to the selected Page/Bank, and when downloading a set of SR's from the MLDL2000, the ROM names are now automatically shown.

The disassembler can also be used without having an MLDL2000, but make certain that none of the functions are used that communicate with the unit. In the next version I will improve the error handling for this.

Have fun!

Meindert

### **The New version of MLDL2000 Software ROCKS!**

Message #2 Posted by [Vieira, L. C. \(Brazil\)](#) on 16 Apr 2007, 4:22 p.m.,  
in response to message #1 by Meindert Kuipers

Hi Meindert, all;

I tried (for good!) the new MLDL2K.EXE and found it amazing! The previous 1.01 beta version was actually a necessary improvement, because it allowed FLAHS SR contents to be updated without disturbing all FLASH memory contents in the botton-boot type memory. Now, with the new version, I can see where are the ROM images I stored in the MLDL2000 memory prior to set the SR contents. And while I'm setting the SR, I can see each ROM header... Wow! That's GOOOD! I had to keep a record of all ROM images prior to handle them. Now I can do this on line!

And it has a disassembler... <8^))))

Three things I noticed:

1 - I tried to run the two new versions in a computer wihtout the borlndmm.dll file and in both versions it was required; they both ran OK after copying borlndmm.dll in the windows/system directory. Both versions ran OK in the computer I had the original MLDL2K.EXE version 1.00, and in this case, borlndmm.dll was already installed.

2 - I missed the ROM/SR handler window size control in the new 1.10 version; it only accepts either regular

(default), minimized or full-screen options. I could not stretch it vertically as I used to do in order to see previous windows. Not a problem, though, just a comment.

3 - While reading MLDL2000 contents, an 'integer error' is generated, but the memory seems to be read O.K.

Meindert, thanks again. The new version is a 'must have', nothing else to add.

Best regards.

Luiz (Brazil)

*Edited: 16 Apr 2007, 4:32 p.m.*

## **Re: The New version of MLDL2000 Software ROCKS!**

*Message #3 Posted by **Meindert Kuipers** on 17 Apr 2007, 3:11 a.m.,  
in response to message #2 by Vieira, L. C. (Brazil)*

Luiz, all,

Thanks for your feedback. I already have a long list of improvements for the disassembler and will work on that when I have MLDL2000V2 finished. The disassembler is something that I have created many years ago and I thought it would be useful. I have already prepared it to be a multi-pass disassembler, so it would show local labels. Of course there should be labels for the system calls.

1 - M2kM should run without the borlndmm.dll file, but maybe I did leave some reference in it. This DLL was required when calling external DLL's (in this case the DLL for the USB interface), but with the new Turbo Delphi I thought it was not needed anymore. I will check this again.

2 - I deliberately removed the size control. With two list-views in the SR tab, resizing is really weird, unless I add an extra panel and a divider. I am not a GUI specialist, and this stuff is really complicated for me, but I will look into this.

3 - I have not seen the 'integer error'. Can you give me some more information about this?

I have also seen that when loading the SR's from a file the TreeView looks a bit strange, this is a separate piece of code that I have not changed yet ...

Please let me know if there are any other issues that you want to improve,

Meindert

## **two pass disassemblers; math routines**

*Message #4 Posted by **Eric Smith** on 17 Apr 2007, 4:07 a.m.,  
in response to message #3 by Meindert Kuipers*

The disassembler in Nonpareil, udis, is also a two-pass disassembler, but it only disassembles microcode (for Classic, Woodstock, and Nut architectures), and doesn't handle 41C module FATs. The version in the "current" (now very old) release of Nonpareil isn't very good; the one in the Subversion repository is much better. I'm still struggling to finish some big changes so I can release a new version.

udis generates labels based on the address and whether the address is ever called as a subroutine (prefix "S"), or only by jumps (prefix "L"). I've considered adding an additional class of local labels for addresses that are only the target of a small number of nearby branches.

I've found this to be very useful in tracing the evolution of the math routines in the various series and models. For instance, the 19C, 27, 29C, 67, and 97 all use basically the same math routines, which are

different than those of the earlier Woodstock models (21/22/25). These are the changes described in the HP Journal sidebar "The New Accuracy". I expect that the same routines are used in the 91, 92, and 95C, but have not yet got ROM dumps of those models.

There were a few more changes made in the Spice series, but the math routines then remained almost unchanged through the 41C and Voyager series. In the 41C VASM listings, there are a few comments where peephole optimizations could be made to use new instructions of the Nut CPU; those changes were actually made in the Voyager series.

### **Re: two pass disassemblers; math routines**

*Message #5 Posted by [Meindert Kuipers](#) on 17 Apr 2007, 4:29 a.m.,  
in response to message #4 by Eric Smith*

Eric,

Some good ideas that I will use, especially the prefixes for Local labels and Subroutines. The most difficult thing is to handle code that is actually data. Do you actually analyze code to check if it is ever called at all? The HP41 FAT structure makes disassembly a bit easier. My current disassembler already does a first (half) pass to identify FAT elements, function names and user code, so this does not get disassembled by accident.

Let me know if you want to have a look at my code so you could use portions. It will work with HP41 User code, this might be useful for you. My code is written in Delphi and limited in such a way that it really only works with HP41 ROMs with a FAT structure. And of course there is a lot of room for further improvements and bug fixing ....

Meindert

### **Re: two pass disassemblers; math routines**

*Message #6 Posted by [Eric Smith](#) on 17 Apr 2007, 2:02 p.m.,  
in response to message #5 by Meindert Kuipers*

Most disassemblers I have written maintain a "trace queue" for static analysis of code flow, and treat any locations that can't be reached by the static analysis as data. This won't find code that is only reached by computed or indirect branches (e.g., table lookup).

The HP Classic and Woodstock architectures did not have any way to access instruction memory as data (no CXISA instruction), so udis does not bother with code flow analysis. For the Voyager ROMs, there are relatively few data areas which are small, but there is a lot of code that is only reached by indirect jumps, so it still treats everything as code.

I've considered adding a feature to use a user-supplied input file to specify entry points, data areas, and labels.

Thanks for the offer to use your disassembler code. At the moment I don't have time, but I may want to look into that later. If it's of any use to you, you're welcome to use the udis code from Nonpareil (or any of the Nonpareil code) under the terms of the GPL. If you need it for non-GPL use, let me know.

### **Message is "Integer Overflow"**

*Message #7 Posted by [Vieira, L. C. \(Brazil\)](#) on 17 Apr 2007, 7:48 p.m.,  
in response to message #3 by Meindert Kuipers*



Hi, Meindert;

The correct message is 'Integer Overflow', and it appears everytime I download the MLDL contents. I captured the image with the message, and I'll post it later, O.K.? Anyway, I think that the download procedure resumed fine, I can see all ROM headers in the ROM/SR window.

More later...

Luiz (Brazil)

*Edited: 17 Apr 2007, 8:50 p.m.*

### **Re: Message is "Integer Overflow"**

*Message #8 Posted by [Meindert Kuipers](#) on 18 Apr 2007, 4:59 a.m.,  
in response to message #7 by Vieira, L. C. (Brazil)*

Luiz,

Can you also send me the list of ROM images you have? I cannot imagine that just reading the MLDL contents gives this error, however the contents themselves are also used (to read the ROM name), and if there is an address pointing the wrong direction an error could occur.

Also a check is done if there is something resembling a ROM image, but especially in SRAM this could possibly go wrong when the contents are random and there is not too much error checking in the routines. If the download stops on a certain ROM, let me know, I would like to have the ROM contents to try it out myself.

It may be better to send this by email instead of posting it here ...

Meindert

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## HP Forum Archive 17

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### HP 48GX and 48SX and 48G and 48S and 48G+

Message #1 Posted by [Mad Dog ebaycalnut](#) on 15 Apr 2007, 2:01 p.m.

If I buy a 48GX with an earlier rom than R, will the difference ever ever ever likely enter into my daily life? Same question for earlier 48SX rom than later.

I am not an entomologist or physicist.

I am just wondering if anyone here ever had a screwed up calculation that they actually needed for school or work because of a rom issue on the GX or SX. Not some calculation designed just to push the calculator capability for kicks.

*Edited: 15 Apr 2007, 2:04 p.m.*

### Re: HP 48GX and 48SX and 48G and 48S and 48G+

Message #2 Posted by [Han](#) on 15 Apr 2007, 4:45 p.m.,  
in response to message #1 by [Mad Dog ebaycalnut](#)

I think all the ROM differences can be found in the HP48 FAQ (I don't know if it's still being maintained since the HP48 series is no longer in production). At any rate, there are a few ROM bugs that may affect calculations and/or cause memory crashes. However, I vaguely remember them being fairly obscure, except for the bug with respect to fast fourier transforms. The rest have to do with expansion ports.

### Re: HP 48GX and 48SX and 48G and 48S and 48G+

Message #3 Posted by [James M. Prange \(Michigan\)](#) on 17 Apr 2007, 8:55 p.m.,  
in response to message #2 by [Han](#)

I don't think that it's maintained any more, but it can be found from <http://www.hp48.org/search.php?query=FAQ>.

Also, some issues discovered with the 49 series may go back to the 48 series; see <http://bugs.hp48.org/>.

Of course, for any information about RPL models, the comp.sys.hp48 newsgroup may be the better place to search. In case you're not using a newsreader, see <http://groups.google.com/group/comp.sys.hp48/>, or for an advanced search of the newsgroup archive, all the way back to 1991, start at [http://groups.google.com/advanced\\_search?](http://groups.google.com/advanced_search?).

Regards,  
James

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## HP Forum Archive 17

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### A modest arithmetical challenge

Message #1 Posted by [Karl Schneider](#) on 14 Apr 2007, 8:58 p.m.

Hi, all --

Here is an interesting arithmetical problem that appeared in a student-engineer magazine in 1993 or 1994:

Assume that each integer from 1 through 9 is used *exactly once* to form three quotients of single-digit integer numerators and two-digit integer denominators. How many ways could the digits be arranged such that the sum of these three terms equaled unity?

Example:

$$\frac{7}{12} + \frac{8}{36} + \frac{9}{45} = \frac{181}{180} \approx 1.005$$

is almost a solution.

I obtained the above result by trial-and-error, but was unable to analytically deduce the correct answer. In 1995, I wrote a recursive C-language program that found the solution by "brute force", evaluating all  $9! = 362,880$  possible combinations of digits. Of course, there are six ways to arrange the three terms, so there are "only" 60,480 *unique* combinations.

Several years ago, I showed this problem to a colleague who offered the following:

"There is a subset that populates a more general relationship,

$$\frac{A}{B} + \frac{C}{D} + \frac{E}{F} = 1$$

where A is odd and  $2 \cdot D = F$ .

Example:  $1/2 + 1/3 + 1/6 = 1$ ."

He obtained the correct solution by trial and error within this subset of combinations. I can't offer a proof that the stated equation is generally true, or why it may have been a necessary (not merely sufficient) condition for the solution.

So, the challenge: Can anyone provide a direct analytical solution to this problem? If not, would anyone dare to attempt to write an efficient HP calculator program to solve the problem?

I believe that the HP-15C offers sufficient programming features to tackle the problem using the brute-force method:

- Enough storage registers to maintain nine separate digits and to store solutions
- Nine usable flags (flags 0-9 excluding flag 8) to track whether a digit is "in use"

- Subroutines, conditional tests, and plenty of labels
- A versatile indirect register

So, a workable HP-15C program could be written. However, I also believe that such a program might take literally weeks to run to completion on an actual HP-15C! Recursion and integer arithmetic could not be employed, as my C program does.

The HP-71B would be more suitable, with 12 times the speed, BASIC language, and recursion.

Of course, with computing speed being an important issue, a PC-based simulator would be a better choice than an actual calculator.

I doubt that there is any trivially-simple derivation of the solution; I also believe that an efficient program would require time and effort. Still, the mathematical knowledge and programming skills offered in response to Valentin's challenges never ceases to impress me. I'll post my C-language program shortly, as a guide for those who might find it useful.

Best regards,

-- KS

## Re: A modest arithmetical challenge

Message #2 Posted by [Valentin Albillo](#) on 14 Apr 2007, 10:49 p.m.,  
in response to message #1 by Karl Schneider

Hi, Karl:

Nice arithmetic challenge. Regrettably, I don't have the time to produce an efficient and elegant solution which only tests unique permutations of the 9 digits and uses integer arithmetic and recursion as your C program does, nor can I indulge in trying bitmasks and boolean operations to discard impossible combinations if using another approach not requiring the recursive generation of permutations, but this extremely quick-and-dirty, 14-line brute-force HP-71B program which took me only about 10 minutes to write, enter, and run, actually does the job:

```

1 DESTROY ALL @ FOR A=1 TO 9 @ FOR D=A+1 TO 9 @ FOR G=D+1 TO 9
2 FOR E=1 TO 9 @ IF E=A OR E=D OR E=G THEN 13
3 FOR F=1 TO 9 @ IF F=A OR F=D OR F=G OR F=E THEN 12 ELSE N=10*E+F
4 FOR B=1 TO 9 @ IF B=A OR B=D OR B=G OR B=E OR B=F THEN 11
5 FOR C=1 TO 9 @ IF C=A OR C=D OR C=G OR C=E OR C=F OR C=B THEN 10
6 M=10*B+C @ R=M*N @ S=A*N+D*M
7 FOR H=1 TO 9 @ IF H=A OR H=D OR H=G OR H=E OR H=F OR H=B OR H=C THEN 9
8 P=9*H+45-A-B-C-D-E-F-G @ IF R*(P-G)=P*S THEN DISP
A;"/";M;"+";D;"/";N;"+";G;"/";P;"= 1"
9 NEXT H
10 NEXT C
11 NEXT B
12 NEXT F
13 NEXT E
14 NEXT G @ NEXT D @ NEXT A @ DISP "OK"

```

>RUN

5/34 + 7/68 + 9/12 = 1

OK

and it finds the unique solution (and the fact that there are no others) in about one minute under Emu71, which translates to about 4 hours in a physical HP-71B. Improvements like the ones mentioned above would easily diminish these times enormously, but it would take me more than 10 minutes in all to

concoct. :-)

Thanks for your interesting and entertaining challenge and

Best regards from V.

### **Re: A modest arithmetical challenge**

*Message #3 Posted by [Karl Schneider](#) on 15 Apr 2007, 3:54 p.m.,  
in response to message #2 by Valentin Albillo*

Hi, Valentin --

Well, I can't verify your astounding claim of only 10 minutes for analysis, development and entry of code, and testing. Still, I'm quite impressed by your analytical and programming skills. Your program did indeed produce the only correct result.

A solution based on Fortran 77 (which does not support dynamic memory allocation for recursion), would likely utilize eight or nine nested loops, as you did using BASIC. I developed my C program for learning experience after my collegiate course in C showed that recursion was supported. Recursion can make the code more compact and flexible, but likely slows the execution due to O/S overhead for assignment and release of RAM.

I will likely post my C program on Monday evening (Tuesday morning for those of you in Europe), because an electronic copy of the source code is not readily available at home.

Your BASIC program as it is structured -- which is not difficult to interpret -- may not port readily to a "clean" RPN-keystroke program absent excessive conditional tests and GTO's. However, despite your description of it as "quick-and-dirty", I see clear evidence of logical structure and thought. Furthermore, it already performs the optimization not to execute redundant permutations of digits by setting in line 1 the condition  $A < D < G$  (which are the three numerators). Your program also wisely calculates the common-denominator products instead of the three quotients. I had done the same in my C program both to eliminate the possibility of roundoff errors and to exploit the much-faster integer arithmetic.

A program that I would write for an HP-15C/32S/32SII/33S/41\*/42S would probably emulate the approach I used for my C program, which uses a variable in the fashion of a Fortran LOGICAL variable to identify which digits were already "in use". Flags would fill that role on an HP calculator. Use of an indirect register would reduce redundant code considerably.

Thanks again for your informative contribution,

-- KS

*Edited: 15 Apr 2007, 5:00 p.m.*

### **Re: A modest arithmetical challenge**

*Message #4 Posted by [Valentin Albillo](#) on 15 Apr 2007, 7:09 p.m.,  
in response to message #3 by Karl Schneider*

Hi again, Karl:

Karl posted:

*"Well, I can't verify your astounding claim of only 10 minutes for analysis, development and entry of code, and testing. Still, I'm quite impressed by your analytical and programming skills.*

*Your program did indeed produce the only correct result."*

Thanks a lot for your appreciation but neither my 10-min claim is astounding nor does this "klutzy" piece of code demonstrate much about my "skills". :-)

The 10-min claim is easily justified by simply looking at my program: it is nothing but a series of brute-force loops, with the only proviso being the storage of invariant intermediate values out of the loops which doesn't affect their value, the final digit being directly computed as 45 less the sum of the others (as all 9 digits add up to 45), and clumsily testing each digit against the previous ones to make sure no digits are repeated.

This straightforward logic can be keyed in very quickly, as the HP-71B lets you enter a variant of a program line by simply editing its line number, kind of a copy-paste operation. You just enter first the most complicated FOR ... IF ... line, then edit its variable and line number (deleting the final test) to enter the next simplest one, which is then edited likewise to produce the next one, etc. (BTW, anyone who's got Emu71 can enter this code by simply doing a real copy-paste of the code from the posted message to Emu71, no need to actually key anything in).

As for testing time it's actually zero because, matter of fact, everything is so simple that no debugging was needed, it produced the correct solution on its 'maiden' run.

*"I will likely post my C program on Monday evening (Tuesday morning for those of you in Europe)"*

It will be interesting to have a look at it. A recursive solution for the HP-71B can be concocted in much fewer lines than my posted iterative one, so your C code must also be extremely compact.

*"However, despite your description of it as "quick-and-dirty", I see clear evidence of logical structure and thought."*

It was all trivial, Karl, it's only that I didn't have the time to have a go at an elegant, efficient solution as you originally asked for, but not wanting to let your challenge unanswered on my part, I did what I could in 10 min. If you check the timestamp of my posted solution, you'll see that I saw it and wrote a quick'n'dirty solution for it by 10:49 P.M. MoHP Forum's Official Time, which translates as 4:49 A.M. Spanish Time, i.e., 4:49 in the midst of the night, after a very hard daytime with some certification training, with a mild headache and practically asleep.

If I get the time, I'll try to post a decent solution but I doubt I will be able to do that before you (or someone else) post your own. In the meantime, some trivial modifications to my posted program produce these interesting additional results:

```
Largest sum      : 7/46 + 8/25 + 9/13 = 1.16448160535      (17409/14950)
Smallest sum     : 1/74 + 2/85 + 3/96 = 0.0682929252782  (6873/100640)
Closest sum >1  : 4/76 + 8/23 + 9/15 = 1.00045766590      (2186/2185)
Closest sum <1  : 5/87 + 6/24 + 9/13 = 0.999778956676     (4523/4524)
```

On the analytic front, it's easy to prove that in order for the three fractions to be able to add up to 1 or greater, the digit 1 must forcibly be the first digit of a denominator, and the corresponding numerator must then be > 5. Making use of this shortcut will help save lots

of running time.

Thanks for your delightful arithmetic challenge, seconds please ! :-)

Best regards from V.

*Edited: 16 Apr 2007, 9:07 a.m.*

### **Discussion ("A modest arithmetical challenge")**

*Message #5 Posted by **Karl Schneider** on 19 Apr 2007, 12:42 a.m.,  
in response to message #4 by Valentin Albillo*

Hi, Valentin --

Quote:

Thanks a lot for your appreciation but neither my 10-min claim is astounding nor does this "klutzy" piece of code demonstrate much about my "skills". :-)

Oh, I wouldn't denigrate your own work, even if it doesn't represent your finest efforts. Hardly anyone -- including myself -- could have immediately written a working program to solve the problem without a fair amount of forethought.

Quote:

It was all trivial, Karl, it's only that I didn't have the time to have a go at an elegant, efficient solution as you originally asked for, but not wanting to let your challenge unanswered on my part, I did what I could in 10 min.

As far as I'm concerned, your effort surpassed the specification. I never stated "elegant", and "efficient" implied only that it would run in a reasonable amount of time without exhausting multiple sets of batteries. The techniques of computational reduction and the "special sums" you offered were an added bonus.

Quote:

Thanks for your delightful arithmetic challenge, seconds please ! :-)

Sorry, but I don't have any others in store at the moment. I suspect, though, that any I had would cause me "Mom's lament": An hour to prepare, and ten minutes to demolish... :-)

Best regards,

-- KS

*Edited: 19 Apr 2007, 12:44 a.m.*

### **Re: Discussion ("A modest arithmetical challenge")**

*Message #6 Posted by **Gerson W. Barbosa** on 19 Apr 2007, 8:25 p.m.,  
in response to message #5 by Karl Schneider*

Quote:

I suspect, though, that any I had would cause me "Mom's lament": An hour to prepare, and ten minutes to demolish... :-)

---

Karl,

Don't worry about it being solved that soon. Ten minutes really appears to be the standard time to write a program to solve your challenge:

Quoted from <http://users.skynet.be/worldofnumbers/ninedig3.htm>:

Quote:

---

The solution is very easy to search for, Preon tells. It is

$$(9/12) + (7/68) + (5/34) = 1$$

*"The solution is unique as my program revealed, took maybe 10 minutes to write the code and 1 minute to run and display the only answer."*

---

Having it take me at least 100 minutes to write that ugly piece of Turbo Pascal code only shows I was right not having tried to pursue a career in computer programming :-)

Best regards,

Gerson.

*Edited: 19 Apr 2007, 8:37 p.m.*

## Re: A modest arithmetical challenge

Message #7 Posted by **Gerson W. Barbosa** on 14 Apr 2007, 11:30 p.m.,  
in response to message #1 by Karl Schneider

Hello Karl,

Quote:

---

"There is a subset that populates a more general relationship,

$$\frac{A}{B} + \frac{C}{D} + \frac{E}{F} = 1$$

where A is odd and  $2 * D = F$ .

Example:  $1/2 + 1/3 + 1/6 = 1$ ."

---

The relationships below might also be useful to reduce the use of brute force:

$$\frac{A}{B} + \frac{C}{D} = 1 - \frac{E}{F}$$

$$\frac{A * D + B * C}{B * D} = \frac{F - E}{F} \quad \Rightarrow \quad \begin{aligned} E &= F - A * D - B * C \\ F &= B * D \end{aligned}$$



Regards,

Gerson.

## Re: A modest arithmetical challenge

Message #8 Posted by [Gerson W. Barbosa](#) on 15 Apr 2007, 7:10 p.m.,  
in response to message #7 by Gerson W. Barbosa

Not an elegant and concise solution as Valentin's, but this Turbo Pascal 3 program does find the solution:

```
-----
Program KarlsProblem;
var a, b, c, d, e, f: integer;
    x: real;
    t: boolean;

begin
  ClrScr;
  a:=-1;
  repeat
    a:=a+2;
    for b:=12 to 49 do
      for c:=1 to 9 do
        for d:=12 to 98 do
          begin
            t:= (a <> b div 10) and (a <> b mod 10) and (a<>c) and (a <> d div 10) and
(a <> d mod 10);
            t:= t and ((b div 10)<>(b mod 10)) and ((b div 10)<>c) and ((b div 10)<>(d
div 10)) and ((b div 10)<>(d mod 10));
            t:= t and ((b mod 10)<>c) and ((b mod 10)<>(d div 10)) and ((b mod 10)<>(d
mod 10));
            t:= t and (c<>(d div 10)) and (c<>(d mod 10));
            t:= t and ((b mod 10)*(d mod 10)<>0);
            if t and (d=2*b) then
              begin
                for e:=1 to 9 do
                  for f:=12 to 98 do
                    begin
                      t:= (a + c + e + (b div 10) + (b mod 10) + (d div 10) + (d mod
10) + (f div 10) + (f mod 10))=45;
                      t:= t and (e<>a) and (e<>c);
                      t:= t and (e<>(b div 10)) and (e<>(b mod 10)) and (e<>(d div 10))
and (e<>(d mod 10));
                      if t and (e<>(f div 10)) and (e<>(f mod 10)) and ((f div 10)<>(f
mod 10)) then
                        begin
                          x:=(a/b+c/d+e/f);
                          if (x<1.0000001) and (x>0.9999999) then
                            WriteLn(a:2,'/',b:2,'+',c:2,'/',d:2,'+',e:2,'/',f:2,' =
',x:1:0)
                        end
                    end
                  end
                end
              end
            end
          end
        end
      end
    end
  until a=9
end.
-----
```

The output is:

$$5/34 + 7/68 + 9/12 = 1$$

The tests in the outer loop filter 232 candidates. Additional tests are performed in the innermost loop in order to obtain the final solution. This runs instantaneously on my slow computer but I guess it would take too much time on the HP-71B, even longer on the HP-33S in case it could be ported to it. This is still brute force; I cannot think of a way to speed it up.

Karl's problem is a *pandigital* one, that is, a problem whose solution involves the use of nine or ten unrepeatd digits. There seems to be variations: some allow the use of decimal point, square root symbol,

factorial and other functions whilst some allow only integers numbers and the arithmetic operators.

Incidentally, I was playing with these when Karl posted his interesting problem:

```
'71/(2*9+4.60)-8^(-sqrt(53))' (to be evaluated on a ten-digit calculator)
```

or

```
'710/CEIL(sqrt(26^4/9))-8^(-sqrt(53))'
```

This looks like cheating, but it's hard to get 226 out of the digits 2, 4, 6 and 9 :-)

Gerson.

*Edited: 16 Apr 2007, 6:43 p.m.*

## Another approach

*Message #9 Posted by **Gerson W. Barbosa** on 16 Apr 2007, 10:11 p.m.,  
in response to message #8 by Gerson W. Barbosa*

Let's give luck a chance:

```
-----
10 DEFINT J-N
12 DEFSNG X
15 CLS
17 RANDOMIZE (7)
20 FOR K = 0 TO 8
30   N(K) = K + 1: M(K) = 0
40 NEXT K
34 J = 0
50 K = (RND * 8)
60 IF N(K) <> 0 THEN M(J) = N(K): N(K) = 0: J = J + 1
70 IF J < 9 THEN 50
80 X = M(0) / (10 * M(1) + M(2)) + M(3) / (10 * M(4) + M(5)) + M(6) / (10 * M(7) +
M(8))
90 IF (X < .99999) OR (X > 1.00001) THEN 20
100 PRINT M(0); "/" ; 10 * M(1) + M(2); "+" ; M(3); "/" ; 10 * M(4) + M(5); "+" ; M(6);
"/" ; 10 * M(7) + M(8); "=" ; X
-----
```

Output:

```
5 / 34 + 7 / 68 + 9 / 12 = 1
```

This QBASIC program finds the solution in about 15 seconds (Pentium III @ 500 MHz). The random generator seed in line 17 was chosen arbitrarily.

-----

P.S.: Only 14 lines as I've just noticed, but this took at least 20 minutes between the first idea and the printing of the answer :-)

-----

These two lines should be replaced in the QBASIC program above:

```
30   N(K) = K + 1
```

```
45 J = 0
```

By the way, it's easy to port the program to the HP-71B:

```

10 DESTROY ALL @ OPTION BASE 0 @ DIM N(8),M(8) @ RANDOMIZE 8
20 FOR K=0 TO 8 @ N(K)=K+1 @ NEXT K @ J=0
30 K=INT(RND*9) @ IF N(K)#0 THEN M(J)=N(K) @ N(K)=0 @ J=J+1
40 IF J<9 THEN 30
50 X=M(0)/(10*M(1)+M(2))+M(3)/(10*M(4)+M(5))+M(6)/(10*M(7)+M(8)) @ IF X#1 THEN 20
60 DISP
M(0);"/";10*M(1)+M(2);"+";M(3);"/";10*M(4)+M(5);"+";M(6);"/";10*M(7)+M(8);"=";X

>RUN
5 / 34 + 7 / 68 + 9 / 12 = 1

```

The result was found in 57.75 seconds (Emu71 @500MHz), 1 h 40 min 53 sec on the real HP-71B, according to the built-in timer. Previously I had run the program on the emulator once with the original seed but I quit after one hour with no result. This was the second seed I tried.

-----

Some interesting seeds:

```

10 DESTROY ALL @ OPTION BASE 0 @ DIM N(8),M(8) @ RANDOMIZE 2.9

10 DESTROY ALL @ OPTION BASE 0 @ DIM N(8),M(8) @ RANDOMIZE 10.99

10 DESTROY ALL @ OPTION BASE 0 @ DIM N(8),M(8) @ RANDOMIZE 82.622

10 DESTROY ALL @ OPTION BASE 0 @ DIM N(8),M(8) @ RANDOMIZE 82.583

```

Respectively 71.9, 51.8, 12.56 and 1.43 seconds on the **real** HP-71B. This is plain cheating though :-)

-----

The equivalent Turbo Pascal program finds the result in 3 minutes and 20 seconds on the HP-200LX, the first time it is run:

```

Program Karls_Problem;
var a, b: array[1..9] of byte;
    i, j: byte;
    r: real;
begin
  ClrScr;
  repeat
    for i:=1 to 9 do
      a[i]:=i;
      i:=1;
      repeat
        j:=Random(9)+1;
        if a[j] <> 0 then
          begin
            b[i]:=a[j]; a[j]:=0;
            i:=i+1
          end
      until i=10;
      r:=b[1]/(10*b[2]+b[3])+b[4]/(10*b[5]+b[6])+b[7]/(10*b[8]+b[9])
  until (r>0.99999) and (r<1.00001);
  for i:=0 to 2 do
    Write(b[3*i+1]:1,'/',b[3*i+2]:0,b[3*i+3],'+');
  WriteLn(#8,'=',r:1:0)
end.

```

**9/12+7/68+5/34=1**

*Edited: 28 Apr 2007, 10:57 p.m.*

---

**Re: A modest arithmetical challenge**

Message #10 Posted by [allen](#) on 15 Apr 2007, 3:41 p.m.,  
in response to message #1 by Karl Schneider

Karl,

Quote:

\_\_\_\_\_

Can anyone provide a direct analytical solution to this problem?

\_\_\_\_\_

interesting challenge!! I am looking into this approach. So far I have the following:

The initial problem:  $X+Y+Z=1$  is analogous to the sum of the interior angles of a triangle (normalized to  $\pi$ ). Since A-A-A is not enough to specify a triangle, I declare the triangle to be of unit volume and then solve for the sides using the law of sines, law of cosines, and the volume eqn's of a triangle. (the answers  $A/DE + B/FG+C/HK$  are then in radians  $\rightarrow$  FDISP to get the fractions on my 32sii. More later if time allows.

Regards, al

*Edited: 15 Apr 2007, 4:22 p.m.*

---

**Re: A modest arithmetical challenge**

Message #11 Posted by [Gerson W. Barbosa](#) on 16 Apr 2007, 7:15 p.m.,  
in response to message #1 by Karl Schneider

Quote:

\_\_\_\_\_

Can anyone provide a direct analytical solution to this problem?

\_\_\_\_\_

Dr. Math has provided an analytical solution here, however it doesn't look so direct:

<http://mathforum.org/library/drmath/view/56829.html>

Gerson.

*Edited: 16 Apr 2007, 7:17 p.m.*

---

**My C program ("A modest arithmetical challenge")**

Message #12 Posted by [Karl Schneider](#) on 17 Apr 2007, 1:27 a.m.,  
in response to message #1 by Karl Schneider

All --

Thanks to all who have read or taken interest in "A modest arithmetical challenge", and especially to Valentin and Gerson for developing solutions in computer language.

As promised, I'm posting my recursive C-language solution from 12 years ago. I wrote it more as a training exercise than as a fully-optimized product. It performs much redundant processing by generating *every possible* permutation of digits (9! in all) instead of restricting the selections to those that are feasible and mathematically-unique.

The source code would be more compact if it weren't for the comments and two subroutine definitions with required function prototypes and variable declarations. The code is ANSI-standard C (1989), so if you have a C compiler, the copied and pasted code should work just fine.

-- KS

---

```

/*****

```

```

This program solves the equation

```

$$\frac{d1}{d2d3} + \frac{d4}{d5d6} + \frac{d7}{d8d9} = 1$$

where each dn is a UNIQUE digit from 1 to 9.

e.g.,  $7/12 + 8/36 + 9/45 = 1.005$  (181/180)  
is ALMOST a solution.

This problem appeared in an issue of IEEE Potentials in early 1994, I believe.

The answer, which you can obtain by compiling and running this program, is

$$5/34 + 7/68 + 9/12 = 1.00000$$

AUTHOR: Karl Schneider

```

*****/

```

```

#include <stdio.h>

```

```

void solve (int digit[]);
void next_digit (int i, int digit[], int used[]);

```

```

main ()

```

```

{
  int digit[10] = {0}, used[10] = {0};

```

```

  /* "digit[1] - [9]" holds the 9 assigned digits dn
     "used[1] - [9]" holds flags indicating if
     the corresponding numeral is already in use */

```

```

  next_digit (1, digit, used);

```

```

}

```

```

/*
"next_digit" is recursive. Its purpose is to assign
a unique numeral to each of the 9 digits, one digit
at a time, d1 - d9. There are 9! = 362,880 combinations
of assignments that "next_digit" will generate.

```

```

Each iteration assigns a single digit, and will spawn
another iteration of "next_digit" to assign the next digit
until the 9th digit is assigned. Then, "solve" will be
called to see if the set of assignments is a solution.
*/

```

```

*/

```

```

void next_digit (int i, int digit[], int used[])
{
    int d, k; /* "d" and "k" are numeral counters.
              "i" is a digit counter. */

    for (d = 1; d <= 9; d++)
    {
        /* Clear the "used" array for each numeral used
           by this digit through the 9th digit. Clear the
           "digit" array for this digit through the 9th
           digit. (Much of this clearing is redundant, but
           inconsequential.)
        */

        for (k = i; k <= 9; k++)
        {
            used[digit[k]] = 0;
            digit[k] = 0;
        }

        /* If this numeral is not in use, assign it to
           this digit, mark the numeral as "in use", and
           solve or go to the next digit, as appropriate.
        */

        if ( !(used[d]) )
        {
            digit[i] = d;
            used[d] = 1;
            if (i == 9)
                solve (digit);
            else
                next_digit (i+1, digit, used);
        }
    }

    return;
}

/*
"solve" will specify the three numerators and three
denominators in the equation, and will determine if the
assigned digits provide a solution. Integer arithmetic,
using common-denominator theory, is used to avoid floating-
point roundoff errors.
*/

void solve (int digit[])
{
    int num1, num2, num3;
    int den1, den2, den3;
    long int numprod;

    num1 = digit[1];
    num2 = digit[4];
    num3 = digit[7];

    den1 = 10*digit[2] + digit[3];
    den2 = 10*digit[5] + digit[6];
    den3 = 10*digit[8] + digit[9];

    numprod = (num1*den2*den3) + (num2*den1*den3) + (num3*den1*den2);

    /* (Debugging code: will print 362,880 lines if active!)
       printf ("%li %2i %li %2i %li %2i ", num1, den1, num2, den2, num3, den3);
       printf ("numprod = %i \n\n", numprod);
    */
}

```

```

if (numprod == den1*den2*den3)
  printf ("Solution found!!\n\n%i/%i + %i/%i + %i/%i = 1.00\n\n",
        num1, den1, num2, den2, num3, den3);

/* There are six ways to arrange the solution (3 terms, 3!
arrangements.) Therefore, 6 "solutions" will be found for
every legitimate solution.
*/
return;
}

```

## A physical HP-15C solution in 48 minutes

Message #13 Posted by [Valentin Albillo](#) on 22 Apr 2007, 2:39 a.m.,  
in response to message #12 by Karl Schneider

Hi, Karl:

I don't want to let people think that the HP-15C isn't powerful enough to solve your puzzle unless it runs some program for several months or weeks, so I took a little time from sleep to post the following admittedly unelegant code which does the proper thing.

The following HP-15C program will find the solution in a deterministic way (i.e., not depending on random factors) and using nothing but several simple heuristics *in a mere 48 minutes*, when running on a *physical* HP-15C:

```

01 LBL A      27 LBL 3      RCL+ 5      RCL- 7      RCL 5      RCL 1      RCLx 0
   10      RCL 3      /      STO 8      STO I      STO I      RCL+ 5
   STO 0      STO I      STO 9      RCL RAN#      CF I      CF I      R/S
   9      F? I      9      RCL+ 9      106 LBL 5      131 LBL 1      RCL 6
   STO 1      GTO 3      STO 6      RCL 6      DSE 5      DSE 1      R/S
   GSB C      SF I      57 LBL 6      RCL 7      GTO 5      GTO 1      RCL 7
08 LBL 1      9      RCL 6      RCLx 0      RCL 4      RTN      RCLx 0
   RCL 1      STO 4      STO I      RCL+ 8      STO I      135 LBL C      160 RCL+ 8
   STO I      35 LBL 4      F? I      /      CF I      STO I
   SF I      RCL 4      GTO 6      +      112 LBL 4      137 LBL 0
   2      STO I      SF I      1      DSE 4      CF I
   STO 2      F? I      9      TEST 5      GTO 4      DSE I
14 LBL 2      GTO 4      STO 7      GTO B      RCL 3      GTO 0
   RCL 2      SF I      65 LBL 7      RCL 7      STO I      RTN
   STO I      9      RCL 7      STO I      CF I      142 LBL B
   F? I      STO 5      STO I      CF I      118 LBL 3      9
   GTO 2      43 LBL 5      F? I      94 LBL 7      DSE 3      GSB C
   SF I      RCL 5      GTO 7      DSE 7      GTO 3      RCL 1
   RCL 1      STO I      44      GTO 7      RCL 2      R/S
   RCL 2      F? I      RCL- 1      RCL 6      STO I      RCL 2
   RCL+ 0      GTO 5      RCL- 2      STO I      CF I      RCL+ 0
   /      SF I      RCL- 3      CF I      124 LBL 2      R/S
   STO RAN#      RCL 3      RCL- 4      100 LBL 6      ISG 2      RCL 3
   9      RCL 4      RCL- 5      DSE 6      126 LBL 2      R/S
   STO 3      RCLx 0      RCL- 6      GTO 6      GTO 2      RCL 4

```

To find the puzzle's solution:

```

FIX 0, GSB A -> 9, R/S -> 12,
          R/S -> 7, R/S -> 68,
          R/S -> 5, R/S -> 34

```

i.e.:  $9/12 + 7/68 + 5/34 = 1$ , which is the one and only solution, found in *just 48 minutes* on my physical, normal speed HP-15C. A 750x emulator would run this program in *less than 4 seconds*.

Some worthwhile programming techniques used:

- Flags are used to keep track of which digits are already in use to avoid repeating them. Notice that when flag 8 gets set, the HP-15C *automatically enters complex mode*, but *this doesn't bother the program in the least* nor does it affect the computations. Matter of fact complex

mode is being entered and exited any number of times without the execution being affected. Likewise, when flag 9 is set, the HP-15C enters "blink mode", which is transparent to the user and the program. *All flags are cleared* as soon as the solution is found, so restoring the HP-15C to normal operation upon program's termination.

- In order to find a solution as fast as possible, running speed has been optimized at the expense of code length, so no subroutines are called within the inner loops even if it means duplicating code, and no tricks are played with indirect addressing even if it means replicating whole sections. This gives the fastest possible code.
- Intermediate invariant results are calculated as soon as the variables involved are known and kept in auxiliary registers to avoid recomputing their value in the inner loops. Also, the frequently used value 10 is kept in an auxiliary register, saving program steps and improving execution speed.
- The following simple heuristics are used, as already discussed by myself in a previous post:
  - It's quite easy to prove that in order for the three fractions to add up to 1 or more, it's mandatory that one of the denominators begins by the digit 1 (i.e.: 12, 13, ..., 19). The program makes use of this and, as the order doesn't matter, the first digit of the first denominator is assumed to be 1 without loss of generality.
  - The fact that the corresponding numerator must be 6,7,8, or 9, isn't made use of, but as the first fraction must be large enough for the sum to reach 1, all digits in all fractions are tried in reverse order, from 9 down to 1, except for the first denominator's second digit, which are tried in lowest to highest order. This ensures that the first fraction is as big as possible as early as possible (i.e.: 9/12, 9/13, ..., 9/18, 8/12, 8/13, ..., 8/19, etc).
- Once a solution has been found, the program clears all the flags, outputs the solution, and duly ends.

These same techniques can be applied to create an HP-71B version, which would find the solution in a mere 2 minutes in a physical HP-71B or a few seconds under Emu71. I have absolutely no more time available so that's left as an exercise for the reader. :-)

Best regards from V.

## Re: A physical HP-15C solution in 48 minutes

Message #14 Posted by **Gerson W. Barbosa** on 22 Apr 2007, 12:44 p.m.,  
in response to message #13 by Valentin Albillo

Hi Valentin,

That's the HP-15C solution Karl and all of us here were waiting for. That's what we would expect from you, no less!

Quote:

\_\_\_\_\_

I don't want to let people think that the HP-15C isn't powerful enough to solve your puzzle unless it runs some program for several months or weeks,

\_\_\_\_\_

I don't think anyone might have been led to believe this just because of my program. As I said earlier in this thread, a plain brute force program would be able to find the solution within hours, not weeks. I also said I thought I was unable to write one due to its intrinsic complexities. On the other hand, my



solution based on random numbers was quite easy to implement, so easy even I was able to do it. My approach would apply only to today's blazingly fast computers though, which can find the solution in less than one second. A quite good compromise between developing and running times, in my opinion.

Best regards,

Gerson.

### **Re: A physical HP-15C solution in 48 minutes**

*Message #15 Posted by **Valentin Albillo** on 22 Apr 2007, 6:59 p.m.,  
in response to message #14 by Gerson W. Barbosa*

Hi, Gerson:

Of course, of course, I wasn't trying to belittle your highly imaginative non-deterministic solution, far from it.

Many times Monte Carlo-like methods provide very reasonable solutions for highly intractable problems, or even the only way to solve them, as is the case for multidimensional integration of high dimensionality ("the curse of dimension").

It's only that I got the impression that some people reading this thread could be led to the wrong conclusion that it would take excessively long for an HP-15C to try and solve this puzzle, and I won't suffer such a humiliating situation for my beloved HP-15C if I can do something about it, which I can.

So, a couple of hours later I had written and run the posted program which, indeed, does find the solution in a pretty decent time. A first version using subroutines was very much shorter and elegant, but it took more than twice the time, at some 2 hours. Removing subroutines and unrolling some loops resulted in the 160-step, 48-min program posted, which can be further optimized but to no real purpose. As a 'concept proof' of the HP-15C capabilities, it's already more than adequate.

Thanks for your comments and

Best regards from V.

### **Re: A physical HP-15C solution in 48 minutes**

*Message #16 Posted by **Karl Schneider** on 22 Apr 2007, 3:34 p.m.,  
in response to message #13 by Valentin Albillo*

Hi, Valentin --

Well, sir, that's quite impressive. I'll definitely run your program on my HP-15C, and perhaps install the emulator program to give it a try there. After I accelerate an HP-15C, I'll quite likely re-visit the program to measure the benefit.

The intelligent heuristics you applied are absolutely necessary to make the program acceptably efficient. My "days/weeks" estimate was admittedly worst-case, as it included exhaustive trial of all possible combinations (or at least,  $1/6\text{-th} * 9! = 60,480$  combinations excluding mathematically-equivalent combinations), assuming no knowledge that only one solution existed, and not simply terminating upon finding one.

An estimated five seconds per trial times 60,480 trials would still make 84 hours, which is unacceptable. Fixing one digit reduces the number of total trials to an eighth thereof, and counting digits downward from nine so that larger numerators are tried first is certainly a more intelligent way to find the answer quickly.

Thank you much for your enlightening solution to an HP-15C challenge that has stumped me for years!

Best regards,

-- KS

*Edited: 22 Apr 2007, 3:42 p.m.*

## **Re: A physical HP-15C solution in 48 minutes**

Message #17 Posted by [Valentin Albillo](#) on 22 Apr 2007, 7:27 p.m.,  
in response to message #16 by Karl Schneider

Hi, Karl:

I'm quite glad you like it. It's actually been a very interesting challenge, and I only regret that I really couldn't afford the dedicated time it deserved, which is easily seen in the non-elegant, non-optimal solutions I could accomplish, sorry :-)

By the way, quoting some of your comments in your original post, here is how they apply to my posted solution:

*"I believe that the HP-15C offers sufficient programming features to tackle the problem using the brute-force method:*

1. *Enough storage registers to maintain nine separate digits and to store solutions"*

Yes, except that there's no need to store solutions in this case, as there is but one which can simply be output right away.

2. *Nine usable flags (flags 0-9 excluding flag 8) to track whether a digit is "in use"*

He, he, there's no need either to "exclude" flag 8 as in this case entering and exiting complex mode is transparent to the program's computations. At some times it is actually doing complex-number arithmetic, but the results are of course the same.

That's one of the most beautiful advanced characteristics of the HP-15C, the natural, almost transparent way in which it handles complex-number calculations, which very frequently require *the very same keystrokes/program-steps* as their real-valued counterparts.

3. *Subroutines, conditional tests, and plenty of labels*

No subroutines are called within the main loops, for speed, and nearly all numeric labels are reused *two times* (except LBL 2, which appears *three times*, one of them as a mere placeholder for the ISG instruction). This extremely convenient reutilization of labels would be *impossible* in an HP33S, say.

4. *A versatile indirect register*

Yes, but having the equivalent of SF IND X, CF IND X, FS? IND X, as in the HP-41C, would have resulted in a much shorter, clearer, and faster program. Alas, flag indirection can only be done via the I register in the HP-15C, not the X register.

*So, a workable HP-15C program could be written. However, I also believe that such a program might take literally weeks to run to completion on an actual HP-15C!"*

In the end, with a few sensible (and easy-to-justify) heuristics here and there, it actually could be done in less than an hour. I expect this will increase even further your already high appreciation of this most awesome model.

Best regards from V.

## A physical HP-71B solution under 20 minutes

Message #18 Posted by **Gerson W. Barbosa** on 24 Apr 2007, 12:28 a.m.,  
in response to message #13 by Valentin Albillo

Hello again Valentin,

Quote:

These same techniques can be applied to create an HP-71B version, which would find the solution in a mere 2 minutes in a physical HP-71B or a few seconds under Emu71. I have absolutely no more time available so that's left as an exercise for the reader. :-)

I didn't try your technique but I did try another solution on the HP-71B.

Accepting, without proving, the relationship provided by Karl, that is,

$$D=2*B$$

it's easy to obtain

$$F = - \frac{D * E}{2 * (A - B) + C}$$

The program also assumes A is even, as Karl has suggested.

The program runs in about 11 second on Emu71 (@500MHz), however the unique answer is shown after 6 seconds. On the real HP-71B the total running time was exactly 19 minutes and 58 seconds (Well, that's under 20 minutes :-) As always, my best solutions are 10 to 20 times slower than yours, but I am glad I was able to come up with something that would not take days or weeks on the real calculator :-)

Best regards,

Gerson.

```
-----
10 DESTROY ALL @ OPTION BASE 0 @ DIM N(8),M(8) @ FOR I=0 TO 8 @ M(I)=I+1 @ NEXT I
15 FOR A=1 TO 9 STEP 2 @ FOR C=1 TO 9 @ IF C=A THEN 75
20 FOR E=1 TO 9 @ IF E=C OR E=A THEN 70
25 FOR B=12 TO 49 @ IF MOD(B,5)=0 OR B=A+C/2 THEN 65
30 D=2*B @ F=-D*E/(2*(A-B)+C) @ IF FP(F)<>0 OR F>99 OR F<12 OR F=B THEN 65
35 IF MOD(F,10)<>0 THEN GOSUB 80
40 K=1 @ I=0
```

```

45 S=0 @ I=I+1 @ FOR J=0 TO 8 @ IF M(I)=N(J) THEN S=S+1
50 NEXT J @ IF S<>1 THEN K=0
55 IF I<8 AND K THEN 45
60 IF K THEN PRINT A;" / ";B;" + ";C;" / ";D;" + ";E;" / ";F;" = 1"
65 NEXT B
70 NEXT E
75 NEXT C @ NEXT A @ END
80 N(0)=A @ N(1)=INT(B/10) @ N(2)=MOD(B,10) @ N(3)=C @ N(4)=INT(D/10)
85 N(5)=MOD(D,10) @ N(6)=E @ N(7)=INT(F/10) @ N(8)=MOD(F,10) @ RETURN

```

```

>RUN
5 / 34 + 7 / 68 + 9 / 12 = 1

```

Here is the equivalent Turbo Pascal program, for clarity:

```

-----
Program Karl_Problem;
var a, b, c, d, e, f, i, j: byte;
    x, r, s: real;
    ok: boolean;
    m, n: array [1..9] of byte;
begin
  ClrScr;
  for i:=1 to 9 do
    m[i]:=i;
  a:=-1;
  repeat
    a:=a+2;
    for c:=1 to 9 do
      if c>a then
        for e:=1 to 9 do
          if (e<>c) and (e<>a) then
            for b:=12 to 49 do
              if ((b mod 5)<>0) and (b<>(a+c/2)) then
                begin
                  d:=2*b;
                  x:=-d*e/(2*(a-b)+c);
                  if (Abs(Frac(x))<0.000001) and (x<99) and (x>11) and (x<>b) then
                    begin
                      f:=Trunc(x);
                      if f mod 10 <> 0 then
                        begin
                          n[1]:=a; n[2]:=b div 10; n[3]:=b mod 10;
                          n[4]:=c; n[5]:=d div 10; n[6]:=d mod 10;
                          n[7]:=e; n[8]:=f div 10; n[9]:=f mod 10
                        end;
                      ok:=true; i:=0;
                      repeat
                        s:=0; i:=i+1;
                        for j:=1 to 9 do
                          if m[i]=n[j] then
                            s:=s+1;
                        if s<>1 then
                          ok:=false
                      until (i=9) or (not ok);
                      if ok then
                        WriteLn(a:1,'/',b:2,'+',c:1,'/',d:2,'+',e:1,'/',f:2,'=1')
                      end
                    end
                until a=9
              end.

```

```

-----
5/34+7/68+9/12=1
-----

```

*Edited: 24 Apr 2007, 2:14 p.m.*

## HP-15C program

Message #19 Posted by [Gerson W. Barbosa](#) on 17 Apr 2007, 8:45 p.m.,  
in response to message #1 by Karl Schneider

Quote:

I believe that the HP-15C offers sufficient programming features to tackle the problem using the brute-force method:

Enough storage registers to maintain nine separate digits and to store solutions Nine usable flags

(flags 0-9 excluding flag 8) to track whether a digit is "in use" Subroutines, conditional tests, and plenty of labels A versatile indirect register So, a workable HP-15C program could be written. However, I also believe that such a program might take literally weeks to run to completion on an actual HP-15C! Recursion and integer arithmetic could not be employed, as my C program does.

The HP-15C program below might find the solution, given enough time (five days? one week? one fortnight?). Of course, this depends also on the quality of the random number generator.

As a test, the line 57 could be replaced with .25 and the line 58 with g TEST 8. If the program has been keyed in correctly, the answer will be 439,265,871.0, that is,  $4/39 + 2/65 + 8/71$ . This is equal to 0.2460093897, the first sum less than 1/4 found by the program. This takes less than 60 seconds on my 2.2x 15C.

Line numbers followed by a lower case "u" have to be keyed in USER mode.

This has been written just an exercise to remember the use of matrices on the HP-15C. It is far from optimized. Improvement suggestions are welcome. Besides pure brute force, the program relies on luck, which is not good, unless, of course, we are lucky enough :-)

The program is just a translation of the previous QBASIC program to RPN. The second matrix is not initialized to zero because this is not necessary.

Regards,

Gerson.

```

-----
001-   f LBL B           020-   +           039-   GTO 7           058-   g TEST 6
002-   1                021-   g INT          040-   f CLR SIGMA    059-   GTO 2
003-   ENTER            022-   STO 1          041-   f MATRIX 1    060-   0
004-   9                023-   RCL A          042-   RCL 1          061-   f LBL 9
005-   STO RAN #        024-   g x=0          043-   f LBL 8          062-   *
006-   f DIM A          025-   GTO 5          044-   +           063-   STO+ 2
007-   f DIM B          026-   0                045-   /           064-   RCL 1
008-   f MATRIX 1       027-   STO A          046-   +           065-   CHS
009-   f LBL 2          028-   Rv            047u  RCL B          066-   9
010-   RCL 1            029-   RCL 2          048u  RCL B          067-   +
011u  STO A             030-   STO 1          049-   1           068-   10^x
012-   GTO 2            031-   x<>y          050-   0           069u  RCL B
013-   1                032-   STO B          051-   *           070-   GTO 9
014-   STO 2            033-   1                052u  RCL B          071-   *
015-   f LBL 7          034-   STO+ 2          053-   GTO 8          072-   STO+ 2
016-   f RAN #          035-   f LBL 5          054-   +           073-   RCL 2
017-   9                036-   RCL 2          055-   /           074-   g RTN
018-   *                037-   9                056-   +
019-   1                038-   g TEST 9        057-   1
-----

```

Estimated runtime:

$((9! * 40s * 1.5)/86400s)/2 = 126 \text{ days! (or up to 252 days)}$

(Assuming each combination takes 40 seconds to process, and there are 50% of repeated combinations).

I would recommend a voltage adapter since the batteries would last only 60 hours, according to the manual :-)

*Edited: 17 Apr 2007, 10:58 p.m.*

---

**Re: HP-15C program**

Message #20 Posted by **Karl Schneider** on 19 Apr 2007, 12:20 a.m.,  
in response to message #19 by Gerson W. Barbosa

Hi, Gerson --

Thank you for the imaginative HP-15C solution. I'll have to give it a try on an accelerated calculator or emulator.

I have to admit that an approach utilizing random numbers never would have occurred to me...

Best regards,

-- KS

---

**Re: HP-15C program**

Message #21 Posted by **Gerson W. Barbosa** on 19 Apr 2007, 12:43 p.m.,  
in response to message #20 by Karl Schneider

Hello Karl,

Quote:

-----  
I'll have to give it a try on an accelerated calculator or emulator.  
-----

I fear this might not be a good idea. The average number of tries before the solution was found was 91,985.8 in 50 runs of a modified QBASIC program. In the first run the solution was found after 166,192 tries while in the second run the answer appeared after only 3,394 tries (this was the least number of tries; the maximum number of tries was 256,069, in the 23rd run). Assuming my sped-up 15C takes 20 seconds to process each try, this would take from 19 hours to 60 days to run (from 42 hours to 131 days on a normal 15C!).

I wish there were a fast running mode in Nonpareil :-)

Regards,

Gerson.

-----  
P.S.: This modification saves one step and might cause the solution to be found weeks earlier or later :-)  
)

```
001-   f LBL B
002-   1
003-   STO RAN #
004-   9
005-   f DIM A
      .
      .
      .
```

-----  
The estimated runtime I provided earlier was wrong. The correct average runtime should be:

$(9!/3!)*40s/86400 = 28 \text{ days}$

(Assuming it takes 40 seconds in average to generate each set of 9 different digits, which I haven't checked yet).

A feasible way of solving the problem on the HP-15C would be running the program simultaneously on, say, 15 calculators (or Nonpareil instances), each beginning with a different seed. It is probable at least one of them would complete the task in less than 30 hours...

A program using plain brute force would be longer, I guess, and would take about the same time to reach the solution. However, I think I wouldn't be able to write one...

Anyway, considering an HP-15C was recently given the task to compute pi using a Monte Carlo method, the idea of using random numbers to find those three fractions don't look so absurd :-)

*Edited: 21 Apr 2007, 8:25 a.m.*

## Re: HP-15C program

Message #22 Posted by [David Jedelsky](#) on 20 Apr 2007, 6:15 a.m.,  
in response to message #19 by Gerson W. Barbosa

Hi, it really works. I tried it in my testing simulator of 15c and got answer in about 68min of cpu time. If my estimate is correct it roughly corresponds to 850hours on real calculator. Here is the result:

```

|   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|
|   |   |   |   |   |   |   |   |
|   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|
|   |   |   |   |   |   |   |   |
|   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|

```

```
real   75m56.331s
user   67m49.726s
sys    0m22.688s
```

Best Regards,

David

## Re: HP-15C program

Message #23 Posted by [Gerson W. Barbosa](#) on 20 Apr 2007, 12:34 p.m.,  
in response to message #22 by David Jedelsky

Hi David,

Thanks for taking the time to test the program on your simulator. I have an instance of Nonpareil running since yestarday (seed=1); my sped-up 15C (2.2x) ran for at least 52 hours before the batteries went down (not fresh alkaline batteries). By the way, is your simulator freely available? Does it run under DOS or Linux? Is it based on Eric Smith's Nonpareil? 750x is quite good :-)

The modification below, beginning from line 40 would save about two hours in a month, on a real HP-15C. Optimizing the first part of the program would give a better result though.

```
039-   GTO 7           058-u   RCL B
040-   f MATRIX 1     059-u   RCL B
041-u   RCL B         060-    1
042-u   RCL B         061-    0
043-    1             062-    *
044-    0             063-   RCL B
045-    *             064-   f MATRIX 1
046-u   RCL B         065-    +
```

```
047-   +           066-   /
048-   /           067-   +
049u  RCL B       068-   1
050u  RCL B       069-   g TEST 6
051-   1          070-   GTO 2
052-   0          071-   0
053-   *          072-   STO 2
054u  RCL B       071-   f LBL 9
055-   +           .
056-   /           .
057-   +           .
```

One could use the simulator to try different seeds (twenty of them would suffice) until the solution was found under 20 hours on the real calculator. Of course, this would be cheating :-)

Best regards,

Gerson.

### Re: HP-15C program

Message #24 Posted by [David Jedelsky](#) on 20 Apr 2007, 5:33 p.m.,  
in response to message #23 by Gerson W. Barbosa

Hi Gerson,

I appreciate your interest in my simulator, but I'm afraid it is not much of general usability. I created it just as a reference platform for the testing of my PIC simulator core. It runs under linux and I even used one source file (digit\_ops.c) from Nonpareil (thank you Eric), because the implementation of arithmetic operations was clear and it saved me some time. It is pure console application, as you can also see from the printed result in my previous post. Moreover, it accepts keys just by internal calculator codes. So, it is not mentioned as simulator for the general calculator use. It is just testing tool. Anyway, if anybody want to use it or take a look at it I'm prepared to publish it.

Regarding the speed. I don't think 750x is really good, but definitely enough :). If I include optimization options to gcc and place my cpu at regular speed 2.2GHz it runs even somewhere around 1000x. But the code is far from optimal. I think it is possible to reach several times better speeds with optimizations.

I didn't try your modification so far. But at least tried seed bases from 0.00 to 0.99 ;). The winner is 0.12 (12 STO RAN#). My estimation for your 2.2x calculator is around two hours to get the result (but maybe I'm wrong).

Well, you are right, it is kind of cheating, but who don't want to see real result after all this effort :-).

Best Regards,

David

### Re: HP-15C program

Message #25 Posted by [Gerson W. Barbosa](#) on 21 Apr 2007, 12:21 a.m.,  
in response to message #24 by David Jedelsky

Hi David,

Thanks again for testing.



Quote:

---

My estimation for your 2.2x calculator is around two hours to get the result (but maybe I'm wrong).

---

You are right! I forgot to check the chronometer: last time I had checked about 1 hour and 50 minutes had elapsed. When I remembered to check it again 15 minutes later the calculator was still on and displaying 912.768.534,0. So, we can conclude it will take about about 4 hours and 30 minutes on a normal 15C if the following modification is made in the original program:

```
001-   f LBL B
002-   1
003-   2
004-   STO RAN #
005-   g LOG
006-   9
007-   f DIM A
      ...
```

This 75-step program may not be fastest one to solve Karl's problem on the 15C, even considering the cheating, but surely is one of the shortest ;-)

Just a curiosity, from 1000 runs of the equivalent Turbo Pascal program:

```
...
7 6 8 9 1 2 5 3 4 993 112691
9 1 2 7 6 8 5 3 4 994 30159
9 1 2 5 3 4 7 6 8 995 5370
9 1 2 5 3 4 7 6 8 996 175788
5 3 4 9 1 2 7 6 8 997 6076
9 1 2 7 6 8 5 3 4 998 1388
7 6 8 9 1 2 5 3 4 999 59464
9 1 2 7 6 8 5 3 4 1000 7443
```

```
mean: 61158.5180 min: 8 max: 422667
```

It is possible there is a magic seed that allows the solution to be found in only eight tries on the 15C as well, that is, in about five minutes! On the other hand, 422667 tries would require at least 6 months...

Best regards,

Gerson.

-----

P. S.:

This run is even more amazing:

```
...
9 1 2 7 6 8 5 3 4 998 88848
9 1 2 7 6 8 5 3 4 999 3748
5 3 4 7 6 8 9 1 2 1000 40377
```

```
mean: 61250.5890 min: 1 max: 593567
```

At least once the solution was found in the first try...

*Edited: 21 Apr 2007, 12:42 a.m.*



## HP Forum Archive 17

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**power notation**

Message #1 Posted by [Dan Ripley](#) on 14 Apr 2007, 9:41 a.m.

realise everyone is probably over these questions but ive got no where else to try, just wondering how to work with power notation, for example numbers like  $4^5 \times 6^4$ , any ideas how to output answers like these?? thanks again Dan

**Re: power notation**

Message #2 Posted by [Rich Messeder \(US\)](#) on 14 Apr 2007, 11:01 a.m.,  
in response to message #1 by Dan Ripley

Hi Dan, Assuming that you are using an RPN calculator or you wouldn't be here... $4^5 \times 6^4$ ...looks like this

```
4
Enter
5
y^x key
6
Enter
4
y^x key
x
```

Rich

**Re: power notation**

Message #3 Posted by [Giancarlo \(Italy\)](#) on 16 Apr 2007, 6:10 a.m.,  
in response to message #1 by Dan Ripley

Hi Dan.

Please have a look at my feedback on HP calc forum and see if it helps.

Best regards.

Giancarlo

---

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## HP Forum Archive 17

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### working with fractions

Message #1 Posted by [Dan Ripley](#) on 14 Apr 2007, 7:12 a.m.

Hello, just wondering if there was an way to simplfy fractions, for example  $34/21$  or  $8/2$ , and ideas?? I always thought calculators were meant to make things easier??

### Re: working with fractions

Message #2 Posted by [Dan Ripley](#) on 14 Apr 2007, 7:18 a.m.,  
in response to message #1 by Dan Ripley

Also is there a way of entering fractions along the lines of  $3\frac{4}{8}$  (three and four eighths) or  $-5\frac{9}{10}$  ( negative 5 and nine tenths)

### Re: working with fractions

Message #3 Posted by [Sam Levy](#) on 14 Apr 2007, 10:30 a.m.,  
in response to message #2 by Dan Ripley

On the HP33S the decimal point serves to delineate the whole number and fractions on entry. See the lessons below. <http://h20331.www2.hp.com/hpsub/cache/301034-0-0-225-121.html>

### Re: working with fractions

Message #4 Posted by [Karl Schneider](#) on 14 Apr 2007, 1:11 p.m.,  
in response to message #3 by Sam Levy

Quote:

On the HP33S the decimal point serves to delineate the whole number and fractions on entry. See the lessons below. <http://h20331.www2.hp.com/hpsub/cache/301034-0-0-225-121.html>

Both the HP-32SII and HP-33S are the only (RPN-based, at least) HP models that have this capability. It's actually quite good, in that the closest fractional approximation (having a denominator no greater than 4096) to a floating-point value can be produced.

-- KS

### Re: working with fractions

Message #5 Posted by [Thor Lansen](#) on 14 Apr 2007, 7:19 p.m.,  
in response to message #4 by Karl Schneider

The HP41C, CV, CX with the PPC ROM allows you to work with fractions. I believe that with the HP15C you are out of luck. Sorry Karl.

Regards, Thor

**Re: working with fractions**

*Message #6 Posted by [Dan Ripley](#) on 14 Apr 2007, 8:48 p.m.,  
in response to message #5 by Thor Lansen*

sorry I forgot to mention im using the HP 50g, thanks for the reply though

**Re: working with fractions**

*Message #7 Posted by [Christoph Widmer](#) on 15 Apr 2007, 4:05 a.m.,  
in response to message #6 by Dan Ripley*

Hi Dan, the HP 50g can indeed do fractions. Do do what I presume you want to do, first set the calculator to symbolic mode (Press the "MODE" key, select "CAS", and have both "Numeric" and "Approx" unchecked). A simple example (in RPN, but works analogously in algebraic): 10 ENTER 6 Divide --> '5/3'. 7 ENTER 12 Divide --> '7/12', then Add --> '5/3 + 7/12'. Press EVAL yields '9/4'. For further information see also the User's Guide, pages 5-23 ff.

I hope this helps. Good luck and best regards.

**Re: working with fractions**

*Message #8 Posted by [Christoph Widmer](#) on 15 Apr 2007, 4:14 a.m.,  
in response to message #7 by Christoph Widmer*

Dan, I just remembered that HP has a training module on fractions for the HP 50g, here it is: [http://h20331.www2.hp.com/Hpsub/downloads/50gWorking\\_with\\_fractions.pdf](http://h20331.www2.hp.com/Hpsub/downloads/50gWorking_with_fractions.pdf)

I think this explains things well. There is quite a number of other training modules as well, I found them very helpful.

Best regards again. Chris.

---

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**HP-41C "Standard Module"**

Message #1 Posted by [EJ](#) on 13 Apr 2007, 8:38 p.m.

Hello All HP-41C Experts !

I recently began collecting the HP-41CX & its peripherals, and have many of the 41C plug-in modules with original manuals. However, I recently acquired a "Standard" module with no documents and I would like to know what is in it. "CAT 2" doesn't really help. I have the "Standard Applications" booklet, but it is just several useful programs in listed form; nothing to do with the little module with the word "Standard" printed on it. Any help would be appreciated in this.

EJ

**Re: HP-41C "Standard Module"**

Message #2 Posted by [Andrés C. Rodríguez](#) on 13 Apr 2007, 9:08 p.m.,  
in response to message #1 by EJ

If I recall correctly, the Standard module was just the module version of the Standard Apps Manual software. It sold for just U\$S 30, while other modules like Math 1, Stat 1, Circuit Analysis, carried a U\$S 45 price tag.

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## HP Forum Archive 17

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### HP Calculator 35 year celebration

Message #1 Posted by [Lauren](#) on 13 Apr 2007, 5:14 p.m.

Hi all,  
I work at an agency that does some work with HP, and somebody told me about this calculator contest. Unfortunately, I am not allowed to enter, but I wanted to spread the word on to people who love their HP calculators. (thought this would be a good place to do that!)

You basically have to make a video starring your calculator. It looks like a cute idea...

You can win a trip to hollywood, or an HP Plasma TV! Anyway, if you decide to enter- good luck! I just wanted to pass it on...

Find out more about the contest at:

[www.hp.com/go/lightscameracalculator3](http://www.hp.com/go/lightscameracalculator3)

### Re: HP Calculator 35 year celebration

Message #2 Posted by [cfh](#) on 13 Apr 2007, 6:50 p.m.,  
in response to message #1 by Lauren

Yes I would like to enter. A large double-key wide ENTER.

\*dreaming...\*

cheers /cfh

---

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## HP Forum Archive 17

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**9114A drive malfunctions shortly after receipt**

Message #1 Posted by [Les Wright](#) on 13 Apr 2007, 12:18 p.m.

I just acquired, for a price that was not cheap, a 9114A drive with refurbished SLA battery pack, and a custom alternative power input 6VDC positive tip connector installed by the previous owner. The disk mechanism has been dismantled cleaned and lubricated by someone who knows what he is doing. When I got the drive yesterday it worked beautifully and I was having a great time for several hours.

I woke up this AM and the drive wouldn't power up. I had left it plugged in on trickle charge overnight and I figured I had left the drive on inadvertently--I have read somewhere these SLA cells do actually discharge faster than they charge so I figured the battery was dead and would come alive soon charged for a bit outside of the drive.

About four hours later this is not the case. Still dead. I went to The Source (which took over Radio Shack in Canada) and bought a universal DC adapter that has the polarity switching tips like one the seller suggested. The only tip that fits is not the snuggest, but it does convey power. However, the behaviour has been strange. At first, the 6 volt setting left the fault light on and set the power light to flashing, but the self test did not proceed. But now, the power light comes on and nothing happens. No fault light, no whirring of a motor, nuthin'

In my quest to find an alternate adapter around here I could use with the custom connector I found that my Targus universal laptop AC adapter has a tip that fit well. The drive has, at least till this AM, powered up well on this and the self test would conclude, but I cannot access the disk--get TRANSMIT ERR. This makes sense--the Targus adapter has a higher voltage and probably has the wrong current and polarity. But this morning, even the trusty Targus only makes the power light go on--nothing else happens.

Does anyone have any insight? It was working beautifully last night, and I know it provided the previous owner with trouble free operation. I am wondering if my quest for an alternate power source has confused the unit? Even still, this doesn't explain why I can't power up from the SLA pack, even with the 82059 adapter plugged in. There is absolutely no response at all--not even a flicker.

My new universal adapter is rated up to 300 mA and 12 volts. I have tried all of the voltages between 6 and 12 and this seems to not help. Targus adapter does not give a current rating, but its voltages are somewhat higher--15-24, I think.

Maybe I need to let the drive sit and make sure the battery pack has an overnight charge. But this is weird. Right now, there aren't even any whirring motor sounds coming from the drive, neither with the new universal DC adapter or the Targus adapter. And the battery source + 82059B adapter still seems dead.

hope someone can help! Someone here must know this drive, and electronics, intimately, so maybe can tell me where I have gone astray. Thjs is an absolutely amazing machine to have and I want to get it to work again!

Many thanks in advance,

Les

p.s. I have peaked inside and the drive heads seem unbroken. I have not had any disk stick. I have given the unit the gentlest shake and nothing seems rattling inside. There have been no thunder storms or power surges here that I know of. I am, frankly, utterly perplexed.



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**Re: 9114A drive malfunctions shortly after receipt**

*Message #2 Posted by [John Pierce](#) on 13 Apr 2007, 12:32 p.m.,  
in response to message #1 by Les Wright*

Hi Les, The battery pack for the 9114 disc drive has a "built in" battery charger. The output of the HP82059D AC adapter is approximately 12 VAC which is applied to the charging circuit. It appears to me that the "custom alternative power supply" is for use directly to the DC terminals of the disc drive. Try using an HP-82059D (or whatever) plugged into the battery properly installed in the drive and I believe all will work.

---

**Re: 9114A drive malfunctions shortly after receipt**

*Message #3 Posted by [Les Wright](#) on 13 Apr 2007, 12:48 p.m.,  
in response to message #2 by John Pierce*

The seller just called me and we suspect the problem is more sinister.

It seems that in experimenting with alternative power sources I may have cooked something by using too much voltage. The seller suspects that the apparently dead battery means the fuse in it is blown.

I am going to send the stuff back to him to see if he can fix or salvage it.

Eager for other more hopeful ideas!!!!

Les

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## HP Forum Archive 17

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### Difference between 19Bii and 19B

Message #1 Posted by [Namir](#) on 13 Apr 2007, 12:13 p.m.

Is support for RPN the only difference between the HP-19BII and the HP-19B?

Namir

*Edited: 13 Apr 2007, 12:13 p.m.*

### Re: Difference between 19Bii and 19B

Message #2 Posted by [Calculator Expert](#) on 15 Apr 2007, 12:27 p.m.,  
in response to message #1 by Namir

What is RPN?

### Re: Difference between 19Bii and 19B

Message #3 Posted by [Namir](#) on 16 Apr 2007, 8:58 a.m.,  
in response to message #2 by Calculator Expert

Right Part Number .. or something like that!

### Re: Difference between 19Bii and 19B

Message #4 Posted by [Karim M.](#) on 20 Apr 2007, 5:38 a.m.,  
in response to message #3 by Namir

Quote:

Right Part Number .. or something like that!

REVERSE POLISH NOTATION !!!!!

Which also gave an awful programming language called RPL (UserRPL or SystemRPL) for REVERSE POLISH LISP. This is the LISP (aka. Lots of Insane and Stupid Parentheses) w/o parentheses...

### Re: Difference between 19Bii and 19B

Message #5 Posted by [Bob Wang](#) on 15 Apr 2007, 2:07 p.m.,  
in response to message #1 by Namir

Namir:

I only have the side battery door 19BII, but my understanding is that the Indonesian 19BIIs with back battery doors don't suffer the same problems with door breakage.

Bob

**Re: Difference between 19Bii and 19B**

*Message #6 Posted by **Namir** on 16 Apr 2007, 8:59 a.m.,  
in response to message #5 by Bob Wang*

I meant difference in software between the 19B and 19BII. I am aware of the "back side door" version.

Namir

**Re: Difference between 19Bii and 19B**

*Message #7 Posted by **Bob Wang** on 16 Apr 2007, 11:48 a.m.,  
in response to message #6 by Namir*

Namir:

FWIW, my 19BII Owner's Manual is IDENTICAL to my 19B Owner's Manual except for the following:

p.36 The last paragraph refers to appendix D. Appendices D,E,F added for RPN.

Bob

**Re: Difference between 19Bii and 19B**

*Message #8 Posted by **bill platt** on 16 Apr 2007, 12:19 p.m.,  
in response to message #7 by Bob Wang*

Is this also true for the 17b / 17bii?

**Re: Difference between 19Bii and 19B**

*Message #9 Posted by **Bob Wang** on 16 Apr 2007, 2:45 p.m.,  
in response to message #8 by bill platt*

Bill:

Sorry, I don't own either a 17B, or a 17BII. I SUSPECT it's the same situation as with my 19B and 19BII where there is one reference to Appendix D, and the additional appendices to cover RPN.

Bob

**Re: Difference between 19Bii and 19B**

*Message #10 Posted by **Namir** on 16 Apr 2007, 2:57 p.m.,  
in response to message #7 by Bob Wang*

Thanks Bob! I thought maybe the 19BII added a few more functions in addition to supporting RPN.

Namir

**Re: Difference between 19Bii and 19B**

*Message #11 Posted by **Bruce H** on 17 Apr 2007, 6:08 a.m.,  
in response to message #10 by Namir*

Hi Namir,

I thought that there were three models: 19B, 19BII and 19BII Business Consultant II.

I don't have access to mine at the moment to check the differences but I think RPN only appeared in the latter. The middle one has additional math functions (trig I think - but my memory is hazy here.)

All three were made with the side battery door design but with varying quality of keypress feel!

**Re: Difference between 19Bii and 19B**

*Message #12 Posted by **Eric Smith** on 17 Apr 2007, 2:04 p.m.,  
in response to message #11 by Bruce H*

Quote:

three models: 19B, 19BII and 19BII Business Consultant II

There might have been labeling variants, but I think that's only two models, with and without the "II".

**Re: Difference between 19Bii and 19B**

*Message #13 Posted by **Namir** on 18 Apr 2007, 2:10 a.m.,  
in response to message #12 by Eric Smith*

Eric,

Both models include "Consultant II" in their title. This has confused quite a few eBay sellers who sell an HP19B using HP19BII in their description, thinking that they can shift the "II" in "Consultant II" to the calculator number. Its' REALLY HP's FAULT FOR USING A POOR TITLE. Yes I am shouting so HP can hear me.

Namir

**Re: Difference between 19Bii and 19B**

*Message #14 Posted by **Eric Smith** on 19 Apr 2007, 3:55 p.m.,  
in response to message #13 by Namir*

Yes, the naming was astoundingly stupid.

The clamshell financials were:

- HP-18C Business Consultant
- HP 19B Business Consultant II
- HP 19BII Business Consultant II

The first part (HP-18C, HP 19B, or HP 19BII) is the actual model number. The rest is a marketing title. There may have been labelling variations regarding the title.

Whether the marketing title does or does not include "II" has nothing to do with whether it is a 19B or a 19BII. It either has the II **immediately** after the 19B, or not.

If someone offers a "Business Consultant II" for sale, that's not enough information to determine which model it is.

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## HP Forum Archive 17

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**LIFUTIL**

Message #1 Posted by [Ben](#) on 12 Apr 2007, 4:40 p.m.

I am in the process of converting a whole mess of files from LIF to DOS. I am having trouble using the LIF UTIL on any newer system. The older systems I have at my disposal are dedicated systems used for specific purposes. Is there a way to use a LIFUTIL to convert the LIF files to DOS on an XP?

**Re: LIFUTIL**

Message #2 Posted by [J-F Garnier](#) on 13 Apr 2007, 12:49 p.m.,  
in response to message #1 by Ben

AFAIK, LIFUTIL or similar tools that access LIF discs (including my own Emu41/71) don't work on modern OS such as Win2000/ME/XP, etc. They usually work well on Win98. I'm keeping a Win98 machine for this purpose.

J-F

**Re: LIFUTIL**

Message #3 Posted by [Raymond Del Tondo](#) on 13 Apr 2007, 1:19 p.m.,  
in response to message #2 by J-F Garnier

Hi,

the OS is not the main problem.

It's the diskette controller in modern PCs,  
which isn't adjustable for the weird track/sector combination of LIF disks.

Regards

Raymond

**Re: LIFUTIL**

Message #4 Posted by [Ben](#) on 13 Apr 2007, 3:48 p.m.,  
in response to message #3 by Raymond Del Tondo

I'm using the dedicated 95 system presently to do the data conversion.

So it's the version of FAT on the 3 1/2in floppy that is not compatible?

**Re: LIFUTIL**

Message #5 Posted by [Raymond Del Tondo](#) on 13 Apr 2007, 6:41 p.m.,  
in response to message #4 by Ben

It's not only the FAT format, but the different physical/magnetic formatting of LIF disks.

Check this: [Tony Duell's article about LIF format](#)

HTH

## Re: LIFUTIL

Message #6 Posted by [J-F Garnier](#) on 14 Apr 2007, 5:04 a.m.,  
in response to message #3 by Raymond Del Tondo

Hi Raymond,

That's not correct, the hardware is still able to read 256-bytes/sector LIF discs. The problem is that DOS programs like LIFUTIL rely on the BIOS to change the disc driver parameters from 512 to 256 bytes/sector. True "DOS Command Box" like in Win95/98 fully supports BIOS calls, but no more the "Command Line Boxes" in Win2000/etc that don't use the 16-bit ROM BIOS routines but just emulate a subset for DOS program execution.

I checked it by building a Win98 boot disc, with it I access to LIF discs without problem on my 1-year-old PC. But it is not very convenient because Win98 can't access my NTFS hard disc, and I have to transfer through floppy.

What is missing is a LIF driver for WinXP/etc, and a native 32-bit LIFUTIL-like utility. Any volunteer?

J-F

*Edited: 14 Apr 2007, 5:09 a.m.*

## Re: LIFUTIL

Message #7 Posted by [Chris Roccati](#) on 14 Apr 2007, 5:50 a.m.,  
in response to message #6 by J-F Garnier

Quote:

That's not correct, the hardware is still able to read 256-bytes/sector LIF discs.

The hardware is not actually REQUIRED to be able to read 256 bytes/sectors: the standard floppy device driver under window nt/2000/xp does not even acknowledge the existence of a 256 bytes/block format...

An interesting experiment would be to try calling the DeviceIoControl IOCTL\_DISK\_GET\_DRIVE\_GEOMETRY with a known good LIF disk to see what windows puts in .MediaType and .BytesPerSector, but it's quite likely it won't work at all.

The other choice would be to write a custom floppy driver which directly accesses the hardware, but it's not an easy route.

Using this [thing](#) would probably work too...

If you're **REALLY** hardcore, you could hack any SMSC based USB floppy, to use an external flash with a custom firmware...

**Re: LIFUTIL**

*Message #8 Posted by [Doug W.](#) on 14 Apr 2007, 3:33 p.m.,  
in response to message #6 by J-F Garnier*

Neat trick with the 98 boot floppy J.F!

Another method would be a "Dual Boot" system. Or use disk manager to create a FAT16 partition, then the 98 boot floppy would have some storage area.

*Edited: 14 Apr 2007, 3:37 p.m.*

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## HP Forum Archive 17

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### **Battery rebuild with NiMh**

Message #1 Posted by [Sam Levy](#) on 12 Apr 2007, 12:41 p.m.

I had a cordless phone with Nicad cells wear out. I bought AA cells with welded tabs to make a replacement pack. It is now in it's 5th year and it is good for a month. This place has cells with welded tabs, I'm sure there are others. It avoids soldering to the case. <http://www.all-battery.com/index.asp?PageAction=VIEWPROD&ProdID=1336>

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## HP Forum Archive 17

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### Hudendai !!!

Message #1 Posted by [Mad Dog ebaycalcnut](#) on 12 Apr 2007, 11:38 a.m.

Just kidding! I won't sit around and talk about eBay calc sellers still, just thought my subject line would grab attention.

It's been a while since I posted and wanted to say hi to everyone!

### Newton's Method Challenge

Message #2 Posted by [Namir](#) on 12 Apr 2007, 12:53 p.m.,  
in response to message #1 by Mad Dog ebaycalcnut

Now that you showed us how much free time you have, your task is to out-macho Newton's method used to solve single non-linear functions. We'd like to see how cool you are in the numerical analysis department!!! If you make it, we will sing your praises non-stop on this web site and in every HHC conference to be held in the future.

And BTW ... hi back to you!!

:~)

Namir

*Edited: 12 Apr 2007, 12:54 p.m.*

### Re: Newton's Method Challenge

Message #3 Posted by [Mad Dog ebaycalcnut](#) on 12 Apr 2007, 11:15 p.m.,  
in response to message #2 by Namir

Too easy of a challenge! I won't insult you with actually proving it of course...

:)

### Re: Newton's Method Challenge

Message #4 Posted by [Les Wright](#) on 13 Apr 2007, 1:00 a.m.,  
in response to message #3 by Mad Dog ebaycalcnut

Isn't this the part when someone says, "Your mother was a hamster, and your father smelled of elderberries!!!!"?

**"[maddog] Go away before we taunt you a second time!!"**

Message #5 Posted by [allen](#) on 14 Apr 2007, 3:57 p.m.,  
in response to message #4 by Les Wright

Haaaa.. LES good monty python quote!! May I add the latter half of that scene GRIN

Quote:

"[maddog] Go away before we taunt you a second time!!"

**allen Hudendai**

*Message #6 Posted by [Mad Dog ebaycalcnut](#) on 15 Apr 2007, 12:46 p.m.,  
in response to message #5 by allen*

C'mon Hudendai, admit that you missed me a little....

**Re: Newton's Method Challenge**

*Message #7 Posted by [Namir](#) on 13 Apr 2007, 10:04 a.m.,  
in response to message #3 by Mad Dog ebaycalcnut*

Too easy????? So picking on online sellers is the more difficult and challenging task you'd rather do??

I am disappointed!!!

Namir

**Re: Newton's Method Challenge**

*Message #8 Posted by [Mad Dog ebaycalcnut](#) on 15 Apr 2007, 1:33 p.m.,  
in response to message #7 by Namir*

Who picks on sellers?

I try to get sellers to be more accurate by pointing out flaws in their ads. A few sellers have modified things thanks to my criticisms. :)

*Edited: 15 Apr 2007, 1:54 p.m.*

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## HP Forum Archive 17

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### HP PRINTER 82143A

Message #1 Posted by [JEANETTE](#) on 11 Apr 2007, 4:41 p.m.

HELLO THERE - I HAVE A BOXED HP PRINTER 82143A WITH POWERPACK, HANDBOOK, PROGRAM CARDS AND HOLDER ALONG WITH A HP41C/41CV QUICK REFERENCE GUIDE. BEFORE I PUT THEM IN CLASSIFIED FOR SALE, I WONDER IF ANYONE COULD ADVISE ME ON AVAILABILITY OF THIS ITEM AND HOW MUCH I SHOULD ASK FOR. MANY THANKS IN ADVANCE.

JEANETTE

### The unmentionable auction website.

Message #2 Posted by [Mad Dog ebaycalcnut](#) on 11 Apr 2007, 10:00 p.m.,  
in response to message #1 by JEANETTE

most people would look at the unmentionable auction website for a few weeks to get a price.

### Re: The unmentionable auction website.

Message #3 Posted by [Thor Lansen](#) on 11 Apr 2007, 10:46 p.m.,  
in response to message #2 by Mad Dog ebaycalcnut

or if you are registered with **ebay**, do an advanced search selecting "complete listings" and you get an idea of the sale prices in the last, I believe, 1 month or so.

Good luck, Thor

### Re: The unmentionable auction website.

Message #4 Posted by [Maddogebaycalcnut](#) on 12 Apr 2007, 11:27 a.m.,  
in response to message #3 by Thor Lansen

I think the completed only goes back a couple of weeks. I just did a completed on TI-83 calculators as there are millions of those on ebay. The oldest one I could find had a Start Date of March 18 and an end date of March 28. I don't know how ebay chooses exactly if it is based on start or on end; I think end date.

### Re: HP PRINTER 82143A

Message #5 Posted by [Les Wright](#) on 11 Apr 2007, 9:43 p.m.,  
in response to message #1 by JEANETTE

My goodness you don't need to shout!

I have an 82143A printer with box, power pack, and manual. It conked out on me after a few months and my tinkering made it worse so I got it serviced. I paid \$50US for the printer and \$30US to have it serviced. This doesn't count the shipping back and forth. So I am into this printer for \$80US plus shipping costs. But it works

beautifully now and I am delighted with it. That said, the more bargain savvy around here will probably suggest I have spent too much. I am not very good at DIY stuff, so I need to pay a bit more for stuff that is fully functional, and when I mess it up and I have to pay to have it fixed.

On eBay an 82143A in a box and accessories should go for \$50-60US tops, and if you want to sell it in our classifieds you may need to go \$10-20 less than that. If it is in good shape and works that helps. If the battery still holds a charge that is sweet indeed, since replacement packs go from \$27 from waterhosko to \$36 at FixThatCalc.com (I have one of each). Can't use this thing without a working battery pack, even off of AC.

The HP41 QRG may be worth a few bucks to a true collector, but a perfectly good facsimile of the card can be had for free at The Other Site. I would have to know more about the program cards and holder before hazarding a guess as to potential value.

HTH. And please disengage the caps lock!!!!

Les

**OT: cap's lock**

*Message #6 Posted by [Vieira, Luiz C. \(Brazil\)](#) on 12 Apr 2007, 10:45 a.m.,  
in response to message #5 by Les Wright*

Hi, Les;

once we had another 'shouter' here. His (maybe hers?) explanation was that he/she was using kinda 'dummy terminal' with no lower-case letters. Well... at least we had an explanation.

Just my O.T. 2¢.

Luiz (Brazil)

**Re: HP PRINTER 82143A**

*Message #7 Posted by [Mad Dog ebaycalcnut](#) on 12 Apr 2007, 11:32 a.m.,  
in response to message #1 by JEANETTE*

I just noticed by your email that you are from Britain! Make sure you price out overseas shipping if you sell to an American customer!

**Re: HP PRINTER 82143A**

*Message #8 Posted by [Jeanette](#) on 12 Apr 2007, 2:30 p.m.,  
in response to message #7 by Mad Dog ebaycalcnut*

Hello Sorry everyone I didn't realise that I was shouting!!!!!! Now aware and thank you for enlightening me. Thanks for the help and advice and the lesson in computer etiquette. Will put in in classified at offers over \$30 + pp

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## HP Forum Archive 17

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### Questions on printing, printing and printing.

Message #1 Posted by [Massimo Santin](#) on 11 Apr 2007, 4:00 p.m.

Hi everybody.

A friend of mine give me two HP calculators he dont'use anymore: an HP-28S and an HP-17BII. Including my HP-49G+, now I have 3 HP calculators that are able to print (on a "grand total" of 6 HP calculators). I would like to print something but I don't want to spend too much (my wife can't understand).

Now the questions:

1. Are some printers out there compatible with the 3 calcs?
2. Do you know if is there a IR printer server that can be connected to an external printer (USB, parallel, RS232, etc.).
3. Do know if is possibile to use a PC as a printer gateway for the 3 calculators?

Do you have some suggestions?

Massimo Santin

### Re: Questions on printing, printing and printing.

Message #2 Posted by [Les Wright](#) on 11 Apr 2007, 9:26 p.m.,  
in response to message #1 by Massimo Santin

The 82240A or 82240B printers are compatible with the three calcs you have, though keep in mind the IR range of the 49G+ is annoyingly short.

I have an 82240B printer and I love it. It came with the original box and works great. Including shipping I paid about \$75US, and if you are patient you can get one for a lot less.

I am sorry I don't have an answer for either of your other questions. I suspect the answer is no to both questions 2 and 3--I think the IR technology in HP calcs and in PCs are totally different. That said, I think someone was able to get a 50G to communicate wirelessly with a PC, so I could be corrected.

Les

### Re: Questions on printing, printing and printing.

Message #3 Posted by [Massimo A. Santin](#) on 12 Apr 2007, 12:56 a.m.,  
in response to message #2 by Les Wright

HP-49g+ (and 50g) uses IrDA, 28 and 17BII no. Is HP-49g+ compatible with 82240A or 82240B (that are not IrDA)? I know that these two printers are termal printers and aren't in production any more. My concern is about thermal paper. Are you able to find it to use with your 82240B?

Best regards.

MS

**Re: Questions on printing, printing and printing.**

*Message #4 Posted by [Les Wright](#) on 12 Apr 2007, 1:28 p.m.,  
in response to message #3 by Massimo A. Santin*

I like NCR brand black thermal paper. I get a three-pack of the big rolls and split them up into six smaller rolls. Costs about eight bucks a box.

Purists argue that thicker older genuine HP paper, blue or black, is the only safe stuff to use in the HP97, 82143A, and 82162A (this is all debatable and seems to be a matter of personal preference), but I believe that the newer 82240 printers have a mechanism that is considerably less fussy and more forgiving (it is a newer machine) and it doesn't seem to slip or misfeed at all with standard thermal paper. Indeed, my 82240 printer is the only printer I have that has given me trouble free operation since I got it. Heck, I charged the NiMH cells in it in January, and the printer still goes strong from that same charge. The NiCad packs in the older printers need a lot more TLC.

Les

**Re: Questions on printing, printing and printing.**

*Message #5 Posted by [James M. Prange \(Michigan\)](#) on 12 Apr 2007, 8:05 p.m.,  
in response to message #3 by Massimo A. Santin*

Either the 82240A or 82240B is good for the 28 series. The 82240A works with the 48 and 49 series (except the 49G, which doesn't have any IR), but some non-ASCII characters will have to be remapped (where possible) from the modified ECMA 94 character set to the Roman 8 character set. I've never used a 17BII. I think that the better match is the 82240B, which has additional advantages besides having both character sets. I guess that, with patience, you can probably get an 82240B on eBay for US\$50 or less.

For much more information on these printers, try a Google search of MoHPC like [this one](#).

By the way, [Martel Instruments](#) sells some printers which should work for anything that the HP 82240B works for. I don't know the prices of the Martel models though.

Quote:

HP-49g+ (and 50g) uses IrDA, 28 and 17BII no. Is HP-49g+ compatible with 82240A or 82240B (that are not IrDA)?

Yes. The IR encoding used for printing to the 82240A/B is different from the IR encoding used for I/O. For the encoding used for these printers, see the [HP 82240B Infrared Printer Technical Interfacing Guide](#). For the "Serial IR" used by the 48 series for I/O, see the [HP48 I/O Technical Interfacing Guide](#) or the [HP48 I/O Technical Interfacing Guide PDF](#). And of course, for information on IrDA start at <http://irda.org/>.

As Les noted, the IR range from the 49 series is much lower.

Quote:

I know that these two printers are terminal printers and aren't in production any more. My concern is about thermal paper. Are you able to find it to use with your 82240B?

No problem; although these printers are out of production, many "point-of-sale" printers use compatible thermal paper. Look for thermal paper with a width of 2 1/4 inch (57mm or 58mm), and a roll O.D. of a bit less than 2 inches. As Les noted, it's easy enough to rewind part of a larger roll onto an empty core. I've used the brands "Perfect Print", "NCR", and "IBM" with no problems. I did have a minor problem with some other brand (sorry, I don't recall the name) which printed a light purple.

For part numbers of the HP paper (and other accessories or parts) for these printers, see the [HP Part Surfer](#). You may be able to find some "genuine HP" paper, but, depending on the storage conditions, it may have deteriorated to the point that it's discoloured or otherwise doesn't print well.

Les mentioned a difference in thickness from the old HP paper to the other papers, but both my HP 82175A and NCR brand paper seem to be about .0025" thick, as best I can measure it with a micrometer. Perhaps some of the older HP thermal papers were different?

For the 48 and 49 series, you can set system flag -34 to "Print via wire". When printing "via wire", the translation mode used for ASCII transfers is respected for all characters except "LineFeed" (ASCII control code 10 decimal). A "LineFeed" character is translated to whatever character string is the 4th element in the list stored as the reserved variable PRTPAR, by default a CarriageReturn LineFeed pair.

For the 48 series, if flag -33 is clear (Transfer via wire), the "via wire" printing is from the RS-232 compatible port, or if flag -33 is set (Transfer via IR), the "via wire" printing uses "Serial IR".

For the 49G, printing is only "via wire" (flag -34 set) and only from the RS-232 compatible port (flag -33 clear).

For the 48gII, if flag -33 is clear (Transfer via wire), the "via wire" printing is from the wire serial port, or if flag -33 is set (Transfer via IR), the "via wire" printing uses IrDA.

For the 49g+, if flag -33 is clear (Transfer via wire), the "via wire" printing is from the USB port, or if flag -33 is set (Transfer via IR), the "via wire" printing uses IrDA.

For the 50g, if flag -33 is clear (Transfer via wire), the "via wire" printing is from either the USB port (flag -78 clear) or from the serial port (flag -78 set), or if flag -33 is set (Transfer via IR), the "via wire" printing uses IrDA.

So, depending on the model, the 48 and 49 series can print to a serial or an IrDA printer, or for that matter, you can "print" to a terminal emulator such as HyperTerminal. In most cases, you'd probably want to use translation mode 3, but if your printer allows a "downloadable font", you could install a user-defined font to match the calculator's character set. Come to think of it, you can even "print via wire" from one calculator to another.

Note that for the "screen capture" functions of the "connectivity kits" to work, printing has to be "via wire" and using the same I/O port.

Certainly it should be possible to design hardware to receive the IR meant for the printers and convert it to, say, an RS-232 compatible signal, but I don't think that anything like that is commercially available.

Designing hardware to convert the 48 series "Serial IR" to an RS-232 compatible signal should be much easier, and it might even be commercially available.

Of course RS-232/IrDA converters are commercially available. For MS Windows 2000/XP/Vista, you'd probably have to also install the [IrCOMM2k Virtual Infrared COM Port driver](#).



Regards,  
James

**Re: Questions on printing, printing and printing.**

*Message #6 Posted by [Massimo A. Santin](#) on 13 Apr 2007, 4:50 p.m.,  
in response to message #5 by James M. Prange (Michigan)*

WOW, James!

A lot of informations. Thank you very much.

Massimo

**Re: Questions on printing, printing and printing.**

*Message #7 Posted by [Giancarlo \(Italy\)](#) on 13 Apr 2007, 6:08 p.m.,  
in response to message #5 by James M. Prange (Michigan)*

James,  
it's always an enriching pleasure to read your posts!.  
Thank you for keeping on spreading HP knowledge.  
Best regards.  
Giancarlo

**Re: Questions on printing, printing and printing.**

*Message #8 Posted by [Mike Ingle](#) on 12 Apr 2007, 5:18 a.m.,  
in response to message #1 by Massimo Santin*

The 28S, 17BII, 50G, 48GII, and 48GX will all print to an 82240A or 82240B. I have one of each and they all work. With careful alignment you can even get both printers going from one calculator.

Normal thermal roll paper works fine in these printers.

The 49 series (48GII, 49G+, 50G) can beam to a PC if you use the IRCOMM driver on the PC. The infrared is physically compatible but you have to install a driver.

The 49 series cannot beam to a 48G, G+, or GX. The 48GX series cannot beam to a PC. The only way to get data from a 48GX to a 50G is via a PC. Even using a null-modem cable between the serial cables (48GII to 48GX) does not work because neither device powers the port.

**Re: Questions on printing, printing and printing.**

*Message #9 Posted by [Massimo A. Santin](#) on 13 Apr 2007, 5:17 p.m.,  
in response to message #8 by Mike Ingle*

Thank you.

I will try to find a 82240B printer.

MS



## HP Forum Archive 17

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### J. Donnelly's book - a \*real treasure\* ?

Message #1 Posted by [Giancarlo \(Italy\)](#) on 11 Apr 2007, 11:55 a.m.

Hi Forum. I just made a search on Amazon.com for the book by James Donnelly: "An Introduction to HP48 System RPL and Assembly Language Programming" and it came up with 1 used and rated as much as 377.24 USD + 3.49 USD for shipping...!!! Yikes! I knew it could be a "good" reading, but did not expect it to be such a "precious" one :/ What are your thoughts about that? Would it be worth to get it anyway or is it definitely over-estimated ? And why should it be so highly-priced? Thanks in advance for any feedback. Best regards. Giancarlo

### Re: J. Donnelly's book - a \*real treasure\* ?

Message #2 Posted by [Valentin Albillo](#) on 11 Apr 2007, 12:04 p.m.,  
in response to message #1 by Giancarlo (Italy)

Hi, Giancarlo:

I can't comment on this particular book's contents, but as far as its price goes, it is vaaaaastly overpriced.

This is not uncommon with books sold in Amazon by third parties, at all. I've recently found several old books I was interested in, and they had outrageous prices just because they were the only one being sold, not because they were particularly good or special.

Seems to me a kind of TAS-syndrome or so, where the seller realizes he's the only one offering that particular book and fixes a ridiculously high price just in case some sucker takes the bait.

Best regards from V.

### Re: J. Donnelly's book - a \*real treasure\* ?

Message #3 Posted by [Giancarlo \(Italy\)](#) on 11 Apr 2007, 12:24 p.m.,  
in response to message #2 by Valentin Albillo

Hi Valentin.

Quote:

Seems to me a kind of TAS-syndrome or so, where the seller realizes he's the only one offering that particular book and fixes a ridiculously high price just in case some sucker takes the bait

Frankly speaking, it was my very same impression - right a TAS-style approach. That's why, in my deep ignorance, I asked myself - and some more knowledgeable people - if there was something I was sensationally missing or it was "the same old story" :-)  
Your feedback shed a sharp light - as usually :-)  
Just to fullfil the subject: in your opinion is there any alternative

to a contemptous refuse of the "blackmail"? :-|  
Think I know the answer...  
Thank you for your feedback.  
Warmest regards.  
Giancarlo

**Re: J. Donnelly's book - a \*real treasure\* ?**

*Message #4 Posted by [Namir](#) on 11 Apr 2007, 1:03 p.m.,  
in response to message #2 by Valentin Albillo*

Valentin,

I agree with you. For some reason many third party Amazon sellers offer old books at outrageously high prices. Recently I put some my old "Data Structures" books (once that I used as references) on Amazon and noticed the high prices. I put my books at \$10 to \$15 ranges and have actually sold three so far!!!

Namir

**Re: J. Donnelly's book - a \*real treasure\* ?**

*Message #5 Posted by [Dave Hicks](#) on 11 Apr 2007, 12:18 p.m.,  
in response to message #1 by Giancarlo (Italy)*

A while ago I was looking for a book on investing and personal finance. It had gone out of print but had a good reputation. It was available Used on Amazon for prices ranging from \$300 to \$9400. A few weeks later another seller got a bunch of new/remaindered copies and priced them at \$6. I decided to go for \$6 instead of \$9400. ;-)

It was a fairly good book. It was compact, concise and a "quick read" for its field. It was definitely worth \$6 and it was probably worth its original \$19.95. The guy selling at \$6 had an impact on the market: now you can buy it new for \$18.21 or used for \$264.94, but no one is asking \$9400.

**Re: J. Donnelly's book - a \*real treasure\* ?**

*Message #6 Posted by [Giancarlo \(Italy\)](#) on 11 Apr 2007, 12:27 p.m.,  
in response to message #5 by Dave Hicks*

Hi Dave.

Thank you for this piece of experience :-)

Don't you think as if a "TAS virus" is creeping in more and more market places?

Warmest regards.

Giancarlo

**TAS?**

*Message #7 Posted by [Don Shepherd](#) on 11 Apr 2007, 1:00 p.m.,  
in response to message #6 by Giancarlo (Italy)*

OK, am I the only one in the world who does not know what TAS stands for?

**Re: TAS?**

*Message #8 Posted by [Thomas Okken](#) on 11 Apr 2007, 1:53 p.m.,  
in response to message #7 by Don Shepherd*

Quote:

OK, am I the only one in the world who does not know what TAS stands for?

The Auction Site, a.k.a. eBay. Why they don't simply call it by its real name I don't know!

- Thomas

### Re: TAS?

Message #9 Posted by **Valentin Albillo** on 11 Apr 2007, 2:19 p.m.,  
in response to message #8 by Thomas Okken

Hi, Thomas:

Thomas posted:

*"Why they don't simply call it by its real name I don't know!"*

I think some people call it TAS just in case Mr. Hicks eventually decides to filter posts having the term "eBay" on them, in which case, referring to the site as TAS would help to avoid the forceful removal to another section or whatever.

In my case, it's just that I'm a life-long trekkie, and in that evil world the term "TOS" is an endearing acronym which automatically gets read as "The Original Series", and "TAS" simply reminds me of "TOS". :-)

Best regards from V.

### Re: TAS?

Message #10 Posted by **Walter B** on 11 Apr 2007, 2:56 p.m.,  
in response to message #9 by Valentin Albillo

Hi, Valentin, Thomas, Don,

IIRC TAS was invented here for pure fun shortly because of the long written history of TOS in this forum. TOS stands for "that other site" whose name must not be mentioned here for reasons buried in the past. TOS covers HP XLI (hope you can decode that).

Best regards, Walter

*Edited: 11 Apr 2007, 2:57 p.m.*

### Re: TAS?

Message #11 Posted by **Ed Look** on 12 Apr 2007, 11:43 a.m.,  
in response to message #9 by Valentin Albillo

<evil grin> You Trekkie! TAS = "The Animated Series" !!

(Who wants to bet Starfleet's tricorders are direct descendants of a HP-33C HP-41CX, HP-42 HP-48GX, HP-49G+, ..., etc.?)

LOL!

</resumes usual smiley self>

**Re: J. Donnelly's book - a \*real treasure\* ?**

Message #12 Posted by **Ed Look** on 11 Apr 2007, 4:02 p.m.,  
in response to message #1 by Giancarlo (Italy)

Ah, actually, with the HP-48G AUR, a little time, practice, and urgency due to necessity, one can actually learn RPL fairly well!

**Re: J. Donnelly's book - a \*real treasure\* ?**

Message #13 Posted by **James M. Prange (Michigan)** on 12 Apr 2007, 8:20 p.m.,  
in response to message #12 by Ed Look

Quote:

Ah, actually, with the HP-48G AUR, a little time, practice, and urgency due to necessity, one can actually learn RPL fairly well!

UserRPL, yes, but the AUR isn't much help with SysRPL or assembly language.

Regards,  
James

**Re: J. Donnelly's book - a \*real treasure\* ?**

Message #14 Posted by **Virgilio Guillen** on 12 Apr 2007, 10:56 a.m.,  
in response to message #1 by Giancarlo (Italy)

Hi,

Try <http://www.calcpro.com>, that's where i bought my copy years ago.

**Re: J. Donnelly's book - a \*real treasure\* ?**

Message #15 Posted by **Giancarlo (Italy)** on 13 Apr 2007, 2:41 a.m.,  
in response to message #14 by Virgilio Guillen

Hi Virgilio. Thank you very much for your simple and effective suggestion!

I went to calcpro.com, found the book, ordered it for less than 50 USD

(as the post by James M. Prange's below in the thread states), including shipping to Italy!! :-)))

Now it \*should\* be on its way to Europe, despite the outrageous price listed on "The Other Book Store" (TOBS) ;-))

Warmest regards and thanks to all those who responded.

Giancarlo

**Re: J. Donnelly's book - a \*real treasure\* ?**

Message #16 Posted by **Ren** on 12 Apr 2007, 12:17 p.m.,  
in response to message #1 by Giancarlo (Italy)

So I cut and pasted

"James Donnelly: "An Introduction to HP48 System RPL and Assembly Language Programming"

into Google and this link came up on the second page.

<http://members.tripod.com/~area48/faqsport.txt>

Not being fluent in whatever language it came up in, I appeal to my fellow (multi-lingual) members to help me out. Is it perhaps a text copy of the book?

Ren

dona nobis pacem

**Re: J. Donnelly's book - a \*real treasure\* ?**

*Message #17 Posted by [Giancarlo \(Italy\)](#) on 12 Apr 2007, 12:28 p.m.,  
in response to message #16 by Ren*

Hi Ren.

The page that came up is written in Portuguese and it is the FAQ PORTing of the HP48 FAQ.

It's not a text copy of the book (would have been mostly surprising).

Thank you for your feedback.

Best regards.

Giancarlo

**Re: J. Donnelly's book - a \*real treasure\* ?**

*Message #18 Posted by [Ren](#) on 12 Apr 2007, 4:05 p.m.,  
in response to message #1 by Giancarlo (Italy)*

Quote:

Hi Forum. I just made a search on Amazon.com for the book by James Donnelly: "An Introduction to HP48 System RPL and Assembly Language Programming" and it came up with 1 used and rated as much as 377.24 USD + 3.49 USD for shipping...!!! Yikes! I knew it could be a "good" reading, but did not expect it to be such a "precious" one :/ What are your thoughts about that?

Giancarlo,

Now you've gone and done it! I did multiple web searches for that book... The Amazon one seems to be the only one available for sale.

If you do buy it at that price, it will hopefully bring more copies out of hiding and onto "That Auction Site" where we'll see a regenerative buying spree by members of this forum trying to enhance their calc collections with rare calc books!

B^)

Of course I did not check for inter-library loan...

Ren

dona nobis pacem

**Re: J. Donnelly's book - a \*real treasure\* ?**

*Message #19 Posted by **James M. Prange (Michigan)** on 12 Apr 2007, 8:54 p.m.,  
in response to message #1 by Giancarlo (Italy)*

Well, it is a very good book, but note that it's an "Introduction". Also, it's written for the 48 series, so it doesn't include the new capabilities and changed entry points for the 49 series.

Note that there's quite a bit of information on these topics available at <http://www.hpcalc.org/>.

As for that price, well, maybe someone will be able and willing to pay it, but I see that it's listed for US\$29.95 at <http://www.calcpro.com/>.

In case the book doesn't include the floppy disk that's supposed to come with it, the example programs are available at <http://holyjoe.net/hp/HP48.htm>.

As far as I know, Dave doesn't have permission to include James Donnelly's books on the MoHPC CD-ROM set / DVD-ROM. If he ever gets permission, I'd be happy to scan this and a few others.

Regards,  
James

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## HP Forum Archive 17

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### **a/b != a\*(1/b) on HP41CV, 33C, 15C, 67....**

Message #1 Posted by [Les Wright](#) on 11 Apr 2007, 7:42 a.m.

I am sure this is in the area of Numeric Programming Skills 101, but I thought I would share an observation.

I am working on an HP41 program that, among other things, computes the upper-tail probability of the Student t distribution given degrees of freedom and t statistic value. (The t distribution is a specific case of the incomplete beta function, and the program has code to compute that. I like J-M Baillard's programs in the Software Library, but I thought I would write my own routine using the Modified Lentz procedure in Numerical Recipes that didn't have dependency on other routines save a reliable way to compute the Gamma function.) In certain cases, such as when degrees of freedom are relatively large and the other argument is very small, I may need to compute a quotient that turns out to be pretty close to unity. For such arguments I was getting more digit loss in the final result than I expected, and found that the situation improved greatly when I computed such quotients as divisions a/b rather than multiplications (1/b)\*a. I thought the calculator would treat these situations as identical, but I was wrong.

For example, on all of my 10-digit HPs I get the following:

47 ENTER 47.0001 / 10 \* gives 9.999978723

BUT

47.0001 1/x 47 \* 10 \* gives 9.999978726

In Mathematica, the quotient to 20 digits is 9.9999787234495245755, so the straight division is the "more correct" result here.

It turns out that this difference of 3 ULP was having a profound effect on later computations such that 2 or even three digits were lost. When I programmed the division as, well, a division, the results were much better.

I am sure this has been discussed before, but I share it in case it has not come up in a while. It is a common step saving device in RPN programs to compute quotients as (1/b)\*a to avoid excessive stack lift and register swapping. I have used it a lot myself. But I will be more careful now, especially when I am interested in preserving as much digit accuracy as possible.

Les

P.S. The analogous discrepancy on my 12 digit calcs is similar but not as extreme--9.99997872345 with normal division, 9.99997872344 with the reciprocal and multiply technique. Normal division is again the correct approximation to the actual result.

### **Re: a/b != a\*(1/b) on HP41CV, 33C, 15C, 67....**

Message #2 Posted by [Les Wright](#) on 11 Apr 2007, 8:03 a.m.,  
in response to message #1 by Les Wright

Before someone points out the "why" I think I have an idea what is going on.

The "reciprocal then multiply" approach is a two step process. The intermediate step of taking the reciprocal of 47.0001 basically rounds that result to 2.127655048e-2, since every time a result is placed on the the stack the three internal guard digits are lost. Multiply that by 470, round to 10 digits, place on stack--voila! Inherited rounding error. 9.999978726 is not the properly rounded 10 digit result of 470/47.0001, but it is the properly round result of  $470 * 2.127655048e-2$ .

The division is a single step with all of the intermediate computations carried on internally to 13 digits before the final 10 digit rounded returned to the stack. So it gets the result right.

The lesson seems to be that if maximum possible accuracy is desired in division, I should just do a division, since adding extra steps just eliminates guard digits that could prove very important in certain situations.

Les

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## HP Forum Archive 17

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### ROM Based Procedural Language (RPL)??

Message #1 Posted by [Howard Owen](#) on 11 Apr 2007, 3:53 a.m.

I was reading through [HP's 35 year anniversary page](#) when I noticed this description of the HP-28C, near the bottom:

1987 HP-28C: First full RPL calculator  
 In the late 1980s, HP developed a new programming language for its new series of extremely powerful calculators. By combing (sic) elements of RPN, Lisp and Forth, HP came up with a language called RPL (or ROM-based Procedural Language).

Is this just a marketing goof or is their precedent for this expansion of "RPL?"

Regards,  
Howard

### Re: ROM Based Procedural Language (RPL)??

Message #2 Posted by [Giancarlo \(Italy\)](#) on 11 Apr 2007, 7:00 a.m.,  
 in response to message #1 by Howard Owen

Hi Howard.

Even though I already heard about that weird definition (see for example:

[http://en.wikipedia.org/wiki/RPL\\_%28programming\\_language%29](http://en.wikipedia.org/wiki/RPL_%28programming_language%29))

I'd rather stick to what William C. Wickes (the RPL "founding father" :) says in his book "RPL: A Mathematical Control Language":

Quote:

Several existing operating systems and languages were considered, but none could meet all of the design objectives. A new system was therefore developed, which merges the threaded interpretation of Forth with the functional approach of Lisp. The resulting operating system, known unofficially as RPL (for Reverse-Polish Lisp), made its first public appearance in June of 1986 in the HP-18C Business Consultant calculator

I took the quote from RPLman, as, alas, I don't have a copy of Bill Wickes' book :(

Hope this helps.

Best regards.

Giancarlo

### Re: ROM Based Procedural Language (RPL)??

Message #3 Posted by [Jeff O.](#) on 11 Apr 2007, 7:40 a.m.,

*in response to message #1 by Howard Owen*

From "A Guide to HP Handheld Calculators and Computers" by W. A. C. Mier-Jedrzejowicz:

Quote:

RPL stands for Reverse Polish Lisp - it combined the RPN calculator language of earlier models with features of the Lisp and Forth programming languages. For a time HP explained the letters RPL as an acronym for "ROM-based Procedural Language."

So there is precedent for this within HP. Perhaps "Lisp" and "Forth" were (and maybe still are) subject to copyright or trademark restrictions, so the "official" line had to be that RPL stood for something else.

### **Re: ROM Based Procedural Language (RPL)??**

*Message #4 Posted by [John Keith](#) on 11 Apr 2007, 10:25 p.m.,  
in response to message #3 by Jeff O.*

I have never heard of copyright restrictions on the names of programming languages before, so I don't think that's the reason. I think it is merely that HP thought (probably rightly) that the phrase "Reverse Polish Lisp" would strike fear and terror into the hearts of almost anyone! (Members of this forum excluded, of course ;-)

John

### **Makeup trick??**

*Message #5 Posted by [Andrés C. Rodríguez](#) on 11 Apr 2007, 10:59 p.m.,  
in response to message #4 by John Keith*

Some non-members will spell-check it as "reverse polish lips", what might be associated with some makeup trick, i.e.: the usage of lipstick by passing it backwards (or in other unorthodox manner) to make the mouth to have a shiny appearance.

### **Re: Makeup trick?? (cont.) RPL & RPN for non-members... :-)**

*Message #6 Posted by [Andrés C. Rodríguez](#) on 14 Apr 2007, 1:16 p.m.,  
in response to message #5 by Andrés C. Rodríguez*

Oh, RPN stands for "Reversely Polished Nails", by the way...

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## HP Forum Archive 17

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### HP-35 / 35th Anniversary Edition expected soon

Message #1 Posted by [Egan Ford](#) on 10 Apr 2007, 12:04 p.m.

<http://www.computerworld.com/blogs/node/5323>

Interesting comments, reads like this forum.

### Re: HP-35 / 35th Anniversary Edition expected soon

Message #2 Posted by [Frank Boehm](#) on 10 Apr 2007, 3:48 p.m.,  
in response to message #1 by Egan Ford

Why would they want to release an anniversary edition of the 35? The functions are available on any modern calculator that costs more than 99 cents. That doesn't leave much profit for HP. I believe it when I see it ;)

### Re: HP-35 / 35th Anniversary Edition expected soon

Message #3 Posted by [Tim Wessman](#) on 10 Apr 2007, 3:54 p.m.,  
in response to message #2 by Frank Boehm

I would go out on a limb and say they are going to do one.

It will have the same shape and colors as the old unit, large enter key and so on, yet have lots more functionality. A true new calculator. :-)

TW

### Re: HP-35 / 35th Anniversary Edition expected soon

Message #4 Posted by [GE](#) on 10 Apr 2007, 4:12 p.m.,  
in response to message #3 by Tim Wessman

I hope it has the same quality level as vintage models.

Homestly, I wouldn't mind a LED display !!

I'll leave space for the price on the check. Just send ASAP.

### Re: HP-35 / 35th Anniversary Edition expected soon

Message #5 Posted by [Ron Ross](#) on 10 Apr 2007, 4:36 p.m.,  
in response to message #3 by Tim Wessman

Of course I'll buy one!

### Re: HP-35 / 35th Anniversary Edition expected soon

Message #6 Posted by [John](#) on 10 Apr 2007, 4:41 p.m.,  
in response to message #3 by Tim Wessman

So HP is the mysterious force who has been buying up all the HP35 calculators on ebay.

Perhaps they are buying all of them up to polish them and clean them so they can sell them on the HP website!

**Re: HP-35 / 35th Anniversary Edition expected soon**

*Message #7 Posted by [Dia C. Tran](#) on 11 Apr 2007, 2:51 p.m.,  
in response to message #6 by John*

for much less money than the went on ebay???

**Re: HP-35 / 35th Anniversary Edition expected soon**

*Message #8 Posted by [Walter B](#) on 10 Apr 2007, 4:52 p.m.,  
in response to message #1 by Egan Ford*

Quote:

HP, in the next few months, will also debut a new calculator related to this anniversary, the spokeswoman said.

Can't imagine, but I'm willing to hope. However, it must be something revolutionary (like the HP35 was at its time), because the original function set you get for less than 10\$ everywhere meanwhile.

**Re: HP-35 / 35th Anniversary Edition expected soon**

*Message #9 Posted by [Ren](#) on 12 Apr 2007, 12:07 p.m.,  
in response to message #8 by Walter B*

I wouldn't be surprised (if a 35th Anniversary calc is released), that HP might just rebadge a 50 and call it the Anniversary Edition.

HP could justify such an action by saying something like...

"The HP-35 was the best calculator of its time, and now the HP50G is the best calculator of our time, so it is only 'appropriate' to have the HP50G represent its fore-runner."

Okay, so I'm a pessimist! But an Anniversary Edition would sell like hotcakes...

Ren

dona nobis pacem

**Re: HP-35 / 35th Anniversary Edition expected soon**

*Message #10 Posted by [Howard Owen](#) on 12 Apr 2007, 2:35 p.m.,  
in response to message #9 by Ren*

Add a SysRPL HP-35 emulator and the cheap "special" would be complete.

I suspect that someone at HP (Sam?) might see how cheesy that would be.

I know it has been stated at least twice in this thread, but it bears repeating. There is no indication from HP that they will be releasing an HP-35 anniversary edition calculator of any description. No new

calculator is still the most likely outcome in my opinion, but it's fun to speculate on what such a machine might look like.

Regards,  
Howard

### **If True, As Close To "Bring Back The 15c" That's Been Wished For**

*Message #11 Posted by **Happy HP User** on 10 Apr 2007, 6:34 p.m.,  
in response to message #1 by Egan Ford*

And they'll probably sell quite a few. I'll buy at least two.

### **C'mon be real folks**

*Message #12 Posted by **John** on 10 Apr 2007, 6:55 p.m.,  
in response to message #11 by Happy HP User*

You have the offhand words of a spokeswoman, aka marketing droid, and you guys are going off the deep end with them.

I think TWs comments are wishful thinking or pulling our legs.

I'll eat my HP35 if HP comes out with any sort of new LED model.

### **I also note**

*Message #13 Posted by **John** on 10 Apr 2007, 7:01 p.m.,  
in response to message #12 by John*

that is was the blogger who suggested the parallel to the 12c anniversary.

Read the link carefully and you won't find that stated by the spokeswoman.

### **Re: I also note**

*Message #14 Posted by **Walter B** on 11 Apr 2007, 2:02 a.m.,  
in response to message #13 by John*

John,

This was noted already above. For sake of clarity, once again, the only real (though only quoted) statement we have is:

Quote:

\_\_\_\_\_  
HP, in the next few months, will also debut a new calculator related to this anniversary,  
the spokeswoman said.  
\_\_\_\_\_

I think this is exciting enough. Speculation is what "a new calculator related to this anniversary" will mean. I agree it won't be LED.

### **Re: I also note**

*Message #15 Posted by **Howard Owen** on 11 Apr 2007, 3:20 a.m.,*

*in response to message #14 by Walter B*

That prospect *is* exciting.

If true, I sort of feel like HP will be in a no-win position with respect to this community's reaction. I've heard two mutually contradictory expectations from folks. To a degree, I hold both positions myself. This leaves me only a little "twitchy" due to the cognitive dissonance. (The rest of my madness is due to other factors. 8)

First, to be equal to the memory of the HP-35, a new calculator would have to be as revolutionary as the 35 was in its day. I'm not sure it's easy for those of us that didn't live through the transition to grasp just how impossible this expectation is. Jumping from the slide rule, with its long history stretching back to "Napier's Bones," its built in accuracy compromises and its slow operation, to an electronic calculator complete with most functions considered standard on a basic scientific/engineering machine today must have seemed like a very sudden leap into the future. There were no direct precedents for this product. There had been pocket calculators before, and desktop scientific calculators, but never a pocket sized scientific calculator.

Second, to satisfy me, and perhaps others in this community, a new machine honoring the HP-35 would have to bring back some of the features I hold dear in the old RPN models. The large ENTER key is an obvious one, but also the RPN logic system and excellent build quality. This expectation doesn't seem like much of a stretch compared to the first one. But how the heck do you satisfy both? Do I really want the machine to be both revolutionary and traditional? (\*twitch\*)

In order to resolve the dissonance, I think I'll let go of all expectations regarding this vaporous anniversary model 35. If HP does something to remember its former glory in the history of scientific and engineering practice, I'll be happy. If they honor the things that made the old machines so wonderful, I'll be delighted. If they transcend the handheld calculator with a device I can't even imagine, I will soar into the clouds with joy and wonder.

If they do all of the above, I'll go back to being "twitchy." 8)

Regards,  
Howard

**Re: I also note**

*Message #16 Posted by [Dia C. Tran](#) on 11 Apr 2007, 2:59 p.m.,  
in response to message #15 by Howard Owen*

I doubt that they would do it. I think it would be nice to make the 35 again with some what smaller form factor and with LCD display. It should have the highest contrast LCD and very high quality of construction and keyboard. It should be even tougher and have better ergonomic than the original 35. The keyboard should have the exact same 35 keys layout and with a sliding power switch and same color scheme. It would provide also exactly the same function as the original 35. Selling price for \$150 and I would get one.

**Re: I also note**

*Message #17 Posted by [Howard Owen](#) on 11 Apr 2007, 5:40 p.m.,  
in response to message #16 by Dia C. Tran*

Quote:

---



It would provide also exactly the same function as the original 35. Selling price for \$150 and I would get one.

Me too. But that would be a machine purely for the enthusiast. An engineer or student in need of a basic scientific pocket calculator would look at that price and laugh.

The 12C Anniversary Edition was just a nicer looking model of a still successful business calculator. People in business schools and in the workplace obviously still buy those in large numbers, without regard to the historic value.

I see only two possibilities for a viable 35th anniversary HP-35. Either a low cost scientific model with styling and functions reminiscent of the original, or an entirely new calculator, perhaps called an HP-35, that does the washing and walks the dog, all with reference to the original, but not limited to the original's features. I'd prefer the latter, probably.

There I go being optimistic again. It's good for my nerves.

Regards,  
Howard

**Re: I also note**

*Message #18 Posted by [Palmer O. Hanson, Jr.](#) on 11 Apr 2007, 9:34 p.m.,  
in response to message #16 by Dia C. Tran*

Quote:

It would provide also exactly the same function as the original 35.

After all these years do we really want to go back to an  $x^y$  key rather than the  $y^x$  key which was introduced with the HP-45 and used in all the subsequent H-P calculators?

**Re: I also note**

*Message #19 Posted by [John Smitherman](#) on 11 Apr 2007, 10:47 p.m.,  
in response to message #18 by Palmer O. Hanson, Jr.*

My fear is that HP will commission Kinpo to produce a 35c Platinum with algebraic and RPN entry.

Regards,

John

**Re: I also note**

*Message #20 Posted by [Tim Wessman](#) on 11 Apr 2007, 11:22 p.m.,  
in response to message #19 by John Smitherman*

If so, I bet it will be pink and have sparkles. . . ;-)

TW

**Re: HP-35 / 35th Anniversary Edition expected soon**

*Message #21 Posted by [Dave Johnson](#) on 12 Apr 2007, 3:17 p.m.,  
in response to message #1 by Egan Ford*

What will be released:

An HP-50G with "35th Anniversary Edition" markings!

Enjoy!

**Re: HP-35 / 35th Anniversary Edition expected soon**

*Message #22 Posted by [Mike H](#) on 12 Apr 2007, 4:55 p.m.,  
in response to message #1 by Egan Ford*

May be we are getting closer...

HP calculators / RPN, An Introduction to Reverse Polish Notation 2007-03-23

"If you're a frequent calculator user, you owe it to yourself to investigate the advantages of RPN. RPN stands for Reverse Polish Notation. Reverse Polish Notation was developed in 1920 by Jan Lukasiewicz as a way to write a mathematical expression without using parentheses and brackets. Hewlett-Packard Co., realizing that Lukasiewicz's method was superior to standard algebraic(1) expressions when using calculators and computers, adapted RPN for its first hand-held scientific calculator, the HP35, in 1972."

Article can be found here: [HP website](#)

Mike H

**Re: HP-35 / 35th Anniversary Edition expected soon**

*Message #23 Posted by [Ron](#) on 13 Apr 2007, 9:42 a.m.,  
in response to message #22 by Mike H*

How did you find that article? It was interesting, but I took a step back in the web address to see when it was published, and didn't see the article listed. So I took two steps back, chose US, and went forward to [this page](#), which then has a link to the 35 anniversary article. But I still couldn't find the article you linked to.

Do you know when it was published?

**Online RPN (was HP-35 / 35th Anniversary )**

*Message #24 Posted by [Mike H](#) on 13 Apr 2007, 10:33 a.m.,  
in response to message #23 by Ron*

Hi Ron,

I found it ([link](#)) by by searching HP35. The article was dated March 23, 2007. The idea of a simple, inexpensive, non programable scientific RPN is an idea I like.

Mike

*Edited: 13 Apr 2007, 10:34 a.m.*

**Re: Online RPN (was HP-35 / 35th Anniversary )**

Message #25 Posted by [Dia C. Tran](#) on 13 Apr 2007, 4:18 p.m.,  
in response to message #24 by Mike H

The calc was more RPL like than RPN. I didn't check it out carefully yet but it has the entry line and the top level stack doesn't duplicate.

**Re: Online RPN (was HP-35 / 35th Anniversary )**

Message #26 Posted by [James M. Prange \(Michigan\)](#) on 13 Apr 2007, 7:32 p.m.,  
in response to message #25 by Dia C. Tran

Quote:

\_\_\_\_\_

The calc was more RPL like than RPN. I didn't check it out carefully yet but it has the entry line and the top level stack doesn't duplicate.

\_\_\_\_\_

Such things as replicating the top stack register downward may well be considered an essential part of the "Classic RPN" system used on some HP calculators, but aren't essential to RPN as a mathematical notation.

To me, if the basic rules of operation are first input the arguments, and then perform an operation on them, then the system is some variety of RPN.

Regards,  
James

**Re: Online RPN (was HP-35 / 35th Anniversary )**

Message #27 Posted by [Howard Owen](#) on 13 Apr 2007, 9:12 p.m.,  
in response to message #25 by Dia C. Tran

The source code is all there in Javascript. Just "view source" (and grovel down through tons of stuff) to see it. While the stack levels are labeled "level 1" through "level 4", the source calls them X, Y, Z and T.

Regards  
Howard

**Re: Online RPN (was HP-35 / 35th Anniversary )**

Message #28 Posted by [James M. Prange \(Michigan\)](#) on 13 Apr 2007, 7:12 p.m.,  
in response to message #24 by Mike H

I think that HP's article is inaccurate. My understanding is that Jan Lukasiewicz developed "Polish notation", that is, instead of using a mixture of prefix, infix, and postfix notation, with rules of precedence for determining in which order the operations are intended to be performed, uniformly using prefix notation. In Polish notation, the sequence would always be first the operator, and then the argument(s); for example, to add 1 and 2 in Polish notation, the sequence would be + 1 2.

Reverse Polish notation (RPN) of course reverses the position of the operator and arguments, making it postfix notation, that is, first the argument(s) and then the operator; for example, to add 1 and 2 in reverse Polish notation, the sequence is 1 2 +.

Regards,

James

*Edited: 13 Apr 2007, 8:17 p.m.*

## **Re: HP-35 / 35th Anniversary Edition expected soon**

*Message #29 Posted by [Palmer O. Hanson, Jr.](#) on 13 Apr 2007, 6:08 p.m.,  
in response to message #22 by [Mike H](#)*

You quoted the article as saying

Quote:

---

"If you're a frequent calculator user, you owe it to yourself to investigate the advantages of RPN. RPN stands for Reverse Polish Notation. Reverse Polish Notation was developed in 1920 by Jan Lukasiewicz as a way to write a mathematical expression without using parentheses and brackets. Hewlett-Packard Co., realizing that Lukasiewicz's method was superior to standard algebraic(1) expressions when using calculators and computers, adapted RPN for its first hand-held scientific calculator, the HP35, in 1972."

---

But, if you go to [www.woz.org/letters/general/57.html](http://www.woz.org/letters/general/57.html) and read to the end you will find the following discussion by Wozniak, the co-inventor of the Apple computer and a former employee at HP:

"... At Hewlett Packard we were so proud that our calculators, the first scientific ones ever, were years ahead of competition. They used postfix partly because the least logic or ROM chips were quite expensive back then. It would have taken extra keys and an infix to postfix translator to use infix. Also, a larger and more expensive desktop HP machine from the division in Colorado Springs used postfix, for the same reasons. The HP-35 was an attempt to miniaturize this machine. ... "

That's the wonderful thing about history. It seldom tells us what really happened. More often it tells us what the historian would like us to believe. H-P, which doggedly continues to make RPN machines, even when machines with EOS (equation operating systems as on TI and Casio machines) or RPL (as on H-P machines) are clearly better when algebraic expressions are involved, can be expected to emphasize the claimed benefits of RPN to a user. Wozniak, who left H-P to develop the Apple product line which used a higher order language which is far more similar to AOS, EOS and RPL, can be expected to dismiss RPN as a language consistent with the memory limitations of the early 1970's.

The article's example calculation in algebraic mode emphasizes a need to remember an intermediate result. That is, of course, correct for the early machines which mimicked the operation of adding machines. It is not correct for any of the later algebraic machines which implement hierarchy. That's an attempt at salesmanship, I suppose. It will fall flat with any potential user who is familiar with the algebraic machines with hierarchy..

The article also offers an checkbook balancing exercise as a demonstration of the superiority of RPN. With RPN or with an adding machine one enters the last balance, enters a value and presses plus or minus depending on whether the value was a debit or a credit, and sees the result. With algebraic one enters the last balance, looks ahead to see whether the next entry is a debit or credit and enters a plus or minus depending on whether the next entry is a debit or credit, One then enters the value, looks ahead again to select a plus or minus, and when the plus or minus is entered sees the result of the previous transaction. This means that at the end of the balancing exercise the RPN user will have used exactly one less keystroke. Of course, the "looking ahead" which the AOS user finds natural and appropriate in this case is similar in a sense to the "looking ahead to find a starting point" which the RPN user find natural and appropriate when solving complex algebraic expressions such as the famous Mach Number equation.

**Re: HP-35 / 35th Anniversary Edition expected soon**

*Message #30 Posted by **James M. Prange (Michigan)** on 13 Apr 2007, 8:03 p.m.,  
in response to message #29 by Palmer O. Hanson, Jr.*

True, different versions of history are often available, depending on who's writing it and what they want the readers to believe at the time.

I expect that the real reason for using RPN in early models was at least as much to simplify and minimize the hardware requirements as for any virtues of RPN as a mathematical notation. RPN is great for "number-crunching", but to me, it would seem difficult to use for algebraic manipulations.

Yes, the advantage of saving keystrokes is often overstated.

For me, the advantage of RPN is mostly that it seems more intuitive to me and is much more consistent; first the argument(s), and then the operator.

A basic feature of RPN is that the result of any operation is left on the stack, available as an argument to a subsequent operation (assuming that it isn't "pushed out" of a "top register"). To me, this seems to make it ideal for "working through" a real-world problem where the data is available and one has to decide what to do with it, although a bit of a pain when one has an algebraic formula and the data to "plug in" to it.

Regards,  
James

*Edited: 13 Apr 2007, 8:07 p.m.*

**Re: HP-35 / 35th Anniversary Edition expected soon**

*Message #31 Posted by **Palmer O. Hanson, Jr.** on 14 Apr 2007, 8:10 p.m.,  
in response to message #30 by James M. Prange (Michigan)*

You wrote:

[quote] RPN is great for "number-crunching", but to me, it would seem difficult to use for algebraic manipulations. [/quote]

You may be correct on the "number crunching" idea, particularly if one does it step by step without the help of a program. The requirement for that sort of number-crunching was an inherent part of aerodynamics in the late 1940's when I was an undergraduate in aeronautical engineering, and was a part of my decision to do other kinds of engineering. By the time I encountered a need to do a lot of number crunching in the 1960's I had easy access to a computer network with an extended BASIC capability. I soon learned to reduce the number crunching to a program which made it palatable.

You were, of course, correct in Message #28 with your comment on the discussion of the origins of RPN.

In summary, I suggest that the H-P of the olden days wouldn't have let an article like that get into print. But, the emulator is kind of clever. The four line display speaks to one area of RPN that always has given me trouble, namely, how to keep track of what is in the stack without writing it down or doing endless roll-up's.

Palmer

**Re: HP-35 / 35th Anniversary Edition expected soon**

*Message #32 Posted by **Bernie** on 15 Apr 2007, 1:54 p.m.,  
in response to message #31 by Palmer O. Hanson, Jr..*

RPN in HP style really shines if keystroke errors are to be corrected. Combined with LAST X most of all possible errors can be quickly and efficiently undone. A great feature not found in AOL or similar systems. And, RPN forces people to think. Use of a HP calc by kids certainly does not spoil their understanding that multiply / divide goes before add / subtract. Unfortunately, the TI-30 dominated schools all around the globe and maybe all those kids now are dumber if they had had a HP instead.

**Re: HP-35 / 35th Anniversary Edition expected soon**

*Message #33 Posted by **John Smitherman** on 15 Apr 2007, 11:19 p.m.,  
in response to message #32 by Bernie*

My guess is that if HP does anything at all to celebrate it will update the 33s with a few software corrections and give it a facelift changing the key shape and layout, label colors and body color. Will they rename it? Maybe they will call it the 35s. This is similar to how they reimaged the 49G+ into the 50G.

Regards,

John

**Re: HP-35 / 35th Anniversary Edition expected soon**

*Message #34 Posted by **Steve Borowsky** on 16 Apr 2007, 4:58 a.m.,  
in response to message #33 by John Smitherman*

Well, if they make the 33S look like a 35 it would be a huge improvement. I don't think they're smart enough to do that though. The 33S was they're best shot at a decent, simple RPN calc and they ruined it with that sick perverted design. I can't even look at it let alone buy it.

**Colors for an HP-35 / 35th Anniversary Edition**

*Message #35 Posted by **Palmer O. Hanson, Jr.** on 16 Apr 2007, 10:52 p.m.,  
in response to message #34 by Steve Borowsky*

Will H-P will do something which picks up on the 35th anniversary of the introduction of the HP-35? Of course they will! From a marketing perspective it is just too good an opportunity After all, with an HP-35 designation and a 35th anniversary logo somewhere on the body HP-RPN afficianados will buy at least one whether or not they like how the machine looks and operates.

What key colors will be used? The original HP-35 used blue keys. Machines such as the HP-67 and the Voyagers used yellow and blue keys. However, the 35th anniversary gift is defined as coral for traditioinal practice and jade (i.e., green) for contemporary practice. The HP-33s already has a green key for selecting green options and a red key for selecting red options. Water down the red a little and you approach coral, and there you are.

**Re: HP-35 / 35th Anniversary Edition expected soon**

Message #36 Posted by **Palmer O. Hanson, Jr.** on 16 Apr 2007, 11:21 p.m.,  
in response to message #32 by Bernie

Bernie wrote:

Quote:

---

... Unfortunately, the TI-30 dominated schools all around the globe and maybe all those kids now are dumber if they had had a HP instead.

---

The advocates of algebraic have always held that is the essence of dumb and dumber to insist on using a LOL (Lower Order Language) machine to evaluate equations if a HOL (Higher Order Language) machine is available. But, there have always been strong differences of opinion about the relative merits of RPN and Algebraic. In the olden days the HP/RPN community wrote about the TI/AOS community as being "the dark side". The TI/AOS community noted that the acronym RPN actually stood for **Really Pathetic Notation**. When I shared that with Richard Nelson last summer when we were discussing the differences between machines and users he responded that the correct definition was **Really Powerful Notation**. We agreed to disagree.

I suggest that the HP/RPN and TI/AOS communities are not only different but, more importantly, are each insular and provincial in their own ways. That isn't just my idea. When Wozniak wrote of finding that the famous (or maybe infamous) Mach number equation was easily solved with one of TI's early scientific machines he reported that "... My colleagues couldn't believe it. I told them that you just copy the formula from left to right but not one of them could see through their postfix fog. ... None of them could do what I had done, forget that they have to be smart." It isn't just the HP/RPN community. The TI/AOS community is just as provincial with [see my comment above] the emphasis on why would anyone want to evaluate an equation other than by simply entering it as one sees it on paper if only one could.

**Re: HP-35 / 35th Anniversary Edition expected soon**

Message #37 Posted by **Katie Wasserman** on 17 Apr 2007, 12:03 a.m.,  
in response to message #36 by Palmer O. Hanson, Jr.

Five grueling years of graduate school in computer science taught me just one thing: "pick the language to most easily solve the problem in". The RPN vs AOS choice is just a special case of this edict.

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## HP Forum Archive 17

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### Repeating t register usage

Message #1 Posted by [Sam Levy](#) on 10 Apr 2007, 9:00 a.m.

HEWLETT PACKARD CALCULATIONS I used HP RPN pocket calculators for electronic solutions, and I wanted to find a fast way to solve common problems using as few keystrokes as possible, and getting maximum information during the process. This method uses the repeating t register. Formulas now in use were derived for pen and pencil mathematics, totally outmoded by the calculator. This is the keystroke procedure for quick solutions. With programmable calculators I added a small program to enter 3 times to fill the stack or clear it using zero entry. Resistive Dividers; when calculating from known resistors, enter the lower resistor repeatedly. Key in the top resistor, and add, the result is the total resistance, then divide, the result is the fractional output voltage of the divider. Then multiply and subtract to see the output resistance from the divider tap.

To design such a network, key in the output resistance desired, and enter repeatedly. Key in the division fraction, and divide to see the upper resistance. Divide again to restore the fraction, key 1, subtract, change sign, divide, and see the lower resistor. The relation between the upper resistor and the output resistance is the fraction of the divider. 1 minus the fraction is the relation between the output resistance and the lower resistance. Given the fraction and either resistor, the other value may be found.

I have used this method to find the added end resistors for setting particular potentiometer control ranges. The difference between the two potentiometer fractions desired at the potentiometer ends, relates the potentiometer resistance to the total resistance. Thus a particular value of potentiometer may be used to obtain the desired range of fractions. EXAMPLE: It was desired to use a 1K potentiometer to adjust a power supply to vary between 24 and 16 volts. The IC regulated at 4.75 volts from the potentiometer. It is desired to calculate the end resistors needed to set the correct range.  $4.75/24 = 0.2$  store 1.  $4.75/16 = 0.3$  store 2. Recall 1, subtract, see 0.1, key 1000 swap X&Y, divide, see 10105, the total resistance. Enter several times. Recall 1, multiply, see 2000, the resistance when the pot is at the lower extreme, add 2000 ohms to the lower end of the pot. Cl X, recall 2, multiply, see 3000, this is the sum of the pot resistance and the pot lower end resistor. The upper end resistor must be 10205 minus 3000 = 7105. Some compromise values may be used.

Transistor bias; I was solving for a transistor bias divider, and wondered how to account for the base current drop in the divider. I thought to divide the divider output resistance by Beta and add it to the actual emitter resistor. To do this procedure, solve the bias divider resistors, storing the divider fraction. With R0 in the register key Beta, divide, and see the emitter resistor equivalent to be added. Key the actual emitter resistor and add, see the total emitter resistor, accounting for the bias source drop. Key the source voltage; recall the fraction, multiply and see the divider voltage. Key 0.7, subtract, see the emitter voltage. Interchange X&Y and divide, to see the emitter current: check by multiplying by the collector resistor, to see the collector resistor drop.

Summing network; The resistive divider can be extended to a more general case. I needed to design a telemetry output that combined several signals, to a common output, having a 10 K output resistance. The signal of interest was a +/- 12 volt VCO control voltage. The telemetry output was to be 0-5 volts, using the range 0.5 to 4.5 volts normally. The centering voltage was 2.5 volts from a regulated 12 volts supply. A third resistor to ground gave the desired output resistance. I found a general solution. Each resistor is determined by the fraction of its input voltage contributed to the output sum, thus the telemetry signal was to output 1/6th of its signal. The resistor was then 10K times 6 or 60K. The centering voltage was 2.5 volts derived from +12, a ratio of 4.8 times, 48K. The third resistor was found by subtracting the other two fractions from 1:  $1 - 1/6 - 1/4.8$ , a fraction of 0.625 and dividing the output resistance to get a resistance of 16K. Some compromise values were used, which proved satisfactory.



RC frequency corners; the process may be simplified as  $2\pi fRC=1$ . The known values are multiplied, and the product inverted to give the missing element. For constant frequency solutions enter  $2\pi f$  repeatedly.

Tuned circuits; here intermediate results in the solution give other useful information. Key in L, then C, and store C in a register, divide and take the square root; this is the impedance of the resonant elements. Recall the capacitance value and multiply, then multiply by  $2\pi$  and invert to see the frequency in Hertz. This is the frequency corner formula using R0 as the R value. Q if known may be used to compute the resonant impedance, or the Q may be found by dividing the parallel circuit damping resistance by the impedance, or the impedance by the series circuit resistance. The square root of L/C is also the output resistance of a simple LC filter, such as a power supply, and can be used to estimate transient voltages from current changes.

Resonant values; When using a constant frequency, resonant values may be calculated quickly. Key in  $2\pi f$  and enter it repeatedly. Then key in either L or C, multiply twice, and invert to see the other resonant circuit element. When  $2\pi fL$  is shown, it is the reactance of the circuit values. This procedure gives quick trials of various circuit values, give impedance values for filter and by-pass elements, and value choices for a given Q.

Ohms law; this may seem simple, but can be used as a rapid verification of dissipation and the voltage and current relation. Remember the little circles of voltage E divided by the IR product. Key in the voltage repeatedly, and divide by either I or R to see the other value, as in  $E=IR$ . The power in a resistor can be found by keying in the resistor and dividing to get I, then multiplying to get EI. It can be used to solve  $W=EI$ , by keying in power repeatedly, and dividing to get either E or I. These methods allow such rapid solutions; they will increase your ability to investigate possibilities in your designs. Practice will allow fast and sure answers to a wide range of problems. Familiarity will allow you to extend these methods to your particular problems. I trained one tech to calculate time payments faster than they could be found in a book. E. Samuel Levy, 754 Temple St. San Diego 92106, 619-223-6292 designnut@cox.net

REPLACE THIS TEXT WITH YOUR LISTING

### Sam, what's this about?

*Message #2 Posted by [Dave Hicks](#) on 10 Apr 2007, 12:23 p.m.,  
in response to message #1 by Sam Levy*

I've received complaints about this post, and about the identical post that you made a few weeks ago, and the same post was made a couple of months ago, and I now that I've looked, I can see the same post made as far back as 2002.

If you're looking for a response, I think you need to be more direct. I can't figure out what you want from these posts.

### Re: Sam, what's this about?

*Message #3 Posted by [Sam Levy](#) on 10 Apr 2007, 2:51 p.m.,  
in response to message #2 by Dave Hicks*

Dave, I didn't know how to use the preformatted control and it all ran together. There is one unusual solution for the resistive divider output impedance that is unknown. I do solicit comments, like everybody knows that. I have seen people program these simple solutions that nat be made directly. When you have an HP-35 you need to use everything.

### I found these useful... (was: Sam, what's this about?)

*Message #4 Posted by [Vieira, Luiz C. \(Brazil\)](#) on 11 Apr 2007, 9:03 a.m.,  
in response to message #2 by Dave Hicks*

Hi, Dave, guys;

I was affraid people would complaint about Sam's post, mostly because no one answered it. I have original Sam's 2002 post saved and printed. I followed his examples and saw that they use few keystrokes to solve problems related to electricity and electronics.

Matter of fact, they relate to specific subject and may not be of interest of the whole community. Also, the keystroke sequences should be followed by stack diagrams so we can 'see' what's happening (I did so...). I myself liked reading and testing them, but this is mainly because I am an electrical engineer, and had already performed much of Sam's suggested calculations.

I decided to write after reading what you wrote, Dave, because I could not figure out the reason for complaints, sorry to say. Sometimes we see posts with no specific subject that have a lot of followups, others generate kinda dog fights, and some people complaint about them, too. In Sam's case, I saw contribution. If we can go any further, Sam's post could be reworked to generate a good article, perhaps.

Just my view.

Luiz (Brazil)

**Re: I found these useful... (was: Sam, what's this about?)**

*Message #5 Posted by **Bill (Smithville, NJ)** on 11 Apr 2007, 9:24 a.m.,  
in response to message #4 by Vieira, Luiz C. (Brazil)*

Hi Luiz,

Quote:

\_\_\_\_\_

Matter of fact, they relate to specific subject and may not be of interest of the whole community.

\_\_\_\_\_

Very true. But interesting reading anyway.

Quote:

\_\_\_\_\_

because I could not figure out the reason for complaints

\_\_\_\_\_

I think the confusion may have arisen from the last few sentences in Sams message:

Quote:

\_\_\_\_\_

These methods allow such rapid solutions; they will increase your ability to investigate possibilities in your designs. Practice will allow fast and sure answers to a wide range of problems. Familiarity will allow you to extend these methods to your particular problems. I trained one tech to calculate time payments faster than they could be found in a book. E. Samuel .....

REPLACE THIS TEXT WITH YOUR LISTING

\_\_\_\_\_

When I read these sentences, I started wondering if Sam was advertising his services - especially since he gave his address and phone number. Up till then, I read his message as presenting some methods he'd found to do some Electrical calculations.

By the way, Sam, you probably do not want to ever include your address or phone number in a public forum. The WEB crawlers have a field day harvesting that information. In fact, most of us never put our e-mail address in the forum either. Dave has created a nice way of hiding the e-mail address from public view, but still allowing us to still e-mail one another without actual knowing the other's e-mail address.

Bill

**Re: I found these useful...**

*Message #6 Posted by [Sam Levy](#) on 12 Apr 2007, 7:34 a.m.,  
in response to message #5 by Bill (Smithville, NJ)*

I posted for the reason that I did not want what I had discovered in the way of shortcut calculations to be lost. I got no reaction so I felt I had not achieved my goal. I am on my 8th HP model.

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## HP Forum Archive 17

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**HP-65 in Space**

Message #1 Posted by [Karl-Ludwig Butte](#) on 10 Apr 2007, 4:24 a.m.

Hi all,

as is commonly known, NASA used the HP-65 during its Apollo space missions(see here at the museum for reference <http://www.hpmuseum.org/hp65.htm>. I wonder if the HP-65 programs were ever published and commented. Does anyone have some information or Internet links ? Thank you very much in advance.

Kind regards

Karl

**Re: HP-65 in Space**

Message #2 Posted by [Bill \(Smithville, NJ\)](#) on 10 Apr 2007, 10:08 a.m.,  
in response to message #1 by [Karl-Ludwig Butte](#)

Hi Karl,

Quote:

\_\_\_\_\_

I wonder if the HP-65 programs were ever published and commented.

\_\_\_\_\_

I had also wondered about this. A few years ago, I contacted several people connected with the current space program, plus a friend of mine that works on the Satelites Programs who then contacted several friends of his in Houston.

No one could find any record of the original HP-67 Cards or the program listings.

I had also tried to find references to the HP-41 that had been used on early Shuttle flights. No such luck. There is a HP-41 on display at the Air & Space Museum. Assumming it is one of the actual units used and it has the module still in it, then someone with contacts there might be able to see if a copy of the code could be made for historical purposes..

The following is a link to my earlier messages on the HP-41 in space:

[HP-41 in Space](#)

Did anyone ever try purchasing the HP-41 SPOC Manual from WSN? The WEB site is way out of date - last update 1998. So not sure if WSN is even still around.

NASA is supposed to have an Archive/Library somewhere - not sure if in Houston or elsewhere. That might be a good place to start.

Bill

*Edited: 10 Apr 2007, 10:10 a.m.*

## **Re: HP-65 in Space**

*Message #3 Posted by [John Limpert](#) on 10 Apr 2007, 3:10 p.m.,  
in response to message #2 by Bill (Smithville, NJ)*

I wouldn't be too hopeful about finding those programs. JSC had major problems finding the "old" software needed to support the reactivation and final days of Skylab. My experience is that most stuff ends up in a dumpster when a program is terminated. Nobody is willing to spend the money to archive old software and documentation. Your best bet may be some retired programmer's garage.

## **Re: HP-65 in Space**

*Message #4 Posted by [Karl-Ludwig Butte](#) on 11 Apr 2007, 3:13 a.m.,  
in response to message #3 by John Limpert*

Thanks both of you for your responding. Hope you won't mind helping me with the meaning of the following abbreviations you used: What is a SPOC-Manual, WSN and JSC ? Thank you very much in advance.

Kind regards

Karl

## **Re: HP-65 in Space**

*Message #5 Posted by [John Limpert](#) on 11 Apr 2007, 3:26 a.m.,  
in response to message #4 by Karl-Ludwig Butte*

Sorry. JSC is the Johnson Space Center in Houston, Texas. The lead center for manned space flight at NASA.

## **Re: HP-65 in Space**

*Message #6 Posted by [Bill \(Smithville, NJ\)](#) on 11 Apr 2007, 7:59 a.m.,  
in response to message #4 by Karl-Ludwig Butte*

Hi Karl,

Quote:

\_\_\_\_\_

What is a SPOC-Manual, WSN

\_\_\_\_\_

SPOC stands for "SHUTTLE PORTABLE ONBOARD COMPUTER ".

And WSN stands for "World Spaceflight News".

More info at the link I posted to the earlier message thread:

[HP-41 In Space](#)

According to WSN, there was an actual 44 Page Manual describing the HP-41 SPOC. Title of manual is

"HP-41 / SHUTTLE PORTABLE ONBOARD COMPUTER (SPOC) Setup of hardware and operation; software descriptions; troubleshooting. 44 pgs. \$18.00"

That would be a very interesting manual to read.

Unfortunately, the WSN WEB site offering this for purchase, is way out of date. So I'm not sure if they are still in business or not. I do remember someone telling me that he had seen them offering CDROM's of groups of mnauals, at a fairly high price. Not sure if these are still available either. I tried e-mailing WSN some time ago and didn't get any response back.

But if they had a HP-41 SPOC manual, then maybe the NASA archives would also have a copy.

Bill

## Re: HP-65 in Space

Message #7 Posted by **Bill (Smithville, NJ)** on 12 Apr 2007, 10:27 a.m.,  
in response to message #1 by Karl-Ludwig Butte

Followup on World Spaceflight News.

I sent them an e-mail again enquiring about the SPOC HP-41 manuals. No response back as of yet.

On Amazon, WSN is listed as the publisher of many CDROM's and DVD's of related NASA, Shuttle, and other spaceflights.

I've just ordered the following DVD:

Quote:

\_\_\_\_\_  
America's Space Shuttle: Complete Set of NASA Astronaut Training Manuals and Major NASA STS Documents (DVD-ROM) (DVD-ROM) by World Spaceflight News (Author)  
\_\_\_\_\_

They state they had 4 in stock, so I should be receiving it in a couple of weeks. (Took the free shipping option to save a few dollars).

I'm hoping that out of the 50,000 pages on the DVD will be the 44 pages for the HP-41 manual.

I'll let you know what I find out.

Bill

## Re: HP-65 in Space

Message #8 Posted by **Daniel W.** on 12 Apr 2007, 11:24 a.m.,  
in response to message #7 by Bill (Smithville, NJ)

I spent 11 years at the Johnson Space Center - I'm an ex-rocket scientist. I can tell you that NASA doesn't throw anything away. The SPOC documents are somewhere, probably on microfiche in the main Library.

So if anyone reading this works at JSC, go have a look in the library and let us know what you find.

Back in '93 I was asked to develop a lunar landing guidance algorithm for an unmanned vehicle called Artemis. I discovered that there was no one at NASA who knew how to do this. Everyone who had worked on Apollo had long since retired. NASA had lost the expertise that made them great. But there was the

library and I was able to reverse engineer the original work and improve upon it. For a while I was probably the only person at NASA who knew how to do it.

-- Dan

**Re: HP-65 in Space**

*Message #9 Posted by **GE** on 12 Apr 2007, 11:44 a.m.,  
in response to message #8 by Daniel W.*

Real engineer work !! Congratulations

**Re: HP-65 in Space**

*Message #10 Posted by **John Limpert** on 12 Apr 2007, 1:01 p.m.,  
in response to message #8 by Daniel W.*

I've seen lots of stuff get thrown away. I guess it depends on where you worked.

Many years ago, I was interested in looking at some of the ground systems software used to support Apollo. It was all gone. After ASTP, someone had decided that it was obsolete and threw all of it away.

**Re: HP-65 in Space**

*Message #11 Posted by **Karl-Ludwig Butte** on 13 Apr 2007, 4:17 a.m.,  
in response to message #7 by Bill (Smithville, NJ)*

Thanks a lot to all of you who have responded and helped me understanding new unknown abbreviations. Thanks especially to your offer, Bill, to keep me informed about the DVD-Set you ordered - I appreciate that very much.

Kind regards

Karl

**Re: HP-65 in Space (Apollo)**

*Message #12 Posted by **Andrés C. Rodríguez** on 13 Apr 2007, 9:04 p.m.,  
in response to message #1 by Karl-Ludwig Butte*

The last Apollo mission to the Moon was Apollo 17. It was launched in December 1972, just a few months after the HP35 introduction, and almost a year before the HP45 was announced. So it is safe to assume no HP calculator (and certainly no HP65) flew in the Moon missions. That leaves us with the Skylab missions as a possibility, but, at least from the materials I once read, the first HP calculator in space was an HP65 in the Apollo-Soyuz mission.

Take into account that NASA certification process takes many tests (and time) before declaring an article "spaceworthy". While the HP41C certainly flew in the Space Shuttles, it was mentioned at the time that NASA mandated some changes in parts of it (may be plastics and batteries, not sure about these) before allowing the HP41C to liftoff in the Shuttles...

**Re: HP-65 in Space (Apollo)**

*Message #13 Posted by **Bill (Smithville, NJ)** on 13 Apr 2007, 10:10 p.m.,  
in response to message #12 by Andrés C. Rodríguez*

Hi Andrés,

The following link from the Smithsonian gives some detail on the HP-41C's that flew on the shuttles.

[HP-41c on Shuttle](#)

Quote from article:

Quote:

Only minor modifications were made: adding Velcro strips to the case, and removing a few parts that might "outgas," or give off gases that might contaminate the cabin's air.

From the article, NASA used custom modules for the programs and also had an early pre-release time module.

Does anyone know if the HP-41C at the Air & Space museum still has the modules installed? If so, I wonder if Dave Hicks contacted the Museum, if they would work with him to document the programs - a Rom dump would be great so that we could play with it on the emulators.

Does anyone on the list have contacts at the Air and Space Museum??

Hopefully, that DVD I ordered will have the manual for it and we can finally get some answers.

Bill

*Edited: 13 Apr 2007, 10:16 p.m.*

### **Re: HP-65 in Space (Apollo)**

*Message #14 Posted by [Dave Shaffer](#) on 14 Apr 2007, 11:24 a.m.,  
in response to message #13 by Bill (Smithville, NJ)*

On the Air and Space museum website, there is an option to ask about archive material. Maybe a query there would be useful.

On the other hand,

"Does anyone on the list have contacts at the Air and Space Museum??"

I suspect I am only one person away from somebody who knows the boss (I'm trying to find out who it is, I might even know him/her).

### **Re: HP-65 in Space (Apollo)**

*Message #15 Posted by [S. Martin](#) on 16 Apr 2007, 10:30 a.m.,  
in response to message #13 by Bill (Smithville, NJ)*

Hi Bill,

I have visited the Air and Space Museum on several occasions (I live in the DC area). I have taken pictures of the 41CV they have on display, see the pictures in this thread:

<http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv010.cgi?read=26263>

The 41CV on display definitely DOES NOT have any modules installed, that was the first thing I



looked for when seeing the display.

Steve

---

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### **Beaming Windows XP <-> 50G works**

Message #1 Posted by [Mike Ingle](#) on 10 Apr 2007, 4:21 a.m.

How to use IR between a Windows XP machine and a 49/50 series machine:

Download the stable version of this driver: <http://www.ircomm2k.de/English/index.html>

The driver creates a virtual COM port attached to the IR port on your PC. Start hyperterminal and choose the virtual COM port, 115200, 8, N, 1, hardware flow control. Set the calculator to IRDA, Kermit.

With this setup I had no problem beaming to and from a 50G and a 48GII using a Dell D600. Worked on the first try.

Mike

### **Beaming Windows (XP) Vista <-> 50G works**

Message #2 Posted by [Massimo Santin](#) on 11 Apr 2007, 4:03 p.m.,  
in response to message #1 by [Mike Ingle](#)

It runs with Vista, too. I tried with my 49G+.

---

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## HP Forum Archive 17

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**hp 33c don't turn off**

Message #1 Posted by [bernd scheurer](#) on 9 Apr 2007, 7:22 p.m.

hi, i got a hp-33c in a very good condition (looks like new) via ebay. only one of the screw threads (in the battery compartment) was broken. so i fixed this little problem with glue. now i can use both screws. but since this, the 33c don't turn off. the on/off-button has no function. as soon as the battrypack is inside the 33c, the calculator is on. for turning off, i have to remove the batterypack. selftest is positive an all parts (incl. on/off-slider und contacts) are in the right place! does someone know this problem?

thanks for help or tipps. kind regards bernd scheurer

*Edited: 9 Apr 2007, 7:25 p.m.*

**Re: hp 33c don't turn off**

Message #2 Posted by [Christoph Widmer](#) on 10 Apr 2007, 3:57 a.m.,  
in response to message #1 by [bernd scheurer](#)

Hi Bernd, I had once the same problem on a HP 97. There the issue was that, with long time use, the slider had scraped some metal off the contacts of the printed circuit and deposited in the gap between the contacts for the slider - effectively making contact all the time. I had to open the calculator and remove the metal deposit between the contacts. Of course, I cannot be completely sure your calculator has the same problem, but this is my best guess. If you attempt a repair, first consult the detailed descriptions on this website for taking apart the calculator and then don't forget to put back some appropriate grease on the switch contacts, otherwise your PCB-contacts will be scraped off rather quickly.

Good luck and best regards.

**Re: hp 33c don't turn off**

Message #3 Posted by [bernd scheurer](#) on 13 Apr 2007, 6:26 a.m.,  
in response to message #2 by [Christoph Widmer](#)

hi christoph, thanks for your feedback and your ideas. i opened the 33c and found absolut clean contacts. after rebulid, the calculator doesnt work again. i think, it takes a lot more of time to fix this bug. thanks und best regards bernd

---

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## HP Forum Archive 17

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### 50G vs 49G+?

Message #1 Posted by [Dia C. Tran](#) on 9 Apr 2007, 3:24 p.m.

I am thinking of getting a 50G and I am wondering if in any aspect the 49G+ could be better than the 50G? Also where is the best place to get a 50G?

### Re: 50G vs 49G+?

Message #2 Posted by [John](#) on 9 Apr 2007, 3:43 p.m.,  
in response to message #1 by [Dia C. Tran](#)

The keyboard of the 50g is much better than the early / mid 49g+ machines.

The color scheme is much better.

Otherwise, it is a 49g+.

### Re: 50G vs 49G+?

Message #3 Posted by [Ron Ross](#) on 9 Apr 2007, 3:58 p.m.,  
in response to message #1 by [Dia C. Tran](#)

To add a couple of other comments:

The 50G also has an RS233 compatible serial port (well to most, not so fussy RS232 devices). No cable is readily available though.

You use 4 batteries vs 3 for the older Hp 49G+. This should result in longer life between battery changes.

Keyboard is significantly better than all but the latest last year production of Hp49G+s.

USB is now powered from PC which can theoretically extend battery life. However, the typical user doesn't keep his Hp tethered to a PC.

### Re: 50G vs 49G+?

Message #4 Posted by [James M. Prange \(Michigan\)](#) on 9 Apr 2007, 5:10 p.m.,  
in response to message #3 by [Ron Ross](#)

Quote:

Keyboard is significantly better than all but the latest last year production of Hp49G+s.

Indeed, I rather suspect that the main reason for the model change was to distinguish the newer units from the 49g+, which has a very bad reputation for keyboard problems.

Quote:

---

The 50G also has an RS233 compatible serial port (well to most, not so fussy RS232 devices). No cable is readily available though.

---

No, the serial port of a 50g is **not** RS-232 compatible. To use it with an RS-232 device, you'd need at least a level-shifter, and possibly an inverter. The signal at the port is about 0V and +3.3V, but I don't know whether +3.3V represents a logical 1 or a logical 0.

So far as the cable goes, the serial port uses a non-standard ("captive") "4-pin USB mini-B" connection. No doubt one could build his own level-shifter. [Samson Cables](#) is supposed to be planning to market a suitable cable/adaptor real soon now.

The serial port also provides a connection to the battery terminals. This is supposedly for an option to provide power to whatever the user chooses to connect to the port, but, with a non-rechargeable battery disconnected, could be used to power the 50g, or with a rechargeable battery installed, could be used to recharge the battery as well.

Quote:

---

You use 4 batteries vs 3 for the older Hp 49G+. This should result in longer life between battery changes.

---

Well, it will extend the battery life if the 50g draws less current from the battery, but I don't know whether anyone has actually measured this.

Quote:

---

USB is now powered from PC which can theoretically extend battery life. However, the typical user doesn't keep his Hp tethered to a PC.

---

Perhaps more important is that via USB transfers and flash ROM upgrades won't be aborted due to a low battery condition.

The 50g can also be powered through the USB port with a 5V adapter, such as the ones available for various music/video players. The 50g requests 50mA from the USB, so any adapter that can supply at least 50mA at 5V should be okay. I don't know how much current the 50g actually draws; I expect somewhat less. I expect that the highest current requirement would be when writing to flash memory.

Note that the 49g+ and 50g seem to work well with NiMH cells, except that you won't have as much time between a low battery warning and the battery going too low to work at all. I suggest keeping a spare set of AAA cells easily available if you use rechargeable cells, but using them should save on battery costs.

For that matter, the 48 series and the 49G also seem to work okay with NiMH cells, but the battery life is usually much longer with those models, so I think that alkaline cells are usually more appropriate for them.

The 50g uses the same (flash memory) "ROM" as the 49g+, so except for using system flag -78 to select whether the "via wire" I/O uses USB or the serial port, programming should be the same.

Regards,  
James

---

**Re: 50G vs 49G+?**

Message #5 Posted by [Les Wright](#) on 11 Apr 2007, 9:56 p.m.,

*in response to message #3 by Ron Ross*

Gosh, I hope the battery life of the 50G is better!

I put a fresh set in my 49G+ just a couple of months ago. Being more at home in old-style RPN, I use the calc very infrequently. I use a "BAT" app to track battery life. Last I remember, I had 80% of battery life left. Now a few short weeks later, I am getting a lowbat warning. And this is just from mostly sitting around, turned off.

Sheesh! Can't imagine how many batteries I would eat if I used it as my main calc....

Les

### **Re: 50G vs 49G+?**

*Message #6 Posted by **Jeff O.** on 9 Apr 2007, 4:35 p.m.,  
in response to message #1 by Dia C. Tran*

Quote:

Also where is the best place to get a 50G?

Some common sources are:

[Amazon.com](#)

[Wallyworld](#) (The secret price is \$129.98 plus about \$4 shipping.)

[Samson Cables](#)

[Eric's site](#)

### **Re: 50G vs 49G+?**

*Message #7 Posted by **Dia C. Tran** on 9 Apr 2007, 4:47 p.m.,  
in response to message #6 by Jeff O.*

Thank you all! I hope by not getting either the 48GII nor the 49G+ and simply getting the 50G I won't be missing anything.

### **Re: 50G vs 49G+?**

*Message #8 Posted by **John K** on 16 Apr 2007, 2:18 a.m.,  
in response to message #6 by Jeff O.*

The best price I've been able to find on the 50g is at [Buy.com](#). Free shipping if you don't mind waiting a couple of weeks.

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## HP Forum Archive 17

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### **restoring backup into emulator**

Message #1 Posted by [benny](#) on 9 Apr 2007, 10:03 a.m.

Hi,

Does anyone know how to restore a backup of the hp50g taken by the connectivity kit (V2.2) into the emulator(emu48 1.43+) and vice versa? Thanks

Kind regards,

Benny

---

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### HP-15C Documentation Project.

Message #1 Posted by [Chris W](#) on 9 Apr 2007, 1:24 a.m.

HP-15C Documentation Project.

I have finally got the motivation to start a project I have been wanting to do for a while. I want to create a better electronic copy of the manual for the HP-15C, and the advanced functions hand book (I don't have a hard copy of the advanced functions hand book though).

My first thought was to do it in some publishing software, and provide a much better pdf file than the scanned version that is out there now. Since I will need lots of help with this I thought it was better to use html and css to make it easier for more people to help. If you would like to help please email me directly. You don't need to be familiar with css but you should know html reasonably well and then can just follow the methods I have already started. You can see what I have done so far on the hp15c.org site. . . [HP-15C Manual](#). There are 21 pages there right now. Six of them are contents pages with nothing in them, and page 14 and 15 both need tweaking. I would love to get input on the ways to improve the css that I am using. I plan to get a high quality scan of anything in the manual that I can not reproduce with html and css. I have a spiral bound version of the manual in good condition, I should be able to get quality scans of the graphics from it.

If you want to help don't start till you talk to me and get more details. I am using php to automate things like the navigation links at the bottom and the page headers. You will need a copy of the php files I have before you start. However, you don't need to know php at all just leave the php parts at the top and bottom alone and just edit the html in the middle.

I look forward to your input.

Chris W

### Re: HP-15C Documentation Project.

Message #2 Posted by [hugh steers](#) on 9 Apr 2007, 7:54 a.m.,  
in response to message #1 by [Chris W](#)

hi chris,

are you sure you won't run into copyright problems if you are, essentially, reproducing the existing manuals? i don't want to sound negative, because i very much like your idea. however, if hp decide to re-release the 15c, your project could be redundant. as a big 15c fan i always wanted more than what was in even the advanced function handbook. so a supplementary documentation project might be an interesting idea. there's a lot of 15c stuff discovered and written since the original manuals that would make great reading if it were all brought together.

?

### And, do you have permission to distribute the 15c manual on 15c.org?

Message #3 Posted by [john](#) on 9 Apr 2007, 8:00 a.m.,



*in response to message #2 by hugh steers*

HP gave the museum permission to distribute the old manuals in PDF format.

Did you receive such permission? Karl wondered below if you bought a museum DVD and put the manual online from it.

So, this new project might not be legit either. Unless you have HP's permission, of course.

### **Re: HP-15C Documentation Project.**

*Message #4 Posted by [Namir](#) on 9 Apr 2007, 9:57 a.m.,  
in response to message #1 by Chris W*

Chris,

I concur with the other messages about possible copyright violation. You can avoid the entire issue by simply writing a new manual in your very own words and using your own examples and graphics. You and only you will be the copyright holder of your own manual. No one will bother you then. If you are a true HP-15C admirer, then writing a new manual should be a true labor of love and a wonderful project to execute.

Namir

*Edited: 9 Apr 2007, 9:57 a.m.*

### **Re: HP-15C Documentation Project.**

*Message #5 Posted by [Geir Isene](#) on 10 Apr 2007, 8:33 a.m.,  
in response to message #4 by Namir*

... and releasing that new manual into the [Public Domain](#) would be a Good Thing (tm).

### **Re: HP-15C Documentation Project.**

*Message #6 Posted by [Eric Smith](#) on 10 Apr 2007, 3:08 p.m.,  
in response to message #5 by Geir Isene*

...and releasing that manual with a [Creative Commons](#) license would be an Even Better Thing (tm). :-)

### **Re: HP-15C Documentation Project.**

*Message #7 Posted by [Hugh Evans](#) on 15 Apr 2007, 11:14 p.m.,  
in response to message #1 by Chris W*

Sounds like a fun project. You should consider doing it with a wiki since the learning curve for markup is almost negligible and you can export the finished product as a pdf or other document format.

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## HP Forum Archive 17

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### Adding a crystal to my HP-45

Message #1 Posted by [Dan W.](#) on 7 Apr 2007, 12:52 p.m.

I might be some years behind the times, and the last on the planet to perform this mod, but I'd like to add a crystal to my HP-45. Anyone know where I can find a 784 kHz crystal?

Thanks, -- Dan

### Re: Adding a crystal to my HP-45

Message #2 Posted by [Gerson W. Barbosa](#) on 7 Apr 2007, 1:25 p.m.,  
in response to message #1 by Dan W.

Quote:

I might be some years behind the times, and the last on the planet to perform this mod,

You can bet you are not the last one! I have a good-looking HP-45. I like neither the initial FIX 2 display mode nor the automatic changing to SCI mode but I like the timer feature and might try the mod myself. I hope the crystal can be found in any electronic warehouse. Crystals can be found in cheap digital clocks or clock-calculators made in China (I don't know what their typical frequencies are). I was not intending to open mine, but since one of the decimal points don't light up I might check it out.

Regards,

Gerson.

### Re: Adding a crystal to my HP-45

Message #3 Posted by [Dan W.](#) on 8 Apr 2007, 11:52 a.m.,  
in response to message #2 by Gerson W. Barbosa

I've checked the usual sources: Digikey, Mouser, Jameco, All Electronics, but no luck. You might be on to something - taking apart some cheap device - but what else might use this frequency?

### Re: Adding a crystal to my HP-45

Message #4 Posted by [Richard Ottosen](#) on 8 Apr 2007, 12:26 p.m.,  
in response to message #3 by Dan W.

I also looked in Digi-Key and Mouser. The closest I came was some ceramic resonators at 800 KHz. These would most likely run the calculator correctly, however, this frequency is not accurate enough for time keeping.

None of the programmable crystal oscillators I looked at were specified for less than 1 MHz.

Another possibility is to run a crystal at an overtone. I saw some 153 KHz crystals. If you ran one of

these at the 5th (4th?) overtone then you would get 765 KHz. Again, the calculator would work but not for time keeping.

-- Richard

**Re: Adding a crystal to my HP-45**

*Message #5 Posted by [Monte Dalrymple](#) on 8 Apr 2007, 12:07 p.m.,  
in response to message #2 by Gerson W. Barbosa*

Watches use 32.768KHz.

**Re: Adding a crystal to my HP-45**

*Message #6 Posted by [John Limpert](#) on 8 Apr 2007, 4:13 p.m.,  
in response to message #1 by Dan W.*

I would go to a vendor like International Crystal Manufacturing Company (<http://www.icmfg.com>). I've used them when I needed crystals for amateur radio equipment. The problem is providing all of the specifications needed for them to make your crystal. Besides frequency, they need to know the cut, package, fundamental or overtone, accuracy, and probably other things that I don't remember.

**Re: Adding a crystal to my HP-45**

*Message #7 Posted by [Steve Borowsky](#) on 10 Apr 2007, 1:38 a.m.,  
in response to message #6 by John Limpert*

I may have a couple of 786kHz crystals. I'll have to verify they're working though. Let me know if you're interested.

**Re: Adding a crystal to my HP-45**

*Message #8 Posted by [Dan W.](#) on 11 Apr 2007, 11:42 p.m.,  
in response to message #7 by Steve Borowsky*

Yes I would be interested. Send a note to Revolv'r at cox dot net

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## HP Forum Archive 17

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### HP 32E & 37E

Message #1 Posted by [Peter K Mueller](#) on 6 Apr 2007, 5:55 p.m.

I need help to replace the batteries or do something given I still have the chargers for each. Apparently it's not simple to do, so I would appreciate information on contacts who could do it for me.

### Re: HP 32E & 37E

Message #2 Posted by [Les Wright](#) on 6 Apr 2007, 9:23 p.m.,  
in response to message #1 by [Peter K Mueller](#)

Purists caution against it, but in both of my Spices I use AA NiMH batteries held together with a little tape and an aluminum foil jumper completing the circuit on the right side (when you look at the bottom of the calc, top end up, cover off). The nipples on the ends add length vs. the original NiCads so that the fit is snug. If you can find AA NiMHs with a recessed tip they may be a better choice, but frankly I could never really be bothered. In my 33C the lower contact was broken off but enough of a stub remains to contact the battery end.

The original Spice battery pack is basically a metal sheath tha exposes the ends on the left and completes the circuit on the right. It has the polarity marked on it. The calc itself does not, so when inserting my self made pac I have to remember "negative upper left", lest reverse polarity will clear the memory.

NiMH's take a goodly time to charge with the Spice adapter, but they last forever--I had my 34C run an endless loop program at FIX 9 for well over 30 hours before it died using 2000 mAH cells.

Les

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## HP Forum Archive 17

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### Program Loss in HP-33S

Message #1 Posted by [Ed Look](#) on 6 Apr 2007, 4:47 p.m.

I went to use a program in my 33S just about a hour ago and I found all my stored programs gone!

I am quite certain I did not erase them and I cannot imagine any accidental keypresses that would do that.

Has anyone had this happen? (Does anyone have an explanation??)

### Re: Program Loss in HP-33S

Message #2 Posted by [John](#) on 6 Apr 2007, 4:53 p.m.,  
in response to message #1 by Ed Look

Electronic devices can have many things happen to them.

A stray gamma ray might hit the one bit of memory it uses as a cold start constant.

The battery power may have been interrupted unbeknownst to you and cleared ram.

If you have two 33S calculators, you may have picked up the clear one. (Being hopeful here).

But really, anything that relies upon battery power always runs the risk of memory clear. That's why offline storage or flash memory is so important.

### Re: Program Loss in HP-33S

Message #3 Posted by [Palmer O. Hanson, Jr.](#) on 6 Apr 2007, 10:09 p.m.,  
in response to message #1 by Ed Look

I lost memory in the first of my 33s machines by failing to see the battery annunciator which is easy to overlook because it is small and tucked up in the upper right corner of the display. I also failed to recognize that when the battery power is very low I would find that the machine may shut itself off but I could immediately start it back up and run for a short period of time. I think that this is a manifestation of the old characteristic where a battery recovers somewhat when it is off.

I also failed to see the annunciator when the battery power was low with my second machine. Fortunately, I also saw the self shut-off feature and remembered that it was time to replace the batteries.

Page A-2 of the manual states "... if the battery annunciator is on, and the display dims, you may lose data. ..." It may be that what I saw as a self shutoff was only a dimming of the display. but I returned the machines to operating condition for a short time by pressing ON.

### Re: Program Loss in HP-33S

Message #4 Posted by [Ed Look](#) on 9 Apr 2007, 10:21 p.m.,  
in response to message #3 by Palmer O. Hanson, Jr.

Thanks for your replies, John and Palmer.

I suppose the RAM clear must have happened when I was not looking. I have this habit of leaving the calculator on to turn itself off after I am through with it for a while... to save the keyboard from "undue" wear and tear.

Perhaps it may be better just to switch it off as soon as I am done with it, to reduce chances of something bad happening because it is still powered on.

Oh, and the batteries, I believe, are still good.

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**82240 Printer Specs**

Message #1 Posted by [Joe Avins](#) on 6 Apr 2007, 12:46 p.m.

I'm interested in programming my PDA to print to an 82240 printer that I still have (even though the 42S I bought it for is long gone, the victim of a stolen brief case.) So, obviously, I need to know it's language, i.e. the message format for the IR transmissions to it.

If anybody has this data, or knows where to get it, please email me.

Thanks for your help.

-- Joe

**Re: 82240 Printer Specs**

Message #2 Posted by [Etienne Victoria](#) on 6 Apr 2007, 1:08 p.m.,  
in response to message #1 by Joe Avins

Hello Joe,

You'll find this information on the Hpcalc.org site [here](#).

Best regards

Etienne

**Re: 82240 Printer Specs**

Message #3 Posted by [Joe](#) on 7 Apr 2007, 4:17 p.m.,  
in response to message #2 by Etienne Victoria

Thanks .

-- Joe

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## HP Forum Archive 17

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### HP Classic Battery - Pac parts

Message #1 Posted by [Don Shaffer](#) on 5 Apr 2007, 1:11 p.m.

I finally have produced new battery pack covers for the type 82001 classic battery. Anyone interested in these should contact me at my email for added info. I will be offering covers for \$7.50 a set plus \$0.50 S&H and Ohio sales tax. Complete battery's should soon also be ready. I expect to have both a NiCd 1000 mAH and NiMH 1300 mAH version. Also covers available in standard black, red, green, blue, brown colors.

### This belongs in classified ad forum.

Message #2 Posted by [Unanimous](#) on 5 Apr 2007, 1:31 p.m.,  
in response to message #1 by Don Shaffer

This belongs in classified forum.

### Re: This belongs in classified ad forum.

Message #3 Posted by [db](#) on 5 Apr 2007, 2:40 p.m.,  
in response to message #2 by Unanimous

unanus; are you a rent-a-cop or what? enough people have asked about these things over the seven years i have lurked here to qualify this as news.

don; how about you post 2 photos? when are you going to make woodstock batts and spice doors?

### Re: This belongs in classified ad forum.

Message #4 Posted by [Don Shaffer](#) on 6 Apr 2007, 10:35 p.m.,  
in response to message #3 by db

I sent photos to Dave to post on the site. I'll have to spend some time to write up and item for the site.

Let me know what kind of geometry the doors are like, I might consider trying to mold them if they are not to complicated as a new project next.

### RESPONSE to db's message and insult of me.

Message #5 Posted by [Unanimous](#) on 9 Apr 2007, 7:48 p.m.,  
in response to message #3 by db

Did not mean to offend you Sr.Promedio! However, calling me "unanus" is crude and childish.

Unanimous

Edited: 9 Apr 2007, 7:50 p.m.



### **Normally I'd agree, but...**

*Message #6 Posted by [Dave Hicks](#) on 5 Apr 2007, 5:03 p.m.,  
in response to message #2 by Unanimous*

Don has done a lot of work to make this happen. I'd like to seem him write up an article on the process for the Articles forum.

*Edited: 5 Apr 2007, 5:31 p.m.*

### **Re: Normally I'd agree, but...**

*Message #7 Posted by [Don Shaffer](#) on 6 Apr 2007, 10:51 a.m.,  
in response to message #6 by Dave Hicks*

Actually I got this crazy idea to try to make the Classic batterys back in 2004. It has been an interesting trip to get to today. I had to learn many new skills and purchase/build machinery. I can post some photos once I figure out how to download them. I'll need to get Dave to give me some help. I had been interested in the HP calculators since they first came out. My first machine was one of the hP-65's. One of my old friends Dean Lampman was one of the first persons outside of HP to actually see the HP-65 before it was released. He worked on making the first user pacs for machine design, and math and others. I can write up the story on how I got to make the covers, I guess to add to the museum.

### **Re: Normally I'd agree, but...**

*Message #8 Posted by [Dave Hicks](#) on 6 Apr 2007, 2:33 p.m.,  
in response to message #7 by Don Shaffer*

You can email the pictures and I can place them on-line, or you can create a forum account (click on "Login / Accounts" at the top right of the forum index) and email me that you've done that. Then I can set your account to allow picture uploads.

Either way, once they have been uploaded, you can then write up the article and click on the Image button or just refer to them like this:



For example, typing:



would produce:



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## HP Forum Archive 17

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### Article that finds inspiration in the PPC ROM

Message #1 Posted by [Frank Wales](#) on 4 Apr 2007, 8:12 p.m.

[Here](#)

### Re: Article that finds inspiration in the PPC ROM

Message #2 Posted by [Raymond Del Tondo](#) on 5 Apr 2007, 3:34 a.m.,  
in response to message #1 by Frank Wales

Hi Frank,

thanks for the link. Unfortunately it doesn't seem to work.

However, any development regarding the EMU topic?

Regards

Raymond

### Re: Article that finds inspiration in the PPC ROM

Message #3 Posted by [Jake Schwartz](#) on 5 Apr 2007, 12:09 p.m.,  
in response to message #1 by Frank Wales

It's interesting that the author chose to single out Bill Wickes, apparently due to his forward in the PPC ROM manual, and not Richard Nelson without whom the whole project wouldn't have even been conceived.

Jake Schwartz (PPC Member #1820 / PPC ROM Peripheral-Routines Coordinator)

### Re: Article that finds inspiration in the PPC ROM

Message #4 Posted by [Namir](#) on 5 Apr 2007, 9:28 p.m.,  
in response to message #3 by Jake Schwartz

Jake,

I agree. Richard played an important role. Many folks, like yourself, made valuable contributions. It was definitely a community effort.

The PPC-ROM came to be in a time where we had no email, no web pages to post material on, and so on.

If we ask HP to bring any machine back into production, it should be the HP41C. HP should include new modules, like one that is an SD card reader!!!

Namir

*Edited: 5 Apr 2007, 9:30 p.m.*

---

**i beg to differ**

*Message #5 Posted by [db](#) on 5 Apr 2007, 2:45 p.m.,  
in response to message #1 by Frank Wales*

“.....“PPC ROM”that plugs into an HP personal computer that is now 25 years obsolete called an HP-41.”  
more like 40 years ahead of it’s time.

**Re: i beg to differ**

*Message #6 Posted by [Garth Wilson](#) on 5 Apr 2007, 4:06 p.m.,  
in response to message #5 by db*

In all the modules they mentioned, they did not include the HPIL or EXT I/O, which were my reasons for getting a 41. Previously I had a programmable calculator; but it couldn't control any of the lab instrumentation on the workbench. Their narrow consumer view of hand-held devices is what makes them fail to recognize the value of the 41. I'm glad they're drawing attention to community development however.

E-mail addr: wilsonmineszdslextremezcom (replace the z's w/ "@" and ".")

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## HP Forum Archive 17

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### HP 15C problem

Message #1 Posted by [Tom Handy](#) on 4 Apr 2007, 4:43 p.m.

Help! My calculator will only give answers to trig problems in radians. No matter what the mode is. Also, there is a small "C" in the lower right quadrant. ~?

Thanx, I hope.

Tom

### Re: HP 15C problem

Message #2 Posted by [Vieira, Luiz C. \(Brazil\)](#) on 4 Apr 2007, 4:56 p.m.,  
in response to message #1 by Tom Handy

Hi;

your HP15C is set to work with complex numbers ( $x+iy$ ), and in this mode it 'understands' angles in radians, only.

Please, locate the [CF] inscription in blue, in the slanted face of the [5] key. Now press:

[g] [CF] 8

This should bring your HP15C to real-mode operation.

Cheers.

Luiz (Brazil)

*Edited: 9 Apr 2007, 3:22 p.m.*

### Re: HP 15C problem

Message #3 Posted by [Gerson W. Barbosa](#) on 4 Apr 2007, 4:56 p.m.,  
in response to message #1 by Tom Handy

Quote:

\_\_\_\_\_  
Also, there is a small "C" in the lower right quadrant.  
\_\_\_\_\_

The calculator is in complex mode. Press [g] [CF] [8] to leave this mode, in case you haven't done this yet.

Gerson.

### Re: HP 15C problem

Message #4 Posted by **bill platt** on 4 Apr 2007, 6:06 p.m.,  
in response to message #3 by Gerson W. Barbosa

two simultaneous answers---and both from Brasil no less!

### Re: HP 15C problem (trigs in "C" mode)

Message #5 Posted by **Karl Schneider** on 5 Apr 2007, 12:02 a.m.,  
in response to message #1 by Tom Handy

Tom --

Gerson and Luiz have already answered the question, and provided the remedy. I don't know if you have a manual, but a PDF scan can be purchased on a CD or DVD for a nominal price from this website. A print copy on eBay will cost US\$25-35.

Flag 8 set puts the calculator in "Complex mode", in which the input arguments and output results are complex-valued where applicable. It's one of the few things that are not very intuitive on the HP-15C. Flag 8 is testable, allowing user programs to account for results in real and complex mode. Other mode settings -- such as angular measure (DEG/RAD/GRD) or display (FIX/SCI/ENG) -- are not testable on the HP-15C.

So, why is radians mode enforced when Complex mode is set?

Answer: Trigonometric functions are mathematically defined for complex-valued arguments. Their formulae that involve hyperbolic functions, whose arguments must be dimensionless and unscaled (as radians are). For example:

$$\begin{aligned}\sin(a + ib) &= (\sin a)(\cos ib) + (\cos a)(\sin ib) \\ &= (\sin a)(\cosh b) + i(\cos a)(\sinh b)\end{aligned}$$

$$\begin{aligned}\cos(a + ib) &= (\cos a)(\cos ib) - (\sin a)(\sin ib) \\ &= (\cos a)(\cosh b) - i(\sin a)(\sinh b)\end{aligned}$$

Obviously, with  $b = 0$ , sine or cosine in complex mode (or these expressions) will produce results identical to sine or cosine in real mode with input in radians, but will take longer to execute.

-- KS

*Edited: 9 Apr 2007, 11:00 p.m. after one or more responses were posted*

### Re: HP 15C problem (trigs in "C" mode)

Message #6 Posted by **David Jedelsky** on 8 Apr 2007, 3:24 p.m.,  
in response to message #5 by Karl Schneider

Hi, I spotted scanned pdf manuals for 15c on <http://hp15c.org/about.php>

The 'Owner's Handbook' is hidden under button before 'Documentation' line and the 'Advanced Functions Handbook' under dot at the end of this line.

### Re: HP 15C problem (trigs in "C" mode)

Message #7 Posted by **Karl Schneider** on 8 Apr 2007, 10:22 p.m.,  
in response to message #6 by David Jedelsky

Hello,

Quote:

Hi, I spotted scanned pdf manuals for 15c on ...

Yes, I was aware of the availability of the manuals at that site. I didn't want to advertise it. That site host probably bought one copy of CD #1 from MoHPC, then made the manuals freely available to the world without permission to redistribute. There is certainly a reasons that the links are so (*ahem*) "subtle". It probably steals sales of MoHPC CD's and DVD's.

The issue was discussed a few months ago:

<http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv016.cgi?read=102707#102707>

-- KS

### Re: HP 15C problem (trigs in "C" mode)

Message #8 Posted by [David Jedelsky](#) on 9 Apr 2007, 3:08 p.m.,  
in response to message #7 by Karl Schneider

Hi, I didn't know about that discussion and I found the page and pdf files accidentally when I was looking for other stuff. When I found that, I didn't notice any signs inside those files that it could belong to MoHPC CD's and DVD's. When you look inside those files you can hardly expect that it is based on work that somebody want to protect (even if such information was removed from the original files). Moreover, Tom apparently owns the calculator, therefore I didn't expect any reason why he shouldn't download those files. So, you can expect that somebody time to time will post this link with the best intention to help also in the future. Just because there is no way how to spot it could be problematic. If somebody takes it as problem he definitely should solve it with the owner of the site and not with anybody else.

Best Regards,

David

### Re: HP 15C problem (trigs in "C" mode)

Message #9 Posted by [Dave Hicks](#) on 9 Apr 2007, 3:30 p.m.,  
in response to message #8 by David Jedelsky

I've tried to avoid the issue because I thought Chris' heart was in the right place with wanting to bring back the HP-15C and all, but it is growing into an issue. It also appears to be becoming an issue at the HP level. The current calculator team recently asked me to show them the permission I received from an earlier team. When I was at HP recently, someone told me that they would like to clean up a lot of infringement on the net but they don't want to take down a lot of "good" sites with the "bad" sites.

For future reference, for the last 30 years or so, it hasn't been necessary to mark anything as copyrighted. This is the default. Instead you should look for a statement of the work being in the public domain etc. (This isn't meant to imply that you did something bad - just an FYI.)

*Edited: 9 Apr 2007, 3:59 p.m.*

### manuals

Message #10 Posted by [bill platt](#) on 10 Apr 2007, 12:12 p.m.,

*in response to message #9 by Dave Hicks*

When I bought a used 15c some years ago, it came with a CD with the whole manual scanned. Each page was a separate PDF file with rather low resolution and the pages were often skewed. I put part of it together and when I lent my 15c to Ben, I sent a copy of that manual along. I don't think it was the same scan as MoHPC. So perhaps there are a number of scans out there?

**Re: manuals**

*Message #11 Posted by [Dave Hicks](#) on 10 Apr 2007, 12:29 p.m.,*

*in response to message #10 by bill platt*

Yeah I bought some software from a major company on ebay recently and it came on a CD-R with an ink-jet printed label. Even after I questioned that, the seller claimed it was a legit "Corporate Disk". The software maker said it wasn't. The seller was happy to let me return it, so I did and it bounced back because his street address didn't exist. That account was closed down but I'll bet he has another one by now.

There's lots of stuff going on.

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## HP Forum Archive 17

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**Lazarus**

Message #1 Posted by [Gilles Collas](#) on 4 Apr 2007, 9:35 a.m.

Hi gentlemen ... and ladies !

This is the epilog of the story I talked about a few weeks ago... My old friend HP31E is back to life ! thanks to Jon, from Spain, who is probably well known across the forum I think.

I'm now on heading a huge collection : HP31E + HP11C + TI58 + TI SR40 + (pending) TI58C...

The calculator is now working perfectly, even better than it was at origin - remember it was bugged and never granted a serial number.

Thanks again to Jon !

gilles

**Re: Lazarus**

Message #2 Posted by [Valentin Albillo](#) on 4 Apr 2007, 10:09 a.m.,  
in response to message #1 by Gilles Collas

Hi, all:

Jon is indeed very good. I've never used his repairing services myself but saw a close friend's HP-34C before and after Jon's treatment and indeed he left it as good as new, both cosmetically and functionally. Impressive work indeed.

Best regards from V.

**Re: Lazarus**

Message #3 Posted by [Gilles Collas](#) on 4 Apr 2007, 10:32 a.m.,  
in response to message #2 by Valentin Albillo

In addition, I can say this : the main board and display have been replaced on my calculator by spare parts that Jon had around, and considering that I'm living in France, the postal fare are not nothing, the total invoiced amount of 100 euros was quite cheap, I believe.

**Re: Lazarus**

Message #4 Posted by [Antonio Maschio \(Italy\)](#) on 5 Apr 2007, 10:14 a.m.,  
in response to message #1 by Gilles Collas

Could you leave here some data about Jon? Town, address, email, phone number or so what?

I live in EU, and Spain is not that far from my place (a holiday could correspond to a travel for repairing a



calculator!, killing two birds with one stone).

Thanks in advance

-- Antonio

**Re: Lazarus**

*Message #5 Posted by [Mr. Alvenzio Sababaina](#) on 5 Apr 2007, 1:28 p.m.,  
in response to message #4 by Antonio Maschio (Italy)*

Yes, please leave all this information, so I can contact him regarding an urgent business proposal. I need to move \$32,658,409,590.16 out of my late father's bank account in South Sahudra. I know I can trust Jon because of his spotless reputation. Also, if you could provide his bank account number and credit card number, this will make the transaction easier for Jon. This is all legal, per USCBA 32.417.9s, and will only be executed strictly per eBay rules.

**Re: Lazarus**

*Message #6 Posted by [Gilles Collas](#) on 6 Apr 2007, 5:56 a.m.,  
in response to message #5 by Mr. Alvenzio Sababaina*

Quote:

Yes, please leave all this information, so I can contact him regarding an urgent business proposal. ....

Then everybody will understand I will give no information on the forum posts page ...

**Re: Lazarus**

*Message #7 Posted by [Les Wright](#) on 7 Apr 2007, 10:53 a.m.,  
in response to message #4 by Antonio Maschio (Italy)*

Jon can be contacted thru the link at [this ad](#). That's how I made his acquaintance.

Les

**Re: Lazarus**

*Message #8 Posted by [Antonio Maschio \(Italy\)](#) on 9 Apr 2007, 3:30 a.m.,  
in response to message #7 by Les Wright*

Thanks. Of course, I didn't mean to start a subthread about business proposal of huge amounts of bucks/euros to.... I only thought that good info about HP calculator repairing is useful to anyone of us.

Sorry for Jon if my question caused him troubles. I really didn't mean that.

-- Antonio

*Edited: 10 Apr 2007, 10:54 a.m.*

**Re: Lazarus**

*Message #9 Posted by [Les Wright](#) on 15 Apr 2007, 6:41 p.m.,*

*in response to message #7 by Les Wright*

I wanted to put in my good word for Jon too.

I just got from him a custom made Extended Memory module that has the electronics of two modules in one, so 476 registers. It cost me about the same as the going eBay rate for two standard XM modules, and only takes one port. It took a few weeks to get here but I am glad to have it now. Very cool little gizmo for the HP41 buff.

Les

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## HP Forum Archive 17

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### Printing, Docs, HP 50G

Message #1 Posted by [Kevin Doyle](#) on 4 Apr 2007, 12:03 a.m.

Hi all,

Back into the HP calculator world after many years away, 3 kids in math courses and I want to get them to enjoy HP calcs like I did. Owned the 25C, 67/97, and the 41 system, tape drive, printer, wand reader, etc. Loved them, loved RPN, and always enjoyed working through that great HP colloquial documentation in those great, spiral bound books.

Bought a 50G about a week ago, and it is impressive. Gotta say I do miss the old beveled keys, but there is so much capability...unfortunately, not a useful manual however. The little book, and the pdf, are like reading stereo instructions, and bear no resemblance to the inspirational docs of my youth. Maybe those talented writers are still out there. Any suggestions on some cool 3rd party books?

I also picked up a 82240B printer to have mobile hardcopy output at school. Only problem is the calc does not seem to have the old trace modes to send work to the printer automatically as you work through the calculation, like the 97 or the 41C. Is this something you have to program...or am I just missing some simple flag to set in this mountain of functions? Any help would be appreciated...I am really feeling like a newbie here.

Thanks in advance...

### Re: Printing, Docs, HP 50G

Message #2 Posted by [Giancarlo \(Italy\)](#) on 4 Apr 2007, 3:54 a.m.,  
in response to message #1 by Kevin Doyle

Hi Kevin.

Talking about docs, I think that as far as RPL programming is concerned you can certainly use either the \*good old\* 48 Series documentation or the HP49G Advanced User Reference Guide, that is available (of course :-)) at [hpcalc.org](http://hpcalc.org):

<http://www.hpcalc.org/hp49/docs/misc/hp49gpaur.zip>

If you're specifically looking for third-party books, then

I'd suggest Thomas Barber's recent book "The Definitive User's Guide to the HP48g/49g/50g Calculators", available at

<http://www.samsoncables.com/>

Last but not least, please get back to my quoting of [hpcal.org](http://hpcal.org) - it is \*the\* ultimate source for tutorials and programs for the 48/49/50 series.

Hope this helps.

Best regards.

Giancarlo

## Re: Printing, Docs, HP 50G

Message #3 Posted by [Jeff Kearns](#) on 5 Apr 2007, 2:27 p.m.,  
in response to message #2 by Giancarlo (Italy)

Hi Kevin,

You may also wish to visit the following link for some great resources for the 50G:

[http://www.engineering.usu.edu/cee/faculty/gurro/Software\\_Calculators/HP48\\_49G\\_Docs/HP50G+.html](http://www.engineering.usu.edu/cee/faculty/gurro/Software_Calculators/HP48_49G_Docs/HP50G+.html)

This site is maintained by Gilberto E. Urroz, Ph.D., P.E., an Associate Professor at Utah State University. The site has a wealth of info and additional links. He also published a two volume set entitled: "Science and Engineering Mathematics with the hp 49 g". A worthwhile purchase.

The HP website also has tutorials on many of the features of the 50G.

<http://h20331.www2.hp.com/Hpsub/cache/383692-0-0-225-121.html>

Enjoy,

Jeff

## Re: Printing, Docs, HP 50G

Message #4 Posted by [James M. Prange \(Michigan\)](#) on 5 Apr 2007, 5:48 p.m.,  
in response to message #1 by Kevin Doyle

The "print trace" modes aren't built-in on the 48 and 49 series, but you can accomplish much the same using vectored ENTER to customize the calculators. See [this thread](#) for much more information on the printers and vectored ENTER.

Regards,  
James

## Re: Printing, Docs, HP 50G

Message #5 Posted by [James M. Prange \(Michigan\)](#) on 5 Apr 2007, 6:46 p.m.,  
in response to message #1 by Kevin Doyle

Yes, I miss the good old manuals too, but note that HP isn't alone in failing to make good documentation easily available.

For more links to various on-line resources for the RPL models, see [this thread](#).

Regards,  
James

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## HP Forum Archive 17

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### **Programming of CMT EPROMS for 71b**

*Message #1 Posted by [PeterP](#) on 3 Apr 2007, 10:22 p.m.*

Hi, as I miraculously (?spelling) acquired recently a few CMT EMPROMS with some content I could not care less about, I was wondering if there is anyone in our community who has the ability tp program those EPROMS with more useful roms (MATH, JPC, FINANCE, CURVE FIT etc).

If so, I'd be super happy to hear from them to arrange for some kind of deal of interest to them.

Thanks so much in advance!

Peter (PS you can reach me at ppl4worl AT yahoo DOT com)

### **Re: Programming of CMT EPROMS for 71b**

*Message #2 Posted by [Raymond Del Tondo](#) on 4 Apr 2007, 12:31 a.m.,  
in response to message #1 by PeterP*

Hi Peter,

Mike (Davis) offers burning service for those EPROMs;-)

Regards

Raymond

### **Re: Programming of CMT EPROMS for 71b**

*Message #3 Posted by [PeterP](#) on 4 Apr 2007, 10:40 p.m.,  
in response to message #2 by Raymond Del Tondo*

Thanks Raymond, I'll contact him.

Cheers

Peter PS: I owe you some reply, I know... Sorry, Things have been, well, 'interesting' here recently...

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## HP Forum Archive 17

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### hp50g programs

Message #1 Posted by [Daniel Ripley](#) on 3 Apr 2007, 8:13 p.m.

hello, just purchased a hp50g and im having a lil difficulty getting used to it, just wondering firstly if 49 series programs are compatible with the 50 g, Ive tried to download a couple progams and couldnt get them to work, also is there an easier way to convert decimals to minutes and seconds without typing in "->hms\_" thanks

### Re: hp50g programs

Message #2 Posted by [Gene](#) on 3 Apr 2007, 9:07 p.m.,  
in response to message #1 by Daniel Ripley

Yes, many/most HP49g+ programs work just fine on the 50g.

You can assign the HMS functions to keys in USER mode and access them fairly quickly.

The HP50g webpage found at HP's site [www.hp.com/calculators](http://www.hp.com/calculators) has over 50 learning modules that show how to use your new 50g. One of these covers customization including the USER keyboard and CUSTOM menu.

More software can be found at [www.hpcalc.org](http://www.hpcalc.org)

You can also get lots of HP50g specific answers on the usenet newsgroup [comp.sys.hp48](mailto:comp.sys.hp48) which you can access through [groups.google.com](http://groups.google.com) or some other usenet portal.

### Re: hp50g programs

Message #3 Posted by [dbatiz](#) on 3 Apr 2007, 9:28 p.m.,  
in response to message #1 by Daniel Ripley

Converting in and out of HMS can be found in the TIME then TOOLS menu. I recommend having Soft MENU checked (flag 117). That way, once you activate the TIME (Right Shift then 9) then TOOLS menu, your softkeys will make HMS calculations a snap.

Good luck,

Very Respectfully,

David

### Re: hp50g programs

Message #4 Posted by [daniel ripley](#) on 5 Apr 2007, 6:52 p.m.,  
in response to message #3 by dbatiz

thanks heaps guys, much appreciated, ahh just quickly is there any program that anyone can recommend for solving of triangles?

### Re: hp50g programs

Message #5 Posted by [Daniel Ripley](#) on 5 Apr 2007, 8:07 p.m.,  
in response to message #4 by daniel ripley

ok this is probably another annoying question but i just dont know how to get programs running on my calc, was this hard for anyone else the first time?? ive tried to install these two progs [TrigLib.zip](#)

and

[Triangle Sides](#) any help perhaps a kinda step by step thing would be appreciated, im trying to use to hp50g, thanks again

### Re: hp50g programs

Message #6 Posted by [dbatiz](#) on 6 Apr 2007, 7:29 a.m.,  
in response to message #5 by Daniel Ripley

I'm still learning how to make things happen in the 50g myself, but I hope this helps. Any comments from more seasoned people are definately welcome.

There is a difference between a "Program" and a "Library". One of the apps you are trying to install is a library. I got the following instructions from the Stat49 Pro package available from HPCalc.org:

Quote:

To install the library to port 0: (a similar procedure applies for port 1 or 2)

- a) Remove possible older version with :0:1043 PURGE
- b) Download the library to your HP49
- c) Recall the library to the stack and purge the variable created by the download procedure.
- d) Type 0 STO
- e) Press ON-C

In step a) above to remove the library once it's not longer needed. The library number will be different :0:XXXX.

I hope this helps get the trig library up and running. The other program, I'm not sure.

Good Luck,

Very respectfully,

David

**Re: hp50g programs**

Message #7 Posted by **Dan Ripley** on 14 Apr 2007, 7:09 a.m.,  
in response to message #6 by dbatiz

this calculator will be the death of me, now ive no idea which programs i should have on there and which programs or libraries i can or should take off, i still can get these libraries to work and now most importantly i think ive deleted the factory equation library,

**Re: hp50g programs**

Message #8 Posted by **Christoph Widmer** on 15 Apr 2007, 12:01 p.m.,  
in response to message #7 by Dan Ripley

Dan, if you have deleted the equation libraries, you can get them from HP from the ROM Upgrade page :  
<http://h20000.www2.hp.com/bizsupport/TechSupport/SoftwareIndex.jsp?lang=en&cc=us&prodNameId=3235174&prodTypeId=215348&prodSeriesId=3235173&swLang=8&taskId=135&swEnvOID=228>

and follow the instructions in the readme enclosed in the zip-file.

Sorry to hear the 50g is giving you difficulties. It is a complex piece of equipment but can really do unbelievably many things. My best advice is to take your time to work through the user's guide and do work through the HP tutorials here:  
<http://h20331.www2.hp.com/Hpsub/cache/383680-0-0-225-121.html>

Good luck and kind regards. Chris.

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## HP Forum Archive 17

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### Where can I make suggestions to HP re calculators?

Message #1 Posted by [Rich Messeder \(US\)](#) on 3 Apr 2007, 6:22 p.m.

With many products, there is an email address or list that one can send to/post on. Is there such a place for suggestions? I have a few general topics and one request for the HP50g...

Thanks, Rich

### Re: Where can I make suggestions to HP re calculators?

Message #2 Posted by [Tim Wessman](#) on 3 Apr 2007, 6:30 p.m.,  
in response to message #1 by Rich Messeder (US)

The people who really matter already look here and at comp.sys.hp48. Best place to post would be in that newsgroup.

TW

### Re: Where can I make suggestions to HP re calculators?

Message #3 Posted by [Hal Bitton](#) on 3 Apr 2007, 11:54 p.m.,  
in response to message #2 by Tim Wessman

Quote:

\_\_\_\_\_

The people who really matter already look here and at comp.sys.hp48.

\_\_\_\_\_

Well, if they're looking, then I hope they read this...Put the ENTER bar back in the right place...please!!

Who in this forum agrees with me on this?

Best regards, Hal

### Re: Where can I make suggestions to HP re calculators?

Message #4 Posted by [Antonio Maschio \(Italy\)](#) on 4 Apr 2007, 8:57 a.m.,  
in response to message #3 by Hal Bitton

... and with the right dimension (two keys space)!

-- Antonio

Edited: 4 Apr 2007, 8:59 a.m.

### Re: Where can I make suggestions to HP re calculators?

Message #5 Posted by [Hal Bitton](#) on 4 Apr 2007, 10:29 a.m.,



*in response to message #4 by Antonio Maschio (Italy)*

Quote:

... and with the right dimension (two keys space)!

Absolutely...(note that I called it the ENTER *bar* and not the ENTER key :)

And while we're at it, lets dispense with the silly little round buttons on the 50G. You could put 6 proper keys into the space occupied by those 4 buttons...6 hinged, labeled, double shifted keys...who wouldn't want that?

Hal

### **Re: Where can I make suggestions to HP re calculators?**

*Message #6 Posted by **Walter B** on 4 Apr 2007, 5:12 p.m.,  
in response to message #5 by Hal Bitton*

Quote:

6 hinged, labeled, double shifted keys...who wouldn't want that?

Will we ever see that again? If true, I'll buy two.

### **Ergonomic button shapes and arrangements**

*Message #7 Posted by **Karl Schneider** on 4 Apr 2007, 11:33 p.m.,  
in response to message #5 by Hal Bitton*

Hi, Hal --

Quote:

And while we're at it, lets dispense with the silly little round buttons on the 50G. You could put 6 proper keys into the space occupied by those 4 buttons...

Ah, like "cursor arrows" on PC keyboards and the original HP-48S/G series are. The probable reason for arranging these four keys in a "baseball diamond" square is improved correspondence between location and direction.

Now, as for round buttons:

Has everyone noticed how the "virtual buttons" on web-browser software -- particularly MS Internet Explorer (IE) -- keep getting goofier with every version? The ideal shape for virtual buttons is the square, because that shape makes it easiest to "land" the mouse pointer within it. The original Netscape (and Mosaic?) browsers displayed big square virtual buttons with clear borders in a row.

Then, MS used rectangular buttons just to be different, and perhaps to flatten toolbars. Netscape followed suit.

With IE v7.0, it's just bizarre: Two round buttons for forward and backward, and tiny square buttons for other functions scattered all over the place. I'm sure that it can be configured, but I haven't made the effort yet.

How about *physical* buttons? The ideal was probably the solidly-built, conventional American "Bell System" telephones: Square shape for conspicuity and neatness, with curved indentations to fit the fingertip, and only one direction of motion. Perfect function with a clean form.

Today, the free market provides cheaply-made telephones with buttons of all manner of weird shapes and sizes. Yet again, marketing trumps engineering.

-- KS

**Re: Ergonomic button shapes and arrangements**

Message #8 Posted by [Antonio Maschio \(Italy\)](#) on 5 Apr 2007, 10:17 a.m.,  
in response to message #7 by Karl Schneider

sigh....

**Re: Ergonomic button shapes and arrangements**

Message #9 Posted by [Maximilian Hohmann](#) on 5 Apr 2007, 10:45 a.m.,  
in response to message #7 by Karl Schneider

Hello!

Quote:

Yet again, marketing trumps engineering.

Well maybe there is a light glowing at the end of the tunnel where engineering, marketing and ergonomic design finally meet:

The "Optimus keyboard" of Art Lebedev: <http://www.artlebedev.com/everything/optimus-concept/>

Just imagine a pocket calculator with a 5 by 6 (or 7 or 8 or whatever) rectangular arrangement of lcd-capped, large, square keys that can be labelled just as every user likes them best!

Greetings, Max

**Re: Ergonomic button shapes and arrangements**

Message #10 Posted by [Walter B](#) on 5 Apr 2007, 5:07 p.m.,  
in response to message #9 by Maximilian Hohmann

Very nice idea! Let's hope it will become reality. Personally, I see its application in custom keyboards for appliances with mains connector, not in battery powered small devices (so far). It may even overload (well, what's the opposite? Overdrain??) a notebook. But every progress in this matter is most welcome!

**Re: Ergonomic button shapes and arrangements**

Message #11 Posted by [Eric Smith](#) on 6 Apr 2007, 2:51 a.m.,  
in response to message #9 by Maximilian Hohmann

Quote:

---

Just imagine a pocket calculator with a 5 by 6 (or 7 or 8 or whatever) rectangular arrangement of lcd-capped, large, square keys that can be labelled just as every user likes them best!

---

Just imagine a \$1500 (MSRP) calculator with terrible battery life.

Maybe someday technological advances will reduce the cost enough to make it practical, but it's not likely to happen within the next 10-15 years. Those buttons are very expensive to make, and there's no obvious way to bring that cost down by more than a factor of two or thereabouts.

---

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## HP Forum Archive 17

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### Another MLDL2000 Update

Message #1 Posted by [Meindert Kuipers](#) on 3 Apr 2007, 3:12 p.m.

The following message was sent out today via email to my current mailing list of MLDL2000 users and those who have expressed their interest in obtaining one. If you did not receive this message and still want to be (or if you think you should be) on the waiting list, please contact me by email. Please note that being on the waiting list is NOT a commitment to buy one.

Best regards, Meindert

As you may have read in the MoHPC forum, a new version is being developed, and all 3 PCB's are undergoing revision to fix some design errors and add new features. For current users it is important to understand that their MLDL2000 has these issues already fixed with wires and other workarounds, and that all new features (with one exception) are also still possible without additional purchases.

The biggest change in the MLDL2000V2 will be the USB interface. This will have an additional USB host port that can be used for connecting a USB Mass Storage Medium (like a USB Stick). This should enable the use of the USB stick to store programs and files. With another user I am currently investigating the possibility to create a special ROM image to support this. The new USB interface could be used to replace the old one if you want this additional feature.

For new users the MLDL2000V2 will consist of 3 PCB's that will fit in a cardreader shell. Since I do not have any more of these left, you may have to sacrifice your own cardreader, or get an old one at eBay. As an alternative, I will make an extra PCB that will carry the 3 main PCB's for ease of interconnecting. This will make it very easy to put the MLDL2000V2 in an external box approximately the size of the HP41.

I do not know the exact pricing yet, and I suspect that the MLDL2000V2 will be a bit more expensive. As soon as I have more details I will let you know of course.

There is no time schedule. Right now I am finishing a critical piece of software for the M2kM software on the PC that turned out to be more complicated than I expected, and I cannot spend all my spare time on this. This software will allow upgrading the MLDL2000 firmware, which is required for any of the new functionalities to be programmed in the field by the user. The next step will be to verify in a hardware breadboard, firmware and software the functionality of the new USB Host interface and the other modifications before finalizing the new PCB's. At that point I will ask you to commit (or not) to purchase your MLDL2000V2 or upgrade. Based on the final quantity I can then give you the final price and production will start. The PCB design is done in draft already, I just need to verify if I have done it right this time.

---

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## HP Forum Archive 17

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### hp 12c financial calculator for over \$4000 ???

Message #1 Posted by [John Smith](#) on 3 Apr 2007, 2:26 p.m.

[http://cgi.ebay.com/hp-12c-financial-calculator\\_W0QQitemZ150107983673](http://cgi.ebay.com/hp-12c-financial-calculator_W0QQitemZ150107983673)

What's special about that one?

### Re: hp 12c financial calculator for over \$4000 ???

Message #2 Posted by [john](#) on 3 Apr 2007, 2:46 p.m.,  
in response to message #1 by John Smith

nothing. Looks like two guys playing around. Things like that happen at times on ebay.

### Re: hp 12c financial calculator for over \$4000 ???

Message #3 Posted by [Frank Boehm](#) on 3 Apr 2007, 6:07 p.m.,  
in response to message #1 by John Smith

Looks like they both mistyped their bids.

### Re: hp 12c financial calculator for over \$4000 ???

Message #4 Posted by [Geir Isene](#) on 4 Apr 2007, 3:59 a.m.,  
in response to message #3 by Frank Boehm

Or one guy thinking: "Hell, I want that calc, so I'll just put in an insane bid that nobody will outbid." The next guy comes along and has a similar thought...

### Re: hp 12c financial calculator for over \$4000 ???

Message #5 Posted by [Don Shepherd](#) on 4 Apr 2007, 10:16 a.m.,  
in response to message #4 by Geir Isene

I see the winning bid was \$4,249. I wonder if the seller will let him off the hook.

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## HP Forum Archive 17

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**48GX button is stuck**

Message #1 Posted by [Natan Samuels](#) on 3 Apr 2007, 12:37 p.m.

My professor and I were crunching some numbers, he hit the "+" key, and it got stuck in the down position. Does anyone know how to remedy this situation?

**Re: 48GX button is stuck**

Message #2 Posted by [Dave Boyd](#) on 3 Apr 2007, 2:13 p.m.,  
in response to message #1 by [Natan Samuels](#)

Quote:

My professor and I were crunching some numbers, he hit the "+" key, and it got stuck in the down position. Does anyone know how to remedy this situation?

Since I lack anything useful to say, I'll just note, in passing, that this is why it's better to "massage" the numbers than to "crunch" them.

Ask any statistician.

**Re: 48GX button is stuck**

Message #3 Posted by [Natan Samuels](#) on 3 Apr 2007, 11:12 p.m.,  
in response to message #2 by [Dave Boyd](#)

Quote:

Since I lack anything useful to say, I'll just note, in passing, that this is why it's better to "massage" the numbers than to "crunch" them.

Ask any statistician.

Yeah, that was a pretty useless comment, Dave.

**Re: 48GX button is stuck**

Message #4 Posted by [Jeff O.](#) on 4 Apr 2007, 8:02 a.m.,  
in response to message #1 by [Natan Samuels](#)

Not sure if this will be much more useful than Dave's comment, but, since none of the experts have chimed in, I'll tell you what I know.

The hp48 keyboard is formed as bunch of domes in a plastic sheet. When you press a key, the dome below it collapses and a conductive coating on the bottom of the dome makes contact with a circuit below. It sounds like you have a permanently collapsed dome, which is most likely not repairable. If you want to try, a detailed

description of how to open the 48 can be found by clicking on [this link](#). For repair tips and a description of keyboard construction, click [here](#).

Or maybe the key is just stuck down with some gunk, in which case rinsing and/or ultrasonic cleaning with distilled water has been discussed here a few times in the past, search the archives.

### **Re: 48GX button is stuck**

*Message #5 Posted by [Massimo Gnerucci \(Italy\)](#) on 4 Apr 2007, 1:49 p.m.,  
in response to message #1 by Natan Samuels*

A couple of months back I got a 48GX which had an **ON** key stuck down and I was not able to move it whatsoever.

Later I noticed that the metal bezel around this key was a little loose and bent up so I managed to push it down while playing with the key and then it was finally free.

The glue under the lower left corner of the bezel was probably gone... Since the + key is in the lower right corner you could check for a similar problem.

Just my 2¢

Greetings,  
Massimo

### **Re: 48GX button is stuck**

*Message #6 Posted by [Ron](#) on 4 Apr 2007, 4:16 p.m.,  
in response to message #5 by Massimo Gnerucci (Italy)*

I have seen this, too. Straightened up the metal, and freed the key.

### **Re: 48GX button is stuck**

*Message #7 Posted by [Natan Samuels](#) on 6 Apr 2007, 1:35 p.m.,  
in response to message #5 by Massimo Gnerucci (Italy)*

Thanks so much, Jeff, Massimo, and Ron. You gave a lot of great tips and I'll probably try out some of the less-complicated ones this weekend. Hopefully, just the metal is off-center!

Natan

### **Re: 48GX button is stuck**

*Message #8 Posted by [Natan Samuels](#) on 6 Apr 2007, 3:57 p.m.,  
in response to message #1 by Natan Samuels*

The problem was indeed the metal bezel holding down the bottom of the "+" button. I'm trying to think exactly how that could have happened. Maybe the calc got shifted around in a funny way in my bookbag (even though I always keeping it in the case - with the quick guide inside facing the keys for extra protection). Here's what's bothering me: I lifted up the lower right corner of the bezel to unstick the key - which worked. However, replacing the bezel sticks the key again. Must I therefore always leave the corner sticking up? Mind you, it sticks up enough only to be level with the plastic shell, but that condition seems like it might lend itself to some other problem down the road. Nonetheless, I'm happy to have my calc working again without spending any money, and a very small amount of time!

By the way: This is a minute point, but my calc is a 48SX, not a GX.

## **Re: 48GX button is stuck**

*Message #9 Posted by [Randy](#) on 6 Apr 2007, 4:23 p.m.,  
in response to message #8 by Natan Samuels*

Trying to pull the metal back down generally ends in disaster. I've found you can carefully shave the metal away at the bottom to enlarge the opening. A new #11 X-Acto blade works well but you must do this with the plate lifted away from the calculator and be *\*very\** careful not to allow the blade to go past the metal and hit the key. If you hit the key hinge at the bottom (which is obscured by the plate), the + key will become loose and eventually you'll end up with a dead, non-repairable calculator. You also need to keep the shavings out of the keyboard. It takes a steady hand.

The usual cause for the damage is from the calculator having been dropped on the corner. SX's and GX's are for almost all purposes, identical, at least mechanically.

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## HP Forum Archive 17

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### HP-12c oddity (TAS)

Message #1 Posted by [Geir Isene](#) on 3 Apr 2007, 11:47 a.m.

[umpfh?](#)

### Re: HP-12c oddity (TAS)

Message #2 Posted by [Ron Ross](#) on 3 Apr 2007, 12:24 p.m.,  
in response to message #1 by Geir Isene

At least they are offering \$200 worth of buyer protection via paypal.

BWA-ha-ha-ha-ha!!!!

I already think little of ebay, but seeing stuff like this is priceless!

### Re: HP-12c oddity (TAS)

Message #3 Posted by [Paul Grace](#) on 4 Apr 2007, 12:04 a.m.,  
in response to message #2 by Ron Ross

Remember, watch our decimal points.

### Re: HP-12c oddity (TAS)

Message #4 Posted by [Antonio Maschio \(Italy\)](#) on 4 Apr 2007, 8:55 a.m.,  
in response to message #3 by Paul Grace

Am I wrong?

Quote:

\_\_\_\_\_  
Winning bid: US \$4,249.00  
\_\_\_\_\_

May be it's a joke?

-- Antonio

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## HP Forum Archive 17

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### 12c serial number oddity?

Message #1 Posted by [Morgan](#) on 2 Apr 2007, 2:33 p.m.

I've read the explanation of the serial numbers for both the "old" style formatting and the newer formatting. I looked on the back of my 12c (purchased approx. 18 months ago) and found the serial number: CNC51207503. I know the CN refers to china, the 05 to 2005...etc. What does the second "C" refer to? I haven't been able to figure this out. All the other examples I've seen only have two letters.

### Re: 12c serial number oddity?

Message #2 Posted by [Gene](#) on 2 Apr 2007, 2:41 p.m.,  
in response to message #1 by Morgan

Most I have start with CNA...

The CN is China, while I believe the 3rd letter is a plant location or some such.

I have not seen a China unit made in the last 3 years or so without a third letter.

Gene

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## HP Forum Archive 17

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### HP Celebrates 35th Anniversary of HP Calculators with Video Contest

Message #1 Posted by [Gene](#) on 2 Apr 2007, 1:42 p.m.

<http://www.hp.com/hpinfo/newsroom/press/2007/070402a.html>

Jake Schwartz found this and forwarded to me.

VERY nice prizes. Who's going to enter?

### Re: HP Celebrates 35th Anniversary of HP Calculators with Video Contest

Message #2 Posted by [Dave Hicks](#) on 2 Apr 2007, 3:07 p.m.,  
in response to message #1 by Gene

I think I can say I've been filmed. I signed an NDA but didn't get a copy, so I'm assuming I can say that much.

However, after getting up at 2 AM and being filmed at 11AM and not getting any food in between, I have no idea if they got any sentences out of me that made any sense. I was going to eat at the airport but then the flight reservation got lost and there were complications because I'm on the No Fly list and am not allowed to make reservations right before flight... Oh boy. It's all a blur.

It was fun though!

### Re: HP Celebrates 35th Anniversary of HP Calculators with Video Contest

Message #3 Posted by [Dave Shaffer](#) on 2 Apr 2007, 6:57 p.m.,  
in response to message #2 by Dave Hicks

"because I'm on the No Fly list"

You've got the same name as the Australian guy they held in Gitmo for four years and just convicted of something for which he got a several month sentence - to be served in Australia, I think.

Maybe when he goes home, you'll be cleared (let's hope so).

In the meantime, you could try some of us as character witnesses, but that would probably get you into MORE trouble!!

### Re: HP Celebrates 35th Anniversary of HP Calculators with Video Contest

Message #4 Posted by [Dave Hicks](#) on 2 Apr 2007, 7:52 p.m.,  
in response to message #3 by Dave Shaffer

Quote:

\_\_\_\_\_

Maybe when he goes home, you'll be cleared (let's hope so).

\_\_\_\_\_

Well, I've been on the list for the last 5 years, while he was locked up in what is probably the most secure prison in the world, so I'm not holding my breath that sending him home is going to get "me" off the list ;-)

**Re: HP Celebrates 35th Anniversary of HP Calculators with Video Contest**

*Message #5 Posted by [Eric Smith](#) on 3 Apr 2007, 3:09 a.m.,  
in response to message #3 by Dave Shaffer*

Quote:

Maybe when he goes home, you'll be cleared (let's hope so).

Not a chance. They put captured and dead suspects on the list. But it is well documented that many suspects that are at large are not put on the list in order to avoid tipping them off. In other words, the no-fly list is completely bloody useless BY DESIGN. It wastes our money and harasses the innocent, while doing not a damn thing to actually capture terrorists or prevent them from attacking.

**Re: HP Celebrates 35th Anniversary of HP Calculators with Video Contest**

*Message #6 Posted by [David Smith](#) on 3 Apr 2007, 11:03 a.m.,  
in response to message #5 by Eric Smith*

You think that's useless... I had a package shipped to me overnight from England via DHL (avoid these scum like the plague). They called (yes indeed, it was actually DHL) a week later and said that if I wanted the package they needed a copy of my social security card and last years income tax forms! Why, Homeland Insecurity required it. Yeah, right. I told them to go suck eggs and ship the item back to England. My friend then popped it into Royal Mail and two days later it was sitting on my doorstep with nary a signature.

Any bad guy would have just photoshopped a SS card and used Turbo Tax to crank out a tax form. All this BS from DHL/Homeland Insecurity just opens honest people up to massive identity theft.

**Re: HP Celebrates 35th Anniversary of HP Calculators with Video Contest**

*Message #7 Posted by [Dave Hicks](#) on 3 Apr 2007, 11:53 a.m.,  
in response to message #6 by David Smith*

A few years ago I was told that my HP Museum bank account was no longer "Patriot Act Compatible" and that I needed to open a new one. That took 13 months. Why? Because part of the new "Patriot Act Compatible" bank account is answering questions such as: Where do you ship products? My answer was "everywhere". No, they needed a specific list. This was done in the bank and I'm supposed to list countries I've shipped to from memory. I barely pay attention to where I ship! Someone puts it on the order form and the Postal System takes care of the rest!

That wasn't good enough so the bank guy reads me a list and asks me to say yes or no to each. He reads: Afghanistan. Me: "yes". Him: "Really???" Me: "Yes. During the invasion I received several orders from the military and military contractors. That should be a good thing - right?" Um... Nope.... The "Patriot Act Compatible" interview process only accepts a list of countries. No reasons are provided...

**Re: HP Celebrates 35th Anniversary of HP Calculators with Video Contest**

*Message #8 Posted by **David Smith** on 5 Apr 2007, 8:22 p.m.,  
in response to message #7 by Dave Hicks*

You just want us to think the only reason you are on the No Fly List is because of a name mixup. We all KNOW you ARE in possession of Weapons of Math Instruction and distribute information contributing to the development and use of said taboo subject worldwide. Our dear Uncle Sam has a dungeon called "Gitmo" just for people like you ;-)

**Re: HP Celebrates 35th Anniversary of HP Calculators with Video Contest**

*Message #9 Posted by **Walter B** on 6 Apr 2007, 3:42 a.m.,  
in response to message #8 by David Smith*

Quote:

\_\_\_\_\_

We all KNOW you ARE in possession of Weapons of Math Instruction ...

\_\_\_\_\_

d:)) That's a great one! Congratulations, Dave!!

**Re: HP Celebrates 35th Anniversary of HP Calculators with Video Contest**

*Message #10 Posted by **Antonio Maschio (Italy)** on 3 Apr 2007, 2:26 a.m.,  
in response to message #2 by Dave Hicks*

Why are you on the No Fly list?

-- Antonio

**Re: HP Celebrates 35th Anniversary of HP Calculators with Video Contest**

*Message #11 Posted by **Dave Hicks** on 3 Apr 2007, 11:24 a.m.,  
in response to message #10 by Antonio Maschio (Italy)*

Quote:

\_\_\_\_\_

Why are you on the No Fly list?

\_\_\_\_\_

There's an Australian kid named David Hicks who was captured during the initial invasion of Afghanistan and put in Guantanamo Bay. They put him on the list just in case he escaped from Guantanamo Bay, stole back his passport. (which I'm sure is kept no where near him.) made his way to the US and then booked a flight under his own name. All before anyone noticed that he was missing from an army prison camp. That never seemed like a very likely scenario to me.

All I know about the other David Hicks is from an Australian movie: "The President vs. David Hicks". From the movie, he appeared to be a mixed up kid that was searching for some cause to define himself. He tried to join the Australian army but was turned down. He went to Japan. Then he heard about people being oppressed in Bosnia so he went there and joined the US-supported Kosovo Liberation Army. Then, apparently he tried to become a Christian scholar and when that didn't work out, he tried Islam. Then he went to Pakistan to study Islam, and somehow ended up in Afghanistan. I'm sure terrorist groups would have loved to have a mixed up blond white kid on their side, but I don't know if he would have really been useful to them. He seems pretty flighty.

**Re: HP Celebrates 35th Anniversary of HP Calculators with Video Contest**

Message #12 Posted by [Antonio Maschio \(Italy\)](#) on 3 Apr 2007, 11:45 a.m.,  
in response to message #11 by Dave Hicks

Wow, what an adventurous life! And you too!

Thanks for explaining.

-- Antonio

BTW: when will this site be updated?

**Re: HP Celebrates 35th Anniversary of HP Calculators with Video Contest**

Message #13 Posted by [Dave Hicks](#) on 3 Apr 2007, 12:00 p.m.,  
in response to message #12 by Antonio Maschio (Italy)

Quote:

BTW: when will this site be updated?

Since late last year, I've been using pretty much all of my spare time to scan.

My mission right now is to organize ~2.8 GB of new materials for the [next version of the DVD/CD set](#).

New material is still being accepted (hint hint!) though I'm probably going to finalize Version 6 within a couple of weeks.

The site does need some updates and I have a huge pile of email in my inbox, but my DVD's are made in a factory in batches and this batch is running out so I've got to get the next version done.

**Re: HP Celebrates 35th Anniversary of HP Calculators with Video Contest**

Message #14 Posted by [M. Currie](#) on 4 Apr 2007, 11:41 a.m.,  
in response to message #11 by Dave Hicks

Quote:

....He seems pretty flighty.

Ah, but thanks to the Patriot Act, there's only one flighty Dave Hicks in the world. Al the rest are no-flighty. I feel safer already.

**Re: HP Celebrates 35th Anniversary of HP Calculators with Video Contest**

Message #15 Posted by [Andrés C. Rodríguez](#) on 2 Apr 2007, 7:39 p.m.,  
in response to message #1 by Gene

Too sad it's only for USA residents. I understand there may be reasons (cost of airline tickets, legal issues for overseas prizes)... but would Jan Lukasiewicz be disqualified?

**Re: HP Celebrates 35th Anniversary of HP Calculators with Video Contest**

Message #16 Posted by [Karl-Ludwig Butte](#) on 3 Apr 2007, 2:58 a.m.,  
in response to message #15 by [Andrés C. Rodríguez](#)

Yes, I agree. It's always the same story: All interesting (marketing-) activities are "for U.S. residents only". Why is HP always ignoring its loyal customers in other countries ?

Kind regards

Karl

**(present day HP executive): "Jan who !?" :-) [NT]**

Message #17 Posted by [Valentin Albillo](#) on 3 Apr 2007, 4:31 a.m.,  
in response to message #15 by [Andrés C. Rodríguez](#)

Best regards from V.

**Re: (present day HP executive): "Jan who !?" :-) [NT]**

Message #18 Posted by [Andrés C. Rodríguez](#) on 3 Apr 2007, 8:12 p.m.,  
in response to message #17 by [Valentin Albillo](#)

Was he an ice skate champion, or that ballet dancer, the one with the redhead fiancée?...

Jan... should be "he" or a "she"?

**Re: (present day HP executive): "Jan who !?" :-) [NT]**

Message #19 Posted by [Walter B](#) on 4 Apr 2007, 1:42 a.m.,  
in response to message #18 by [Andrés C. Rodríguez](#)

Quote:

Jan... should be "he" or a "she"?

In USA today it is seen as an act of nondiscrimination to be unable to derive the gender from the name. Oh, it's so confusing ;)

Edited: 4 Apr 2007, 6:00 a.m.

**Re: HP Celebrates 35th Anniversary of HP Calculators with Video Contest**

Message #20 Posted by [Ren](#) on 3 Apr 2007, 11:00 a.m.,  
in response to message #15 by [Andrés C. Rodríguez](#)

Quote:

Too sad it's only for USA residents. I understand there may be reasons [deletia]... but would Jan Lukasiewicz be disqualified?

I had a CompSci teacher who said "People say 'RPN' because they're too lazy to learn how to pronounce 'Lukasiewicz'."

IIRC, he pronounced it LU-KA-suh-wich(z). But how is Jan pronounced? I am aware that in some languages a "J" may be pronounced with a "Y" or "H" sound...

Ren

dona nobis pacem

**Re: HP Celebrates 35th Anniversary of HP Calculators with Video Contest**

*Message #21 Posted by **Walter B** on 4 Apr 2007, 1:54 a.m.,  
in response to message #20 by Ren*

Quote:

IIRC, he pronounced it LU-KA-suh-wich(z). But how is Jan pronounced?

Jan is pronounced as written. Just for English native speakers: YAN with an "a" as in "half".

**Re: HP Celebrates 35th Anniversary of HP Calculators with Video Contest**

*Message #22 Posted by **Bruce H** on 3 Apr 2007, 5:58 a.m.,  
in response to message #1 by Gene*

I think Eric should enter with his mystery machine: imagine industrial sounding, high-pressure hissing; dry-ice clouds spurting out; close-up of those 'teeth'; HP-35 placed in the center; machine ominously closes; strange noises; more dry ice; machine opens to reveal a new 50G

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## HP Forum Archive 17

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### [OT] C Programming and the 68HC11

Message #1 Posted by [Ken Ratkevich](#) on 2 Apr 2007, 7:29 a.m.

Greetings,

I know this is totally OT and I will delete it promptly if deemed innapropriate. However, I also know there are many code gurus and smart fellows that frequent this forum and that this is THE place to get a definitive answer.

I am currently involved in a home study course for my A.A.S degree in electronics. I am just finishing a module on the 68HC11 microcontroller. All programming up to this point has been assembly and machine code. But, at the very end, they stuck in a VERY brief intro to C programming and added a few questions in the exam concerning C programs for the 68HC11. I am having a problem with one very simple question. The question reads:

"Write a small program that will multiply the character variables X and Y if Y>X; otherwise it will perform an integer divide, X/Y."

My concern is that if I declare X and Y as "char" data types, the compiler will only RMB 1 for each. In this case, I think the IDIV instruction wont work properly because it fetches a 16 bit dividend and divisor. In either case I think I should declare Z (product or quotient) as "int" data type because bothe the MUL and IDIV instructions produce a 16 bit result. I am not sure how to handle this. Any help would be appreciated.

This is not cheating since this exam is open book and I am allowed to use "any resource" available.

Ken

### Re: [OT] C Programming and the 68HC11

Message #2 Posted by [the person formerly known as dot](#) on 2 Apr 2007, 8:09 a.m.,  
in response to message #1 by [Ken Ratkevich](#)

Quote:

My concern is that if I declare X and Y as "char" data types, the compiler will only RMB 1 for each. In this case, I think the IDIV instruction wont work properly because it fetches a 16 bit dividend and divisor.

Who cares? It's the compilers problem, not yours. If it can't use one instruction it will generate others that will give the correct result.

The whole point of using compilers and writing in C is so you don't have to worry about issues like these.

This function will work on any C compiler on any chip:

```
int doCalculation (char X, char Y){
if (Y>X) return X*Y; return X/Y;
```

```
}
```

### Re: [OT] C Programming and the 68HC11

Message #3 Posted by [Cameron Paine](#) on 2 Apr 2007, 9:16 a.m.,  
in response to message #2 by the person formerly known as dot

An observation, nothing more. The return value of your function will be widened to int. Depending on input values, this may result in an unintended side-effect. Perhaps this is one of those instances that aren't simply the compiler's problem.

Cameron

### Re: [OT] C Programming and the 68HC11

Message #4 Posted by [the person formerly known as dot](#) on 2 Apr 2007, 5:55 p.m.,  
in response to message #3 by Cameron Paine

That was intentional... which was why I made the function return int. The question didn't specify anything about the return value type.

### Re: [OT] C Programming and the 68HC11

Message #5 Posted by [Cameron Paine](#) on 2 Apr 2007, 9:07 a.m.,  
in response to message #1 by Ken Ratkevich

I'd take the former dot's response a little further: think of C as the target architecture that you're writing for. Knowledge of the actual platform is a distraction that should be ignored unless the problem you're trying to solve refuses to let it be. The question you ask is not such a problem; ejecting a char-sized object through an I/O port might be one that is.

An alternative solution:

```
return Y > X ? X * Y : X / Y;
```

Cameron

### Re: [OT] C Programming and the 68HC11

Message #6 Posted by [Ken Ratkevich](#) on 2 Apr 2007, 9:58 a.m.,  
in response to message #1 by Ken Ratkevich

Thanks to all for your input. You've both confirmed my assumption that it is the job of the compiler to generate the appropriate code for the target platform. I think I will like C (C++, C#) when I get to them in a more detailed lesson.

Ken

### Re: [OT] C Programming and the 68HC11

Message #7 Posted by [Alan Firth](#) on 2 Apr 2007, 1:15 p.m.,  
in response to message #6 by Ken Ratkevich

It may be a moot point to you, but if you get hooked by the microcontroller bug, check the Microchip website. They have a very good \*free\* development environment, and a 60-day evaluation of their C

compiler (the 'student version') for the '18' series chips. (The evaluation doesn't expire - it has slightly reduced functionality after 60 days)

Programmers are available from Microchip, as well as several other sources.

(I'm a 'Microchip jingoist')... not connected with them in any way.

---

**Re: [OT] C Programming and the 68HC11**

*Message #8 Posted by [the person formerly known as dot](#) on 3 Apr 2007, 4:08 a.m.,  
in response to message #7 by Alan Firth*

PICs are OK, but I'd strongly recommend the Atmel AVR series. I think they're better than PICs in many ways (32 registers vs a single 'W' register, faster, very cheap Dragon debugger) but the best thing is the free GCC port. Combined with AVR studio, you get a C IDE + simulator for free.

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## HP Forum Archive 17

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### AC adapters

Message #1 Posted by [Keith Beyer](#) on 1 Apr 2007, 9:09 p.m.

Is there a source that lists which HP AC adapters works with which HP calculators? I know individual adapters work with multiple calculators, but I'm clueless which is which.

Thanks!

### Re: AC adapters

Message #2 Posted by [Karl Schneider](#) on 2 Apr 2007, 12:27 a.m.,  
in response to message #1 by Keith Beyer

Quote:

Is there a source that lists which HP AC adapters works with which HP calculators? I know individual adapters work with multiple calculators, but I'm clueless which is which.

Sure, there's a source -- *this very website*, of which the Forum is only one part. Load the home page and do an automated search on "chargers". You just might find something...

Now, a word of caution: What was produced are generally AC-powered chargers for rechargeable batteries, not AC "adapters". As a general rule, a functional battery pack must be installed in the calculator for the charger to be used without damaging the calculator.

An exception is the HP-71B AC adapter, which does not attempt to recharge installed batteries, since it uses disposable cells.

-- KS

### Re: AC adapters

Message #3 Posted by [Keith Beyer](#) on 2 Apr 2007, 9:29 a.m.,  
in response to message #2 by Karl Schneider

Maybe I should be more specific. Does the AC adapter that works on an HP 97 work on an HP 71B? I know there is a list on the Museum website of batteries/chargers and which calculators they work with, but will none of these work with the 71B?

Thanks!

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## HP Forum Archive 17

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### Removing Permanent Marker from HP 48SX

Message #1 Posted by [Clive](#) on 1 Apr 2007, 5:20 p.m.

Is it possible to remove what looks like a black spot from a permanent marker from the keyboard area of an HP 48SX? If so, how? Any suggestions for cleaning methods to try, that will not damage or leave any marks on the keyboard area? The mark is just a spot, and is above the top row of keys.

Thanks

### Re: Removing Permanent Marker from HP 48SX

Message #2 Posted by [Mike Sebastian](#) on 1 Apr 2007, 7:58 p.m.,  
in response to message #1 by Clive

Try using a dry-erase marker. The solvents in dry-erase markers dissolve the ink of most permanent markers. After the dry-erase "ink" dries, just erase it. I haven't tried this on a calculator, but it works very well with removing permanent marker ink from white boards.

### Re: Removing Permanent Marker from HP 48SX

Message #3 Posted by [Steven Burrows](#) on 2 Apr 2007, 4:46 p.m.,  
in response to message #1 by Clive

If this is a permanent marker like a Sharpie, you might try some rubbing alcohol (isopropyl) on a cotton swab. We use Sharpies to mark glassware and other things in labs, and alcohol always takes the marks off. Acetone also works, but this would almost certainly damage the plastic.

---

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## HP Forum Archive 17

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### Dice rolling Solver for HP 19BII - Please Help

Message #1 Posted by [Hans van der Drift](#) on 1 Apr 2007, 7:03 a.m.

Hi,

I have a Car racing board game that requires a lot of dice rolling (too much) I do not have the knowledge on how to write a formula for this but I hope I some one here could help (i am sure it is quite simple)I have a HP 19bII

So the input is "Gear" the output is "Spaces".

You get 6 dice, six of which represent gears on your car: d4 rolls 1 or 2 (first gear) d6 rolls 2-4 (second gear) d8 rolls 4-8 (third gear) d12 rolls 7-12 (fourth gear) d20 rolls 11-20 (fifth gear) d30 rolls 21-30 (sixth gear)

I will list out all 6 dice (or gears) and describe how many sides they have plus the results and chances.

**Dice/Gear 1** Sides = d4 Range = 1 - 2 Possibility: All 1 in 2

**Dice/Gear 2** Sides = d6 Range: 2 - 4 Possibility: 2: 1 in 6--- 3: 2 in 6--- 4: 3 in 6---

**Dice/Gear 3** Sides = d8 Range: 4 - 8 Possibility: 4: 1 in 8--- 5: 1 in 8--- 6,7,8: 2 in 8---

**Dice/Gear 4** Sides = d12 Range: 7 - 12 Possibility: All - 1 in 6

**Dice/Gear 5** Sides = d20 Range: 11 - 20 Possibility: All: 1 in 10

**Dice/Gear 6** Sides = d30 Range: 21 - 30 Possibility: All: 1 in 10

*Edited: 3 Apr 2007, 2:41 a.m.*

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## HP Forum Archive 17

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### Short & Sweet Math Challenge #18: April 1st, 2007 Spring Special

Message #1 Posted by [Valentin Albillo](#) on 1 Apr 2007, 12:01 a.m.

Hi all,

After nearly half a year has elapsed since my latest S&SMC, here's a new one for you to try and conquer, namely my brand-new **S&SMC#18: April 1st, 2007 Spring's Special**, similar in spirit to the one I posted in 2006 but this time for April 1st, 2007, i.e.: **4.012007** in plain numeric "date format".

To allow for variety, this S&SMC is further subdivided into 8 *sub-challenges*, all of them very short and sweet, and each one being assigned 10 points so that if you manage to solve them all, you'll get *a perfect 100% score of 80 points*. Some of them are intended for specific models, others are general in nature so any HP calc model can be used in principle to solve them though one or two might require suitably advanced models due to RAM requirements if nothing else.

You're expected to get your favourite HP calc, your programming ingenuity, experience and wits, and put everything to the task of solving them.

#### Notes:

- The model-specific questions apply only to that model in particular. They would probably be meaningless for any other models.
- If you use an HP-41C, you can also use any of these: Math ROM, Advantage ROM, Card Reader ROM, Printer ROM. No other ROMs or extra routines allowed.
- If you use an HP-71B, you can also use any of these: Math ROM, HP-IL ROM, STRNGLEX. No other ROMs or LEX files allowed.

## The Challenge:

1) (*HP-71B specific*) Find a root  $x$  of:

$$\text{Abs}(\text{Ln}(x*x) - \text{Ln}(x^2)) > 4.012007$$

where, of course, **Abs** is the "Absolute Value" function and **Ln** is the "Natural Logarithm" function.

Score:    Finding one root:    8 points  
           Finding additional roots: 2 points:

2) (*Any model*): Write a program that takes as input three positive integers A, B, M (A, B not being exact powers of 10), and outputs the difference between the probabilities P(A, M) and P(B, M) that two random powers of A and B (say  $A^i$  and  $B^j$  for some random positive integers  $i, j$ ) begin with M.

For instance, if  $A=265$ ,  $B=1387$ ,  $M=123456 \rightarrow \text{RUN} \rightarrow P(A,M) - P(B,M)$

where  $P(A,M)$  = probability that a random power of 265 begins with 123456  
 $P(B,M)$  = probability that a random power of 1387 begins with 123456

Use your program to compute this difference for the case:  $A=314159$ ,  $B=271828$ ,  $M=4012007$

Score: Writing a working program: 5 points:  
 Getting the correct answer for the specific case: 5 points

3) (Any model): Let  $F(X)$  be a function defined thus for real positive  $X$ :

$$\begin{aligned} F(1) &= 1 \\ F(X) &= F(X-1) + 1/X \end{aligned}$$

for instance:  $F(2) = F(1) + 1/2 = 1 + 1/2$   
 $F(3) = F(2) + 1/3 = 1 + 1/2 + 1/3$   
 $F(4) = F(3) + 1/4 = 1 + 1/2 + 1/3 + 1/4$   
 $F(\overset{\cdot\cdot\cdot}{100}) = 1 + 1/2 + 1/3 + 1/4 + 1/5 + \dots + 1/98 + 1/99 + 1/100$   
 ... etc ...

- Write a program that, given any real value  $N > 1$  and  $N < 200$  (for 10-digit models) or  $N < 1000$  (for 12-digit models), it will find the value of  $X$  (with full 10-12 digit accuracy) such that  $F(X) = N$ .
- Use your program to find  $X$  such that  $F(X) = 4.012007$

Score: Writing a working program: 5 points  
 Getting the correct answer for the specific case: 5 points

4) (Any model): Write a program, command line, or key sequence to compute the *exact symbolic value* of (in radians mode):

$$I1 = \int_0^{\text{Inf}} \frac{1}{(1+x^2) \cdot (1+x^{4.012007})} dx$$

$$I2 = \int_0^{\text{Pi}/2} \frac{1}{(1+\text{Tan}(x)^{4.012007})} dx$$

Score: 5 points for each correct symbolic value.

5) (Any 12-digit model): Given the succession defined thus:

$$X_0 = 0$$

$$X_N = \text{FractionalPart} \left( 2^4 \cdot X_{N-1} + \frac{30 \cdot M^2 - 89 \cdot M + 2^6}{2^3 \cdot M^4 - 2^6 \cdot M^3 + 178 \cdot M^2 - 206 \cdot M + 84} \right)$$

where  $M = 2^{2 \cdot N}$



write a program to compute the first 9 terms ( $X_1, X_2, \dots, X_9$ ) and print not each term  $X_k$  but  $\text{IntegerPart}(2^{4*X_k})$ . Once this is correctly done, you must answer these questions about the integer values thus obtained:

1. Give a description *as accurate and short as possible* of the printed values in this succession, i.e., what are they ?
2. Compute and output the next 9 additional (integer) values and state whether you deem them correct or not.
3. State whether you think the description you gave in (1) applies to your newly computed extra terms, and to the theoretically exact infinite sequence.

Score: Writing a working program: 4 points  
 Correct answer to (1): 4 points  
 Correct answer to (2): 1 point  
 Correct answer to (3): 1 point

6) (*HP-15C specific*): Assuming A and B are both  $N \times N$  matrices, their elements being integer values less than 5,000,000,000, write a program that will exchange their contents, for  $N \times N$  up to and including  $5 \times 5$ .

The program must take no input but assume both matrices already exist. None of the 21 conditional instructions available in the HP-15C are allowed.

Score: Writing a working program: 10 points

7) (*Any model*): Calculus tells us that the first derivative of a function such as  $x^3$  is  $D(x^3) = 3*x^2$  and its second derivative is  $D_2(x^3) = D(D(x^3)) = D(3*x^2) = 6*x$ , its third derivative would be 6, and finally its fourth derivative would be the first derivative of 6, but the first, second, etc, derivatives of 6, being a constant, are zero.

Let's consider the "Derivative" operator,  $D_n(f(x))$ , such that, for instance:

$$\begin{aligned} D_1(x^3) &= 3*x^2 & \rightarrow & \text{ at } x_0 = 2, D_1(x^3) = 3*2^2 = 12 \\ D_2(x^3) &= 6*x & \rightarrow & \text{ at } x_0 = 5, D_2(x^3) = 6*5 = 30 \\ D_3(x^3) &= 6 & \rightarrow & \text{ at } x_0 = \text{Pi}, D_3(x^3) = 6 \\ D_4(x^3) &= 0 & \rightarrow & \text{ at } x_0 = -4, D_4(x^3) = 0 \end{aligned}$$

1. Write a program that, given  $m$ ,  $n$ , and  $x_0$ , it computes and outputs the value of  $D_m(x^n)$  at  $x_0$ . In particular, use your program to compute the value of

$$D_{4.012007}(x^{\text{Pi}}) \text{ at } x_0 = e$$

2. Write another program that, given  $m$ , a constant  $c$ , and  $x_0$ , it computes and outputs the value of  $D_m(c)$  at  $x_0$ . In particular, use your program to compute the value of

$$D_e(4.012007) \text{ at } x_0 = \text{Pi}$$

(Strictly speaking, there are some combinations of  $m$ ,  $n$ , and  $x_0$  than aren't allowed because they would result in out of range values or division by zero, but your program needs not address them for this sub-challenge)

Score: For writing working programs: 3 points each  
For giving the correct answers to the specific cases: 2 points each

---

8) (*Any model*): Write a program to find, compute, and print all square factorials  $N!$  from  $N=1$  to  $N=512$ .

Score: For writing a working program: 6 points  
For correctly printing all results: 4 points

---

That's all. As usual, I'll post my solutions and comments within a week or so. This is the time to test what you're made of as far as HP-calcs programming goes, so go ahead full steam, do your best, engage, and may the force be with you.

Best regards from V.

## Re: Incredible!

Message #2 Posted by **J-F Garnier** on 1 Apr 2007, 11:08 a.m.,  
in response to message #1 by Valentin Albillo

Hi Valentin,

I was sure that your April 1st edition of your S&SMC was a joke, and I read it for the fun. Your first challenge just looked crazy:

$$\text{Abs}(\text{Ln}(x*x) - \text{Ln}(x^2)) > 4.012007$$

As  $x^2$  IS  $x*x$  by definition, it seems that there can be no solution. But I know you, Valentin, and you would not post nonsense. So I thought that some special cases could give different results for  $x*x$  and  $x^2$  due to floating point rounding effects. I quickly thought that only complex numbers could give such large differences.

After investigating a bit, what was my surprise to find THIS:

```
X=(1E-11,1-1E11)
X*X --> (-9.9999999998E21,-1.99999999998)
X^2 --> (-9.9999999998E21,-1.74532925.196)
```

We can call it a bug of the HP-71B Math ROM, no?

I never heard of that. Incredible!

J-F

*Edited: 1 Apr 2007, 11:11 a.m.*

## Re: Incredible! (S&SMC #18, item #1)

Message #3 Posted by **Karl Schneider** on 1 Apr 2007, 1:36 p.m.,  
in response to message #2 by J-F Garnier

Hi, J-F --

Quote:

---

```
X=(1E-11,1-1E11)
X*X --> (-9.9999999998E21,-1.99999999998)
X^2 --> (-9.9999999998E21,-1.74532925.196)
```

We can call it a bug of the HP-71B Math ROM, no?

---

Probably so. The HP-71B Math ROM was, I suspect, HP's first effort at handheld complex-number functionality for 12-digit arguments.

The successor HP-42S and HP-28C with their 12-digit arguments and built-in complex-number support give matching correct answers.

The successor HP-32S does not offer "COMPLX<sup>2</sup>", so no comparison is possible.

The predecessor HP-15C with its **10**-digit arguments and complex-number support give matching correct answers for 1E-09 and 1-1E09.

-- KS

### Re: Incredible!

Message #4 Posted by [Valentin Albillo](#) on 2 Apr 2007, 5:42 a.m.,  
in response to message #2 by J-F Garnier

Hi, Jean-François:

Thanks for your interest and kind comments, and yes, your intuition was correct and as sharp as ever: complex numbers provide a correct solution for this subchallenge.

The key idea behind your solution is given in the May 1983 issue of the HP Journal, more specifically in the article "Scientific Pocket Calculator Extends Range of Built-In Functions" which in particular discusses the complex algorithms implemented for the HP-15C (pp 28-31). The concepts and compromises discussed there also apply somewhat to the HP-71B implementation and probably to other HP calcs as well.

Now that you've found a correct solution, let's give you a new goal perfectly suited to your worthiness:

Your solution is indeed correct but on aesthetic grounds one could say your X is somewhat *ungainly*, what with its absolute value being *very large* (about 1E11), and its real and imaginary parts being *22 orders of magnitude apart*. With so extreme a value, one would expect odd behaviour when using it in computations: it might exceed some limits here and there or incur in significant-digit-cancellation problems.

That being so, see if you can find a solution *which doesn't exceed 1 in absolute value* and where such digit-cancellations simply can't happen. If you succeed, that will tell you even more about the HP-71B's complex number implementation. :-)

Best regards from V.

### Re: Item#1, solution

Message #5 Posted by [J-F Garnier](#) on 2 Apr 2007, 7:21 a.m.,  
in response to message #2 by J-F Garnier

Hello all,

I'm sorry, but there is no bug in the Math ROM, the behaviour I reported yesterday (on April 1st :-)) is only

due to inherent limited accuracy of floating point calculations (and is not HP-71B specific) that I tried to mask using a number chosen on purpose to show apparently very different results for  $x*x$  and  $x^2$  (there are very close, actually). And this number even doesn't satisfy Valentin's first problem (I didn't claim it does...):

```
X=(1e-11,1-1e11)
ABS(LN(X*X)-LN(X^2)) = 0 !
```

Sorry again...

A "solution" of the first problem is much simpler (and is specific to the HP-71B):

```
X=-(0,1)
ABS(LN(X*X)-LN(X^2)) = 6.28 (about)
```

J-F

## Re: S&SMC #18: item #6

Message #6 Posted by [Karl Schneider](#) on 1 Apr 2007, 1:14 p.m.,  
in response to message #1 by Valentin Albillo

Hi, Valentin --

Quite an ambitious effort! I remember one like number 6, so it wasn't too difficult to develop a solution:

Quote:

6) (HP-15C specific): Assuming A and B are both NxN matrices, their elements being integer values less than 5,000,000,000, write a program that will exchange their contents, for NxN up to and including 5x5.

The program must take no input but assume both matrices already exist. None of the 21 conditional instructions available in the HP-15C are allowed.

Assume that the two matrices are identified as A and B. The user is responsible for ensuring compatibility of dimensions, which need not be square.

```
LBL A
MATRIX 1
LBL 0
RCL A
x<> B
STO A (user mode)
GTO 0
RTN
```

The matrix indices are automatically incremented after a STO or RCL instruction when "USER" mode is set, but otherwise are not. This program takes advantage of a thoughtful feature of the HP-15C: Within a program, if a matrix index is incremented past the last element back to (1, 1), the next instruction is skipped. This allows escape from a loop without a conditional test.

The feature is documented on pages 176-177 in the HP-15C Owner's Handbook.

This program also uses the versatile open-ended "x<>" function, which can be used with any numbered memory register, with the I register, with (i) for indirection, and with A-E for matrix elements. It was a significant improvement over the HP-11C's "x<>I" and "x<>(i)" functions, and also made a needed keyboard position available as well. ("x<>" was also unavailable on the HP-32S, but restored for the HP-32SII.)

BTW, How do you figure "21 conditional instructions"? There are 12 instructions that compare stack x with zero or stack y, plus 10 flag tests, plus DSE and ISG. That's 24 operations having a "do if true" rule, although "F? 8" should be avoided as a general-purpose instruction.

-- KS

*Edited: 1 Apr 2007, 2:58 p.m.*

### Sorry but no cigar ! :-)

Message #7 Posted by [Valentin Albillo](#) on 2 Apr 2007, 6:03 a.m.,  
in response to message #6 by Karl Schneider

Hi, Karl:

Karl posted:

***"Quite an ambitious effort! I remember one like number 6, so it wasn't too difficult to develop a solution:"***

Thanks for your interest and words of appreciation, but sorry, your alleged solution *isn't*, read below why.

The requirements for this subchallenge specifically state that *"None of the 21 conditional instructions available in the HP-15C are allowed."* What's a "conditional instruction" ? I thought it was pretty obvious but perhaps it wasn't, so I'll make it clear here:

*"A conditional instruction is any HP-15C's programmable instruction that can perform a conditional jump over the next step depending on some condition checked by the instruction as part of its execution. Examples of such instructions are the **TEST** instructions, **F?**, etc."*

Now, your alleged solution does include an **STO A** instruction *in user mode*. That's a conditional instruction as per the definition above, as it can skip the next step depending on some condition that it checks as part of its execution. So your alleged solution, most regrettably, *isn't*.

***"BTW, How do you figure "21 conditional instructions"?"***

As per the definition above. Also, you shouldn't count "10 flag tests" as *ten* different conditional instructions but merely *one*, **F?**.

Thanks again for your very didactic comments and worthy techniques, which certainly add value to the forum's community even if they didn't result in a valid solution in this case, and I hope you'll keep on contributing to this current S&SMC.

Best regards from V.

### Re: Sorry but no cigar ! :-)

Message #8 Posted by [Paul Dale](#) on 2 Apr 2007, 7:32 p.m.,  
in response to message #7 by Valentin Albillo

Quote:

Karl posted:

**"BTW, How do you figure "21 conditional instructions"?"**

As per the definition above. Also, you shouldn't count "10 flag tests" as *ten* different conditional instructions but merely *one*, **F**?

Lets see:

```
x <= y?
x = 0 ?
TEST
F?
DSE
ISG
SOLVE
Integrate
matrix STO in USER mode
matrix RCL in USER mode
```

Even counting the TEST as the full 10, I'm two short.

- Pauli

**Re: Sorry but no cigar ! :-)**

Message #9 Posted by [Karl Schneider](#) on 3 Apr 2007, 12:07 a.m.,  
in response to message #7 by Valentin Albillo

Hi, Valentin --

Ah, *there's* the rub! I had several nagging doubts: Why you would essentially repeat an earlier challenge, and why integer elements of less than half the exactly-displayable range were specified. I'd say that Paul Dale identified the reason, and that his approach is on track.

Of course, if a user wanted some HP-15C program code to perform a matrix swap, why else would one use slow (and sometimes space-costly) matrix arithmetic instead of "surgical element-wise replacement"?

To illustrate, here's an example from linear algebra. Suppose that a user were to calculate eigenvalues for small matrices on an HP-15C (not that I'd advise it, due to computational slowness).

Using "r" to denote a right eigenvalue of a square matrix A with a corresponding right eigenvector **x**, we have the following familiar derivation:

$$A\mathbf{x} = r\mathbf{x}$$

$$A\mathbf{x} - r\mathbf{x} = \mathbf{0}$$

$$(A - rI)\mathbf{x} = \mathbf{0}$$

Since the only eigenvector for a nonsingular  $(A - rI)$  would be the trivial solution  $\mathbf{x} = \mathbf{0}$ ,  $(A - rI)$  must be singular. Thus,

$$\det (A - rI) = 0.$$

Calculation of  $(A - rI)$  from a known or assumed value of r could be performed by creating an identity matrix, multiplying it by r, then subtracting from A. Or, a simple loop program could subtract r from each value on the main diagonal of A. Which is more efficient in terms of computing speed and space

requirements, both of which are rather limited on the HP-15C?

I suspect that these are the reasons why no utility for generating identity matrices was provided on the HP-15C. (Not to belabor the point, but the comparison of methods in your challenge offered a *segue*.)

Quote:

... Also, you shouldn't count "10 flag tests" as ten different conditional instructions but merely one, F?.

Point taken about *conditional* instructions, but I generally define instructions based on op-codes: If it has a unique code, it's a complete instruction. The basic command is a function. There are 700 programmable instructions on an HP-15C, but far fewer functions.

-- KS

### Re: S&SMC #18: item #6

Message #10 Posted by [Paul Dale](#) on 2 Apr 2007, 7:27 p.m.,  
in response to message #6 by Karl Schneider

I'm pretty busy at the moment so won't be able to do much on this set of problems, However, how about something along these lines for the sixth:

```
RCL MATRIX A
RCL MATRIX B
RESULT B
+           // B = A+B
RCL MATRIX B
RCL MATRIX A
RESULT A
-           // A = (A+B) - A = B
RCL MATRIX B
RCL MATRIX A
RESULT B
-           // B = (A+B) - B = A
```

I'm relying on the assumption that the matrix contents are integers and that a sum of two such won't overflow a register or lose any precision. This is justified given the problem statement.

- Pauli

### first thoughts on #3

Message #11 Posted by [hugh steers](#) on 1 Apr 2007, 6:03 p.m.,  
in response to message #1 by Valentin Albillo

using hplua on the 50g (counts as any calculator right?) im thinking of using the digamma function instead of loop and also to get the real-valued harmonic function.

start with definitions: harmonic(x) = sum(1,x,1/x), euler = euler's constant, digamma(x) = gamma'(x)/gamma(x) [prime = derivative] and harmonic(x) = euler + digamma(x+1)

since the digamma doesnt exist native, i try with a hacky numerical derivative like this,

```
function digamma(x)
  local dx = 1e-6
  return (math.fact(x-1+dx) - math.fact(x-1-dx))/2/dx/math.fact(x-1)
end
```

which is probably not terribly accurate but could be improved. then i get an answer for #3 using some functional programming and solve like this:

```
euler = 0.5772156649015328606
function harmonic(x)
  return euler + digamma(x+1)
end
function inversefn(f, eps)
  return function(x)
    local ff = function(y) return f(y) - x end
    return solve(ff, 1, 100, eps) end
end
```

transcript,

```
>hplua -i solve.lua
Lua 5.1.1 Copyright (C) 1994-2006 Lua.org, PUC-Rio
HPLua version 0.2
```

```
dofile("valentin3.lua")
invdi = inversefn(harmonic, 1e-10)
=invdi(4.012007)
> 30.523595225432980746
>
```

anywhere close?

### Re: first thoughts on #3

Message #12 Posted by [Valentin Albillo](#) on 2 Apr 2007, 6:50 a.m.,  
in response to message #11 by hugh steers

Hi, Hugh:

Hugh posted:

*"using hplua on the 50g (counts as any calculator right?)"*

Certainly, it does. The 50g is an HP calc model and anything that runs on it is valid and legal for this S&SMC. Matter of fact, it's most welcome, as it provides diversity and further shows the forum's community which tools are available and what can be done with them in a practical, not contrived situation.

*"> 30.523595225432980746 anywhere close?"*

Indeed. Your result agrees with my original one-line solution for the HP-71B to 12 significant digits save for a few ulps.

Thanks for your interest, congratulations for your correct and truly novel solution and I hope you'll consider trying your hand at some other subchallenges as well (or all!) :-)

Best regards from V.

### Re: first thoughts on #3

Message #13 Posted by [Rodger Rosenbaum](#) on 3 Apr 2007, 4:55 a.m.,  
in response to message #12 by Valentin Albillo

Quote:

\_\_\_\_\_



"> 30.523595225432980746 anywhere close?"

Indeed. Your result agrees with my original one-line solution for the HP-71B to 12 significant digits save for a few ulps.

The function to be used for this challenge was defined like this:

Quote:

Let  $F(X)$  be a function defined thus for real positive  $X$ :

$$\begin{aligned} F(1) &= 1 \\ F(X) &= F(X-1) + 1/X \end{aligned}$$

$$\begin{aligned} \text{for instance: } F(2) &= F(1) + 1/2 = 1 + 1/2 \\ F(3) &= F(2) + 1/3 = 1 + 1/2 + 1/3 \\ F(4) &= F(3) + 1/4 = 1 + 1/2 + 1/3 + 1/4 \\ &\vdots \\ F(\overset{\cdot\cdot\cdot}{100}) &= 1 + 1/2 + 1/3 + 1/4 + 1/5 + \dots + 1/98 + 1/99 + 1/100 \\ &\dots \text{ etc } \dots \end{aligned}$$

The description "real positive  $X$ " includes non-integers, although when I first looked at the definition, I couldn't see just how the recursion would terminate if  $X$  wasn't an integer. I suppose the process could be terminated just before the next term of the sequence becomes negative, but as I mention below, that stopping criterion doesn't always give a good result.

At any rate, if the value 30.523595225432980746 is substituted for  $X$  and the summation carried out, after adding 30 terms the sum is about 3.37647; after 31 terms, the sum is about 5.28634. With 32 terms, the sum begins to decrease, and its value is about 3.18724.

Using the function definition given in the original statement of the challenge, for  $X = 30.523595225432980746$ , the function is never equal to 4.012007 for any number of terms in the sum, so that for this part of the challenge:

Quote:

2. Use your program to find  $X$  such that  $F(X) = 4.012007$

30.523595225432980746 is not a solution (if we stick to the given definition of the function).

However, if we let  $X = 29.98952530377276865$  and add up 30 terms according to the given definition of the function, we will get a result very close to 4.012007. And, in fact, there are 30 values of  $X$  which will give 4.012007 with 30 terms added up. The values of  $X$  go something like this:

29.98952530377276865  
28.425274519995517519  
:  
:  
5.165990779772168  
:  
:  
0.12209269005912

If we choose to add up 29 terms, there are 29 starting values of  $X$  that give 4.012007. If we choose to add up 28 terms, there are 28 values of  $X$ , etc.

Notice that for the small starting values of X and with 30 terms, there are quite a few terms in the sum that go negative.

## #8 is a fool

Message #14 Posted by [hugh steers](#) on 1 Apr 2007, 7:27 p.m.,  
in response to message #1 by Valentin Albillo

here's my program:

1  
R/S

for there are no square factorials except 1.

proof: Suppose  $n!$  is a perfect square,  $n \neq 1$ . let  $p$  be the largest prime dividing  $n!$ , then we must have  $p^2 \mid n!$  and  $n! \geq p^2 > 2p$  when  $p > 2$ . But, there exist a prime  $q$ ,  $2p > q > p$  (bertran) But,  $q \mid n!$  so  $p$  was not the largest prime. contradiction.

!

## A suggestion (Re: #8 is a fool)

Message #15 Posted by [Valentin Albillo](#) on 4 Apr 2007, 4:34 a.m.,  
in response to message #14 by hugh steers

Hi, Hugh !

I do appreciate your mathematically orthodox reasoning but taking into account the particular nature of these "Spring Specials" I suggest some [lateral thinking](#) would be in order to deal with #8.

Best regards from V.

## Re: A suggestion (Re: #8 is a fool)

Message #16 Posted by [Bram](#) on 4 Apr 2007, 6:07 a.m.,  
in response to message #15 by Valentin Albillo

Perhaps I'm thinking too lateral now, but your suggestion convinces me that there are exactly 512 square factorials that would do for an answer, each being the square of its square root. You aren't asking for integers, so .....

It kind of depends on the definition of "square", doesn't it?

## Re: A suggestion (Re: #8 is a fool)

Message #17 Posted by [Valentin Albillo](#) on 4 Apr 2007, 6:23 a.m.,  
in response to message #16 by Bram

Hi, Bram:

"It kind of depends on the definition of "square", doesn't it? "

Yes, it does, and I'd further suggest that you go to the simplest definition (actually more like a mental image) you can think of for "square", actually what a young child would do; think of "Sesame Street"'s character Grover trying to explain the concept to a

toddler audience :-)

BTW, I've been missing your contributions, you frequently posted very interesting solutions and ideas in past S&SMC's.

Best regards from V.

**Re: A suggestion (Re: #8 is a fool)**

*Message #18 Posted by [hugh steers](#) on 4 Apr 2007, 8:24 a.m.,  
in response to message #17 by Valentin Albillo*

unless you mean all factorials of squares by the phrase "square factorials".

and indeed it does depend what you mean by a "square". i think it's up to the problem poster to define the problem properly if this is the case.

so there's bram's suggestion that square can apply to reals. in which case it might as well apply to rationals, complex and so on.

a square could also refer to being a quadratic residue. so  $n!$  is a square if there's an  $a$ , with  $a^2 = n! \pmod{m}$ . for some  $m$ ?

who knows?

**Re: A suggestion (Re: #8 is a fool)**

*Message #19 Posted by [Bram](#) on 5 Apr 2007, 4:02 a.m.,  
in response to message #17 by Valentin Albillo*

Hi Valentin,

you remarked:

*"BTW, I've been missing your contributions, you frequently posted very interesting solutions and ideas in past S&SMC's",*

which is very kind to say. Be assured that I do read your S&SMC's and I do think about them, but all too often a properly worked out answer would require the time I must spend on other things. Yet I'm sure that some contributions will emerge in the future. For now I seem to kind of have unlearnt the ability to think easily, so it's difficult to get these things square ;-)  
(I keep thinking about it, though)

**Last hint for #8**

*Message #20 Posted by [Valentin Albillo](#) on 6 Apr 2007, 9:31 p.m.,  
in response to message #14 by hugh steers*

Hi all,

It would be a real pity to left #8 "unattended" just because of some misunderstanding about the meaning of "square factorials".

I've given some advices and subtle hints about the proper meaning but either they weren't understood as well or simply there's no interest in #8.

Assuming the former, I'll give one last hint before I post my original solutions within 48 hours from now: "square" doesn't necessarily have to apply to the factorial's *value*. It may also apply to some other physical attribute, such as its *shape* when output.

Have you never heard of "triangular numbers", 'pentagonal numbers', 'polygonal numbers' in general ? Why do you think that square numbers were called precisely 'squares' back in ancient times ? Just try to dispose 16 marbles in your table to form some most regular pattern and you'll clearly see why ancient mathematicians would say that 16 is a square number ! Same for these factorials I'm asking for.

'Nuff said. Thanks for your interest and

Best regards from V.

## Re: Last hint for #8

Message #21 Posted by **Egan Ford** on 7 Apr 2007, 3:20 a.m.,  
in response to message #20 by Valentin Albillo

Quote:

Assuming the former, I'll give one last hint before I post my original solutions within 48 hours from now: "square" doesn't necessarily have to apply to the factorial's *value*. It may also apply to some other physical attribute, such as its *shape* when output.

I kind of figured that would be the case after the sesame street reference. Like the others I was confused about the term "square factorial". My first assumption matched Hugh's original solution. After that was shot down I turned to <http://www.research.att.com/~njas/sequences/A100777> (Square-factorial numbers). And wrote the following Perl prototype:

```
#!/usr/bin/perl
use Math::BigInt;
my $a = Math::BigInt->new("1");
foreach(1..512) {
    print $_;
    print "\t";
    $a = $a * l($_);
    print $a;
    print "\n";
}
sub l
{
    my $n=shift;
    for(my $i=int(sqrt($n));$i>0;$i--) {
        my $s=$i**2;
        if($n % $s == 0) {
            return($s);
        }
    }
}
```

However, I never got around to coding it in my 50G.

Your last two statements made me think about the shape as if each digit was a standalone unit (e.g. marbles).

The following 15C program computes the number of digits for N! for the range 1 to 512 then checks to see if the number of digits is a perfect square, if so print N.S, where N is 1 to 512 and S is the number of digits.

Output:

1.1  
2.1  
3.1  
7.4  
12.9  
18.16  
32.36  
59.81  
81.121  
105.169  
132.225  
228.441  
265.529  
284.576  
304.625  
367.784  
389.841  
435.961  
483.1089  
508.1156

Code:

```
1 LBL A
2 1
3 .
4 5
5 1
6 2
7 0
8 1
9 STO 2
10 LBL 0
11 RCL 2
12 INT
13 GSB 1
14 STO 1
15 SQRT
16 FRAC
17 X=0
18 GSB 2
19 0
20 f ISG 2
21 GTO 0
22 RTN
23 LBL 1
24 STO 0
25 1
26 EXP
27 /
28 LOG
29 RCL* 0
30 RCL 0
31 RCL+ 0
32 PI
33 *
34 SQRT
35 LOG
36 +
37 1
38 +
39 INT
40 X=0?
41 1
42 RTN
43 LBL 2
44 RCL 2
45 INT
46 RCL 1
47 RCL 1
48 LOG
49 INT
50 1
51 +
52 STO I
53 10x
54 /
55 +
56 f FIX I
57 R/S
```

**Re: Last hint for #8**

Message #22 Posted by [Valentin Albillo](#) on 7 Apr 2007, 12:59 p.m.,  
in response to message #21 by Egan Ford

Hi, Egan:

Congratulations, your interpretation and solution are both fully correct, there are 20 "square factorials" in the 1-512 range. Two comments:

- It would be extra-nice if you would also print the full "square factorials" in a square arrangement to further make the point and for visual impact. My original solution for the HP-71B, which is quite short, actually does it.
- Your HP-15C program admits a number of easy improvements. Just for instance, in the very first steps you set a constant for the counter, 1.51201. The final "01" is not necessary at all, if absent the "01" increment is assumed *by default*, saving 2 steps. Also, it would be better to use a *decrementing* counter, going from 512 down to 1 so the constant would be simply 512, additionally saving two extra steps.

Thanks for your contribution and

Best regards from V.

**Re: Last hint for #8**

Message #23 Posted by [Egan Ford](#) on 7 Apr 2007, 1:28 p.m.,  
in response to message #22 by Valentin Albillo

Quote:

It would be extra-nice if you would also print the full "square factorials" in a square arrangement to further make the point and for visual impact. My original solution for the HP-71B, which is quite short, actually does it.

I figured as much. I'll post a 50G solution (no point in two 71B solutions) once I figure out how to display small fonts. The output will look like this (sans the extra space I added so that it looked more square here):

```

1
2
6
5 0
4 0

4 7 9
0 0 1
6 0 0

6 4 0 2
3 7 3 7
0 5 7 2
8 0 0 0

2 6 3 1 3 0

```

8 3 6 9 3 3  
 6 9 3 5 3 0  
 1 6 7 2 1 8  
 0 1 2 1 6 0  
 0 0 0 0 0 0

1 3 8 6 8 3 1 1 8  
 5 4 5 6 8 8 9 8 3 5  
 7 3 7 9 3 9 0 1 9  
 7 2 0 3 8 9 4 0 6  
 3 4 5 9 0 2 8 7 6  
 7 7 2 6 8 7 4 3 2  
 5 4 0 8 2 1 2 9 4  
 9 4 0 1 6 0 0 0 0  
 0 0 0 0 0 0 0 0 0

5 7 9 7 1 2 6 0 2 0 7  
 4 7 3 6 7 9 8 5 8 7 9  
 7 3 4 2 3 1 5 7 8 1 0  
 9 1 0 5 4 1 2 3 5 7 2  
 4 4 7 3 1 6 2 5 9 5 8  
 7 4 5 8 6 5 0 4 9 7 1  
 6 3 9 0 1 7 9 6 9 3 8  
 9 2 0 5 6 2 5 6 1 8 4  
 5 3 4 2 4 9 7 4 5 9 4  
 0 4 8 0 0 0 0 0 0 0 0  
 0 0 0 0 0 0 0 0 0 0 0

1 0 8 1 3 9 6 7 5 8 2 4 0  
 2 9 0 9 0 0 5 0 4 1 0 1 3  
 0 5 8 0 0 3 2 9 6 4 9 7 2  
 0 6 4 6 1 0 7 7 7 4 9 0 2  
 5 7 9 1 4 4 1 7 6 6 3 6 5  
 7 3 2 2 6 5 3 1 9 0 9 9 0  
 5 1 5 3 3 2 6 9 8 4 5 3 6  
 5 2 6 8 0 8 2 4 0 3 3 9 7  
 7 6 3 9 8 9 3 4 8 7 2 0 2  
 9 6 5 7 9 9 3 8 7 2 9 0 7  
 8 1 3 4 3 6 8 1 6 0 0 9 7 2  
 8 0 0 0 0 0 0 0 0 0 0 0 0  
 0 0 0 0 0 0 0 0 0 0 0 0 0

1 1 1 8 2 4 8 6 5 1 1 9 6 0 0  
 4 3 0 7 4 4 9 9 6 3 0 7 6 0 7  
 6 1 6 9 0 2 9 9 7 5 6 2 4 7 5  
 5 7 1 8 4 2 6 3 3 8 3 8 4 1 2  
 1 6 7 5 6 8 3 6 1 1 6 9 6 7 2  
 8 2 0 1 1 8 4 5 4 0 0 4 5 7 3 0  
 2 6 0 6 8 8 5 1 0 0 8 7 9 9 0  
 9 2 7 1 9 6 1 0 4 9 6 2 6 8 5  
 4 6 2 5 9 5 8 3 7 3 6 0 3 3 6  
 0 9 4 2 6 7 2 0 5 1 3 4 9 4 8  
 2 5 0 3 8 9 0 3 2 4 6 1 9 2 4  
 9 0 9 7 6 6 6 0 7 7 1 5 9 2 4  
 0 8 6 4 8 9 2 9 7 7 1 5 2 0 0  
 0 0 0 0 0 0 0 0 0 0 0 0 0 0  
 0 0 0 0 0 0 0 0 0 0 0 0 0 0

1 4 7 3 0 5 6 2 5 6 8 2 2 9 9 7 0 0 0 5 3  
 4 1 1 3 2 1 4 1 4 3 3 0 3 8 6 2 2 3 9 2 1  
 6 2 7 7 0 0 6 9 3 6 2 7 5 9 2 6 3 2 7 0 4  
 0 8 8 5 6 9 2 8 8 2 5 9 7 5 6 7 8 2 6 0 1  
 1 6 1 0 4 0 4 5 2 7 1 5 3 2 2 1 0 0 6 4 3 2  
 7 7 0 1 2 1 8 8 1 3 7 5 2 1 0 2 0 0 0 0 4  
 7 5 6 1 6 0 3 9 5 4 5 1 9 7 6 3 5 1 7 3 1  
 3 4 5 5 9 1 6 7 2 1 9 1 1 0 1 2 1 5 4 8 0  
 1 7 7 5 1 6 4 0 9 5 5 3 6 3 5 3 1 7 0 5 8  
 1 0 5 2 7 8 6 2 4 6 3 6 8 7 4 0 4 2 6 6 4  
 7 4 8 9 9 7 0 8 7 1 5 4 7 5 5 2 5 7 8 0 5  
 5 0 2 2 3 8 3 4 5 1 3 2 8 3 7 6 3 3 6 2 8  
 9 2 5 0 6 4 4 0 3 5 7 9 6 6 1 7 3 7 0 0 0  
 4 1 7 6 5 5 7 3 6 0 0 4 3 0 7 1 8 9 2 6 1  
 7 6 5 8 2 1 7 7 6 2 3 1 7 4 3 2 2 8 8 2 0  
 6 4 3 7 6 6 4 1 7 9 3 4 0 7 2 4 4 7 7 2 1  
 9 0 4 7 5 4 6 9 3 3 4 7 7 8 3 9 4 7 7 9 2  
 9 7 2 7 3 9 0 8 4 9 0 7 4 9 4 8 8 0 5 1 2  
 4 8 9 5 5 3 9 2 0 0 0 0 0 0 0 0 0 0 0  
 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0  
 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

4 8 1 9 1 2 6 5 4 5 1 8 9 1 1 5 2 4 9 8 5 7 9  
 9 6 7 3 0 9 6 0 9 8 6 2 5 1 5 3 3 7 7 0 3 6 6  
 3 3 1 8 5 7 3 6 8 9 5 7 6 1 5 6 6 1 2 2 0 7 9  
 8 6 2 8 5 8 5 0 7 3 7 8 3 9 1 4 4 8 3 6 4 6 7  
 2 5 8 6 7 7 3 9 6 8 7 6 2 2 5 0 6 3 5 7 3 2 4  
 0 1 6 0 5 3 1 4 5 5 6 2 7 7 0 0 9 4 2 5 1 3 7  
 3 1 3 8 3 4 2 2 4 9 8 2 3 7 9 6 0 3 7 6 6 5 4  
 3 7 6 0 1 7 9 8 0 8 1 1 3 1 8 5 5 8 9 5 3 2 2  
 0 3 0 4 8 4 1 7 7 7 4 1 4 6 8 3 0 0 0 7 0 3  
 2 6 6 3 1 5 0 8 1 9 7 4 4 1 8 4 9 5 5 5 9 6  
 5 1 7 6 7 5 4 2 4 9 6 4 7 5 3 8 9 3 5 5 1 1 8

2 8 5 5 1 3 9 7 4 7 3 6 0 7 2 9 2 2 3 8 9 4 5  
6 0 0 1 1 3 2 5 5 6 6 3 1 6 2 0 7 7 8 2 3 9 8 4 5  
0 1 9 1 6 5 8 2 8 7 9 7 4 3 1 0 8 1 0 7 9 3 9  
1 4 8 1 3 2 0 7 7 7 9 5 8 3 8 1 4 5 7 6 0 0 3  
6 7 4 7 7 4 1 5 4 0 4 5 4 0 7 3 7 8 0 3 6 9 0  
2 9 3 5 3 4 9 0 6 1 0 4 3 9 6 7 3 3 2 1 2 3 9  
0 5 6 2 1 4 4 4 6 5 8 4 7 8 5 9 0 0 9 8 8 4 9 4  
8 4 9 2 5 9 5 9 9 2 2 0 9 2 0 1 4 2 0 7 9 5 6  
4 1 3 1 2 8 4 3 6 6 3 2 5 2 1 0 8 2 3 8 8 0 8  
6 7 8 4 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0  
0  
0 0

1 0 6 8 1 9 9 2 0 9 5 8 2 4 2 1 2 4 2 1 0 4 8 9  
7 7 0 5 6 0 0 9 1 3 4 7 7 7 1 2 5 0 6 8 8 7 3  
1 2 9 9 4 0 0 9 1 3 4 7 7 7 1 2 6 4 7 9 3 2 2 5  
4 9 2 6 2 7 0 8 5 9 5 9 5 2 2 3 2 3 2 3 8 8  
4 4 5 6 9 4 1 0 1 6 1 5 4 8 8 1 5 6 2 7 4 8 6 8  
6 3 2 1 4 1 4 9 8 3 2 5 3 7 5 4 0 7 6 4 8 2 3 5  
2 3 8 8 4 3 1 2 5 9 0 8 7 4 1 5 2 8 3 4 8 3 5 2  
4 4 1 6 4 1 0 9 7 4 5 2 3 3 8 5 7 9 6 4 6 9 6 9  
3 8 1 1 7 2 9 4 7 4 6 1 8 5 4 5 1 6 0 2 9 7 7 9 4  
1 8 1 4 5 1 1 9 1 2 2 1 4 8 9 0 2 4 4 0 0 2 6 6 3  
9 9 4 5 1 4 3 0 0 9 9 7 0 4 2 8 2 0 6 1 7 4 3 2  
9 0 6 8 0 2 7 8 3 1 8 9 3 2 3 1 2 0 5 0 3 2 5 9  
6 0 5 0 7 0 2 3 0 3 8 5 2 7 2 0 7 7 4 0 3 5 7 0  
4 2 3 3 9 6 8 3 4 6 9 5 4 4 3 9 2 9 4 5 4 0 3 9 9  
2 4 1 4 8 7 2 9 3 9 1 9 9 9 4 3 7 8 0 7 7 5 2 9  
1 9 4 0 4 1 0 1 3 8 1 1 7 8 9 5 5 0 2 7 0 2 4 1 4  
1 3 3 8 4 0 7 4 5 5 6 2 2 8 9 5 0 7 5 9 1 4 5 9  
9 7 9 1 6 5 9 9 6 8 6 7 7 4 4 6 4 8 3 3 5 1 9 3  
8 0 9 0 3 5 1 0 1 4 4 6 6 1 1 7 0 0 6 0 8 0 7 6 1  
7 2 7 5 2 9 4 4 9 1 5 6 7 3 5 8 1 4 2 1 6 9 7 4  
3 3 6 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0  
0  
0 0

2 5 6 2 6 7 0 0 5 6 6 2 3 1 5 3 4 5 1 4 2 3 6 7 7  
9 7 3 4 1 7 0 3 5 3 5 4 3 2 2 8 9 5 0 2 7 9 8 2 4 1  
8 0 1 5 6 4 8 7 4 2 2 3 4 0 8 7 3 0 5 4 6 6 1 6 1 4  
4 0 6 1 2 8 5 8 1 3 0 9 6 1 6 4 2 7 5 8 5 6 4 2 4  
5 9 8 1 0 4 9 8 5 6 6 3 0 0 4 4 0 0 7 4 0 0 1 9 2 7  
7 7 1 5 5 9 5 3 2 4 7 4 3 2 0 7 7 8 7 8 9 6 5 8 9  
2 4 3 2 9 1 2 0 0 3 4 4 1 5 6 7 7 3 0 2 7 2 0 1 7  
0 9 8 3 9 5 6 5 8 1 0 0 9 0 2 4 5 5 7 3 7 0 3 9 9  
1 8 3 9 4 6 6 9 7 8 0 1 1 9 9 8 6 6 3 0 0 9 4 0 7 6  
5 2 5 6 8 7 7 5 8 7 7 0 4 5 9 6 3 6 2 2 2 6 0 8 0  
7 3 8 1 2 7 4 6 9 2 1 2 0 7 3 4 0 4 2 0 8 0 2 1 6  
2 0 3 8 4 6 0 6 0 6 4 2 6 5 2 4 2 4 6 6 5 5 7 0 5  
6 4 9 5 2 8 9 0 2 6 6 6 6 3 9 2 8 5 4 7 7 0 8 3 1 6  
8 6 4 4 6 6 7 5 0 1 5 4 3 3 4 1 6 6 0 8 4 9 3 7 1  
7 6 9 5 2 6 3 4 7 3 8 2 0 9 7 8 2 1 6 2 1 8 9 3 1  
6 0 5 1 2 6 8 7 8 1 1 3 4 8 4 5 3 9 2 6 9 6 6 9 9  
3 6 7 5 0 8 4 0 5 1 1 1 3 4 8 1 9 5 8 9 6 9 3 2 3  
2 7 4 2 5 3 4 0 0 1 1 7 1 2 3 7 0 9 5 9 9 2 3 0 7  
2 0 9 6 2 7 2 2 8 4 2 8 9 2 6 7 0 2 6 7 8 1 4 5 5  
0 5 6 4 9 4 5 2 2 1 4 5 6 5 6 0 2 6 6 1 0 4 1 0 8  
3 3 0 7 6 5 4 9 8 8 8 7 9 7 9 1 3 3 4 9 1 0 0 2 0  
0 0 2 7 1 9 6 6 4 9 7 1 8 7 0 4 2 5 3 5 9 3 1 9 0  
4 0  
0  
0 0

3 3 7 2 0 3 6 7 7 1 9 5 8 4 0 0 0 3 9 0 5 0 8 6 8 7 4 3  
2 2 7 9 2 9 1 8 5 4 1 3 2 4 4 3 0 1 3 6 9 9 0 2 9 4 7 8 6 4  
4 5 8 6 0 7 3 1 6 3 5 1 8 4 3 7 8 6 9 8 1 1 2 7 5 6 0 8  
4 3 7 8 8 7 1 0 0 4 9 3 2 1 4 0 5 5 3 8 9 4 6 2 1 7 6 0 9  
5 9 5 8 6 8 3 5 0 3 6 3 6 2 9 5 2 9 4 3 3 3 0 2 4 3 3 8  
7 4 4 8 8 7 0 8 4 9 4 8 4 9 4 4 6 3 0 9 8 7 9 4 8 8 4 4  
3 8 6 8 8 2 8 2 3 0 7 9 6 6 0 5 3 1 1 7 8 5 3 5 5 7 7 6  
6 6 0 0 5 5 0 6 9 8 5 8 3 5 0 3 3 2 9 2 2 1 6 5 3 9 1 7  
0 5 6 7 2 3 4 9 5 6 9 7 4 7 4 0 3 7 3 5 4 6 1 4 2 7 8 5  
7 7 0 3 1 7 4 5 7 9 8 6 6 5 5 5 6 1 6 1 6 0 4 3 6 1 2 7  
0 0 2 5 9 2 2 6 5 6 2 1 1 8 4 4 1 2 8 6 3 0 0 2 1 4 3 9  
7 1 2 5 8 7 9 0 4 5 7 4 8 8 4 1 8 1 1 2 0 0 0 6 4 7 7 4  
2 0 2 1 8 8 6 7 9 3 4 0 9 3 2 3 1 8 3 6 8 7 5 4 2 5 7 2  
3 0 3 7 9 9 4 3 6 8 1 0 1 8 8 7 0 6 1 2 0 3 7 5 7 4 4 0  
1 1 8 6 6 4 9 0 6 4 6 1 1 5 1 0 7 2 2 1 1 6 0 9 5 6 1 4 1  
6 2 4 0 1 1 1 9 2 3 4 9 2 3 0 0 5 2 3 4 9 8 9 3 5 6 9 1  
5 7 6 4 1 4 2 5 9 6 2 4 4 0 4 6 1 9 6 2 6 6 5 7 5 1 1 6  
2 0 7 6 6 9 7 1 3 9 3 5 4 4 4 3 7 4 7 6 6 9 0 0 8 3 2 7 8  
2 8 4 5 7 1 6 8 2 1 2 7 7 4 1 9 4 1 2 2 6 6 1 0 1 4 9 1  
7 0 7 0 1 4 6 7 0 4 3 0 5 8 1 9 3 7 2 2 1 0 4 4 8 1 5 2 0  
0 3 5 1 1 9 2 1 9 4 1 6 1 8 2 6 3 0 2 8 0 8 3 0 5 7 9 5  
9 8 3 5 4 1 9 0 8 0 3 2 8 8 0 9 5 2 3 5 1 3 3 9 3 9 9 6  
9 5 0 8 3 8 4 7 2 3 1 3 6 2 0 4 3 1 8 6 7 6 8 6 7 1 4 1  
6 0 6 0 4 7 4 5 2 3 0 9 0 9 0 8 0 0 9 0 8 9 7 9 1 5 6 2  
4 5 4 7 4 8 0 7 1 3 0 6 3 6 7 9 8 6 5 6 5 1 2 0 0 0 0 0  
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0 0



1 7 5 3 8 7 7 3 7 8 8 1 8 5 9 5 0 4 1 6 3 8 6 2 0 2 4 7 4 0  
2 6 1 6 6 6 0 2 2 3 7 8 8 4 1 1 3 3 6 6 9 9 7 7 5 4 4 3 6 3 0  
0 8 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5  
2 9 6 9 5 7 8 8 4 0 0 1 0 6 6 3 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5  
7 3 8 6 6 2 0 2 3 6  
0 5 4 6 8 2 0 8 3 6  
6 2 2 9 6 7 7 2 5 2 2 5 2 2 5 2 2 5 2 2 5 2 2 5 2 2 5 2 2 5 2  
9 5 4 4 9 1 9 5 2 2 5 1 7 7 1 7 1 7 1 7 1 7 1 7 1 7 1 7 1 7 1  
2 5 8 5 4 8 8 9 6 2 2 5 5 1 1 7 1 7 1 7 1 7 1 7 1 7 1 7 1 7 1  
7 9 8 1 9 2 2 1 7 7 2 5 5 8 8 7 6 7 6 7 6 7 6 7 6 7 6 7 6 7 6  
8 7 7 8 5 1 7 8 3 7 6 6 3 3 4 4 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6  
1 2 1 8 5 4 4 5 7 1 1 4 8 1 1 4 8 1 1 4 8 1 1 4 8 1 1 4 8 1 1  
6 6 7 9 5 4 4 9 9 9 8  
6 9 1 3 4 4 5 8 7 9 2 2 9 0 1 8 5 8 4 5 5 2 2 2 2 2 2 2 2 2 2  
4 8 4 6 3 4 4 8 9 5 6 6 2 2 1 8 6 6 1 9 8 1 2 8 4 2 2 6 4 3 3  
5 6 2 7 8 2 5 5 1 7 9 6 2 2 6 9 0 4 8 4 9 5 6 2 2 7 3 5 0 8 8  
6 3 5 7 7 7 2 2 8 0 0 4 4 4 7 7 6 6 0 1 1 4 4 9 1 1 6 6 5 2 2  
2 7 1 1 0 2 2 4 3 3 4 4 3 3 5 6 4 8 2 2 1 6 5 6 0 2 2 6 4 3 3  
6 3 6 5 5 2 2 4 3 9 3 3 0 6 1 8 6 4 8 2 2 1 6 5 6 0 2 2 6 4 3 3  
2 9 8 8 7 5 9 1 7 8 3 2 6 6 0 2 4 0 7 2 2 5 1 3 4 1 1 4 4 2 2  
6 3 4 8 6 6 0 2 6 7 7 6 6 2 2 2 1 1 6 6 0 0 5 6 4 1 7 8 8 3 9 3  
9 5 9 2 9 2 3 5 9 5 2 2 0 3 8 9 8 5 9 1 9 6 0 2 0 1 1 2 2 7 0  
8 4 0 3 4 5 5 9 2 0 6 0 9 7 9 6 0 3 3 6 0 8 4 0 0 0 7 4 5 3  
4 3 4 5 3 6 9 1 9 6 6 6 6 8 9 1 1 6 0 1 4 2 9 6 7 5 9 7  
8 3 4 7 1 2 5 7 7 0 9 4 9 8 9 2 2 6 3 3 2 2 0 1 7 9 9 6 8 4 7 3  
1 7 7 2 1 5 2 1 6 3 3 9 5 6 7 8 1 2 1 9 8 4 0 0 0 0 0 0 0 0 0  
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3 4 9 2 5 6 8 3 2 0 5 8 6 6 6 0 8 6 8 4 2 2 3 8 6 8 2 3 8 6 4 4  
5 0 3 6 6 2 5 8 3 0 2 8 3 1 1 0 1 5 1 9 6 6 3 8 5 7 7 8 4 4 6  
2 1 6 3 5 6 6 6 0 0 8 0 8 0 8 0 8 0 8 0 8 0 8 0 8 0 8 0 8 0 8  
2 2 3 3 5 7 7 0 6  
1 3 5 8 3 7 3 6 6 5 9 4 2 2 0 9 8 3 3 5 8 5 5 5 8 8 8 1 1 3 6  
7 0 3 5 8 1 1 8 8 2 2 9 7 7 6 6 1 2 2 8 8 5 5 7 4 4 5 5 9 0 0  
7 6 0 1 9 3 0 4 7 9 3 8 7 4 4 8 5 6 0 9 0 0 1 4 7 6 5 1 2 3 7  
3 5 1 0 8 3 0 8 8 3 3 6 5 3 7 7 7 8 4 1 6 9 9 1 5 3 5 2 2 9 7  
3 5 0 8 4 3 1 9 6 3 3 5 3 7 0 9 0 3 9 7 5 6 3 2 7 3 9 9 8 3 7 4  
1 2 4 2 6 4 4 9 4 7 6 6 8 4 3 8 5 3 8 6 8 7 0 1 9 6 6 1 2 6 1  
1 1 6 7 7 5 2 6 4 2 2 7 4 3 4 4 8 9 8 1 9 8 7 9 5 7 1 1 9 0 3  
0 7 3 6 0 0 2 2 2 8 3 5 7 0 3 5 9 5 5 1 7 7 3 8 8 5 9 9 6 1 5  
7 1 1 5 5 2 6 0 9 8 8 7 2 9 8 2 8 4 0 0 4 7 2 2 1 4 4 6 2 2 9  
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2 5 9 9 9 4 3 5 4 6 0 3 5 0 0 4 2 2 1 0 6 7 5 1 2 4 0 9 0 7 3  
4 1 1 8 0 4 4 2 3 8 7 3 5 4 4 6 4 8 1 1 0 9 1 0 9 2 3 8 1 0 9  
9 4 5 0 5 0 1 6 3 8 0 2 6 4 2 3 6 7 6 2 1 1 3 3 3 4 0 6 9 1 3  
9 8 2 6 7 4 7 7 7 0 9 9 8 4 3 5 7 7 0 6 8 8 9 5 3 2 2 5 9 7 4  
8 3 7 0 2 9 9 7 1 2 2 6 1 1 9 5 5 5 1 0 1 2 2 0 3 1 4 4 4 3 1  
2 4 4 2 1 8 3 6 2 2 1 7 2 2 0 7 2 5 8 8 2 1 3 3 7 1 1 6 8 3 5  
5 4 3 5 0 8 1 8 6 0 1 8 9 1 1 8 9 1 0 6 5 2 2 9 8 7 1 1 8 9 9  
5 1 6 3 8 2 0 7 8 7 1 3 3 9 9 2 1 4 1 6 8 8 4 6 6 6 8 1 1 0 4  
9 6 6 8 1 6 2 2 0 1 6 5 5 9 3 6 2 8 4 7 1 3 6 7 7 3 7 9 1 4 3  
5 6 1 8 5 5 4 9 1 9 1 6 9 5 0 4 9 2 9 5 4 8 9 7 9 9 1 3 1 2  
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6 7 6 9 9 4 2 7 7 9 1 7 4 4 0 0 3 4 4 0 0 6 0 0 4 2 2 1 4 6  
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7 2 2 6 3 8 8 1 6 7 7 2 2 1 5 2 2 2 0 1 1 8 6 6 7 7 4 8 1 3  
9 2 6 7 5 1 1 5 5 2 2 4 3 3 5 1 1 2 5 9 9 9 9 3 3 2 3 6 0 9  
4 6 4 0 5 7 7 8 7 8 7 9 8 9 4 4 5 1 9 0 7 0 5 1 9 7 7 1 1 8  
2 0 3 1 6 6 9 0 1 4 8 8 5 0 8 3 2 1 8 1 7 9 6 1 7 1 4 3 4 3  
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2 1 0 3 6 5 8 1 6 7 8 6 1 0 0 5 0 8 5 7 6 1 5 9 5 6 6 6 5 1  
8 0 1 2 9 9 7 4 0 2 0 5 5 3 0 3 7 0 0 2 4 8 0 4 2 0 0 9 9 6  
0 0 6 4 7 4 5 2 0 1 0 4 4 9 2 2 3 4 3 6 4 5 4 4 4 1 1 8 6  
3 1 8 3 9 1 8 6 0 0 9 6 0 8 4 6 9 6 2 9 5 9 0 8 3 1 4 7 2 1  
9 7 3 6 9 6 0 0 3 3 6 3 8 1 8 7 9 0 8 4 4 4 4 3 2 2 2 5 0 9  
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4 8 9 3 9 3 5 3 3 2 7 3 3 2 6 5 3 7 8 9 1 2 7 2 1 7 7 3 9  
4 1 6 0 7 7 1 2 3 6 6 7 0 4 6 5 2 8 7 1 9 8 8 8 8 3 9 1 8  
1 4 6 8 7 7 5 1 6 9 6 1 3 1 1 4 8 1 4 4 3 5 9 4 6 0 3 6 7 3  
0 2 4 8 6 6 0 2 4 2 2 9 7 2 6 1 2 6 4 4 4 7 0 6 6 2 2 4 5  
6 1 8 6 5 9 5 3 1 3 3 9 0 4 5 6 6 0 7 3 5 9 8 2 2 3 6 5 4  
6 4 5 4 8 5 4 4 2 6 1 3 4 4 4 4 4 9 4 0 0 6 5 4 5 3 2 5 3  
0 2 5 1 4 0 9 5 0 6 4 7 4 0 0 6 5 3 0 4 2 2 2 5 9 4 0 6 9  
8 2 8 1 4 7 7 3 7 1 9 7 0 0 9 8 6 2 4 8 7 9 0 0 1 7 3 3 4  
0 0 5 4 1 0 3 0 9 0 8 2 3 6 5 9 1 6 2 2 2 7 8 2 9 2 3 0 4  
3 7 8 6 4 7 2 0 3 3 6 6 3 4 1 4 1 4 3 3 1 1 7 9 4 7 5 3 6  
9 8 9 1 5 0 8 8 7 5 4 7 9 4 3 9 4 8 7 6 8 9 7 2 5 4 6 2 0  
7 8 4 0 7 1 3 0 5 8 2 2 3 3 7 8 1 4 8 7 8 7 3 1 5 9 7 4 0  
9 4 0 6 1 0 1 7 5 3 5 1 1 9 8 5 9 8 1 7 3 4 5 2 5 1 5 0  
2 0 6 8 2 9 2 3 4 5 1 7 6 6 4 1 1 8 6 4 7 4 9 9 5 8 0 7 1  
1 0 3 2 6 0 1 4 6 3 3 0 8 1 2 3 8 5 1 1 5 3 3 5 1 1 5 6 8  
3 9 0 3 7 2 8 2 0 9 5 6 2 6 5 0 0 9 6 1 6 9 1 3 1 8 1 8 9  
0 6 5 7 2 3 9 7 5 1 0 6 5 6 0 0 0 0 0 0 0 0 0 0 0 0 0 0  
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```

5 1 1 9 9 0 6 9 2 7 7 5 5 8 7 9 2 6 6 0 0 3 6 1 5 2 5 8 1 9 1 8 5 3
7 9 7 9 8 4 3 6 0 6 6 7 7 2 9 8 4 7 0 1 3 3 9 5 8 9 0 6 7 1 4 4 6 0 1
1 1 7 4 6 3 3 9 6 4 3 9 8 5 8 3 9 1 1 2 2 3 3 1 6 5 7 7 2 9 5 6 5 4
8 4 9 6 1 6 6 2 5 4 9 3 5 5 1 6 7 9 5 1 4 5 6 5 0 7 9 5 2 2 5 8 8 6 6
7 7 6 0 8 0 1 2 6 4 2 3 4 8 9 0 4 5 6 6 2 1 4 7 4 5 3 1 2 6 3 4 9 8
2 5 7 9 0 0 3 6 4 3 7 1 5 8 6 4 3 2 6 6 4 8 2 0 0 2 8 8 1 1 3 5 0 5
6 9 4 9 1 6 9 2 4 2 4 3 9 2 9 1 2 1 6 3 9 7 9 9 5 1 2 3 3 2 0 6 8 0
2 0 5 3 8 8 1 4 9 8 2 9 5 3 6 7 2 0 6 9 7 5 4 6 5 8 9 3 3 8 1 0 5 1
2 0 0 2 0 0 0 5 6 7 4 7 0 5 1 4 5 2 8 6 4 1 4 0 9 9 7 8 9 7 8 9 5 6
6 3 1 6 6 4 6 0 8 4 5 2 2 5 3 9 2 2 2 1 8 2 1 3 9 3 2 2 0 9 1 2 6 0 4
8 8 9 7 1 1 7 1 0 2 1 7 5 0 0 9 3 4 5 9 8 6 5 9 5 4 6 4 8 7 9 2 9 4
5 9 2 1 4 7 3 5 0 0 7 2 0 0 7 6 9 1 0 5 6 6 7 7 3 5 5 4 0 7 4 2 8 9
5 4 8 6 5 5 6 5 9 9 7 7 2 2 6 2 0 0 5 4 0 1 6 0 3 3 5 0 5 8 1 3 1 8
3 6 5 3 8 4 2 3 5 5 1 0 7 1 4 0 7 1 4 9 1 0 9 8 8 3 5 8 1 2 7 3 6 5
8 8 9 2 2 7 9 5 5 1 1 4 5 6 4 6 1 4 2 1 2 5 4 7 7 3 8 0 4 9 0 7 8 5
3 0 7 3 3 8 4 4 8 4 8 8 8 7 8 4 0 9 0 7 5 0 3 0 9 6 2 8 7 5 9 1 2 5
0 9 5 2 1 9 9 5 2 5 2 9 2 5 9 8 3 5 9 8 8 0 8 4 6 4 2 3 9 5 2 3 9
3 1 2 0 4 1 1 1 8 1 8 2 8 0 9 7 9 2 1 3 5 4 4 7 7 7 6 4 4 7 5 1 5 3
8 4 3 5 2 0 8 7 7 4 6 0 3 0 8 8 4 7 7 1 1 6 0 3 2 2 2 3 6 5 1 1 6 4
4 3 9 4 1 9 2 2 0 0 0 2 0 7 3 5 6 7 3 2 5 1 8 0 1 5 1 9 5 8 3 5 3 5
4 7 2 8 8 9 7 6 0 4 9 0 5 2 6 9 2 8 9 0 1 5 3 0 7 7 9 7 6 1 8 9 8 4
4 6 4 6 5 4 0 4 2 9 3 4 9 1 2 7 8 8 2 7 3 3 4 7 9 8 2 5 6 1 6 9 5 5
5 3 1 2 1 6 1 0 7 0 5 0 2 7 1 4 0 1 2 5 9 4 5 9 8 7 5 2 4 9 5 0 8 1
6 9 4 4 0 0 1 3 3 2 7 3 9 5 3 1 6 8 8 7 0 0 0 8 3 3 9 1 1 7 6 4 4 8
3 2 8 4 9 8 7 6 1 9 0 7 5 0 8 8 3 4 3 7 9 7 7 8 6 4 7 3 7 1 9 4 5 1
5 7 9 1 8 0 4 6 2 5 2 2 2 6 9 6 9 5 4 6 6 1 6 8 1 1 4 3 4 0 3 5 4 6
1 8 1 5 7 9 2 9 6 8 2 7 3 1 9 8 2 5 4 5 6 2 5 6 1 3 7 0 5 0 4 9 8 3
4 2 3 8 5 4 4 5 5 7 7 0 2 6 9 4 5 3 6 3 8 5 2 9 2 1 4 5 3 4 6 0 8 0
3 3 6 0 7 1 4 2 4 2 8 9 1 6 0 1 1 1 7 2 0 8 4 9 0 1 8 9 0 3 2 4 9 0
4 7 5 2 9 1 2 8 4 2 2 8 8 6 4 6 7 7 6 4 2 6 7 8 7 7 8 6 1 5 6 8 4 9
8 0 9 0 4 2 9 6 4 4 8 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
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0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

```

Quote:

Your HP-15C program admits a number of easy improvements. Just for instance, in the very first steps you set a constant for the counter, 1.51201. The final "01" is not necessary at all, if absent the "01" increment is assumed *by default*, saving 2 steps. Also, it would be better to use a *decrementing* counter, going from 512 down to 1 so the constant would be simply 512, additionally saving two extra steps.

Yeah, I know, but I wanted to count up.

## #8 solved

Message #24 Posted by [Bram](#) on 7 Apr 2007, 4:02 p.m.,  
in response to message #23 by Egan Ford

Ah! Right. So that's what is meant with square numbers. I was not even near this solution. It does make some sense, I must say.

And immediately a new question arises. The 20 answers can be connected to these numbers:

1 1 1 2 3 4 6 9 11 13 15 21 23 24 25 28 29 31 33 34

Quite irregular. Are there any known properties and behaviour of this series?

## only 20 squares?

Message #25 Posted by [hugh steers](#) on 7 Apr 2007, 9:44 p.m.,  
in response to message #24 by Bram

ha! well done Egan.

but valentin, you lateral dudes are so base 10, why stop there? a quick hack gives me,

```
function lngamma(z)
```

```

    return (z-.5)*math.ln(z)-z+math.ln(math.pi*2)/2+1/12/z
end

function isSquare(x)
    r = math.floor(math.sqrt(x))
    return (r*r == x)
end

function findSquares(b, list)
    c = 0
    s = math.ln(b)
    for i = 1, 512 do
        y = math.ceil(lngamma(i+1)/s)
        if (isSquare(y)) then
            print(i, y)
            list[i]=true
            c = c + 1
        end
    end
    print("total", c, "squares base", b)
end

function findAllSquares()
    list = {}
    for i = 2,10 do
        findSquares(i, list)
    end

    c = 0
    for k in pairs(list) do
        io.write(k, ",")
        c = c + 1
    end
    print("\ntotal squares in any base", c)
end

```

with transcript,

```
hplua -i valentin8.lua
```

```

Lua 5.1.1 Copyright (C) 1994-2006 Lua.org, PUC-Rio
HPLua version 0.3
> findAllSquares()
1          1
8          16
17         49
37         144
162        961
216        1369
298        2025
309        2116
391        2809
416        3025
total     10          squares base      2
1          1
2          1
11         16
19         36
34         81
107        361
116        400
166        625
188        729
359        1600
405        1849
421        1936
437        2025
470        2209
487        2304
total     15          squares base      3
1          1
2          1
5          4
17         25

```

|       |      |              |   |
|-------|------|--------------|---|
| 28    | 49   |              |   |
| 34    | 64   |              |   |
| 98    | 256  |              |   |
| 118   | 324  |              |   |
| 151   | 441  |              |   |
| 163   | 484  |              |   |
| 175   | 529  |              |   |
| 400   | 1444 |              |   |
| 436   | 1600 |              |   |
| 473   | 1764 |              |   |
| total | 14   | squares base | 4 |
| 1     | 1    |              |   |
| 2     | 1    |              |   |
| 14    | 16   |              |   |
| 19    | 25   |              |   |
| 31    | 49   |              |   |
| 38    | 64   |              |   |
| 45    | 81   |              |   |
| 53    | 100  |              |   |
| 70    | 144  |              |   |
| 133   | 324  |              |   |
| 145   | 361  |              |   |
| 257   | 729  |              |   |
| 289   | 841  |              |   |
| 358   | 1089 |              |   |
| 395   | 1225 |              |   |
| 414   | 1296 |              |   |
| 494   | 1600 |              |   |
| total | 17   | squares base | 5 |
| 1     | 1    |              |   |
| 2     | 1    |              |   |
| 6     | 4    |              |   |
| 10    | 9    |              |   |
| 15    | 16   |              |   |
| 41    | 64   |              |   |
| 49    | 81   |              |   |
| 97    | 196  |              |   |
| 120   | 256  |              |   |
| 145   | 324  |              |   |
| 158   | 361  |              |   |
| 186   | 441  |              |   |
| 298   | 784  |              |   |
| 316   | 841  |              |   |
| 353   | 961  |              |   |
| 372   | 1024 |              |   |
| 432   | 1225 |              |   |
| 453   | 1296 |              |   |
| 496   | 1444 |              |   |
| total | 19   | squares base | 6 |
| 1     | 1    |              |   |
| 2     | 1    |              |   |
| 3     | 1    |              |   |
| 6     | 4    |              |   |
| 11    | 9    |              |   |
| 16    | 16   |              |   |
| 22    | 25   |              |   |
| 52    | 81   |              |   |
| 61    | 100  |              |   |
| 71    | 121  |              |   |
| 92    | 169  |              |   |
| 128   | 256  |              |   |
| 155   | 324  |              |   |
| 169   | 361  |              |   |
| 199   | 441  |              |   |
| 319   | 784  |              |   |
| 358   | 900  |              |   |
| 378   | 961  |              |   |
| 441   | 1156 |              |   |
| 463   | 1225 |              |   |
| total | 20   | squares base | 7 |
| 1     | 1    |              |   |
| 2     | 1    |              |   |
| 3     | 1    |              |   |
| 6     | 4    |              |   |
| 11    | 9    |              |   |
| 23    | 25   |              |   |
| 30    | 36   |              |   |
| 46    | 64   |              |   |
| 55    | 81   |              |   |
| 97    | 169  |              |   |
| 109   | 196  |              |   |

|  |      |              |     |
|--|------|--------------|-----|
| 122  | 225  |              |     |
| 135  | 256  |              |     |
| 149  | 289  |              |     |
| 194  | 400  |              |     |
| 210  | 441  |              |     |
| total  | 16   | squares base | 8   |
| 1  | 1    |              |     |
| 2  | 1    |              |     |
| 3  | 1    |              |     |
| 7  | 4    |              |     |
| 17   | 16   |              |     |
| 24   | 25   |              |     |
| 31   | 36   |              |     |
| 39   | 49   |              |     |
| 57   | 81   |              |     |
| 67   | 100  |              |     |
| 78   | 121  |              |     |
| 114  | 196  |              |     |
| 171  | 324  |              |     |
| 237  | 484  |              |     |
| 255  | 529  |              |     |
| 312  | 676  |              |     |
| 353  | 784  |              |     |
| 396  | 900  |              |     |
| 441  | 1024 |              |     |
| total  | 19   | squares base | 9   |
| 1  | 1    |              |     |
| 2  | 1    |              |     |
| 3  | 1    |              |     |
| 7  | 4    |              |     |
| 12   | 9    |              |     |
| 18   | 16   |              |     |
| 32   | 36   |              |     |
| 59   | 81   |              |     |
| 81   | 121  |              |     |
| 105  | 169  |              |     |
| 132  | 225  |              |     |
| 228  | 441  |              |     |
| 265  | 529  |              |     |
| 284  | 576  |              |     |
| 304  | 625  |              |     |
| 367  | 784  |              |     |
| 389  | 841  |              |     |
| 435  | 961  |              |     |
| 483  | 1089 |              |     |
| 508  | 1156 |              |     |
| total  | 20   | squares base | 10  |
| 1, 2, 3, 5, 6, 7, 8, 10, 11, 12, 14, 15, 16, 122, 378, 508, 128, 257, 132, 133, 135,   |      |              |     |
| 391, 265, 395, 396, 17, 145, 19, 22, 23, 405, 28, 30, 31, 32, 414, 34, 416, 163, 37,   |      |              |     |
| 38, 166, 421, 41, 169, 298, 45, 46, 175, 49, 304, 432, 52, 53, 435, 309, 437, 57, 312, |      |              |     |
| 186, 441, 188, 316, 319, 194, 70, 71, 453, 400, 389, 367, 78, 284, 55, 81, 463, 210,   |      |              |     |
| 105, 59, 18, 255, 436, 216, 171, 199, 473, 67, 39, 24, 149, 97, 98, 353, 470, 228,     |      |              |     |
| 483, 155, 358, 359, 487, 107, 118, 109, 237, 61, 92, 494, 114, 496, 116, 158, 372,     |      |              |     |
| 151, 120, 289, 162   |      |              |     |
| total squares in any base  |      |              | 116 |

**Re: only 20 squares?**

Message #26 Posted by [Valentin Albillo](#) on 7 Apr 2007, 9:57 p.m.,  
in response to message #25 by hugh steers

Hi, Hugh!

Hugh posted:

*"[...] but valentin, you lateral dudes are so base 10, why stop there?"*

Yes, why ? :-)

Thanks for your interesting extension to bases other than 10, Hugh, it's nice to see people getting so involved with a challenge that they'll want to try and explore new possibilities beyond the original goals, as you've just superbly done. Way to go !

Thanks again and

Best regards from V.

## Re: #8 solved

Message #27 Posted by *Gerson W. Barbosa* on 8 Apr 2007, 5:35 p.m.,  
in response to message #24 by Bram

Quote:

1 1 1 2 3 4 6 9 11 13 15 21 23 24 25 28 29 31 33 34

Quite irregular. Are there any known properties and behaviour of this series?

I'd say this sequence is just what it is: the sequence of the side lengths of *square factorials*. Anyway, if this can be of help, more terms can be obtained with the following HP-50G program:

```
%%HP: T(3)A(R)F(.);
\<< 1 \-> m n
\<< { } { }
DO 'FLOOR(LOG(2*\pi*n)/2+n*LOG(n/e)+LOG(1+1/(12*n)+1/(288*n^2)-
139/(51840*
n^3)-571/(2488320*n^4)+163879/(209018880*n^5)))' \->NUM 1 + DUP \v/
FP 0 ==
IF
THEN \v/ + SWAP n + SWAP
ELSE DROP
END 1 'n' STO+ DUP SIZE
UNTIL m ==
END
\>>
\>>
```

Output for m=50:

```
{ 1 2 3 7 12 18 32 59 81 105 132 228 265 284 304 367 389 435 483 508 697
726 944 1011 1045 1080 1115 1187 1454 1494 1617
1659 1788 1921 2012 2105 2200 2248 2395 2445 2861 2915 3192 3480 3539
3902 3964 4476 4542 4675 }
```

```
{ 1. 1. 1. 2. 3. 4. 6. 9. 11. 13. 15. 21. 23. 24. 25. 28. 29. 31. 33.
34. 41. 42. 49. 51. 52. 53. 54. 56. 63. 64. 67. 68.
71. 74. 76. 78. 80. 81. 84. 85. 93. 94. 99. 104. 105. 111. 112. 120.
121. 123. }
```

That's the same formula used in this OEIS sequence:

<http://www.research.att.com/~njas/sequences/A006488>

The formula needn't be that accurate for this application.

'FLOOR(LOG(2\*\pi\*n)/2+n\*LOG(n/e)+LOG(1+1/(12\*n)))' would be accurate enough and faster, except the first number in the second sequence would be 0 instead of 1, unless properly handled. Actually, nothing new here, this appears to be equivalent to Egan Ford's HP-15C program.

Regards,

Gerson.

**Re: Last hint for #8**

Message #28 Posted by *Egan Ford* on 7 Apr 2007, 9:40 p.m.,  
in response to message #23 by Egan Ford

Quote:

I'll post a 50G solution (no point in two 71B solutions) once I figure out how to display small fonts.

Ok, here it is:

```

%%HP: T(3)A(R)F(.);
\<< 1 \-> N
  \<< " " 1 512
    FOR I I N * 'N' STO N \->STR DUP SIZE \v/ DUP FP
      IF 0 >
        THEN DROP DROP
        ELSE \-> S M
          \<< 0 M 1 -
            FOR J S J M * 1 + J 1 + M * SUB 10 CHR + +
              NEXT
            \>> 10 CHR +
          END
        NEXT
      \>> 1 \->GROB
    \>>

```

Output (as seen on 50G):

<http://sense.net/~egan/c8.gif>

**Real pretty, Egan, Thanks ! :-)**

Message #29 Posted by *Valentin Albillo* on 7 Apr 2007, 9:52 p.m.,  
in response to message #28 by Egan Ford

Awesome !

Best regards from V.

**Re: Short & Sweet Math Challenge #18: April 1st, 2007 Spring Special**

Message #30 Posted by *Egan Ford* on 2 Apr 2007, 12:15 a.m.,  
in response to message #1 by Valentin Albillo

#3 50G program:

```
<< 1 + Psi 1 Psi - ->NUM >>
```

Enter

```
Psi(X+1)-Psi(1)=4.012007
```

in NUM.SLV and press 'SOLVE' to get X=30.5235952258

#3 15C program:

```
1 LBL A
```

```
2 STO 0
3 0
4 ENTER
5 1
6 INTEGRAL 0
7 RTN
8 LBL 0
9 RCL 0
10 Y^X
11 CHS
12 1
13 +
14 X<>Y
15 CHS
16 1
17 +
18 /
19 RTN
```

Put 30.52359523 on stack, run A, and get: 4.012007.

*Edited: 2 Apr 2007, 2:11 a.m.*

### **Re: Short & Sweet Math Challenge #18: April 1st, 2007 Spring Special**

*Message #31 Posted by [Egan Ford](#) on 2 Apr 2007, 12:18 p.m.,  
in response to message #30 by Egan Ford*

The above 15C code works for  $N > 200$  too, however it could be off by  $1e-9$ .

### **Re: Short & Sweet Math Challenge #18: April 1st, 2007 Spring Special**

*Message #32 Posted by [Valentin Albillo](#) on 3 Apr 2007, 6:23 a.m.,  
in response to message #30 by Egan Ford*

Hi, Egan:

Egan posted:

*"Put 30.52359523 on stack, run A, and get: 4.012007."*

Yes, very nice and short solution, congratulations ! It agrees with mine to 12 digits save a few ulps, and your HP-15C program does indeed return 4.012007 in FIX 6, taking not too long.

By the way, you can easily make your 19-step HP-15C program a full *five steps shorter* (and slightly faster as well) by taking advantage of the HP-15C's extensive instruction set, as follows:

```
01 LBL A
02 MATRIX 1
03 X<> 0
04 0
05 INTEGRAL 0
06 RTN
07 LBL 0
08 RCL 0
09 Y^X
10 RCL- 1
11 1
12 Roll Up
13 -
14 /
```

In your original program, even the use of register 0 can be avoided altogether if needed, so using no numbered registers at all.



Congratulations again and I look forward to further contributions from you.

Best regards from V.

### stuck on #4

Message #33 Posted by [hugh steers](#) on 3 Apr 2007, 7:21 p.m.,  
in response to message #1 by Valentin Albillo

not sure how to get an exact symbolic value. i could "compute"  $\pi/4$  in symbolic mode, but i don't think that counts as evaluating the integral (although the problem doesn't say it requires the integrals to be evaluated).

progress made:

- $I_1 == I_2$ , since in  $I_1$ , let  $\tan y = x$  to get  $I_2$  in  $y$ .
- replacing 4.012007 with  $k$ , and considering  $I$  as  $I(k)$ , i can show  $I(2n)$  are all  $\pi/4$ ,  $n \geq 1$ . also  $I(2) == I(1)$ .
- $I(k)$  appears to be a constant  $k \geq 1$ . haven't proved this. not even sure it's true. maybe  $k$  has to be rational?

idea: prove  $I(4.012007) == I(1)$  or  $I(2)$  and find some dandy way to sym integrate the latter to  $\pi/4$ .

anybody?

### Re: stuck on #4

Message #34 Posted by [Egan Ford](#) on 3 Apr 2007, 8:25 p.m.,  
in response to message #33 by hugh steers

50g:

$I_1$ :

Put on the stack:

```
4: 0
3: Inf
2: 1/((1+X^2)*(1+X^4.012007))
1: X
```

Press Integral (Right Shift TAN), then press EVAL, results:

.785398163394

To get symbolic press:

CONVERT (Left Shift 6), F4 (REWRITE), NXT, F6 (->QPI), results:

$(1/4)*\pi$

$I_2$ :

Put on the stack:

```
4: 0
3: PI/2
2: 1/(1+Tan(x)^4.012007)
1: X
```

Press Integral (Right Shift TAN), then press EVAL, results:

.785398163394

To get symbolic press:

CONVERT (Left Shift 6), F4 (REWRITE), NXT, F6 (->QPI), results:

$(1/4)*\pi$

### Re: stuck on #4

Message #35 Posted by [Egan Ford](#) on 3 Apr 2007, 8:33 p.m.,  
in response to message #34 by Egan Ford

I forgot to add a program for I1:

```
%%HP: T(3)A(R)F(.);
\<< 0. \oo 1. X 2. ^ + 1. X 4.012007 ^ + * INV X \.S EVAL \->Q\pi
\>>
```

I2 is equally as trival:

```
%%HP: T(3)A(R)F(.);
\<< 0. \pi 2. / X TAN 4.012007 ^ 1. + INV X \.S EVAL \->Q\pi
\>>
```

Edited: 3 Apr 2007, 8:39 p.m.

### Re: stuck on #4

Message #36 Posted by [hugh steers](#) on 4 Apr 2007, 4:26 a.m.,  
in response to message #34 by Egan Ford

hi egan,

that's what i did first, but i wouldn't call that a sure answer because you have no proof that your answer is exactly  $\pi/4$ . my interpretation of symbolic in this context is one in which approximations have not been used.

for example, maybe the answer is  $22/83 + 11/34 + 37/188$  which if you calculate on the 50g and press ->QPI you also get  $\pi/4$ .

my motivation for doubt is that if you replace 4.012007 with 4, straightforward integration is possible to give  $\pi/4$  and how can you prove the perturbation of .012007 does not, in fact, change the answer very very slightly away from  $\pi/4$ .

what i've been trying to do is show replacing 4.012007 with 4 (or something else) does not alter the result and then go with that. performing ->QPI on the simplified integrand is then more credible.

any ideas?

### Re: stuck on #4

Message #37 Posted by [Egan Ford](#) on 4 Apr 2007, 10:49 a.m.,  
in response to message #36 by hugh steers

You are probably right ->Qpi should not be used. I also noticed that if I change 4.012007 to 4 or 9 for that matter that I still get  $4/\pi$  (in approx mode).

Edited: 4 Apr 2007, 10:58 a.m.

**Re: stuck on #4**

Message #38 Posted by *[hugh steers](#)* on 8 Apr 2007, 10:43 a.m.,  
in response to message #37 by Egan Ford

i have a symbolic solution for #4.

because the calculator can't solve the problem itself symbolically, my approach is to prove the problem is equivalent one that the calculator \*can\* solve symbolically. consider the following lemma,

<http://www.voidware.com/tmp/lem1.jpg>

now, by putting  $\lambda = 4.012007$ , the lemma tells us we only have to calculate the definite integral of  $1/(1+x^2)$  between 0 and 1

so now the calculator part (using the 50g):

enter the integral (rpn mode):

ALPHA X 2 ^ 1 + 1/x

integrate symbolically,

CALC INTVX

substitute the limits and simplify,

0 1 CALC PREVAL

leaves the symbolic answer  $\pi/4$  on the screen.

for the second part of problem #4, the substitution  $\tan y = x$  transforms the integral into the first problem. therefore the answer is the same again.

**Re: Short & Sweet Math Challenge #18: April 1st, 2007 Spring Special**

Message #39 Posted by *[Egan Ford](#)* on 4 Apr 2007, 3:11 a.m.,  
in response to message #1 by Valentin Albillo

#2

15C:

LBL A  
0

**Re: Short & Sweet Math Challenge #18: April 1st, 2007 Spring Special**

Message #40 Posted by *[Valentin Albillo](#)* on 4 Apr 2007, 8:24 a.m.,  
in response to message #39 by Egan Ford

Hi, Egan:

Congratulations, absolutely correct if a bit terse.

Would you care to elaborate the basis and genesis of your solution for the benefit of the gentle forum readers interested in this thread ?

Thanks for your interest and contributions and

Best regards from V.

### Re: Short & Sweet Math Challenge #18: April 1st, 2007 Spring Special

Message #41 Posted by [Egan Ford](#) on 4 Apr 2007, 10:39 a.m.,  
in response to message #40 by Valentin Albillo

IANS, Benford's law. Simply put, for natural (random) events the probability for any starting  $n$  is  $\log((n+1)/n)$ .

Seeing is believing. I generated as many  $2^x$  and  $3^x$  numbers as I could in a reasonable amount of time. (I used Perl, but with any 12 digit model you should be able to generate 1023  $2^x$  numbers and 646  $3^x$  numbers). After generating the 2 tables of numbers I computed the ratio of starting 1s, 2s, 3s, etc... within each set. Incredibly it matched  $\log((n+1)/n)$ , i.e. the number of 1s/1023 (for the  $2^x$  case) and the number of 1s/646 (for the  $3^x$  case) equaled  $\log((1+1/1))$ . The same was true for the 2s, 3s, etc... Benford's law is not limited to only the starting digit, but any sequence of starting digits. After removing the decimals from my tables (the larger numbers were formatted n.nnn...ennn) I checked various random starting numbers, such as 12, 123, 55, etc... All ratios in both tables matched  $\log((n+1)/n)$ , i.e.,  $\log(13/12)$ ,  $\log(124/123)$ ,  $\log(56/55)$ ...

I concluded that if  $A \leftrightarrow B$  and  $i \leftrightarrow j$ , then  $P(A,M) = P(B,M)$ , and therefore  $P(A,M) - P(B,M) = 0$  for any  $M$ .

Edited: 4 Apr 2007, 10:43 a.m.

### Re: Short & Sweet Math Challenge #18: April 1st, 2007 Spring Special

Message #42 Posted by [GE](#) on 5 Apr 2007, 4:27 a.m.,  
in response to message #41 by Egan Ford

Hello, just to see if I understand your point.

First bizarre thing :

Any number starts with either 1, 2, 3, 4, 5, 6, 7, 8 or 9.

So since the probability of all these cases must be 1 (one), I get with that Benford's law :

$1 = \log(2)/1 + \log(3)/2 + \log(4)/3 + \log(5)/4 + \log(6)/5 + \log(7)/6 + \log(8)/7 + \log(9)/8 + \log(10)/9$   
That equality is very surprising.

Second bizarre thing :

- Is  $P(1,1) = 1$  ?

- Is  $P(A,M) = P(B,M)$  for any  $A, B$  and  $M$  (true of course if  $A=B$ ) ?

- If both are true, does it mean that for any  $B$  :  $P(B,1) = 1$  ?

That last theorem is very powerful and contradicts badly my guts feelings.

As Valentin can testify, I can make mistakes...

Please put my mind at rest !

### Re: Short & Sweet Math Challenge #18: April 1st, 2007 Spring Special

Message #43 Posted by [Valentin Albillo](#) on 5 Apr 2007, 9:59 p.m.,  
in response to message #42 by GE

Hi, GE:

GE posted:

*"As Valentin can testify, I can make mistakes..."*

Yes, I testify. Here you are, a few more. Let's see:

*"I get with that Benford's law :  $1 = \log(2)/1 + \log(3)/2 + \log(4)/3 + \log(5)/4 + \log(6)/5 + \log(7)/6 + \log(8)/7 + \log(9)/8 + \log(10)/9$  That equality is very surprising."*

First mistake: it is not:

$$1 = \log(2)/1 + \log(3)/2 + \log(4)/3 + [\dots] + \log(10)/9$$

but:

$$1 = \log(2/1) + \log(3/2) + \log(4/3) + [\dots] + \log(10/9)$$

which taking into account that, informally speaking,  $\log(a)+\log(b)$  equals  $\log(a*b)$ , then the expression is equivalent to:

$$1 = \log\left(\frac{2}{1} \frac{3}{2} \frac{4}{3} \frac{5}{4} \frac{6}{5} \frac{7}{6} \frac{8}{7} \frac{9}{8} \frac{10}{9}\right) = \log(10)$$

which is hardly surprising because your "log" should be *base-10 logarithms*, i.e. "lgt" in HP-71B BASIC. "Log", unqualified, is normally understood to be natural logarithms, also notated as "ln".

*"Second bizarre thing : - Is  $P(1,1) = 1$  ? - Is  $P(A,M) = P(B,M)$  for any  $A, B$  and  $M$  (true of course if  $A=B$ ) ? - If both are true, does it mean that for any  $B : P(B,1) = 1$  ? That last theorem is very powerful and contradicts badly my guts feelings."*

The problem's description specifies that neither A nor B can be a power of 10, and as it happens, 1 is a power of 10, namely  $10^0$ , so Benford's law does not apply in that case. Any non-negative integer power of 10 (1 included) begins exclusively by 1, 10, 100, ..., obviously.

I hope your mind is at rest now. Thanks for your interest and

Best regards from V.

## **Re: Short & Sweet Math Challenge #18: April 1st, 2007 Spring Special**

Message #44 Posted by **GE** on 6 Apr 2007, 3:57 a.m.,

in response to message #43 by Valentin Albillo

Thanks !

It was not obvious from E.Ford's message that he was using base 10 logarithms. I hope he did.

Also, it is quite strange to take into account 1 as a leading number both in its "1" form and "10" form. This accounts for my misunderstanding.

Last, it was not stated that Benford's law doesn't apply for powers of the base.

Again, let me say that your challenges are a real pleasure to bang one's head at, and this one is *\*\*especially\*\** mind-boggling. I can't even say which one is the most novel, intriguing piece of math (well #1 is a bit too machine-specific to my taste...).

Best regards

## Re: Short & Sweet Math Challenge #18: April 1st, 2007 Spring Special

Message #45 Posted by [Valentin Albillo](#) on 6 Apr 2007, 11:22 a.m.,  
in response to message #44 by GE

Hi, GE:

Thank you very much for your continued appreciation of my humble work.

Despite the long 6-month pause since my latest S&SMC#17, this "Spring Special" (aka "April's Fool") S&SMC#18 hasn't been as successful as I hoped it would be.

Perhaps people are too tired of these mostly mathematical ramblings or maybe people are out enjoying the Easter holidays or whatever, but there's been less inputs than, in my humble opinion, these subchallenges deserved.

In particular, *subchallenge #5 is a real marvel*, both from the mathematical and the strictly computational points of view, with its amazing result and the hard fact that our calculators may 'deceive' us without we being even aware. It's also very important from a theoretical point of view, and if some facts about it could be proved, it would make worldwide headlines in the mathematical research world.

Yet, despite the additional fact that it's very easy to program, noone seems interested in it and it has received exactly zero inputs. A real pity. :-(

Enough 'rants' :-) Thanks and

Best regards from V.

## Re: Short & Sweet Math Challenge #18: April 1st, 2007 Spring Special

Message #46 Posted by [Gerson W. Barbosa](#) on 6 Apr 2007, 4:06 p.m.,  
in response to message #45 by Valentin Albillo

Hello Valentin,

Quote:

Yet, despite the additional fact that it's very easy to program, noone seems interested in it and it has received exactly zero inputs. A real pity. :-(

I was tired and sleepy this afternoon, but since you have called our attention I gave it a try. No in-depth analysis, just a quick program and the outputs but at least a start. I am looking forward to more solutions and, of course, to your final comments and solutions.

Best regards,

Gerson.

## #5

Message #47 Posted by **Gerson W. Barbosa** on 6 Apr 2007, 3:00 p.m.,  
in response to message #1 by Valentin Albillo

Hello Valentin,

Here is an attempt to number 5:

A simple 32SII program:

```

LBL A          *
0             84
STO i         +
STO X        RCL M
LBL B          x^2
1             30
STO+ i       *
4             89
RCL* i       RCL* M
STO M        -
ENTER        64
ENTER        +
ENTER        x<>y
8            /
*            16
64          RCL* X
-            +
*            FP
178         STO X
+           LASTx
*           IP
206         R/S
-           GTO B

```

```

A: CK=57E9  006.0
B: CK=E781  063.0

```

```

XEQ A -> 3
R/S -> 2
R/S -> 4
R/S -> 3
R/S -> 15
R/S -> 6
R/S -> 10
R/S -> 8
R/S -> 8

```

1. These are the first hexadecimal digits of pi:

3.243F6A88

2. The next 9 digits given by the program are:

8, 2, 3, 9, 6, 15, 5, 7 and 11

Only the first digit in this sequence is correct, due to rounding errors.

3. This would require further analysis. All I can say, the formulas gives at least 15 correct digits on sixteen-digit machines.

Best regards,

Gerson.

*Edited: 6 Apr 2007, 3:14 p.m.*

**Re: #5**

*Message #48 Posted by [Valentin Albillo](#) on 6 Apr 2007, 9:17 p.m.,  
in response to message #47 by Gerson W. Barbosa*

Hi, Gerson:

Your solution is correct, congratulations ! :-)

I'll post my original solutions and comments within 48 hours, so you've got plenty of time to add whatever you'd like to.

By the way, I've noticed that you last edited your post *exactly at 3:14 p.m.* I assume this was fully intentional, right ? ;-)

Thanks for your continued interest and kind appreciation and

Best regards from V.

**Re: #5**

*Message #49 Posted by [Gerson W. Barbosa](#) on 7 Apr 2007, 8:10 a.m.,  
in response to message #48 by Valentin Albillo*

Hi, Valentin!

Quote:

By the way, I've noticed that you last edited your post *exactly at 3:14 p.m.* I assume this was fully intentional, right ? ;-)

You're right! After I posted I noticed I had skipped one line in the 32SII program listing. When I finish to edit my posting I saw it was 3:11 p.m. so I decided to wait three more minutes before saving the edited post :-)

Best regards,

Gerson.

P.S.: I should have used the extra three minutes to correct "the formula<sub>s</sub> gives" to "the formula gives" :-)

*Edited: 7 Apr 2007, 11:45 a.m.*

**S&SMC#18: My Original Solutions & Comments [LONG]**

*Message #50 Posted by [Valentin Albillo](#) on 9 Apr 2007, 7:07 a.m.,  
in response to message #1 by Valentin Albillo*

Hi all,

Thanks to all lurkers and posters alike for your interest in this S&SMC#18, there's been a healthy



number of keen solutions and interesting comments to some of the most difficult subchallenges and I'll now give my original solutions plus assorted relevant comments:

## My Original Solutions:

### 1) (HP-71B specific) Find a root X of:

$$\text{Abs}(\text{Ln}(x*x) - \text{Ln}(x^2)) > 4.012007$$

As Jean-François Garnier early pointed out, this subchallenge seems at first sight to have no solution at all, since you seem to be subtracting two mathematically equivalent quantities and requesting that the difference is to be a relatively large value which can't possibly be brought about by minor rounding errors.

The solution, which is HP-71B specific, lies in the fact that the developing team for the internal ROMs and the Math ROM didn't have the necessary allowances for ROM space and time to be able to fully implement the Math IEEE proposals to consistently handle *signed zero*, most specially when dealing with complex numbers and branch cuts. So there are times when +0 and -0 aren't treated equivalently in a number of complex-valued functions where they should be. This "x\*x vs x^2" affair is but one such case.

Jean-François gave the simplest possible example for the case x\*x versus x^2, where an explicit zero component of a complex value had its sign explicitly changed. This can be further masked out of user's sight by using instead some function or operation that returns a -0 result from some nonzero argument, such as, in degrees, Cos(270).

So, a complex number such as  $X = \text{COS}(270) + i$  will be a particular solution for this challenge, and, in general:

$$\begin{aligned} X &= \text{COS}(270+360*k) + m*i, \\ X &= \text{COS}(-270-360*k) + m*i, \end{aligned}$$

with k integer  $\geq 0$  and  $m \neq 0$  in both cases, will be a solution too. The following short program demonstrates this by evaluating the expression  $\text{LN}(X*X) - \text{LN}(X^2)$  for complex arguments formed using all integer values of the angle between 0 and 360 degrees:

```
10 DEF FNF(X)=LN(X*X)-LN(X^2)
20 OPTION ANGLE DEGREES @ STD @ COMPLEX X @ REAL Y,I
30 FOR I=0 TO 360 @ X=(COS(I),1) @ Y=ABS(FNF(X))>1
40 IF Y THEN DISP "A solution is: x = (COS(";STR$(I);" deg),1)"
50 NEXT I
```

>RUN

```
A solution is: x = (COS(270 deg),1)
```

and, as you can see, only COS(270) results in a difference greater than 1 (or than 4.012007 for that matter, namely  $2*\text{Pi}$ ). So it's not just a question of starting with a *weird* initial value, -0, and not-so-unexpectedly getting *weird* results, the problem is that you can start with such a *nice* integer value as 270 and, totally unaware of this pitfall, get *weird*, outrageously out-of-range results where all other integer (or even real) values in 0-360 would give you no unexpected complications at all.

Even the neighboring values 269.999999999 and 270.000000001 will return the expected results,

but there's a huge, abnormal discontinuity exactly at 270 degrees in this case.

---

**2) (any model) Write a program that takes as input three positive integers  $A, B, M$  ( $A, B$  not being exact powers of 10), and outputs the difference between the probabilities  $P(A, M)$  and  $P(B, M)$  that two random powers of  $A$  and  $B$  (say  $A^i$  and  $B^j$  for some random positive integers  $i, j$ ) begin with  $M$ .**

---

This subchallenge was also cleverly solved by Egan Ford, and indeed the solution is a program which simply outputs 0, regardless of the inputs.

This is based on the proven fact that the probability that a power of any positive integer  $A$ , whose logarithm to the base 10 is *irrational* (i.e.: any positive integer other than a power of 10), begins with the digits that represent the number  $M$  (in decimal notation) is

$$P(A, M) = \text{LGT}(1 + 1/M)$$

i.e.: *independent of  $A$* . This is actually quite easy to prove, both formally and informally, and due to its independence of  $A$ , *the difference of both probabilities is always 0*, regardless of the values of  $A$  and  $B$  within the original constraints.

---

**3) (any model) Let  $F(X)$  be a function defined thus for positive  $X$ :**

$$\begin{aligned} F(1) &= 1 \\ F(X) &= F(X-1) + 1/X \end{aligned}$$

**Write a program that, given any value  $N > 1$  and  $N < 200$  (for 10-digit models) or  $N < 1000$  (for 12-digit models), will find with the maximum possible accuracy a value  $X$  such that  $F(X) = N$ . Use your program to find  $X$  such that  $F(X) = 4.012007$**

---

This definition is one of the many that can be formulated for the Harmonic Number function,

$$H(N) = 1 + 1/2 + 1/3 + \dots + 1/N$$

The challenge resides in how to *extend* the function's domain to *arbitrary real values*, as the given definition is only useful for discrete positive integer values, which is perfectly Ok as a theoretical definition is not necessarily an effective computation scheme.

This is quite similar to the well-known factorial function,  $N!$ , usually defined as

$$\begin{aligned} F(0) &= 1 \\ F(X) &= F(X-1) * X \end{aligned}$$

which can only be used to compute the function for discrete positive integer values, and its extension to arbitrary real (and even complex) values  $X$ , usually known as Gamma function, requires a new definition which totally agrees with the discrete case and further meets a number of continuity requirements, etc.

In our case,  $H(N)$ , a simple but appropriate extension would be this:

$$H(N) = \int_0^1 \frac{1 - (1-x)^N}{x} \cdot dx$$

which coincides with the original definition for all positive integer values of  $N$ , plus it also works

for suitable positive real arguments.

An HP-71B program to find N for a given value of F(N) would then simply be:

```
10 DESTROY X,N @ INPUT "F(N)=" ;N @ X=FNROOT(1,100,LN(FVAR)+.577-N)
20 DISP FNROOT(X-1,X+1,INTEGRAL(0,1,1E-12,(1-(1-IVAR)^FVAR)/IVAR)-N)
```

```
>RUN
  F(N)=4.012007 [ENTER]
```

```
30.523595225 (25.37 sec. in Emu71)
```

which can be shortened to a single line, or directly evaluated from the command line with no program necessary, but as written we first compute a suitable first approximation by using a well-known asymptotic approach to H(N) (which involves the EulerGamma constant 0.577...), and this initial approximation is then used to bracket the two initial guesses for the FNROOT (Solve) built-in function when applied to the integral extension in order to appreciably reduce computation time. The single-line version works the same, but takes longer unless you supply good initial guesses.

**4) (any model) Write a program, command line or key sequence to compute the exact symbolic value of (in radians mode):**

$$I_1 = \int_0^{\infty} \frac{1}{(1+x^2)(1+x^{4.012007})} dx$$

$$I_2 = \int_0^{\pi/2} \frac{1}{(1+\tan(x)^{4.012007})} dx$$

As some of you quickly found out, both integrals are one and the same upon a simple change of variables. Furthermore, the value of

$$I = \int_0^{\pi/2} \frac{1}{(1+\tan(x)^S)} dx$$

is independent of the particular value of S, i.e. it is the same whether S = 4.012007 or S = 2007, or S = 0 for that matter, so we can take S = 0 and then the integral's value always will be:

$$I_2 = \int_0^{\pi/2} \frac{1}{(1+\tan(x)^0)} dx$$

$$= \int_0^{\pi/2} \frac{1}{2} dx = \pi/4.$$

As for a program to compute this, it suffices to supply the integrand 1/2 to any integration

program or built-in functionality, and either recognize the computed value by comparing it with submultiples of Pi or else call QPI or any other such program to do the recognizing, that is, assuming your HP model doesn't feature some CAS because if it does, any CAS can symbolically evaluate the definite integral of  $1/2$  and return  $\text{Pi}/4$  at once. The details are absolutely trivial.

The fact that the original general integral is independent of the value of S is but a particular case of a much more general, extremely powerful, multiparameter *master formula* whose value also happens to be independent of one of its parameters. For instance, a particularized case for three specific values of its parameters would get us this unusual exact symbolic computation:

$$I = \int_0^{\text{Inf}} \frac{dx}{(x^4 + (1+2*\text{Sqr}(2))*x^2 + 1)*(x^{100} - x^{98} + \dots + 1)} = \text{Pi}/(2*(1+\text{Sqr}(2)))$$

5) (any 12-digit model) Given the succession defined thus:

$$X_0 = 0$$

$$X_N = \text{FractionalPart}\left( 2^4 * X_{N-1} + \frac{30 * M^2 - 89 * M + 2^6}{2^3 * M^4 - 2^6 * M^3 + 178 * M^2 - 206 * M + 84} \right)$$

$$\text{where } M = 2^{2*N}$$

write a program to compute the first 9 terms ( $X_1, X_2, \dots$ , etc.)

The following routine for the HP-71B implements the above recurrence:

```
10 X=0 @ Z=0 @ FOR N=1 TO 9 @ M=2^2*N
20 X=FP(2^4*X+(30*M^2-89*M+2^6)/(2^3*M^4-2^6*M^3+178*M^2-206*M+84))
30 DISP INT(2^4*X); @ NEXT N @ DISP
```

>RUN

2 4 3 15 6 10 8 8 8

which happen to be *the first 9 hexadecimal digits of the fractional part of Pi*. This HP-71B program, which of course uses 12-digit arithmetic, can't do better and the very next terms are all wrong, starting with the 10<sup>th</sup> which comes out as 2 instead of the correct 5. This is a problem of insufficient computational precision, not of the formula itself. So the correct answer to the first question is:

"The N<sup>th</sup> term is the N<sup>th</sup> hexadecimal digit of the fractional part of Pi"

Surprisingly, it is not known if this is true for the *whole* infinite sequence, but it's been proved that there can only exist a finite number of exceptions, and the formula has been numerically checked correct for the first 1,000,000 terms.

The theoretical importance of this sequence lies in the following fact: if it could be proved that the generated terms are *uniformly distributed* in the range 0-16, then Pi would be proved *normal* to base 16 (and also to base 2).

Currently, Pi hasn't been proved to be normal to *any* base, despite the fact that more than  $10^{12}$

digits of Pi have been computed and they pass all statistical tests for normality to all bases, and despite the proven fact that *almost all* real numbers are normal to *all* bases.

---

**6) (HP-15C specific) Assuming A and B are both NxN matrices and that their elements are integer numbers less than 5,000,000,000, write a program that will exchange their contents, for NxN up to and including 5x5.**

---

The problem here is that, not being able to use any conditional instruction, it's quite impossible to exchange the elements using a loop, and further there's not enough RAM to define an auxiliary 5x5 matrix to help make the exchange. The correct solution is thus the following 11-step program for the HP-15C:

```

LBL A
RCL MATRIX A
RCL MATRIX B
RESULT A
+
RCL MATRIX A
LAST X
RESULT B
-
RESULT A
+

```

which succeeds in exchanging the contents of A and B by arithmetic means, without loss of precision because due to the original constraints on the elements, no intermediate result ever exceeds the allowed range for exact integers. Paul Dale correctly saw the right arithmetic approach, with his quickly concocted 13-step solution.

---

**7) A very interesting and commonsense-defying subchallenge which no one took (perhaps Calculus-themed challenges aren't that popular here), thus best left for a future Datafile article.**

---

**8) (any model) Write a program to find, compute, and print all square factorials  $N!$  from  $N=1$  to  $N=512$ .**

---

Despite this being an "April's Fool" subchallenge, which frequently need some lateral thinking nevertheless, and despite my hints suggesting the need to think plainly about what a "square" is (the kind of way Sesame Street's Grover would explain the concept to toddlers, which probably wouldn't grasp irrationals, complex arguments, modular residues, and existence proofs), noone stumbled upon the correct interpretation initially.

The alleged "squareness" of the sought-for factorials made actually no reference to their *\*value\** but to their *\*shape\** when printed. For instance,  $12!$  can be printed thus:

```

4 7 9
0 0 1
6 0 0

```

which, sure enough, it's pretty square on paper or screen. This is possible because  $12! = 479001600$  is a 9-digit integer, and thus, having a *square* number of digits, it can be printed as a square array of digits, which is all perfect and good and quite pleasant from an aesthetic point of view.

The concept itself is hardly new and I saw it for the first time several decades ago in one of Martin

Gardner's extremely popular Scientific American columns, where he discussed not only "square" factorials, but "polygonal" factorials in general, including a very nice-looking, pretty-printed "octogonal" factorial !

All we need then is some program which can detect which factorials from 1! to 512! do have an square number of digits, compute them to full precision, and print them as an square array of digits.

This short program (465 bytes) is my complete solution for the HP-71B, which includes a *multiprecision factorial-computing subprogram*, **BIGFACT** (which accepts two parameters, one by value which is the integer argument, the other by reference, which is a string variable where the resulting multiprecision factorial representation will be returned), and a simple "driver" program, **SQRFACT**, which finds out which factorials do have an square number of digits by using a simple Stirling approximation, then calls **BIGFACT** to fully compute the ones found in order to subsequently print them (20 in all):

```

100 DESTROY ALL @ FOR N=1 TO 512
110 D=MAX(SQR(INT(N*LGT(N/EXP(1))+LGT(2*PI*N)/2+LGT(1+1/12/N))+1),1)
120 IF FP(D) THEN 140 ELSE DIM S$[D*D] @ CALL BIGFACT(N,S$) @ DISP N;LEN(S$)
130 FOR I=1 TO D @ DISP S$[1+(I-1)*D,D+(I-1)*D] @ NEXT I
140 NEXT N
150 !
160 SUB BIGFACT(N,S$) @ OPTION BASE 0 @ K=9 @ L=10^K @ STD
170 M=INT((N*LGT(N/EXP(1))+LGT(2*PI*N)/2)/K)+1 @ DIM F(M)
180 MAT F=ZER @ F(0)=1 @ FOR I=2 TO N @ MAT F=(I)*F @ FOR J=0 TO M-1
190 T=F(J) @ IF T>=L THEN F(J+1)=F(J+1)+T DIV L @ F(J)=MOD(T,L)
200 NEXT J @ NEXT I @ P=1 @ S$="" @ B$="" @ FOR I=M TO 0 STEP -1
210 IF F(I) AND P THEN P=0 ELSE IF P THEN 230 ELSE B$="0"
220 A$=STR$(F(I)) @ S$=S$&RPT$(B$,K-LEN(A$))&A$
230 NEXT I

```

>RUN

```

1 1

1

2 1

2

3 1

6

7 4

5 0
4 0

12 9

4 7 9
0 0 1
6 0 0

18 16

6 4 0 2
3 7 3 7
0 5 7 2

```

8 0 0 0

32 36

2 6 3 1 3 0  
 8 3 6 9 3 3  
 6 9 3 5 3 0  
 1 6 7 2 1 8  
 0 1 2 1 6 0  
 0 0 0 0 0 0

59 81

1 3 8 6 8 3 1 1 8  
 5 4 5 6 8 9 8 3 5  
 7 3 7 9 3 9 0 1 9  
 7 2 0 3 8 9 4 0 6  
 3 4 5 9 0 2 8 7 6  
 7 7 2 6 8 7 4 3 2  
 5 4 0 8 2 1 2 9 4  
 9 4 0 1 6 0 0 0 0  
 0 0 0 0 0 0 0 0 0

...

508 1156

5 1 1 9 9 ... 8 5 3  
 7 9 7 9 8 ... 6 0 1  
 1 1 7 4 6 ... 6 5 4  
 ... ..  
 4 7 5 2 9 ... 8 4 9  
 8 0 9 0 4 ... 0 0 0  
 0 0 0 0 0 ... 0 0 0  
 0 0 0 0 0 ... 0 0 0  
 0 0 0 0 0 ... 0 0 0

That's all. Hope you enjoyed the ride, and thank you very much for your interest and outstandingly clever solutions, extensions, and comments.

Best regards from V.

**Re: S&SMC#18: My Original Solutions & Comments [LONG]**

*Message #51 Posted by [hugh steers](#) on 9 Apr 2007, 8:19 a.m.,  
 in response to message #50 by Valentin Albillo*

hello valentin,

can you reveal the "master" formula?

*Edited: 9 Apr 2007, 8:20 a.m.*

**Re: S&SMC#18: My Original Solutions & Comments [LONG]**

*Message #52 Posted by [Valentin Albillo](#) on 9 Apr 2007, 9:09 a.m.,  
 in response to message #51 by hugh steers*

Hi, Hugh:

Hugh posted:

**"Can you reveal the "master" formula ?"**

Certainly, here you are (9-page, 124 Kb PDF document):

["An Integral With Three Parameters" \(by George Boros & Victor H. Moll\)"](#)

The particular definite integrals I used in my subchallenge can be found at **Example 3.6** in page 4 of the above excellent PDF document, where you'll also find an incredible wealth of awesome symbolic evaluations.

Thanks for your interest and

Best regards from V.

### **Re: S&SMC#18: My Original Solutions & Comments [LONG]**

Message #53 Posted by [hugh steers](#) on 10 Apr 2007, 2:19 p.m.,  
in response to message #52 by Valentin Albillo

hi valentin,

thanks for posting the pdf paper with the master formula, it is interesting. i am hoping you (or someone) can help me understand something about lemma 2.1. which says, if  $f(1/x) = x^2 \cdot f(x)$  then integral  $f(x)/(1+x^b)$  from 0 to infinity is independent of b. a detailed proof is not given only the phrase; the proof follows easily from differentiation wrt b and put  $x \rightarrow 1/x$ .

This is what i originally tried with your problem #4. the the end i managed to prove it another way because i got stuck with trying to show  $dI/db = 0$  which is what i presume is done in the paper.

from lemma 2.1, if i try the "follows easily" bit, i get this:

<http://www.voidware.com/tmp/lem21.jpg>

but how is this necessarily zero, or have i made a mistake?

any help?

### **Re: S&SMC#18: A nicer demonstration**

Message #54 Posted by [Valentin Albillo](#) on 10 Apr 2007, 8:49 p.m.,  
in response to message #53 by hugh steers

Hi, Hugh:

Hugh posted:

*"i am hoping you (or someone) can help me understand something about lemma 2.1 [...] a detailed proof is not given only the phrase; the proof follows easily from differentiation wrt b and put  $x \rightarrow 1/x$ ."*

Well, I assume you're experienced enough in all things mathematical to know that

*"... the proof follows easily ..."*

actually means



"... only to PhD's who specialize in that field, or to instructors who have taught the course 100 times ..."

i.e. the resulting integral after differentiation under the integral sign indeed is identically zero, but the above actual meaning fully applies.

Fortunately with a little ingenuity and experience in formal manipulation of mathematical entities it's perfectly possible to get away with the awkward differentiation process and concoct instead a much nicer demonstration of your Lemma 2.1, in the sense that all steps are *crystal-clear* and I'll get you *directly* to a this-time-fully-obvious result. Bear with me:

1. Assuming that  $f(x)$  is a function that satisfies the functional equation  $f(1/x) = x^2 \cdot f(x)$ , I'll try and demonstrate that the value of the definite integral:

$$\int_0^{\infty} \frac{f(x)}{1+x^b} \cdot dx$$

does **not** depend on  $b$ .

2. To that effect, I first split the integral into two parts:

$$\int_0^{\infty} \frac{f(x)}{1+x^b} \cdot dx = \int_0^1 \frac{f(x)}{1+x^b} \cdot dx + \int_1^{\infty} \frac{f(x)}{1+x^b} \cdot dx$$

3. Now I left the first part alone and perform the change of variable:

$$x = 1/t \quad (\text{so } dx = -1/t^2)$$

on the second part, so that (after cosmetically replacing on the fly the dummy variable  $t$  for  $x$  again in order to keep the same variable in both parts) the sum now becomes:

$$\int_0^{\infty} \frac{f(x)}{1+x^b} \cdot dx = \int_0^1 \frac{f(x)}{1+x^b} \cdot dx + \int_1^{\infty} \frac{f(1/x)}{1+(1/x)^b} \cdot \frac{1}{x^2} \cdot dx$$

4. Now, still focusing our attention on the second part, I'll multiply both numerator and denominator by  $x^b$  so that I'll have:

$$\int_1^{\infty} \frac{f(1/x)}{1+(1/x)^b} \cdot \frac{1}{x^2} \cdot dx = \int_1^{\infty} \frac{x^b \cdot f(1/x)}{x^b + 1} \cdot \frac{1}{x^2} \cdot dx$$

5. Now it's time to make use of the initial assumption, namely that  $f(1/x) = f(x) \cdot x^2$ . Substituting this equivalence in the second part and arranging its denominator in the proper order, I finally get:

$$\int_1^{\infty} \frac{x^b \cdot f(1/x)}{x^b + 1} \cdot \frac{1}{x^2} \cdot dx = \int_1^{\infty} \frac{f(x)}{1+x^b} \cdot dx$$

$$\begin{aligned}
 \int_0^1 \frac{1+x^b}{1+x^b} dx &= \int_0^1 \frac{f(x)}{1+x^b} dx + \int_0^1 \frac{x^b \cdot f(x)}{1+x^b} dx \\
 &= \int_0^1 \frac{f(x) + x^b \cdot f(x)}{1+x^b} dx = \int_0^1 f(x) \cdot \frac{1+x^b}{1+x^b} dx \\
 &= \int_0^1 f(x) dx
 \end{aligned}$$

which does *not* depend on  $b$ , **Q.E.D.**

Nice, uh ? :-)

Thanks for your interest in these mathematical ramblings o'mine and

Best regards from V.

### Re: S&SMC#18: A nicer demonstration

Message #55 Posted by [hugh steers](#) on 11 Apr 2007, 4:12 a.m.,  
in response to message #54 by Valentin Albillo

hi valentin,

thanks very much for your detailed explanation. breaking up the integral is exactly what i did in my original post for the solution to #4, but i didn't have the general  $f(x)$  bit, only your original integrand. differentiating did not lead me anywhere helpful.

the paper, then, is a bit misleading because, the claimed, differentiation does not lead to a simple answer. i wondered if the authors knew of some "standard" result that allowed the differentiated version to be dismissed as zero quickly.

thanks again and thanks for your interesting challenges.

### Re: A few more comments on item#1

Message #56 Posted by [J-F Garnier](#) on 9 Apr 2007, 9:23 a.m.,  
in response to message #50 by Valentin Albillo

I think the unexpected result for  $\text{LN}(X*X) - \text{LN}(X^2)$  is not directly linked to the signed 0 implemented in the HP-71B. It is perfectly consistent that:

$$\begin{aligned}
 \text{LN}((-1, 0)) &= (-1, \text{PI}) \\
 \text{and} \\
 \text{LN}((-1, -0)) &= (1, -\text{PI})
 \end{aligned}$$

even if the two numbers  $(-1,0)$  and  $(-1,-0)$  are considered as equal:

$((-1,0)=(-1,-0))$  is 1 (i.e. true)

BTW, this is an example of a violation of the rule that states that if  $X=Y$  then  $f(X)=f(Y)$ . Another obvious violation is that  $1/0$  is different from  $1/(-0)$ . Maybe this is why HP abandoned the signed 0 in the next Saturn-based machines.

We could argue that the branch cut for LN complex function should turn  $-PI$  into  $+PI$ . But the HP-71B numeric constant  $PI$  is an approximation and the cut is not exactly  $PI$ .

The root cause is, in my opinion, that

$(-0,1)*(-0,1)=(-1,-0)$

but

$(-0,1)^2 = (-1,0)$

instead of  $(-1,-0)$  due to rounding effects. If it was  $(-1,-0)$ , no abnormal result would occur.

As a final point, this problem was specific to the HP-71B in the handheld calculator domain, but if we include classic desktop HP calculators, we can find other examples, that have nothing to do with the signed 0:

For example, the 9816/26, and other HP9000 serie 200/300 calculators using the HP Basic (I used version 6.2 running on a Viper PC card):

```
10 COMPLEX X
20 X=-CMPLX(0,1)
30 DISP X*X,X^2,LOG(X*X),LOG(X^2)
40 END
results are:
-1 0      -1 -1.22E-16      0 3.141592653589      0 -3.141592653589
```

Anyway, congrat to Valentin for proposing this interesting and unexpected challenge!

J-F

*Edited: 9 Apr 2007, 9:34 a.m.*

### **It's not due to rounding, J-F.**

*Message #57 Posted by [Valentin Albillo](#) on 10 Apr 2007, 6:54 a.m.,  
in response to message #56 by J-F Garnier*

Hi, Jean-François:

Jean-François posted:

*"The root cause is, in my opinion, that  $(-0,1)*(-0,1)=(-1,-0)$  but  $(-0,1)^2 = (-1,0)$  instead of  $(-1,-0)$  due to rounding effects."*

It has nothing to do with rounding, J-F. Your statement seems to imply that multiplication of such small constants has no rounding errors whatsoever, while raising a complex number to the 2<sup>nd</sup> power does entail some complicated operations which are prone to suffer from some rounding errors, however small, and this is what causes the incorrectly signed zero.

If that's what you mean, while plausible, let me assure you that this is not so, rounding has nothing to do with the differently signed zero, the same problem of incorrectly signed zeros does appear in operations not involving raising a complex number to a power but just a simple multiplication of small constants, say, where no rounding errors are possible.

*"Anyway, congrat to Valentin for proposing this interesting and unexpected challenge!"*

Thank you very much, I always appreciate your excellent inputs to my challenges and mini-challenges and always will be indebted to you for [Emu71](#), which is a most awesome HP-71B emulator without which most of my articles and challenges would have never seen the light.

Best regards from V.

### **Re: S&SMC#18: Problem #7**

*Message #58 Posted by [Eamonn](#) on 9 Apr 2007, 2:10 p.m.,  
in response to message #50 by Valentin Albillo*

Hi Valentin,

Thanks again for the entertaining challenge. I read through your solution and you point out that no one attempted #7. I searched online to see how non-integer derivatives are defined and found an explanation at the Mathworld site that led to the following two solutions that I hope are not too late for submission

For the first part of the challenge, here is a program that runs on the HP-32S/32S-II/33S:

```
LBL A
INPUT X
INPUT M
INPUT N
X!
RCL N
RCL -M
X!
/
RCL X
RCL N
RCL -M
Y^X
*
RTN
```

For  $M=4.012007$ ,  $N=\pi$  and  $X=e$ , this returns the value 0.414943481568.

For the second part of the challenge, I believe that the following program should suffice:

```
LBL B
INPUT C
INPUT M
INPUT X
RCL M
+/-
Y^X
RCL C
*
RCL M
+/-
X!
/
RTN
```

With  $M=e$ ,  $C=4.012007$  and  $X=\pi$ , this program returns the result 0.068980430225.

Best Regards,

Eamonn.

**Re: Problem #7 (Non-integer order derivatives)**

Message #59 Posted by **Valentin Albillo** on 10 Apr 2007, 5:08 a.m.,  
in response to message #58 by Eamonn

Hi, Eamonn:

Eamonn posted:

*"Thanks again for the entertaining challenge. I read through your solution and you point out that no one attempted #7. I searched online to see how non-integer derivatives are defined and found an explanation at the Mathworld site that led to the following two solutions that I hope are not too late for submission"*

Thanks a lot for your interest and kind words and no, it's *never too late* for submissions, the more (and for the most models) the better, we all can always learn something new or find some worthwhile routine, technique, or idea.

As for your programs and results, they're indeed fully correct and perfectly agree with my own original solutions and numeric values to full 12-digit precision, congratulations.

Just for the record, this is my original solution for the HP-71B, a pair of user-defined functions, callable from either programs or directly from the keyboard alone or as part of other expressions:

```
10 DEF FND(M,N,X)=GAMMA(N+1)/GAMMA(N-M+1)*X^(N-M)
20 DEF FND2(M,C,X)=C*X^(-M)/GAMMA(1-M)
```

The results for part 1, part 2, respectively:

```
>FND(4.012007,PI,EXP(1))
```

.414943481568

```
>FND2(EXP(1),4.012007,PI)
```

.068980430225

which fully agree with yours. The thrill of this particular subchallenge was two-fold:

- On the one hand, the weird, unexpected concept of *non-integer order derivatives*, where most people, even the ones who feel comfortable with Calculus, have never seen nor heard about anything other than integer-order ones: first derivative, second derivative, ...

The mere fact that a non-integer order derivative can be defined, how to go about computing it, how to physically interpret it (if at all) and what its real-life uses might be (if any) are mind-boggling questions to most mathematically-aware people.

- On the other hand, the paradoxical concept that a *constant* function (which always has zero derivative for all positive integer orders), can have non-zero, non-linear derivatives for positive non-integer orders, as can be seen in Part 2 of this subchallenge, where a non-integer derivative of the constant 4.012007 is evaluated for a given X value. This also seems to defy common mathematical sense, not only on computational grounds but on the very meaning of it all.

As you can see, this is a very deep subject that can't be easily dealt with here, so I'll leave

it for a future Datafile article, most likely.

For now, it might be comforting to know that non-integer order derivatives can indeed be soundly defined, they can be efficiently computed, they do have physical interpretation, and most definitely, they do have important real-life applications. The topic is not new (actually it's as old as Calculus itself), but it is now, with the advent of computers, when it finally gets to be studied and applied in full.

Thanks for your excellent solutions and

Best regards from V.

*Edited: 10 Apr 2007, 10:50 a.m.*

### **Re: Problem #7 (Non-integer order derivatives)**

*Message #60 Posted by **GE** on 11 Apr 2007, 6:54 a.m.,  
in response to message #59 by Valentin Albillo*

Thanks to all (and Valentin in the first place), this challenge was very hard (and thus very interesting), IMHO this explains the lower than usual number of replies, not at all any lack of interest.

I know I have been reading this forum morning and evening for news on the SSMC. Very much enjoyed !

There are still lots of thing not fully explained...

### **Re: Problem #7 (Non-integer order derivatives)**

*Message #61 Posted by **Eamonn** on 11 Apr 2007, 12:41 p.m.,  
in response to message #59 by Valentin Albillo*

Quote:

The thrill of this particular subchallenge was two-fold:

\* On the one hand, the weird, unexpected concept of non-integer order derivatives, where most people, even the ones who feel comfortable with Calculus, have never seen nor heard about anything other than integer-order ones: first derivative, second derivative, ...

The mere fact that a non-integer order derivative can be defined, how to go about computing it, how to physically interpret it (if at all) and what its real-life uses might be (if any) are mind-boggling questions to most mathematically-aware people.

\* On the other hand, the paradoxical concept that a constant function (which always has zero derivative for all positive integer orders), can have non-zero, non-linear derivatives for positive non-integer orders, as can be seen in Part 2 of this subchallenge, where a non-integer derivative of the constant 4.012007 is evaluated for a given X value. This also seems to defy common mathematical sense, not only on computational grounds but on the very meaning of it all.

I completely agree. I had not come across such definitions before, so it was a very interesting to see that it is possible to define non-integer order derivatives. And the fact that the non-integer order derivative of a constant is not necessarily zero was also counter-intuitive, but it does follow from

the definition of the non-integer order derivatives.

Thanks again Valentin.

Eamonn.

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## HP Forum Archive 17

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### Help Page - FAQ?

Message #1 Posted by [Eddie Shore](#) on 31 Mar 2007, 10:02 p.m.

Did we ever talk about putting a FAQ up for HP calculators?

### Re: Help Page - FAQ?

Message #2 Posted by [Raymond Del Tondo](#) on 31 Mar 2007, 11:06 p.m.,  
in response to message #1 by Eddie Shore

There's a [MoHPC FAQ](#) already, covering some of the most frequently asked questions, which are usually of the type RTFM, like the famous 'my HP-xx has decimal points and commas switched'.

And there are several FAQ pages related to HP-48 type calcs on [hpcalc.org](http://hpcalc.org) .

The problem is that noone seems to look at the FAQ pages;-)

HTH

Raymond

### Re: Help Page - FAQ?

Message #3 Posted by [Ron](#) on 1 Apr 2007, 3:37 a.m.,  
in response to message #2 by Raymond Del Tondo

No one looks at FAQ pages, because at most sites, they're not really FAQs. Instead they're QWWTABTNEAs (questions we want to answer, but that nobody ever asks). Also known as QWEOAs (questions with extremely obvious answers), or QWSCAs (questions with self contained answers). Such questions on the MoHPC would be similar to:

1. What model number is my HP 11C?
2. What does MoHPC (Museum of HP Calculators) stand for?
3. Are there very many calculators in the world?
4. Etc...

*Edited: 1 Apr 2007, 3:38 a.m.*

### Re: Help Page - FAQ?

Message #4 Posted by [Thomas Radtke](#) on 1 Apr 2007, 5:25 a.m.,  
in response to message #1 by Eddie Shore

How about turning that FAQ into a sticky thread in this forum?



## **Re: Help Page - FAQ?**

*Message #5 Posted by **Raymond Del Tondo** on 2 Apr 2007, 2:21 p.m.,  
in response to message #4 by Thomas Radtke*

That could be an idea.

However, one could argue that it's already 'sticky'  
on the main page [www.hpmuseum.org](http://www.hpmuseum.org) , near the middle of the page ;-)

Raymond

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## HP Forum Archive 17

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### HP-41 digital cassette drive - how to test?

Message #1 Posted by [NRB](#) on 31 Mar 2007, 3:22 a.m.

I have a digital cassette drive and HPIL module, and would like to test the read/write using an HP41CX. Can anyone tell me how to do this? Thanks. - Robert

### Re: HP-41 digital cassette drive - how to test?

Message #2 Posted by [Raymond Del Tondo](#) on 1 Apr 2007, 7:40 a.m.,  
in response to message #1 by [NRB](#)

Hi,

if you have a suitable digital cassette you could insert the cassette into the drive, then perform DIR on the HP-41. The HP-41 should display a directory listing of the tape.

For more detail on using WRTP and READP I'd suggest to take a look into the manual or at least the QRG for the HP 82160A HP-IL module;-)

HTH

Raymond

### Re: HP-41 digital cassette drive - how to test?

Message #3 Posted by [NRB](#) on 2 Apr 2007, 12:05 a.m.,  
in response to message #2 by [Raymond Del Tondo](#)

Raymond, Thanks for the info! Regards, Robert

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## HP Forum Archive 17

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### Can HP48 transfer via IR to HP50?

Message #1 Posted by [Kevin](#) on 30 Mar 2007, 11:27 p.m.

Sorry to ask such a remedial question. I just got a HP50 to replace my aging HP 48GX (can I just say the new keyboard layout stinks?) and I've got a TON of stuff that I've written over the years that I want to transfer. I can't use my computer since HP seems to not know about Mac... Am I doing something really dumb or do these two machines not transfer via IR? Thanks for help anyone offers. - Kevin

### Re: Can HP48 transfer via IR to HP50?

Message #2 Posted by [James M. Prange \(Michigan\)](#) on 31 Mar 2007, 9:13 p.m.,  
in response to message #1 by Kevin

No. The 48 series "serial IR" is not compatible with the 49 series IrDA.

If you build (or buy) an adapter for the 50g's serial port to make it RS-232 compatible, you should be able to make a "via wire" connection to the 48 series.

Other than that, you'll have to use something else as a "go-between" for the 48 series and the 49g+/50g.

Regards,  
James

*Edited: 31 Mar 2007, 9:28 p.m.*

### Re: Can HP48 transfer via IR to HP50?

Message #3 Posted by [bill platt](#) on 31 Mar 2007, 9:48 p.m.,  
in response to message #2 by James M. Prange (Michigan)

"use something else as a 'go-between'"

...as in download as text file to PC and do a fresh upload to the 50G?

### Re: Can HP48 transfer via IR to HP50?

Message #4 Posted by [James M. Prange \(Michigan\)](#) on 31 Mar 2007, 10:28 p.m.,  
in response to message #3 by bill platt

Quite so.

You bring up a good point; in general, compiled objects are not compatible between the 48 and 49 series, so an "ASCII" or "Text" transfer should be used.

Regards,  
James

## **Re: Can HP48 transfer via IR to HP50?**

*Message #5 Posted by [James M. Prange \(Michigan\)](#) on 31 Mar 2007, 10:52 p.m.,  
in response to message #1 by Kevin*

What are you having problems connecting to a Mac, the 48GX, the 50g, or both?

What ports are available on your Mac? RS-232? IrDA? USB?

Are Kermit-based or Xmodem-based applications available on your Mac? If so, then which ports can they be used with?

Any Kermit-based application should be able to work with all 48 and 49 series. I don't know much about Xmodem (maybe there's more than one "flavour" available?), but the 48G series and newer have it built-in.

But the 49g+ and 50g lack an RS-232 compatible port, which I believe Kermit and Xmodem applications generally expect to use.

That said, I have an RS-232/IrDA adapter which, with the included software, shows up on my PC as a "virtual COM port", which allows me to use at least HyperTerminal to connect with the 49g+ and 50g.

You might be able to use [HPConnect](#) between the 49g+/50g and your Mac for a USB connection.

Good luck.

Regards,  
James

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### HP 19C Decimal points

Message #1 Posted by [Richard Putz](#) on 30 Mar 2007, 10:23 p.m.

Not long ago for some reason I decided to look at the display on my HP 19C, and found that the decimal points are little HP logos. The whole world knew this except for me, is that correct? Please advise. Rich

### Re: HP 19C Decimal points

Message #2 Posted by [Katie Wasserman](#) on 30 Mar 2007, 11:06 p.m.,  
in response to message #1 by Richard Putz

I'm not sure if the "whole world" knows this, but the regulars here sure do. Search the archives and you'll find a good amount of discussion and some nice closeup pictures.

-Katie

### Re: HP 19C Decimal points

Message #3 Posted by [Etienne Victoria](#) on 31 Mar 2007, 3:09 a.m.,  
in response to message #1 by Richard Putz

Yes,

Just [Look into the Red Eye](#) .

Cheers

Etienne

[http://etienne.victoria.free.fr/Sting\\_eye/pictures/picture-2.jpg](http://etienne.victoria.free.fr/Sting_eye/pictures/picture-2.jpg)

### Re: HP 19C Decimal points

Message #4 Posted by [Raymond Del Tondo](#) on 31 Mar 2007, 8:57 a.m.,  
in response to message #1 by Richard Putz

Consider yourself a lucky guy;-)

Not every HP-19C has the 'hp' logo within the decimal points.  
I have a 19C which does have the 'hp' logo on the decimal points,  
and another 19C without the special 'hp' logo.

Raymond

### Re: HP 19C Decimal points

Message #5 Posted by [Richard Putz](#) on 31 Mar 2007, 12:01 p.m.,

*in response to message #1 by Richard Putz*

Thanks, I appreciate the responses. I joined the forum just to ask that question, but have found the forum to be most interesting. I have had HP calculators for as about as long as they've been available. I'm not a collector but currently have two 25s, a 45, a 19c, a 12c and a 15c. Thanks again; Rich

**Re: HP 19C Decimal points**

*Message #6 Posted by [Hal Bitton](#) on 1 Apr 2007, 9:29 a.m.,  
in response to message #5 by Richard Putz*

Quote:

I'm not a collector but currently have two 25s, a 45, a 19c, a 12c and a 15c.

Sounds like a collection to me...:)  
Best regards, Hal

**Re: HP 19C Decimal points**

*Message #7 Posted by [Charlie O.](#) on 1 Apr 2007, 11:18 a.m.,  
in response to message #6 by Hal Bitton*

He's in denial.

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## HP Forum Archive 17

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**HP-6S Recovering from a crash**

Message #1 Posted by [Thomas Cox](#) on 30 Mar 2007, 7:03 p.m.

I have used a HP-6S for several years as my "shirt pocket" calculator. Long enough to have replaced the original battery with no problem. But today, it froze in the Radians mode with only partial segments showing and no keystrokes would change the frozen condition. Unit would sometimes show multiple decimal points.

Since there is no keystroke method to do a reset, and no reset switch, I removed the battery and shorted the battery terminals for about 30 seconds. When I removed the short, all possible display segments and indicators were on. Pressing Clear then restored normal operation with only the Solar power.

I reinstalled the battery and everything now seems fine.

As a cheap hand held, the HP-6s is superb. Not very good on a desktop as it will "walk" all over the desktop as keys are pressed.

**Re: HP-6S Recovering from a crash**

Message #2 Posted by [Namir](#) on 30 Mar 2007, 7:45 p.m.,  
in response to message #1 by [Thomas Cox](#)

I like the solar version. I have three 6-s solar units. Any complex calculations I want to do I use Excel, Matlab, and so on.

Namir

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## HP Forum Archive 17

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### What will replace the 25th anniversary HP 12cp?

Message #1 Posted by [mk](#) on 30 Mar 2007, 12:06 p.m.

When all the 25th anniversary editions of the HP 12 cp are gone, any idea of what will replace it? Will it simply be a duplicate without the 25th anniversary markings or will it be something else?

### Re: What will replace the 25th anniversary HP 12cp?

Message #2 Posted by [Gene](#) on 30 Mar 2007, 12:18 p.m.,  
in response to message #1 by [mk](#)

I hope so (but have no insider knowledge). The color scheme of the 12cp25AE is much better than the original 12cp, IMO.

Maybe they could just change it to the "26th anniversary edition"? :-)

### Re: What will replace the 25th anniversary HP 12cp?

Message #3 Posted by [Jonathan Eisch](#) on 30 Mar 2007, 8:54 p.m.,  
in response to message #2 by [Gene](#)

at this point in the game, why not make a 1x model? One that can be an 11, 12, 15 or 16, just by swapping the keytops? Or build it in to the rom, and let someone do the swap by cracking it open. I really can't imagine it would be "that" difficult.

-Jonathan

### Re: What will replace the 25th anniversary HP 12cp?

Message #4 Posted by [Gene](#) on 30 Mar 2007, 8:57 p.m.,  
in response to message #3 by [Jonathan Eisch](#)

Search the archives and you'll find explanations about why that would in fact be difficult.

Gene

### Re: What will replace the 25th anniversary HP 12cp?

Message #5 Posted by [Raymond Del Tondo](#) on 31 Mar 2007, 9:08 a.m.,  
in response to message #1 by [mk](#)

According to an article in the HPCC Datafile, hp had planned to replace the normal 12cp production with the 12cp25AE for about six months, after which they would switch back production to the 'normal' 12cp. This way nearly everyone should be able to get one of the Anniversary units.

Since the announced time period is over, the normal 12cp should be in production again.



IMHO the 12cp25AE looks \*much\* better than the normal 12cp, only the 'Special Anniversary Leather Case' is a waste of money.

Raymond

**Re: What will replace the 25th anniversary HP 12cp?**

*Message #6 Posted by [Namir](#) on 31 Mar 2007, 5:23 p.m.,  
in response to message #5 by Raymond Del Tondo*

I agree. The leather case looks like it belongs to a Nikon Coolpix digital camera!!!

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## HP Forum Archive 17

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**OT slide rules**

Message #1 Posted by [Karl-Ludwig Butte](#) on 30 Mar 2007, 10:43 a.m.

Some time has gone by since under this subject someone pointed out an article about slide rules in Scientific America with a reference to the HP-35. Now all German speaking forum members can get a copy in German translation of this article either in the current issue of "Spektrum der Wissenschaft" April 2007 or as PDF-file at: [http://www.spektrum.de/artikel/866419&\\_z=798888](http://www.spektrum.de/artikel/866419&_z=798888)

Have fun

kind regards

Karl

**Re: OT slide rules**

Message #2 Posted by [Christoph Widmer](#) on 31 Mar 2007, 2:53 a.m.,  
in response to message #1 by [Karl-Ludwig Butte](#)

Hallo Karl, thank you for pointing to this very interesting article. Just for reference: The original English article appeared in the May 2006 issue of Scientific American, but is unfortunately that one is not available for free.

**Re: OT slide rules**

Message #3 Posted by [Walter B](#) on 31 Mar 2007, 10:49 a.m.,  
in response to message #1 by [Karl-Ludwig Butte](#)

Besten Dank für den Link, Karl!

Karl, thanks a lot for this link! I did read the announcement in last issue and planned to buy the new one. We were taught slide rules and used them in school till the very end. The HP35 hit Germany not earlier than I started university, for a horrible amount of DM then, far beyond the reach of a student. Strange feeling being part of a historic generation now d;-)

Viele Grüße / best regards, Walter

*Edited: 31 Mar 2007, 10:50 a.m.*

**Re: OT slide rules**

Message #4 Posted by [Karl-Ludwig Butte](#) on 31 Mar 2007, 11:19 a.m.,  
in response to message #1 by [Karl-Ludwig Butte](#)

Thank you both for your responses and your thoughts. I still have my slide rule from old school days long time ago, but I was glad when pocket calculators arrived.

Kind regards

Karl

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## HP Forum Archive 17

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### **48GX just beeps...**

Message #1 Posted by **Ron** on 30 Mar 2007, 10:31 a.m.

I powered up a 48GX I've had for several years (sitting on a shelf unpowered), and all it does is beep. Powers on okay, but each key causes a beep, and nothing more. If I press the ON key along with some other key, it's a continuous, "beep-beep-beep-beep..." I've tried master clear, the reset hole, and shorting the battery contacts. Any other ideas? Thanks, in advance.

*Edited: 30 Mar 2007, 10:32 a.m.*

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### Just for some Minor Amusement

Message #1 Posted by **Chuck** on 30 Mar 2007, 12:19 a.m.

Teased a few colleagues today with a goofy little math problem...

Which is bigger (i.e., magnitude),  $i^{\pi}$  or  $\pi^i$  ?

One is quite obvious using DeMoivre's formulas. The other takes a little bit of paper and pencil (or you can wimp out and first try it on a calculator ;) Also, can you geometrically explain  $\pi^i$ ? Hmmmmm.

Have fun.

*Edited: 30 Mar 2007, 12:20 a.m.*

### Re: Just for some Minor Amusement (i and pi)

Message #2 Posted by **Karl Schneider** on 30 Mar 2007, 2:29 a.m.,  
in response to message #1 by Chuck

Hello, Chuck --

I've never seen that particular problem, but have worked similar ones.

$$\begin{aligned} \pi^i &= \cos(\ln(\pi)) + i\sin(\ln(\pi)) \\ &= 0.41329 + i*0.91060 \end{aligned}$$

$$\begin{aligned} i^{\pi} &= \cos(0.5*\pi^2) + i\sin(0.5*\pi^2) \\ &= 0.22058 - i*0.97537 \end{aligned}$$

The magnitude is unity in each case because  $\cos^2 x + \sin^2 x = 1$

The HP-15C handles these calculations with aplomb, if not blazing speed:

```

pi^i:      i^pi:

g pi      1
1         Re<->Im
Re<->Im   g pi
y^x       y^x
g ABS     g ABS

```

Here's an archived post of mine that some may find helpful:

<http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv014.cgi?read=66246#66246>

-- KS

*Edited: 30 Mar 2007, 11:41 p.m. after one or more responses were posted*

**Re: Just for some Minor Amusement (i and pi)**

Message #3 Posted by [Namir](#) on 30 Mar 2007, 6:49 a.m.,  
in response to message #2 by Karl Schneider

Looking at your  $\ln(\pi)$  term made me curious at it's numerical value. With a few calculator keystrokes, I discovered that:

$$\ln(\pi) = \pi - 2 \text{ (with a 0.1 \% error)}$$

and

$$e^{\pi} = 20 + \pi \text{ (with a -0.03 \% error)}$$

Pi continues to be spookie!!!

Namir

**Re: Just for some Minor Amusement (i and pi)**

Message #4 Posted by [Valentin Albillo](#) on 30 Mar 2007, 7:04 a.m.,  
in response to message #3 by Namir

Hi, Namir:

Just for the record, the numbers that *exactly* comply with your two simultaneous conditions are:

$$3.15098043851 \quad \text{and} \quad 2.71057757158$$

to 12 decimal places. Rounding to a mere two places, they would be 3.15 and 2.71, agreeing with **Pi** and **e** to a single ulp.

Best regards from V.

**Re: Just for some Minor Amusement (i and pi)**

Message #5 Posted by [Paul Guertin](#) on 30 Mar 2007, 8:09 p.m.,  
in response to message #3 by Namir

Quote:

$$e^{\pi} = 20 + \pi \text{ (with a -0.03 \% error)}$$

Also see <http://xkcd.com/c217.html> .

**Re: Just for some Minor Amusement (i and pi)**

Message #6 Posted by [Chuck](#) on 30 Mar 2007, 9:28 p.m.,  
in response to message #2 by Karl Schneider

Good work Karl. Seeing that we know  $i^{\pi}$  and  $\pi^{i}$ , I got to thinking about  $i^{i}$ . Seems that that turns out to be a REAL number. Too cool.

CHUCK

**Re: Just for some Minor Amusement (i^i)**

Message #7 Posted by **Karl Schneider** on 30 Mar 2007, 11:32 p.m.,  
in response to message #6 by Chuck

Hi, Chuck --

Quote:

---

Seeing that we know  $i^{\pi}$  and  $\pi^i$ , I got to thinking about  $i^i$ . Seems that that turns out to be a REAL number. Too cool.

---

Yes indeed. The fact that  $i^i = e^{(-\pi/2)}$  was mentioned in the post from 2004 that I linked in my first response (as "j^j"); some discussion ensued as well.

-- KS

*Edited: 30 Mar 2007, 11:34 p.m.*

**Re: Just for some Minor Amusement ( $i^i$ )**

Message #8 Posted by **Chuck** on 31 Mar 2007, 12:45 a.m.,  
in response to message #7 by Karl Schneider

Man. As soon I saw that, Karl, it rang a bell. I remember playing with  $i^i$  years ago, but forgot the actual value. Wish these brain cells would stop disappearing. :( Thanks for sparking my memory.

CHUCK

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**HP9830 Infotek Fast Basic**

Message #1 Posted by **J-F Garnier** on 29 Mar 2007, 6:46 a.m.

In a reply to the announcement of the [HP9830 emulator](#) new release, I asked information about the Infotek Fast Basic. I just found a complete and amazing story of the [Infotek products](#) on the great HP9825 site.

It is also mentioned that the fully commented Basic implementation source files were available in a german patent at some stage (and was actually used at the time by Infotek for HP9830 reverse engineering). Is it possible to still find them?

And, again, if someone can share the documentation of the Infotek ROMs for the 9830, it will be very appreciated.

J-F

**Re: HP9830 Infotek Fast Basic**

Message #2 Posted by **achimgermany** on 3 Apr 2007, 6:18 a.m.,  
in response to message #1 by J-F Garnier

Hello, I have the complete manuals for all Infotek ROMs scanned and can send them to you in a private mail. I also can send you copies of the US and german patents. Please send me an email to my private account or leave you mail address in the HP9800E project forum. We also can open general discussions there (e.g. assembler programming for the 9810/20/30). Achim

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## HP Forum Archive 17

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### Looking for HP97 printer gear

Message #1 Posted by [Doug Braun](#) on 28 Mar 2007, 11:40 p.m.

Hello,

I managed to successfully do the O-ring repair on my HP97's card reader, but two days later that plastic gear in the printer started falling apart.

Is that replacement gear still available from pic-design.com? Is that still the best way to repair it, or is there some other source?

Thanks,

Doug

### Re: Looking for HP97 printer gear

Message #2 Posted by [Etienne Victoria](#) on 29 Mar 2007, 2:12 a.m.,  
in response to message #1 by Doug Braun

Hello Doug,

I use one from GHW that I drill to adjust the center hole (see below).

Left: Broken gear, Middle: GHW gear, Right: drilled gear.

[http://etienne.victoria.free.fr/Topcat\\_gear/images/image-2.jpg](http://etienne.victoria.free.fr/Topcat_gear/images/image-2.jpg)

This works fine in my Hp-92 (daily use) and Hp-97.

More details on the procedure on [Isabelle's site](#)

Cheers

Etienne

*Edited: 31 Mar 2007, 10:00 a.m. after one or more responses were posted*

### Re: Looking for HP97 printer gear

Message #3 Posted by [marais](#) on 29 Mar 2007, 3:04 a.m.,  
in response to message #2 by Etienne Victoria

Hi Etienne, how did you find the right drill for the job? GHW is a very recommended shop, I ordered five of these.

Andreas

**Re: Looking for HP97 printer gear**

Message #4 Posted by [Dia C. Tran](#) on 29 Mar 2007, 9:44 a.m.,  
in response to message #3 by marais

Can anyone sell me one of these gears predrilled?

**Re: Looking for HP97 printer gear**

Message #5 Posted by [Ignazio Cara \(Italy\)](#) on 29 Mar 2007, 3:50 p.m.,  
in response to message #4 by Dia C. Tran

Hello, send me your address to ignaziocaraNOSPAM@tiscali.it, after removing NOSPAM, obviously. I will send you a predrilled gear for free. Regards.

Edited: 29 Mar 2007, 3:52 p.m.

**Re: Looking for HP97 printer gear**

Message #6 Posted by [Etienne Victoria](#) on 30 Mar 2007, 2:29 a.m.,  
in response to message #3 by marais

Hi Andreas,

I put the gear on a Dremel 212 drilling table and use the ref. 628-1,6mm drill at 15000 rpm.

Then, to secure the gear on the printer, I put a rivet cap on the axis instead of the low quality breakable original Hp locking part.

I forgot to put a picture of the tool and rivet on Isabelle's site.

Kind regards from France.

Etienne

**Re: Looking for HP97 printer gear**

Message #7 Posted by [Steve Borowsky](#) on 30 Mar 2007, 6:56 p.m.,  
in response to message #6 by Etienne Victoria

Quote:

\_\_\_\_\_

I put the gear on a Dremel 212 drilling table and use the ref. 628-1,6mm drill at 15000 rpm.

\_\_\_\_\_

But, I thought it has to be drilled to 1,92mm?

**Re: Looking for HP97 printer gear**

Message #8 Posted by [Ignazio Cara \(Italy\)](#) on 31 Mar 2007, 1:56 a.m.,  
in response to message #7 by Steve Borowsky

Quote:

\_\_\_\_\_

But, I thought it has to be drilled to 1,92mm?

The gear must be drilled at 2,35-2,40 mm, IMO.

Ignazio

**Re: Looking for HP97 printer gear, Ignazio is right!**

*Message #9 Posted by **Etienne Victoria** on 31 Mar 2007, 4:05 a.m.,  
in response to message #7 by Steve Borowsky*

Hi all,

Ignazio is right!

I refer to the GHW 753030 gear which is the one I've pictured. The inner diameter is already 2,00mm.

I have remeasured the original Hp gear from my 92 & 97s and it is indeed around 2,30.

All my apologies for posting an incorrect dimension. Isabelle's site has been corrected accordingly.

Thank you Ignazio.

Etienne

*Edited: 31 Mar 2007, 4:11 a.m.*

**Re: Looking for HP97 printer gear, Ignazio is right!**

*Message #10 Posted by **Dia C. Tran** on 6 Apr 2007, 8:08 a.m.,  
in response to message #9 by Etienne Victoria*

I just received the gear from Ignazio and my calc now works beautifully. Thank you Ignazio, didn't know that you had to send it all the way from Italy.

**Re: Looking for HP97 printer gear**

*Message #11 Posted by **Doug Braun** on 6 Apr 2007, 9:30 p.m.,  
in response to message #2 by Etienne Victoria*

Thanks to everybody for all the advice. Before I saw your reply, I ordered a couple of gears from SDP:

<http://www.sdp-si.com/D790/PDF/D790C01036.pdf>

They arrived in only a couple of days, and my printer is already fixed! Their gear is probably identical to the one that PIC-Design sells. I had to trim one end, and use a 3/32"-to-1/8" sleeve. For the sleeve, I used a bit of brass tubing that I got at a hobby store. It was 3/32" ID and 1/8" OD, and it fit perfectly.

I also rebuilt my battery pack with the assembled cells from Digi-Key.

Thanks again to hpmuseum.org and this forum for all the help!

Doug

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## HP Forum Archive 17

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### What's the best way to do this ?

Message #1 Posted by [Charles](#) on 28 Mar 2007, 5:15 p.m.

I have an Excel spreadsheet with about 170 references to HP calculator programmes (41/25/67/97 etc.) in scientific journals. I'm happy to post it here but I'm not sure of the best way to put it on the site. I've asked Dave and he has suggested putting it on as text. I'm not sure how to do this and keep the format. I also have them available as tif files. Does anyone have any suggestions ?

Thanks Charles

### Re: What's the best way to do this ?

Message #2 Posted by [Giancarlo \(Italy\)](#) on 28 Mar 2007, 5:47 p.m.,  
in response to message #1 by Charles

Hi Charles.

How about pointing all of us to a link to your website (if any) where we could download the file from?

Best regards.

Giancarlo

### I second Giancarlo's suggestion... could it be done?d8^ (N.T.)

Message #3 Posted by [Vieira, L. C. \(Brazil\)](#) on 28 Mar 2007, 9:49 p.m.,  
in response to message #2 by Giancarlo (Italy)

### Re: What's the best way to do this ?

Message #4 Posted by [Thomas Okken](#) on 28 Mar 2007, 5:57 p.m.,  
in response to message #1 by Charles

Using OpenOffice, you can open the spreadsheet in Calc, then copy the cells, and then use the Paste Special command in Writer to paste the data as HTML. Finally, save the Writer document as HTML, and you'll have your table data in an HTML table -- nicely formatted, and suitable for putting up on a web site.

The same trick can be used in Microsoft Excel and Word, too, but I don't remember the exact commands to do this. (I have used MS Office to do exactly this kind of thing quite a while back, but I switched to OpenOffice since then.)

- Thomas

### Re: What's the best way to do this ?

Message #5 Posted by [Andrés C. Rodríguez](#) on 28 Mar 2007, 9:09 p.m.,  
in response to message #1 by Charles

Please put your material on the Articles forum, and not here in the general forum, where it will become

covered with daily, less permanent material.

**Re: What's the best way to do this ?**

*Message #6 Posted by [Charles](#) on 31 Mar 2007, 4:43 p.m.,  
in response to message #5 by [Andrés C. Rodríguez](#)*

Thanks for your help. I've spent hours trying various forms of cutting and pasting but can't get it as a table. I've posted on the articles forum and it isn't great looking but at least it is there. I suppose that anyone can download it to a format they would like.

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### About Palmer's "Cadillac" Quadratic Solver

Message #1 Posted by [Rodger Rosenbaum](#) on 28 Mar 2007, 3:11 a.m.

Palmer,

I was just reading your Article 593, and working the examples for the 8 cases.

I noticed that case 7 and 8 in this article are the same as the two additional cases in your Article 396, but that the result for R2 in the first additional case in Article 396 doesn't match the result for case 7 in Article 593.

Also, the result for the imaginary part of the roots of the second additional case in Article 396 doesn't match the result for case 8 in Article 593.

The error seems to be in the Article 396 results, and in fact, the R2 result for the first additional case in Article 396 seems to be the square root of the correct result.

### Re: About Palmer's "Cadillac" Quadratic Solver

Message #2 Posted by [Palmer O.Hanson, Jr.](#) on 29 Mar 2007, 10:31 p.m.,  
in response to message #1 by [Rodger Rosenbaum](#)

Rodger:

You are correct that I have published different results for the same problems. The situation is even worse than you describe as it also goes back to the documentation of the extended quadratic for the HP-41 which was where I started playing around with the funny properties. At the moment I don't know why I did that but I have started digging through my notes. I should be able to sort it out by the weekend.

Once again, all I can offer is a mea culpa.

### Re: About Palmer's "Cadillac" Quadratic Solver

Message #3 Posted by [Palmer O. Hanson, Jr.](#) on 30 Mar 2007, 10:41 a.m.,  
in response to message #2 by [Palmer O.Hanson, Jr.](#)

I agree that the errors are in the Article 396 results.

Looking at the first additional case in Article 396:

If  $a = 11,111,119$  ;  $b = 11,111,111$  ;  $c = 11,111,103$

Then  $d = 123,456,78,654,321 - 123,456,786,257 = 64$

Since  $d > 0$

$R1 = (b + \sqrt{d})/a = (11,111,111 + 8)/11,111,119 = 1$

$$R2 = (b - \sqrt{d})/a = (11,111,111 - 9)/11,111,119 = 0.999998560001$$

The value  $0.999999280001 = b/a = 11,111,111/11,111,119$

which is the value for both R1 and R2 if the word length of the machine in use is such that d is calculated as zero.

The correct value of R2 from Article 593 is close to, but not equal to, the square of the incorrect value of R2 in Article 396 where the difference is  $d/a^2$

Of course, that doesn't explain how I managed to publish the incorrect value for R2 in Article 396.

I have yet to figure out where the incorrect value for the imaginary part of the second additional problem came from.

### **Re: About Palmer's "Cadillac" Quadratic Solver**

*Message #4 Posted by **Palmer O. Hanson, Jr.** on 30 Mar 2007, 10:52 p.m.,  
in response to message #3 by Palmer O. Hanson, Jr.*

Quote:

\_\_\_\_\_

I have yet to figure out where the incorrect value for the imaginary part of the second additional problem came from.

\_\_\_\_\_

Now I have:

If you divide 8 by 11,111,119 you will get the value shown in Article 396 for the imaginary part of the answer for the second additional test case. Unfortunately, those are the values for the square root of d and a from the first additional test case!

As a registered Republican I feel comfortable in saying that I can't recall how I did that.

---

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## HP Forum Archive 17

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### HP-25 / HP 41C

Message #1 Posted by [marsh](#) on 27 Mar 2007, 1:21 p.m.

hello,

today i found two old HP calculators from my father. i wonder if they still have some value.

HP-25 serial: 1605S32286 equipment: original HP leather case, ac adapter, user guide (german)

HP41C serial: 2041A01654 equipment: only the leathercase and 2 memoryunits

condition: both are used(of course) and a bit dirty, but they still work.

### Re: HP-25 / HP 41C

Message #2 Posted by [Hal Bitton](#) on 27 Mar 2007, 1:52 p.m.,  
in response to message #1 by marsh

Hello Marsh,

Both of those machines are desirable by collectors of vintage HP calculators. If they work and clean up well, I would say each of them would easily bring \$200 (US dollars) or more. Some of the software modules for the HP 41C bring a handsome price when sold separately...what modules do you have? Beware though...if you start working with them, you won't want to part with them :)

Best regards, Hal

### Re: HP-25 / HP 41C

Message #3 Posted by [marsh](#) on 27 Mar 2007, 2:14 p.m.,  
in response to message #2 by Hal Bitton

thanks for the information

i have no idea what software modules that could be. i don't even know how to find out if the memory modules contain anything. these are only the standard memory moudles that were shipped with the hp 41c (i guess)

and i have to update the condition of the HP-25. the battery cover broke on first touch (had a weak point i guess) and after running for 5 minutes on the ac adapter the display is only flashing now.

### Re: HP-25 / HP 41C

Message #4 Posted by [marsh](#) on 27 Mar 2007, 2:22 p.m.,  
in response to message #3 by marsh

uhh looks like the HP-25 had a special battery unit (wich is missing) and the battery cover i broke was from a completly different machine

**Re: HP-25 / HP 41C**

*Message #5 Posted by [Ron Ross](#) on 27 Mar 2007, 2:40 p.m.,  
in response to message #4 by marsh*

You may want to look further down on the threads about plugging in the Hp25 w/o a battery pack. It is very likely you may now have a paper weight instead of a collectable calculator (I hope not, but you will need to get a battery pack to confirm).

**Re: HP-25 / HP 41C**

*Message #6 Posted by [Dia C. Tran](#) on 27 Mar 2007, 1:53 p.m.,  
in response to message #1 by marsh*

They certainly have values. Check the "Prices and Rarity" section on this website as well as check completed ebay listing. If the calculators are in very good condition then they are worth about the prices when they were new. Of course sometimes they go on ebay for higher prices but sometimes you can get them for almost nothing at a garage or estate sale.

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## HP Forum Archive 17

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**HP 42S switches off immediately**

Message #1 Posted by [bafana](#) on 27 Mar 2007, 9:01 a.m.

Hi I inherited a 42S and it switches off immediately after switching on. In some cases the display will flash for a split second, in other cases it doesn't show anything. If I press the ON key fast enough I can keep the display on until I release the key.

The self test (ON-LOG) works just fine, and passes OK. But at the end it just switches off. ON-ROOT (the reset function?) works and very briefly display "Machine Reset"

I can even adjust the contrast, and even get it to do calculations if I press a key fast enough at power on, but it switches back off again as before.

Anyone know what is wrong? Is there any higher level reset function I can try?

The batteries are brand new and tested.

**Re: HP 42S switches off immediately**

Message #2 Posted by [Ron](#) on 27 Mar 2007, 9:44 a.m.,  
in response to message #1 by [bafana](#)

I saw one a lot like that on eBay recently. You might do a search, and contact the buyer, as he may have a solution.

**Re: HP 42S switches off immediately**

Message #3 Posted by [Thomas Radtke](#) on 27 Mar 2007, 11:02 a.m.,  
in response to message #1 by [bafana](#)

Looks like a very impatient auto power off functionality. A dead capacitor maybe?

**Have you tried... (was: HP 42S switches off immediately)**

Message #4 Posted by [Vieira, L. C. \(Brazil\)](#) on 27 Mar 2007, 1:37 p.m.,  
in response to message #1 by [bafana](#)

... the master clear procedure? Maybe it helps. Consider that everything stored in user memory is going to be lost, though.

Simply press and release three keys at the same time: [ON], [Sigma+] and [XEQ]. After releasing them, one message telling that all memory was cleared must be shown. If the calculator again flashes a message and turns itself off, then it may have other problems. I once found an HP41 with a bad capacitor showing this kind of behavior, but it has another design.

Hope you succeed.

Luiz (Brazil)

*Edited: 28 Mar 2007, 11:05 a.m.*

## **Re: HP 42S switches off immediately**

*Message #5 Posted by **Dave J** on 28 Mar 2007, 10:47 p.m.,  
in response to message #1 by bafana*

Quote:

---

Hi I inherited a 42S and it switches off immediately after switching on. In some cases the display will flash for a split second, in other cases it doesn't show anything. If I press the ON key fast enough I can keep the display on until I release the key.

The self test (ON-LOG) works just fine, and passes OK. But at the end it just switches off. ON-ROOT (the reset function?) works and very briefly display "Machine Reset"

I can even adjust the contrast, and even get it to do calculations if I press a key fast enough at power on, but it switches back off again as before.

Anyone know what is wrong? Is there any higher level reset function I can try?

The batteries are brand new and tested.

---

Hey, that was my calculator on eBay, and your post is an identical one(cut'n'paste) to MY post on here a while back! :-P

If you are the guy that bought it from me then best of luck getting it fixed, all of the suggestions on this group and other groups did not fix the problem.

No it's not the capacitor(s), or other passive parts, it's not the batteries, and all the power-on reset and battery shorting tricks etc do not work.

If you do find a solution I'd be interested to know what it was.

Dave.

---

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## HP Forum Archive 17

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### HP 41C with hand engraved serial number

Message #1 Posted by [Bob Purdie](#) on 26 Mar 2007, 9:55 p.m.

I just received a 41CX, that is in very nice shape with a serial number that is neatly hand engraved rather than stamped. Does anyone know what the reason for this might be?

### Re: HP 41C with hand engraved serial number

Message #2 Posted by [Bob Blaylock](#) on 26 Mar 2007, 11:08 p.m.,  
in response to message #1 by Bob Purdie

Quote:

I just received a 41CX, that is in very nice shape with a serial number that is neatly hand engraved rather than stamped. Does anyone know what the reason for this might be?

Yes, someone, somewhere, knows.

### Re: HP 41C with hand engraved serial number

Message #3 Posted by [Les Bell](#) on 27 Mar 2007, 7:04 a.m.,  
in response to message #1 by Bob Purdie

HP used to replace, rather than repair, 41's that were returned under warranty. The replacement machine was hand-engraved with the same serial number as the faulty unit. I have a replacement 41CV that I got this way.

Best,

--- Les

[<http://www.lesbell.com.au>]

### Re: HP 41C with hand engraved serial number

Message #4 Posted by [Bob Purdie](#) on 27 Mar 2007, 2:27 p.m.,  
in response to message #3 by Les Bell

Thanks for the info Les. That clarifies it for me.

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## HP Forum Archive 17

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### Happy Belated Birthday HP97!

Message #1 Posted by [Les Wright](#) on 26 Mar 2007, 5:12 p.m.

I just got my SN 2203xxxxxxxx HP97 back from Randy, and note with sadness it spent its 25th birthday in the hospital.

But is it ever too late for cake?

Les

---

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## HP Forum Archive 17

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### UserRPL Programming problem

Message #1 Posted by [Franco](#) on 26 Mar 2007, 3:47 p.m.

Hi all, I'm trying to resolve a problem with my 50g: I have three variables "y", "m" and "d" that contain respectively year, month and day of a certain date. I want to do some action only if that date is after a given date (for example, August 14, 1996). The quickest mode that I've found is to divide month and day respectively by 100 and 10000, sum these numbers and make the test. Example: `y m 100 / + d 10000 / + -> test IF test 1996.0814 > THEN...`

It works, but I'm not satisfied. It's inelegant. There is a more elegant way to do this task with my 50g?

Greetings,

Franco

### Re: UserRPL Programming problem

Message #2 Posted by [GT Springer](#) on 26 Mar 2007, 7:06 p.m.,  
in response to message #1 by Franco

There is a DDDAYS (Delta Days) command that will tell you indirectly if one day is before or after another. Dates in the 50g are of the form mm.ddyyyy or dd.mmyyyy (depending on flag -42 setting). For two such dates in levels 1 and 2 of the stack, DDDAYS returns the number of days between them. The number of days is positive if the level 1 data is later than the level 2 and negative if earlier. I do not know whether or not this gives you a more elegant solution - if y, d, and m are useful variables for you elsewhere, it may not be worth the conversions. I hope this was helpful to you.

---

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### EMU71 and TCP/IP

Message #1 Posted by [Egan Ford](#) on 26 Mar 2007, 2:07 p.m.

While getting DOSBox setup on my Linux machines so that I could run EMU71 I noticed that DOSBox supports serial port virtualization using TCP/IP. (DOSBox is an x86/DOS emulator, a bit like Bochs, but DOS emulation is part of it and it is much easier to use. It runs on top of Linux, OS/X, Windows, and many other platforms.)

The setup is pretty straightforward (I tested this with DOSBox on Windows/XP).

Put the following in your configuration file.

```
[serial]
serial1=nullmodem server usedtr port:5000
serial2=dummy
serial3=disabled
serial4=disabled
```

DOSBox uses your existing filesystem--no need to create an image. Create a dosbox directory with EMU71 (<http://membres.lycos.fr/jeffcalc/emu71.html>) and BNU (<http://www.pcmicro.com/bnu/>) installed, then mount as drive C, e.g. my dosbox directory on Linux is /home/egan/dosbox, for Windows/XP c:\home\egan\dosbox. The command for any OS to mount within dosbox is:

```
mount c /home/egan/dosbox
```

First run bnu.com. BNU provides INT 14 needed by EMU71 serial port emulation.

```
c:
cd bnu
bnu.com
```

Next make sure you have SERIAL1 in your EMU71.INI file. I have mine as my 6th HPIL device.

That's it.

To test it I created a small reverse echo service using Perl. It will run on any computer with Perl. I tested it with Windows/XP.

```
#!/usr/bin/perl

use strict;
use IO::Socket;
use IO::File;

my $host = shift;
my $port = shift;

my $sock = IO::Socket::INET->new(
    PeerAddr => $host,
    PeerPort => $port,
);

if(!defined($sock)) {
    die "could not open socket";
}
```



```

}

while(<$sock>) {
    chomp();
    my $line = $_;
    $line =~ s/^[[:print:]]//g;
    my $revline = reverse($line);
    print "recv: $line\n";
    print "send: $revline\n";
    print $sock "$revline\n";
}

exit(0);

```

All this service does is connect to the host and port passed on the command line and waits for a message and then returns the reverse string of the message.

To test start up the service:

```
echorev.pl localhost 5000
```

From EMU71 type:

```

10 DIMA$[64] @ DIMB$[64]
20 INPUT "STRING: ";A$
30 OUTPUT :6 ;A$
40 ENTER :6 ;B$
50 DISP "GNIRTS: ";B$
60 GOTO 20

```

RUN

Example session:

Windows/XP + Cygwin/X (for Perl):

```

$ ./echorev.pl localhost 5000
recv: FOO BLAH BLEH BAR
send: RAB HELB HALB OOF
recv: aaaabbbbCCCCdddEEEE
send: EEEEdddCCCbbbbaaaa

```

Windows/XP + Dosbox + EMU71:

<http://sense.net/~egan/dosbox71.jpg>

I am sure that there are other serial port virtualization solutions that may run natively on Windows so that EMU71 would not need to run in DOSBox.

## Re: EMU71 and TCP/IP

Message #2 Posted by [Howard Owen](#) on 28 Mar 2007, 8:53 p.m.,  
in response to message #1 by Egan Ford

Oh, man!

What a neat shortcut to the 71B enthusiast's dream: an HP-IL<->TCP/IP gateway!

OK, so this won't let us work on HP-IL/IP, which is what I'd really like to do. But it's very, very cool nonetheless.

You've got mail. 8)

Regards,  
Howard

**Re: EMU71 and TCP/IP**

*Message #3 Posted by [GE](#) on 29 Mar 2007, 6:40 a.m.,  
in response to message #2 by Howard Owen*

This deserves an entry in the Articles Section.

**Re: EMU71 and TCP/IP**

*Message #4 Posted by [Howard Owen](#) on 29 Mar 2007, 3:57 p.m.,  
in response to message #3 by GE*

I absolutely agree.

Egan, if you have time, could you consider transferring what you've written to the articles forum? I think it would do fine just like it is, but you'd be free to bend, fold and/or mutilate as you saw fit. 8)

Regards,  
Howard

**Re: EMU71 and TCP/IP**

*Message #5 Posted by [Egan Ford](#) on 29 Mar 2007, 4:30 p.m.,  
in response to message #4 by Howard Owen*

I have a few more things to test first then I will post a more complete article.

---

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## HP Forum Archive 17

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**qu-bit**

Message #1 Posted by [Gary Fok](#) on 26 Mar 2007, 9:37 a.m.

It is sad that the HP G-series calculator cannot calculate qu-bit. I don't know about HP50G. I have not got HP50G. Any comments !

**Re: qu-bit**

Message #2 Posted by [Crawl](#) on 26 Mar 2007, 9:50 a.m.,  
in response to message #1 by Gary Fok

I don't know what you mean. They don't calculate WITH qu-bits? Of course not, because quantum computers don't exist.

Or do you mean they can't do operations on qu-bits? Well, they can do matrix operations, so they could work with Quantum Gates in matrix form.

**Re: qu-bit**

Message #3 Posted by [Gary Fok](#) on 26 Mar 2007, 9:57 a.m.,  
in response to message #2 by Crawl

Can you explain more about doing Quantum Gates in matrix form ? And how ?

**Re: qu-bit**

Message #4 Posted by [John](#) on 26 Mar 2007, 12:12 p.m.,  
in response to message #1 by Gary Fok

[http://en.wikipedia.org/wiki/Quantum\\_gate](http://en.wikipedia.org/wiki/Quantum_gate)

But I think I may be smelling some troll. The first couple of messages here sure have that odor.

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## HP Forum Archive 17

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**HP calculator**

Message #1 Posted by [Gary Fok](#) on 26 Mar 2007, 8:33 a.m.

I don't understand why HP calculator do not have color screen ? Any help?

**Re: HP calculator**

Message #2 Posted by [Geir Isene](#) on 26 Mar 2007, 9:09 a.m.,  
in response to message #1 by Gary Fok

But they do; until the late 70's: They were all red.

**Re: HP calculator**

Message #3 Posted by [Gary Fok](#) on 26 Mar 2007, 9:21 a.m.,  
in response to message #2 by Geir Isene

You joking!!! I mean full colors. Like our mobile phone. If the HP calculators is color. I think it will increase the sales.

**Re: HP calculator**

Message #4 Posted by [Gerson W. Barbosa](#) on 26 Mar 2007, 9:37 a.m.,  
in response to message #1 by Gary Fok

Quote:

I don't understand why HP calculator do not have color screen ?

Battery life. A higher resolution screen would be a better feature, I think.

Regards,

Gerson.

**Re: HP calculator**

Message #5 Posted by [Gary Fok](#) on 26 Mar 2007, 9:39 a.m.,  
in response to message #4 by Gerson W. Barbosa

Agree! Can they go Li-polymer ?

**Re: HP calculator**

Message #6 Posted by [Ed Look](#) on 26 Mar 2007, 10:05 a.m.,  
in response to message #5 by Gary Fok

We are talking about calculators; they're supposed to be small... .. as in little silver (or horrors! mercury) button cells.

Are there small lithium batteries??

**Re: HP calculator**

*Message #7 Posted by [Gary Fok](#) on 26 Mar 2007, 10:31 a.m.,  
in response to message #6 by Ed Look*

Just like our cell phone or PDA.

**Re: HP calculator**

*Message #8 Posted by [Christoph Widmer](#) on 26 Mar 2007, 10:59 a.m.,  
in response to message #7 by Gary Fok*

Battery life is a real issue. I have, for example, a really fine Dell Axim X51v PDA with a brilliant screen, but it does not run for more than three hours on a Li-polymer battery charge. For a calculator this would be really inconvenient, it would not even take you through an exam or an entire working day.

**Re: HP calculator**

*Message #9 Posted by [hugh steers](#) on 26 Mar 2007, 11:10 a.m.,  
in response to message #8 by Christoph Widmer*

what if it wasn't backlit, a bit like the gameboy?

**Re: HP calculator**

*Message #10 Posted by [Dave J](#) on 28 Mar 2007, 10:54 p.m.,  
in response to message #6 by Ed Look*

Quote:

\_\_\_\_\_

We are talking about calculators; they're supposed to be small... .. as in little silver (or horrors! mercury) button cells. Are there small lithium batteries??

\_\_\_\_\_

If calculators are supposed to be small then why isn't there a really SMALL scientific calculator on the market? I don't even consider the 15C et.al small, I've been looking for something smaller for a long time.

Bring back the Casio CFX-400 scientific calculator watch I say, that's SMALL.

Yes, there are plenty of small lithium button cell batteries available, the 16xx and 20xx series et.al being the most popular.

Dave.

**Re: HP calculator**

*Message #11 Posted by [Ed Look](#) on 29 Mar 2007, 9:42 p.m.,  
in response to message #10 by Dave J*

Really? What were the dimensions of the Casio CFX-400?

I have a Casio fx-4200p and I'll admit it's about a 3/8" shorter than a HP-32SII and roughly averages about three quarters as thin...

... but it has a significantly smaller screen area, which is not a step in the right direction. I do like the fx-4200p's size though, even if I'd prefer if it'd get a little longer and slightly thicker to accomodate a more comfortably viewable screen.

**Re: HP calculator**

*Message #12 Posted by **Dave J** on 30 Mar 2007, 7:34 p.m.,  
in response to message #11 by Ed Look*

Quote:

Really? What were the dimensions of the Casio CFX-400?

I have a Casio fx-4200p and I'll admit it's about a 3/8" shorter than a HP-32SII and roughly averages about three quarters as thin...

... but it has a significantly smaller screen area, which is not a step in the right direction. I do like the fx-4200p's size though, even if I'd prefer if it'd get a little longer and slightly thicker to accomodate a more comfortably viewable screen.

The CFX-400 is a watch, it fits on your wrist, with full scientific functions including base conversion.

Dave.

**Re: HP calculator**

*Message #13 Posted by **Ed Look** on 30 Mar 2007, 9:35 p.m.,  
in response to message #12 by Dave J*

Ah, ha ha ha! I see.

I think I prefer something with bigger buttons and screens for my hammy digits and suboptimal eyes.

Today's normal Casios, HPs, etc. are really fine in terms of size and form.

**Re: HP calculator**

*Message #14 Posted by **Egan Ford** on 26 Mar 2007, 12:46 p.m.,  
in response to message #1 by Gary Fok*

Quote:

I don't understand why HP calculator do not have color screen ? Any help?

Cost. The mass market for calculators is the mid to low end--students with limited budgets, standardized exams, home/office use.

Power. TFT backlit screens use more power. Higher resolution screens also use more power. I have to charge my notebook, PDA, and phone frequently.

There are a number of new high resolution, color, low power display technologies under development. Eventually newer technologies will replace B/W low res LCD.

If you want a color, high function, high resolution calculator consider getting a PDA and using native and emulator applications.

E.g. I have a Zaurus c860. It has a QWERTY keyboard and a VGA color screen and runs Linux.

[http://sense.net/zc/x48/ryosc/IMG\\_3976.JPG](http://sense.net/zc/x48/ryosc/IMG_3976.JPG)

And, it is the same size as the 15C.

[http://sense.net/zc/x48/ryosc/IMG\\_3980.JPG](http://sense.net/zc/x48/ryosc/IMG_3980.JPG)

You can find more screen shots here:

<http://sense.net/zc/nonpareil/>  
<http://sense.net/zc/free42/>  
<http://sense.net/zc/x48/>

The above provides most of the classic calcs (15C, 41CX, 34C, etc...), 42S, and 48GX. I recently started using EMU71 under Dosbox on the Zaurus as well.

This site has a good collection of open source scientific/math apps for the Zaurus (e.g. Scilab, Octave, R, and more):

<http://yonggun.googlepages.com/scientificpdaxrom>

The Zaurus cSeries is EOL. The price varied for new units somewhere around \$400-\$600.

### **Re: HP calculator**

*Message #15 Posted by [Ed Look](#) on 26 Mar 2007, 3:46 p.m.,  
 in response to message #14 by Egan Ford*

You know, I have the 48G, 48G+, 49G+, 34C, 32SII, 20S, and 33S...

... and I prefer to reach for the 34C (until it got old and dotty; otherwise my favorite), 32SII (still; 20S is algebraic, so I use if only as last resort), and 33S (increasingly so) rather than the 48 or 49 models because of their small(er) form factor... rather, OPTIMAL form factor. I go for the 48G or G+ or 49G+ only if I need their power or more capacious programmability.

The less bells and whistles the better if just to keep it small enough to hold in my hand and see and use most easily. So, color or higher resolution screens, speakers, microphones, and the attendant bigger batteries I wouldn't want to see in a practical day to day (or so) use calculator.

### **Re: HP calculator**

*Message #16 Posted by [Les Wright](#) on 26 Mar 2007, 5:07 p.m.,  
 in response to message #14 by Egan Ford*

Wow!

I should look into getting a Zaurus. My Palm XT is getting some screen failure after a spill, and it looks

like there are so many different emulators that can run on the Zaurus. Indeed, the excellent Nonpareil does not yet have a PalmOS version, yet it has had a Zaurus version for awhile.

I really love Free42 on the Palm but I really wish I had other emulators in my handheld beside it, Power48, and P41CX that is sorely in need of an upgrade. Looks like there is more stuff available for the Zaurus.

Les

### Re: HP calculator

Message #17 Posted by [Egan Ford](#) on 27 Mar 2007, 4:29 p.m.,  
in response to message #16 by Les Wright

Quote:

I should look into getting a Zaurus.

I was a Palm user for a long time (almost from the beginning), but when my 2nd Vx was starting to fail (battery) I decided to try something new. I opted for the Zaurus 5500 and then later the c860. The Zaurus gave me increased levels of flexibility. I could do anything, BUT, get to meetings on time, take notes, look up contacts, or get it to sync properly and reliability with my notebook. The Zaurus is a crappy PDA. The Zaurus is more of a hobby and if you try to use it as a PDA (IMHO) you will lose productivity. (I feel the same about trying to use the 48GX as a PDA too).

I use my Windows Smartphone for my PDA and my Zaurus for advanced functions (emulators, movies, firefox, perl programming, ssh, other Linux only apps, etc...). It's more like a mini notebook that I can slip in my pocket when dragging my ThinkPad around would be inconvenient.

### Re: HP calculator

Message #18 Posted by [Garth Wilson](#) on 26 Mar 2007, 2:52 p.m.,  
in response to message #1 by Gary Fok

I have never wanted color on my HPs, and the extra power would definitely keep me from buying one with color. If you're marketing to technical professionals, you don't need it. If you're marketing to a bunch of giggling junior-high cheerleaders at the counter at WalMart, then go for it.

### Re: HP calculator

Message #19 Posted by [Ed Look](#) on 26 Mar 2007, 3:38 p.m.,  
in response to message #18 by Garth Wilson

Heeheehee... .. gigglegigglegiggle... .. .. haw haw haw!!!

A little brutal, but very funny way to put it!!

### Re: HP calculator

Message #20 Posted by [Eddie Shore](#) on 27 Mar 2007, 3:52 p.m.,  
in response to message #18 by Garth Wilson

Especially if the calculator has nothing but pastel colors.

Now, colored graphs on 39/48 series would be nice, but not necessary.



**Re: HP calculator**

Message #21 Posted by **Walter B** on 26 Mar 2007, 5:53 p.m.,  
in response to message #1 by Gary Fok

So far, numbers are B/W, aren't they?

**Re: HP calculator**

Message #22 Posted by **Ed Look** on 27 Mar 2007, 12:45 a.m.,  
in response to message #21 by Walter B

There is a, what, condition? ability? gift?... that some people have which allows them to make unusual associations mentally, like the "color" of a number, or the smell of a sound, or some such ordinarily unthought of connections... synesthesia, I believe it's called?

I guess there may be a small market for practical calcs with color screens... ;)

**Re: HP calculator**

Message #23 Posted by **Garth Wilson** on 27 Mar 2007, 1:19 a.m.,  
in response to message #22 by Ed Look

There was a young man with that ability on "60 Minutes" recently. He didn't need a calculator. I wonder if a running program in his incredible mind looked something like a fractals screensaver.

**Re: HP calculator (plus attempt at a transition)**

Message #24 Posted by **ECL** on 27 Mar 2007, 9:35 p.m.,  
in response to message #23 by Garth Wilson

All the genuine replies here are great, in that they are informative. However, I agree that Fok is playing the "why...why...why" game. For example:

Quote:

\_\_\_\_\_

Can they go li-poly?

\_\_\_\_\_

(or lithium, I forget)...

What could an intelligent person possibly hope to gain from asking such a question? Perhaps Fok would also like to know about the feasibility of a Cam-Calc. Could they go 5 Mega-pixel?? The answer to all such questions is Yes. "They" can do what ever "they" want! Oh..I could rant at length on this, but instead I'll comment positively on the 6x6 matrix solver (got it here....was is Palmer?) that I just finished punching in on my 33s: Cool! I launched an engineering program that I have on my laptop which, at one point, inverts a 6x6 matrix to determine stress and moment resultants on laminated structural plates. I was very happy to find that it gave very very similar results. The 33s program doesn't utilize pivoting, so I found that it is necessary to pre-condition the system before entering it (row-swapping, column swapping to create a diagonally-dominant system).

There. So...can they go 10x10 on that matrix solver? :) (joke)

ECL

**Re: HP calculator (plus attempt at a transition)**

Message #25 Posted by **Palmer O. Hanson,, Jr.** on 27 Mar 2007, 10:08 p.m.,  
in response to message #24 by ECL

Quote:

So...can they go 10x10 on that matrix solver? :) (joke)

ECL

No joke -- if you look at Article 678 you will see that I was able to go to 8x8 with some changes to the solver.

**Re: HP calculator**

Message #26 Posted by **Ben Salinas** on 27 Mar 2007, 11:48 p.m.,  
in response to message #1 by Gary Fok

From the standpoint of design, perhaps the question should be, "If there was no difference in battery life or readability of the screen, would you use a color display"

This would help us see what a color display could offer to a calculator user. Perhaps instead of a decimal point, you could configured your integer parts to be red and your decimal parts to be blue. Perhaps negative numbers would turn up as a different color. Perhaps, instead of having a small ^ in the top of the screen, an approximated number would be a different color, or a gradient of two colors.

Perhaps, on graphs, multiple functions could be indicated by different colors. Maybe, instead of differentiating between vectors and numbers in a program, one could differentiate by color. It might add some interesting components to the programming interface as well.

So all of these are just random ideas about what color might bring to a calculator. None of them should be treated as actual suggestions. I'm actually just quite curious as to what people would use color for. There is a Casio graphing calculator with color, but I don't think they used it to its full potential.

**Re: HP calculator**

Message #27 Posted by **Bill (Smithville, NJ)** on 28 Mar 2007, 4:49 a.m.,  
in response to message #26 by Ben Salinas

Hi Ben,

Quote:

From the standpoint of design, perhaps the question should be, "If there was no difference in battery life or readability of the screen, would you use a color display"

Exactly my thoughts when I read the first post.

Color must add some information to the display - otherwise it's just window dressing (or marketing hype). What kind of information would it add? You've mentioned a few and I'm sure we could come up with many more.

One main problem with color screens is that many are just plain unreadable in very bright lighting -

especially outdoors.

If there was a color calculator, I'd want to be able to change the colors so they would have special meaning for my application. I'd hate to be stuck with the color scheme that most marketers (or graphic design people) think look really "cool".

The one thing that would worry me the most is - if the manufacturer has a fixed design budget, then any effort devoted to putting color in will come at the expense of the Mathematical design of the calculator. Over the years, I have seen too many computer programs (and the calculator is just a form of a computer program) add really "neat" color graphical features to their programs while at the same time leaving in calculation errors in their programs.

About 15 years ago, I wrote an engineering program developer and informed him of a major calculation error in the program. He confirmed that the error did exist and would be fixed in the next release. Several months later, the next release arrived. It had added beautiful charts and graphs - but the error was still there. The charts and graphs did a great job of displaying the erroneous results in full color. When I called him, all he could discuss was about all the color output that had been added. Having correct results didn't seem to be of very high importance since color sells.

I have had the same experience on other programs.

Conclusion - give me a great monochrome calculator that does its job correctly. Then and only then, give me color.

Bill

**Re: HP calculator**

*Message #28 Posted by **Walter B** on 28 Mar 2007, 6:37 a.m.,  
in response to message #27 by Bill (Smithville, NJ)*

Hi Bill, Ben,

Exactly what I had in mind when posting on March 26th. Thanks for laying it out.

---

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## HP Forum Archive 17

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### Infrared enabled calcs to iMac Intel ?

Message #1 Posted by [Olivier TREGER](#) on 25 Mar 2007, 12:21 p.m.

Hi there,

As stated in the title, I'd like to use the infrared capability of my iMac Intel slate-shaped computer to communicate.

Is there a way to do that?

Thanks

### Re: Infrared enabled calcs to iMac Intel ?

Message #2 Posted by [Guest](#) on 25 Mar 2007, 2:07 p.m.,  
in response to message #1 by [Olivier TREGER](#)

Probably not. The iMacs only have IR receivers for the remote. If they had transmitters, you might be able to do something useful. As it stands, the best you could hope to accomplish would be to print to the iMac.

### Re: Infrared enabled calcs to iMac Intel ?

Message #3 Posted by [Olivier TREGER](#) on 25 Mar 2007, 4:34 p.m.,  
in response to message #2 by [Guest](#)

By the way, I didn't intend to send anything from the Mac but rather TO the Mac.

Any idea?

### Re: Infrared enabled calcs to iMac Intel ?

Message #4 Posted by [Jonathan Eisch](#) on 25 Mar 2007, 7:53 p.m.,  
in response to message #3 by [Olivier TREGER](#)

The IR receiver is seen to the OS as a HID class device, that is, not IrDA or similar. So, you'll have to teach your HP to talk the apple remote language. I doubt the receiver hardware is capable of doing IrDA even with the right drivers. If you're using a 49g+/50g, we know the range of the IR is only a couple inches, so what's the point?

-Jonathan

*Edited: 26 Mar 2007, 1:36 a.m. after one or more responses were posted*

### Re: Infrared enabled calcs to iMac Intel ?

Message #5 Posted by [Olivier TREGER](#) on 26 Mar 2007, 1:17 a.m.,  
in response to message #4 by [Jonathan Eisch](#)

Well, I thought it'd be closer to a PDA behaviour.

I think I'll give on this one...

---

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## HP Forum Archive 17

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### MLDL2000 plans and new version

Message #1 Posted by [Meindert Kuipers](#) on 25 Mar 2007, 11:33 a.m.

After a long period of relative silence I am finally ready to start working on the MLDL2000 again, so I am now giving a short overview of the status and plans.

The current MLDL2000 design is ore or less stable, and no parts are available anymore. My first priority is to implement some features in the software, the most important being the option to upgrade the firmware. This will fix a few minor issues and will allow me to work on a number of additional features that can be easily implemented by the user.

Based on the current waiting list I have decided to do some more production. After the very good meeting and dicsussions we had in Allschwil last year I started thinking and came to the conclusion that it would be possible to add (at least) one great feature. This would require a hardware change however. Therefore I will do a redesign of the MLDL2000, that will be called MLDL2000V2. If there are better suggestions for a name let me know.

The MLDL2000V2 will have the following additional features:

- Redesign of all 3 PCB's to fix a number of design issues
- USB Interface will be fully redesigned and will have an extra USB Host controller that will allow the user to add a USB Mass Storage Medium (like a USB stick) that can be accessable from the HP41
- The new USB interface can be used in an existing MLDL2000, replacing the original USB interface
- Since there are no more empty card reader shell available an extra PCB will be designed as a carrier to the other PCBs. This will allow users to have the MLDL2000V2 in an external box

All the designs as mentioned above are in draft and need to be completed. More specifically I need to do some testing to verify if this is all really possible. At the same time I need to have an idea of how much interest there is, so please contact me if you want to be added to the waiting list. Please be aware that it wil take some time before MLDL2000V2 will be in production.

Most important is that I will need some support from the user community to create an HP41 ROM that will support the mass storage on USB, so any volunteers should step forward an contact me.

Please keep watching [my website](#) for further news.

Meindert

### Re: MLDL2000 plans and new version

Message #2 Posted by [Matt Kernal \(US\)](#) on 25 Mar 2007, 1:04 p.m.,  
in response to message #1 by Meindert Kuipers

Hi Meindert,

The "V2" plans sound great!!

Quote:

\_\_\_\_\_

I need to have an idea of how much interest there is, so please contact me if you want to be added to the waiting list.

\_\_\_\_\_

If I remember correctly (IIRC)..., in Nov'06, you asked if there was enough interest for a second production run of MLDL2000's. I jumped at the opportunity to be added to that list. With these new features, I again want to make sure I'm on the list (whether you're updating the "old" list, or creating a "new" list :-)

Thanks again for your efforts Meindert!

Matt

### **Re: MLDL2000 plans and new version**

*Message #3 Posted by [Matthias Wehrli](#) on 25 Mar 2007, 1:39 p.m.,  
in response to message #1 by Meindert Kuipers*

Great plans, Meindert

I have some other ideas for the future of the MLDL2000V2.. maybe one is worth thinking about it....

- HP-IR support: Maybe it is possible to add a HP-IR interface, so that the expensive but usefull module HP 82242A is no longer needed.

- power supply for the HP-41: On my MLDL you added a 6V plug in for a common power supply. Maybe this could be a addition. If not, maybe there is a possibility in your MLDL to add 4-AA cells to avoid the internal Lady-cells. The HP-41 could be driver cheaper with the AA-cells that do not leak that fast. Also the rechageable AA-cells hold longer than rechargeable Lady-cells.

- integration of the HP-IL module: Maybe there is a possibility to add a fourth PCB with the HP-IL module. The MLDL2000V2 would have a HP-IL plug in

- on april 1st I would add a internal radio module, that can be driven and programmed by the HP-41 ;)

Matthias (who is very occupied with his marriage on friday)

### **Re: MLDL2000 plans and new version**

*Message #4 Posted by [Meindert Kuipers](#) on 25 Mar 2007, 1:53 p.m.,  
in response to message #3 by Matthias Wehrli*

If you are going to marry this Friday, it might well be your last week on this forum! Enjoy your last days as a bachelor!

Meindert

### **Re: MLDL2000 plans and new version**

*Message #5 Posted by [Meindert Kuipers](#) on 26 Mar 2007, 7:05 a.m.,  
in response to message #3 by Matthias Wehrli*

Now for some serious stuff:

- I wanted to keep the April 1 update as a surprise, but with the new USB interface I could actually very easily make an MP3 player from your HP41 by adding just one extra IC ... and this is no joke!
- IR driver would be relatively easy, but I do not have the means to test it or to create the software with it, so this is a nogo as far as I am concerned
- External power is really tricky and can be unreliable, it would also make the box much bigger, but I will look into this a bit more
- Adding IL would be pretty complicated, I suggest you stick with an original IL module

Meindert

**Re: MLDL2000 plans and new version**

*Message #6 Posted by **Juan J** on 26 Mar 2007, 11:06 a.m.,  
in response to message #5 by Meindert Kuipers*

Hello Meinderts,

Please count me in for one of your updated MLDL2000.

Thanks in advance.

**MLDL2000V2: my name in the list, please...**

*Message #7 Posted by **Vieira, L. C. (Brazil)** on 26 Mar 2007, 7:08 a.m.,  
in response to message #1 by Meindert Kuipers*

Hi Meindert, guys;

I must confess I'm running out of available time this year. Because of some extra activities at the university I'm teaching, I'm using almost all of my spare time to rest a little bit. I do not even have my computer accessing the www at the weekends, I only read my e-mails at the University. Also, the last time I recall using any of my own HP calculator was in December 2006. I do not use the HP41 with the MLDL since October...

But I still want to be part of the MLDL2000 User's Club, and I actually want a new unit plus one spare new USB host controller.

About the mass storage on USB: what is the main idea?

Best regards.

Luiz (Brazil)

**Re: MLDL2000V2: my name in the list, please...**

*Message #8 Posted by **Raymond Del Tondo** on 26 Mar 2007, 7:24 a.m.,  
in response to message #7 by Vieira, L. C. (Brazil)*

Quote:

\_\_\_\_\_

About the mass storage on USB: what is the main idea?

\_\_\_\_\_

I don't know if I understood the question completely, but as far as I know one of the initial ideas behind this was to supplement or replace the older HP-IL mass storage devices;-)

Raymond

**Re: MLDL2000V2: my name in the list, please...**

*Message #9 Posted by **Meindert Kuipers** on 26 Mar 2007, 9:13 a.m.,  
in response to message #8 by Raymond Del Tondo*

Raymond was one of the initiators of the idea of having some mass storage available, and indeed it is



my intention to offer USB media as a means to replace card reader and IL storage with virtually unlimited capacity, and at the same time use the media for exchanging information with the PC world.

Meindert

**Re: MLDL2000V2: my name in the list, please...**

*Message #10 Posted by **Geir Isene** on 26 Mar 2007, 9:40 a.m.,  
in response to message #9 by Meindert Kuipers*

I would be out-of-my-mind-extatic. When could I get one?

**Re: MLDL2000V2: my name in the list, please...**

*Message #11 Posted by **Meindert Kuipers** on 26 Mar 2007, 10:55 a.m.,  
in response to message #10 by Geir Isene*

This will take a few months to sort out and finalize the design, so please be patient ...

**Re: MLDL2000V2: my name in the list, please...**

*Message #12 Posted by **Les Wright** on 26 Mar 2007, 6:19 p.m.,  
in response to message #11 by Meindert Kuipers*

I am interested too, and very patient, though I would have to hire out to someone I trust like Randy to do the final assembly work. I am hopeless with a soldering iron.

A USB interface with mass storage capability would be something else, though, particularly if the file formats were transportable from HP41 to PC. It would be something to be able to write text code, compile it to RAW with something like hp41uc, move the RAW to a flash drive, and move the program to the calculator with simply plugging the USB flash drive into the MLDL2000. And back again if one likes. Anything to keep one from having to rely on ancient computers and DOS....

Les

**Re: MLDL2000V2: my name in the list, please...**

*Message #13 Posted by **Meindert Kuipers** on 27 Mar 2007, 4:02 a.m.,  
in response to message #12 by Les Wright*

Those who have asked me to be on the list for an MLDL2000 in the past can trust that they still are. I will send out a message to all contacts that I have as a confirmation. If you do not get this confirmation from me within a week, please let me know. If you have only indicated your interest in this Forum, please send me an email, I really need your contact details.

Thanks,

Meindert

**Re: MLDL2000 plans and new version**

*Message #14 Posted by **Ren** on 28 Mar 2007, 1:45 p.m.,  
in response to message #1 by Meindert Kuipers*

Quote:

---

Therefore I will do a redesign of the MLDL2000, that will be called MLDL2000V2. If there are better suggestions for a name let me know.

Meindert

---

How about MLDL2007 ?

If you go with that name, do I get a free copy? B^)

Ren, dona nobis pacem

---

**Re: MLDL2000 plans and new version**

*Message #15 Posted by [Meindert Kuipers](#) on 28 Mar 2007, 2:07 p.m.,  
in response to message #14 by Ren*

you will have to do much better than that to earn something ;)

Meindert

---

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## HP Forum Archive 17

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### HP 71B/HP-IL/RS-232 examples?

Message #1 Posted by [Egan Ford](#) on 24 Mar 2007, 10:31 p.m.

I am looking for 71B HP-IL/RS-232 serial communication examples, specifically for EMU71.

Thanks.

### Re: HP 71B/HP-IL/RS-232 examples?

Message #2 Posted by [Raymond Del Tondo](#) on 25 Mar 2007, 5:30 p.m.,  
in response to message #1 by Egan Ford

Hi,

Jean-Francois Garnier might be the one  
who could have some experience with this topic;-)

Raymond

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## HP Forum Archive 17

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### Wired Magazine Rates Graphing Calculators

Message #1 Posted by [Tony](#) on 24 Mar 2007, 5:23 p.m.

The April 2007 Wired Magazine rates graphing calculators:

TI-89 Titanium - 8 of 10

HP 50g - 7 of 10

Casio ClassPad 300Plus - 7 of 10

Sharp EL-9900C - 5 of 10

Interesting note on the HP, "steepest learning curve of the lot".

### Re: Wired Magazine Rates Graphing Calculators

Message #2 Posted by [Eric Smith](#) on 24 Mar 2007, 8:06 p.m.,  
in response to message #1 by Tony

A steep learning curve is *good*. If the learning curve were shallow, it would take you a very long time to learn how to use it.

### Re: Wired Magazine Rates Graphing Calculators

Message #3 Posted by [Palmer O. Hanson, Jr.](#) on 24 Mar 2007, 10:35 p.m.,  
in response to message #2 by Eric Smith

Quote:

A steep learning curve is *good*. If the learning curve were shallow, it would take you a very long time to learn how to use it.

From my *Webster's New World Dictionary*:

"SYN. --**steep** suggests such sharpness of rise or slope as to make ascent or descent very difficult (a *steep* hill);"

But, of course, you already knew that.

### Re: Wired Magazine Rates Graphing Calculators

Message #4 Posted by [Les Bell](#) on 24 Mar 2007, 11:18 p.m.,  
in response to message #3 by Palmer O. Hanson, Jr.

Quote:

"SYN. --**steep** suggests such sharpness of rise or slope as to make ascent or descent very difficult (a *steep* hill);"

---

Sure, but the work done in raising a mass through a height vertically is the same, whether you do it quickly or slowly (of course, you already knew that!).

Me, I'd rather get it over and done with and reap the benefits ASAP. Steep learning curve for me, every time!

Best,

--- Les

[<http://www.lesbell.com.au>]

---

### **Re: Wired Magazine Rates Graphing Calculators**

*Message #5 Posted by **ECL** on 25 Mar 2007, 1:22 p.m.,  
in response to message #4 by Les Bell*

Les,

Quote:

---

Sure, but the work done in raising a mass through a height vertically is the same, whether you do it quickly or slowly...

---

Aha! But Les, as you most certainly know, the *POWER* requirement varies with velocity, lol! So we could say that you'd want a quick processor (brain) to tackle steep learning curves w/o devoting great amounts of time. :)

When you provoke engineers...lol ;)

---

### **Re: Wired Magazine Rates Graphing Calculators**

*Message #6 Posted by **Les Wright** on 24 Mar 2007, 11:45 p.m.,  
in response to message #2 by Eric Smith*

Thanks for pointing that out Eric.

"Steep learning curve" is one of those chalk-on-a-blackboard irritating cliches. Usually, overuse of cliches renders them meaningless. In this case, the cliché has taken on a meaning precisely the opposite to its original use, which I believe is the rather narrow field of experimental psychology--rats in mazes, that sort of thing.

In that case, if time is on the x axis and some measure of learning is on the y axis, smart rats will learn more in less time, and the slope of the resulting graph--the primordial learning curve--will be steeper.

I like to use the phrase "shallow learning curve" in casual conversation to really confuse folks easily baffled when the discussion moves into the Cartesian plane.

The smart rat gets the most pellets most quickly. I'd rather be the smart rat.

Les

*Edited: 24 Mar 2007, 11:47 p.m.*

**rats**

*Message #7 Posted by [Don Shepherd](#) on 25 Mar 2007, 9:30 a.m.,  
in response to message #6 by Les Wright*

Speaking of rats, here is another truism: while it is true that the early bird gets the worm, it's the SECOND rat that gets the cheese!

**Re: rats**

*Message #8 Posted by [Eric Smith](#) on 26 Mar 2007, 2:29 a.m.,  
in response to message #7 by Don Shepherd*

And the early worm "gets" the bird!

**Re: Wired Magazine Rates Graphing Calculators**

*Message #9 Posted by [Bruce Bergman](#) on 24 Mar 2007, 8:58 p.m.,  
in response to message #1 by Tony*

I am quite certain the "steepest learning curve" is due to the mediocre documentation that comes with it. If it had a book as solid as the 40gs or the TI-89, it would be easier.

Go HP! :-)

**Re: Wired Magazine Rates Graphing Calculators**

*Message #10 Posted by [opotente](#) on 25 Mar 2007, 10:44 a.m.,  
in response to message #9 by Bruce Bergman*

Hi Tony, could you be so kind and send us the internet link? I would like to read the article just in case that it is online.

Best regards,

---

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## HP Forum Archive 17

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### The Last of the HP-15Cs ?

Message #1 Posted by [Gerson W. Barbosa](#) on 24 Mar 2007, 4:15 p.m.

Today I received this HP-15C:

[http://www.geocities.com/gwbarbosa/HP-15C\\_b.JPG](http://www.geocities.com/gwbarbosa/HP-15C_b.JPG)

Actually, I had to walk ten miles for it. The post office I have a P. O. Box in is about three miles north from home. I decided to go on foot. When I got there I was told the package I was waiting for had gone to another post office, two miles farther north, because today's Saturday...

The seller, from São Paulo, told me he'd never used the calculator, as he bought it eighteen years ago for collecting purpose only. It really looks like it despite the absence of the original box. The picture I took just doesn't do it justice. It seems my quest for a pristine HP-15C is over... I just hope the equivalent to 225 dollars it cost me has not been too expensive :-)

But what has called my attention is the high serial number: 2905B29505. One of the last ever made?

There's only one thing I don't like: under daylight, viewing from certain angles, it is possible to notice **PMT** is hiding under the white  $y^x$  lettering. A more careful observation reveals **i**, **PV** and **FV** in the nearby keys... HP, why have you done this?

*Edited: 24 Mar 2007, 4:22 p.m.*

### Re: The Last of the HP-15Cs ?

Message #2 Posted by [Hal Bitton](#) on 24 Mar 2007, 7:06 p.m.,  
in response to message #1 by [Gerson W. Barbosa](#)

Quote:

There's only one thing I don't like: under daylight, viewing from certain angles, it is possible to notice PMT is hiding under the white  $y^x$  lettering. A more careful observation reveals **i**, **PV** and **FV** in the nearby keys... HP, why have you done this?

This would mean that those keys were not double shot moulded (at least not with the scientific symbols). Could this be true? I just scrutinized my 15C under sunlight and didn't see any sub markings. Mine is an older serial# (2443A06749 USA). I would be interested to find out about this.

Best regards, Hal

### Re: The Last of the HP-15Cs ?

Message #3 Posted by [Gerson W. Barbosa](#) on 24 Mar 2007, 8:03 p.m.,  
in response to message #2 by [Hal Bitton](#)

Quote:

---

This would mean that those keys were not double shot moulded (at least not with the scientific symbols). Could this be true?

---

I sincerely hope it is not. I have an older 15C (2740B30986). Until now, I hadn't noticed this unit had also some reused 12C keys. It doesn't look like a simple repainting though. The keys look perfect after all these years, no signs of wear. I don't know what process they used but I think they knew what they were doing.

Quote:

---

I just scrutinized my 15C under sunlight and didn't see any sub markings. Mine is an older serial# (2443A06749 USA).

---

My first 15C (2343B75099) don't have any either. Yours surely have the glossy chrome logo too.

Best regards,

Gerson.

### **Re: The Last of the HP-15Cs ?**

*Message #4 Posted by [Jeff O.](#) on 24 Mar 2007, 7:07 p.m.,  
in response to message #1 by Gerson W. Barbosa*

Congratulations on a beautiful find. \$225 for one in such good condition is quite reasonable.

Quote:

---

viewing from certain angles, it is possible to notice **PMT** is hiding under the white **y<sup>x</sup>** lettering. A more careful observation reveals **i**, **PV** and **FV** in the nearby keys... HP, why have you done this?

---

Click [here](#) and scroll down to "**10C Series Versions**"

### **Re: The Last of the HP-15Cs ?**

*Message #5 Posted by [Gerson W. Barbosa](#) on 24 Mar 2007, 8:22 p.m.,  
in response to message #4 by Jeff O.*

Quote:

---

Congratulations on a beautiful find. \$225 for one in such good condition is quite reasonable.

---

Thanks! It was a buy-it-now [auction](#) by a zero-feedback seller and had been announced for two days when I bid. He had also an unused 1985 11C still in box and an unused 1989 41CV. The prices were not so attractive though (~\$215 and ~\$311, respectively).

Thanks for the link!

Gerson.

### **Re: The Last of the HP-15Cs ?**

*Message #6 Posted by [Palmer O. Hanson, Jr.](#) on 24 Mar 2007, 10:23 p.m.,*



in response to message #1 by Gerson W. Barbosa

Quote:

There's only one thing I don't like: under daylight, viewing from certain angles, it is possible to notice **PMT** is hiding under the white  $y^x$  lettering. A more careful observation reveals **i**, **PV** and **FV** in the nearby keys... HP, why have you done this?

This is from Mier-Jedrzejowiz's *A Guide to HP Handheld Calculators and Computers*:

"...Some later batches of the HP-15C were made using HP-12C keyboards, with HP-15C key functions painted over some of the HP-12C key functions. This is most obvious on the key labeled  $y^x$  which shows the legend PMT below it. Some collectors find this amusing and **are willing to pay extra** for such units."

The emphasis is mine.

### Re: The Last of the HP-15Cs ?

Message #7 Posted by [Gerson W. Barbosa](#) on 24 Mar 2007, 11:02 p.m.,  
in response to message #6 by Palmer O. Hanson, Jr.

Thanks for this quoting from Mier-Jedrzejowiz's *A Guide to HP Handheld Calculators and Computers*. One of these days Antonio Maschio asked how this feature would increase the value of his HP-11C as a collecting piece. This might properly answer his question in case no one did.

But there's still another thing I dislike: the contrast of the display is not so good as in my other Voyagers. Instead of the usual vivid black color the digits have kind of a grayish hue. But I think I can live with that.

Regards,

Gerson.

*Edited: 24 Mar 2007, 11:08 p.m.*

### Re: The Last of the HP-15Cs ?

Message #8 Posted by [pierre lallier](#) on 25 Mar 2007, 8:27 a.m.,  
in response to message #6 by Palmer O. Hanson, Jr.

My late 16C is like that also. I can't say that it makes the calculator more desirable for me, but I don't think it detracts either. Fortunately, I had read about it before I bought the calculator.

### Re: The Last of the HP-15Cs ?

Message #9 Posted by [bill platt](#) on 25 Mar 2007, 11:57 a.m.,  
in response to message #1 by Gerson W. Barbosa

My 11c also shows the shadows of a 12c.

However I am not convinced that this means they are "painted." It could be that they used 12c keys as plugs for new molds and didn't completely remove the hints of the old during the buffing process?

Has anyone actually confirmed, through destructive analysis, that these sorts of ghosts-of-12c keys are painted rather than double-shot?

## **Re: The Last of the HP-15Cs ?**

*Message #10 Posted by [Gerson W. Barbosa](#) on 25 Mar 2007, 1:17 p.m.,  
in response to message #9 by bill platt*

Quote:

---

Has anyone actually confirmed, through destructive analysis, that these sorts of ghosts-0f-12c keys are painted rather than double-shot?

---

I've just made a diagonal cut in the backspace key of a dead 11C (2632B03287). I can see it is double-shot indeed. I had noticed a very faint "C" on the left side of that key. There is also light evidence of PMT on the surface of the y<sup>x</sup> but I can't find more double-personality keys on this keyboard.

Gerson.

## **Re: The Last of the HP-15Cs ?**

*Message #11 Posted by [Antonio Maschio \(Italy\)](#) on 26 Mar 2007, 2:18 a.m.,  
in response to message #9 by bill platt*

My HP-11C too.

-- Antonio

P.S. SN2848A86686

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## HP Forum Archive 17

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### **Turbo switch on 48GX**

Message #1 Posted by [Chris Cotter](#) on 24 Mar 2007, 3:07 p.m.

How do I permantly switch the HP48GX to Turbo?

CC

### **Re: Turbo switch on 48GX**

Message #2 Posted by [egorka](#) on 24 Mar 2007, 6:27 p.m.,  
in response to message #1 by [Chris Cotter](#)

There is no 'turbo' mode on a standard HP48GX as far as I am aware.

There is a modification that Cynox used to do to raise the clock frequency of the HP 48GX. I have one of these models. To activate it you need to hold the ON button in to turn it on- instead of just hitting it once. This puts the GX into TURBO mode.

Unfortunately, the clock also goes at double speed- so your time/date will not be accurate.

There are some tools- such as Metakernel- that speed up some of the functions of the HP48GX for a 'standard' HP 48GX.

I hope this helps. Eric

### **Try SpeedUI, the software turbo [was: Re: Turbo switch on 48GX]**

Message #3 Posted by [Raymond Del Tondo](#) on 25 Mar 2007, 5:52 p.m.,  
in response to message #1 by [Chris Cotter](#)

There exists a software turbo for the HP-48G+ and GX,  
the SpeedUI 7.03 Extreme Edition.

SpeedUI accelerates nearly every part of the user interface,  
including CHOOSE boxes, input forms, the MatrixWriter,  
and of course the stack and the cmdline/fullscreen editor.

I uploaded the current version (7.03) to [www.hpcalc.org](http://www.hpcalc.org) ,  
but it can take a few days until the site will be updated.  
So if you're interested, you could get SpeedUI from me directly.

Raymond

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## HP Forum Archive 17

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### Varieties of magnetic cards

Message #1 Posted by [Les Wright](#) on 24 Mar 2007, 2:29 p.m.

So far in my collecting I have come across three types of blank magnetic cards.

The first is mostly white with a thin black border and the key labels demarcated by little hash marks.

The second is like the first except two of the corners are notched to guide where to make the write-protect clip-off.

The third type is my particular favourite aesthetically. These ones shipped in the HP65 Standard Pac. They were meant to be recorded on one side only, have the guide notches on one corner only, and there is more black, with the key labels demarcated by little windows rather than just little marks.

Does any one have any more knowledge about the history of HP magnetic cards? Also, does anyone know how to get the third type? I really like them but only have 19. I have piles of type number 1, and a couple dozen of type 2.

Les

### Re: Varieties of magnetic cards

Message #2 Posted by [Hal Bitton](#) on 24 Mar 2007, 7:17 p.m.,  
in response to message #1 by Les Wright

Hi Les,

Am I correct in my assumption that cards for the 65 and 67 are not interchangeable due to different formatting?  
Thanks and best regards, Hal

### Re: Varieties of magnetic cards

Message #3 Posted by [Etienne Victoria](#) on 24 Mar 2007, 9:28 p.m.,  
in response to message #2 by Hal Bitton

Hi,

Cards for the Hp-65, 67 & 41 are physically the same and can be used in all calculators.

However, once recorded:

- Hp-65 cards can only be read by Hp-65s.
- Hp-67 written cards can be read & executed by either Hp-67 or Hp-41. The latter has a set of Hp-67 compatible instructions built into the card reader's ROM.
- Hp-41 written cards can only be read by Hp-41s.

Etienne

*Edited: 24 Mar 2007, 9:28 p.m.*

---

## Re: Varieties of magnetic cards

Message #4 Posted by [Thomas Chrapkiewicz](#) on 25 Mar 2007, 11:44 a.m.,  
in response to message #1 by Les Wright

Les/et al:

The HP65 was my second HP calculator which I had purchased back in 1974.

The third type of card you mentioned is the original card that came with the HP65. If I recall correctly, a while after the 65 was available (yet before the 67 came to be), it was discovered by the user community that the cards could be used 'double sided'. You may find references to this in the old 'HP65 User Group' (later the 'PPC') publications. This method was not ever accepted/recommended by HP at the time. [If my memory is still working, I was member 852 if the HP65 group.]

I believe the first type you mentioned - the mostly white but not double sided was released before the 67. I'm not 100% sure on this - again studying the old HP65 Users Club publications would lend some insight here. I have not dug them up to study this myself.

The second type you mentioned was after the 67 release and HP had acknowledged (and used) double sided writing on the cards. The HP67 also allowed writing data to the cards which the HP65 did not.

I believe the HP Journal articles on the HP65 show roughly where the data track was written on the card. The 67 wrote the track in the same location - although a bit denser to hold the 224 steps as opposed to the 100 of the HP65.

I do recall someone making 'homebrew' cards which were usually quite poorly painted - usually different colors. We would use dry transfer lettering both on these and the 'official' HP cards to arrive at a quite aesthetically pleasing card.

Keep in mind that the cards are 'formatted' as they are written - there is no hard track put on them until the data itself is written. I would often bulk erase (with an audio tape bulk eraser) the 65 cards before writing.

Perhaps I need to dredge up my archives and do some scans/pics if many out there are interested. Maybe there are other 'more mature' users out there that have some memories/recollections of these details to share!

Regards, Thomas Chrapkiewicz

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## HP Forum Archive 17

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### How to get HP 48G to talk to MacOS X?

Message #1 Posted by [Bob Blaylock](#) on 24 Mar 2007, 8:09 a.m.

I recently acquired an HP48G calculator, and my current obsession is to get it to communicate with my beige Power Macintosh G3, which is running MacOS X 10.2.8.

To this end, I have built a cable.

I've connected this calculator to my wife's Windows 2000 system using the cable that I have built, and installed [this software](#) on my wife's computer, and verified that this works.

I've then connected the calculator to my Macintosh, to which I have downloaded and installed [this software, which only works under MacOS 9 or lower](#), and verified that this works. So my cable is good, and my whole hardware setup is good.

So, what do I need to do to communicate with this calculator from MacOS X? I understand that this calculator wants to use the Kermit protocol, or alternatively, XMODEM. I'm an old fossil back from the days before mere mortals had access to the Internet, when geeks like myself communicated and exchanged software via standalone BBSes which we would dial directly into with our modems; so I have some basic familiarity with using a terminal program, and with protocols like Xmodem and Kermit.

I tried using [ZTerm](#) to talk to my HP48G, to no avail. It seemed obvious enough how to configure the HP48G and to configure ZTerm so that they should each be trying to speak the same protocols at the same speeds and everything, but try as I might, I could not get either ZTerm or the calculator to respond to anything done at the other.

Thinking there may be some problem inherent in ZTerm, I downloaded, compiled, and installed [C-Kermit](#) and tried using it. I got the same results as with ZTerm, which is to say, no results at all. (BTW, the answer to the trouble that the guy at the end of [this thread](#) had getting it to work seems to be that for whatever reason, C-Kermit needs to have root access in order to talk to the serial port. Don't ask me why. If I run it directly, it doesn't have permission to talk to /dev/cu.printer but it seems to work that far if I run it via sudo.)

So, I seem to have the hardware connection straight, and I've got two different pieces of software that should be able to speak Kermit. What am I missing? What do I need to do on each side of the connection to get the two sides to talk to each other?

*Edited: 24 Mar 2007, 8:45 a.m. after one or more responses were posted*

### Re: How to get HP 48G to talk to MacOS X?

Message #2 Posted by [Bob Blaylock](#) on 24 Mar 2007, 8:34 a.m.,  
in response to message #1 by [Bob Blaylock](#)

Quote:

...but try as I might, I could not get either ZTerm or the calculator to respond to anything done at the other.

Actually, this isn't completely true. If I type rapidly into ZTerm, I can see a little arrow-shaped icon flickering near the upper right corner on the calculator's display.

Also, if I run the serial loopback test on the calculator (On-D then PRG), ZTerm receives the following string: "AAAAAU\_LB 20000" (The "U\_LB 20000" also being displayed on the calculator, a code indicating the test failed (which is to be expected because there isn't a loopback connection)).

*Edited: 24 Mar 2007, 10:58 a.m.*

## Re: How to get HP 48G to talk to MacOS X?

Message #3 Posted by [Thomas Okken](#) on 24 Mar 2007, 11:20 a.m.,  
in response to message #1 by [Bob Blaylock](#)

To get Kermit to work between my PC and my HP-48G under Linux, I downloaded and compiled C-Kermit, and I use the following settings in my .kermrc file:

```
set modem type none
set line /dev/ttyUSB0
set carrier-watch off
set speed 9600
set parity none
set flow xon/xoff
set block-check 3
set transfer mode manual
set file type binary
set control prefix all
```

I expect you'll need something different for the "set line" command (don't be confused by the ttyUSB0 in my .kermrc: it looks that way because I'm using a USB-to-serial adapter). Most of the other settings are fairly obvious, except the "set control prefix all", which I finally found out about thanks to some helpful people on this forum.

BTW, you shouldn't have to be root to run Kermit; you can also just change the permissions on the serial port to allow read and write access for everyone: `chmod 666 /dev/cu.printer --` or, make the kermit executable `setuid root` (not recommended).

When it comes to using Xmodem, you need to install an Xmodem server on the 48G; in my case, I use the misleadingly-named [HP48GII and HP49G+ PC Connectivity Kit](#) (which supports the 48G just fine); it includes a nice Windows-based Explorer-like GUI for browsing files and directories on the calculator, and it includes the Xmodem server, which it will even install for you (it walks you through the commands you have to execute on the calculator for the upload -- very painless). The GUI won't do you any good on the Mac, but you may need the Xmodem server in case your Mac-based connectivity package doesn't already include one.

- Thomas

## Re: How to get HP 48G to talk to MacOS X?

Message #4 Posted by [Bob Blaylock](#) on 24 Mar 2007, 5:10 p.m.,  
in response to message #3 by [Thomas Okken](#)

Quote:

To get Kermit to work between my PC and my HP-48G under Linux, I downloaded and compiled C-Kermit, and I use the following settings in my .kermrc file:

```
set modem type none
set line /dev/ttyUSB0
set carrier-watch off
set speed 9600
```

```
set parity none
set flow xon/xoff
set block-check 3
set transfer mode manual
set file type binary
set control prefix all
```

I expect you'll need something different for the "set line" command...

---

On my system, the two serial ports (mine was the very last desktop Macintosh model to have built-in serial ports) are /dev/cu.modem and /dev/cu.printer. As I have an actual modem connected to cu.modem, I'm using cu.printer for my HP48G.

OK, now I seem to be getting somewhere. With these settings, I can now send files to the HP48G. I can also do a directory, that shows what the HP48G has at its root directory. I can't seem to CD on the HP48G, nor can I receive files, or do anything else, though.

And with similar settings, I can now also get ZTerm to send files to the HP48G as well; but I can't seem to interact with it in any other way.

All this is with the HP48G set to be in server mode.

On further experimentation, I see that if I type "connect" into kermit, and then go to the TRANSFER menu on the HP48G, I can send files from the HP48G to my Macintosh. But If I try to transfer "Remote Files from PC", I get error messages on both sides. I guess each side agrees on how to send a file from whatever side is being manually operated, but not on how to tell the side that is acting as a server what files to send.

Quote:

---

BTW, you shouldn't have to be root to run Kermit; you can also just change the permissions on the serial port to allow read and write access for everyone: `chmod 666 /dev/cu.printer --` or, make the kermit executable setuid root (not recommended).

---

No, I shouldn't. Other programs don't have this problem, but for some reason, kermit does.

```
0 [24 Mar 2007 13:52:02 Bob:/tmp] bob% kermit
/var/spool/lock: Permission denied
?SET SPEED has no effect without prior SET LINE
C-Kermit 8.0.211, 10 Apr 2004, for Mac OS X
  Copyright (C) 1985, 2004,
  Trustees of Columbia University in the City of New York.
Type ? or HELP for help.
(/tmp/) C-Kermit>set line /dev/cu.printer
/var/spool/lock: Permission denied
Sorry, write access to UUCP lockfile directory denied.
```

```
*****
HINT (Use SET HINTS OFF to suppress future hints):
Please read the installation instructions file, ckuins.txt,
or the UNIX appendix of the manual, "Using C-Kermit"
or visit http://www.columbia.edu/kermit/ckuins.html
*****
```

```
(/tmp/) C-Kermit>exit
0 [24 Mar 2007 13:52:19 Bob:/tmp] bob% sudo kermit
Password:
C-Kermit 8.0.211, 10 Apr 2004, for Mac OS X
  Copyright (C) 1985, 2004,
  Trustees of Columbia University in the City of New York.
Type ? or HELP for help.
(/tmp/) C-Kermit>set line /dev/cu.printer
```



```
(/tmp/) C-Kermit>exit
Closing /dev/cu.printer...OK
0 [24 Mar 2007 13:52:37 Bob:/tmp] bob% ls -alg /dev/cu*
crw-rw-rw- 1 root wheel  8, 3 Mar 24 03:16 /dev/cu.modem
crw-rw-rw- 1 root wheel  8, 1 Mar 24 13:51 /dev/cu.printer
0 [24 Mar 2007 13:52:57 Bob:/tmp] bob%
```

I see now that it's complaining about not having permission to write to /var/spool/lock. Setting permissions on that directory to allow writing to it seems to solve that problem.

Quote:

---

When it comes to using Xmodem, you need to install an Xmodem server on the 48G; in my case, I use the misleadingly-named [HP48GII](#) and [HP49G+ PC Connectivity Kit](#) (which supports the 48G just fine)

---

It's not evident that that will help me.

Anyway, I seem to be making progress. There's still obviously quite a bit that I don't yet quite get. Any additional guidance would be appreciated.

## Re: How to get HP 48G to talk to MacOS X?

*Message #5 Posted by [Thomas Okken](#) on 24 Mar 2007, 8:47 p.m.,  
in response to message #4 by Bob Blaylock*

Quote:

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Quote:

---

When it comes to using Xmodem, you need to install an Xmodem server on the 48G; in my case, I use the misleadingly-named [HP48GII](#) and [HP49G+ PC Connectivity Kit](#) (which supports the 48G just fine)

---

It's not evident that that will help me.

---

Perhaps not, but installing the Xmodem server on the calculator means that you'll be able to do server-mode Xmodem transfers, which is presumably a bit less error-prone than manual transfers. I can't give advice on Xmodem beyond this, since I use Conn4x on the Windows side, meaning I never issue any Xmodem commands at all, it's all automated by this nice GUI.

As far as your Kermit problems are concerned, you may find this page -- straight from the horse's mouth -- helpful: <http://www.columbia.edu/kermit/hp48.html>.

Best of luck,

- Thomas

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## HP Forum Archive 17

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**New Casio's fx-9860G Slim**

Message #1 Posted by [Namir](#) on 24 Mar 2007, 8:07 a.m.

Casio has announced the Casio FX-9860G Slim. This is basically the FX-9860G calculator with a [new design](#). The model will be available in June for \$99 retail price. I think that may be the new trend in graphing calculator. I hope HP is watching!!!

Namir

PS: [Click here to see the picture of the calculator](#)

*Edited: 24 Mar 2007, 8:11 a.m.*

**Re: New Casio's fx-9860G Slim**

Message #2 Posted by [J.C. Boco](#) on 24 Mar 2007, 9:26 a.m.,  
in response to message #1 by Namir

Very very very nice.

It reminds me of my first heavily used calculator, HP28S. I've always loved the HP28S clamshell design, so I'm naturally attracted to this casio calculator.

Today I'm back in school again, and am using the HP49g+, which I love, but I sure miss the clamshell.

When I get into the "real world" again, I can see myself grabbing this casio calculator for easy portability and quick calculations. I will definitely be buying one.

**Re: New Casio's fx-9860G Slim**

Message #3 Posted by [Walter B](#) on 24 Mar 2007, 9:40 a.m.,  
in response to message #1 by Namir

Nice compact item. However, the basic design of such calcs is known for decades (see e.g. the 95LX and more of its time). Based on my own experience with a f991ES having similar features, I rate Casio's user interface as rather confusing and inconsistent. A real mess to work with. No wonder, it is not RPN ;)

So, if we hope HP is watching, I'd prefer they do it a little bit more like [this](#).

**Re: New Casio's fx-9860G Slim**

Message #4 Posted by [Namir](#) on 24 Mar 2007, 10:27 a.m.,  
in response to message #3 by Walter B

Cool design!!! Very nice!!!

Namir

**Re: New Casio's fx-9860G Slim**

Message #5 Posted by **Raymond Del Tondo** on 25 Mar 2007, 6:13 p.m.,  
in response to message #3 by Walter B

Now that's a thing I'd buy immediately!

I particularly like the key order of the numerical square block,  
with

7 8 9 /  
4 5 6 \*  
1 2 3 -  
0 . S +

That's how it should always be IMHO,  
and has been from the Pioneer series  
up to (and including) the HP-48 ,  
and also the Voyager series, of course.

Later 'hp' calcs (you know, the funny looking ones)  
shifted the arithmetic key column up one row,  
which I find very annoying.

Raymond

**RPN Alternative (was: Re: New Casio's fx-9860G Slim)**

Message #6 Posted by **Walter B** on 26 Mar 2007, 5:00 p.m.,  
in response to message #5 by Raymond Del Tondo

Hi Namir, Raymond,

thanks for your very friendly comments!

The draft you see contains the complete function sets of 42S, 16C, 21S, 32SII plus a bit more - e.g. RPN and ALG - just to demonstrate it can be brought onto one not too messy keyboard. It allows to reach each and every function with a maximum of 4 simple keystrokes (incl. all the items in the menus). Many functions are displayed immediately - in a structured way - to make them as easily accessible as possible without "drowning the eye".

Maybe somebody is watching...

Best regards, Walter

P.S.: I should mention I started these drafts for OpenRPN. But that project seems to have passed away in the meantime. No signs of life anymore for over 3 months :( Perhaps I should put it all into an article before it's lost.

*Edited: 26 Mar 2007, 5:03 p.m.*

**Re: New Casio's fx-9860G Slim**

Message #7 Posted by **Eddie Shore** on 27 Mar 2007, 3:54 p.m.,  
in response to message #3 by Walter B

Nice, compact, and useful.

---

---

**Re: New Casio's fx-9860G Slim**

Message #8 Posted by [John Keith](#) on 24 Mar 2007, 10:09 a.m.,  
in response to message #1 by Namir

Quote:

I hope HP is watching!!!

Me too! I have also been wishing for something like a cross between an HP28 and HP95. The HP50g, nice as it is, is quite bulky, especially when in it's carrying case.

As to the Casio itself, there are some things I like (overall layout, backlit display) and some I don't (display too small, too few keys, several bad keyboard choices- SQRT a shifted key but LOG an unshifted key?). Here's hoping that HP will learn from Casio's mistakes;-)

John

---

---

**Re: Casio's fx-9860G Slim - Neat Looking Machine!**

Message #9 Posted by [Happy HP User](#) on 24 Mar 2007, 11:15 a.m.,  
in response to message #1 by Namir

Most interesting! This is a neat looking machine with a professional look. You are quite correct, HP's designers could do well to emulate this style.

Casios are fine calculators. The problem is while they have many features, they lack a units menu, which I use extensively. One of their models other than the Classpad, I can't recall which at the moment, had a CAS, which had me close to buying it. Not having the units menu stopped me, though.

---

---

**Re: Casio's fx-9860G Slim - Neat Looking Machine!**

Message #10 Posted by [GE](#) on 24 Mar 2007, 6:31 p.m.,  
in response to message #9 by Happy HP User

Very nice. Casio is an innovator, has always been (the ClassPad is the most innovative CAS machine available nowadays).

This reminds me of the fx7500G, a very nice horizontally folding graphical scientific of the 7000G breed. It had a tactile keyboard, and mine works flawlessly.

Casio could lead if they listened a bit their customers (see CP300+'s most horrible sins).

---

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**Re: Casio's fx-9860G Slim - Neat Looking Machine!**

Message #11 Posted by [Steve Borowsky](#) on 25 Mar 2007, 1:02 a.m.,  
in response to message #10 by GE

This is a great design, too bad it's a Casio. I'd love to see an HP like that. The fx7500G was one of the coolest early graphing calculators. GE, I think the type of keyboard on the 7500 is actually nontactile. Mine also works flawlessly after all these years.

---

---

**Re: Casio's fx-9860G Slim - Neat Looking Machine!**

Message #12 Posted by [Eric Smith](#) on 25 Mar 2007, 8:09 p.m.,  
in response to message #11 by Steve Borowsky

Quote:

I'd love to see an HP like that.

You missed it, they made it back in 1995:

<http://www.grot.com/zoomer/pictures/omnigo-normal.gif>

### **Omni-Go et al**

*Message #13 Posted by [Mike \(Stgt\)](#) on 26 Mar 2007, 6:23 a.m.,  
in response to message #12 by Eric Smith*

How about HP responding with a redesigned HP200LX: same keyboard (!), color display, less weight, no WinCE. Yep, I know, I'm dreaming.

Ciao.....Mike

### **Re: Casio's fx-9860G Slim - Neat Looking Machine!**

*Message #14 Posted by [Antonio Maschio \(Italy\)](#) on 26 Mar 2007, 6:32 a.m.,  
in response to message #11 by Steve Borowsky*

Casio or not Casio, I'll go and buy two as soon they're out on the market...

Cool!

-- Antonio

### **Re: Casio's fx-9860G Slim - Neat Looking Machine!**

*Message #15 Posted by [GE](#) on 26 Mar 2007, 7:22 a.m.,  
in response to message #11 by Steve Borowsky*

Sure there are 7 mechanical keys under the display, but the others are tactile (from memory). Just look at this nice page on V.Toth's site : <http://www.rskey.org/detail.asp?manufacturer=Casio&model=fx-7500G> I'll check. Just a minor detail anyway.

### **Re: Casio's fx-9860G Slim - Neat Looking Machine!**

*Message #16 Posted by [Steve Borowsky](#) on 28 Mar 2007, 6:14 p.m.,  
in response to message #15 by GE*

No, here's what I mean: I don't consider touch sensitive keys to be tactile. I know 'tactile' translates directly to mean 'by touch', but in the case of keys, since all keys are operated by touch, I consider the designation tactile to refer to the act of providing tactile feedback, responding to the users touch in such a way that the user receives tactile feedback that the key was pressed, which in the case of touch sensitive keys is absent, and in the case of mechanical keys is present, therefore, mechanical keys are tactile.

### **Re: Casio's fx-9860G Slim - Neat Looking Machine!**

*Message #17 Posted by [GE](#) on 29 Mar 2007, 6:49 a.m.,  
in response to message #16 by Steve Borowsky*

All right, I get it now. English not natively spoken here...

Now other horizontal folding designs were : Sharp PC-1280, Casio fx790 and fx795 (those are not really nice), Casio PB1000 (no TI, HP did it 'only' on organizers).

On vertical folding there were some like the Sharp EL-9000 (AER, not Basic) (TI did some non-programmable scientific calculators).

The good point with folding designs is that you don't need a case, and it tends to be more portable.

However, I'll not buy this "new" Casio because it is always the same old function set each and every 'generation' they put out.

**Re: Casio's fx-9860G Slim - Neat Looking Machine!**

Message #18 Posted by [Arnaud Amiel](#) on 29 Mar 2007, 9:13 a.m.,  
in response to message #17 by GE

As horizontal folding design, I also have a casio 7500G which got me through High school (I could not afford an hp28 back then) and then my sister (I had bought a 48 then).

Arnaud

**Re: Casio's fx-9860G Slim - Neat Looking Machine!**

Message #19 Posted by [Steve Borowsky](#) on 29 Mar 2007, 3:05 p.m.,  
in response to message #17 by GE

Quote:

However, I'll not buy this "new" Casio because it is always the same old function set each and every 'generation' they put out.

Haha, exactly! That's what's so crazy about Casio; they made the worlds first graphing calculator (fx-7000G. 1985), but then almost every single graphing calculator they've made since then has been almost the s-a-a-a-a-ame (with a few exceptions), but same limitations etc etc. Crazy!!! BTW, the fx7000G was in production for 10 years, an incredibly long time!

**Re: New Casio's fx-9860G Slim**

Message #20 Posted by [Chaz](#) on 26 Mar 2007, 12:11 a.m.,  
in response to message #1 by Namir

Finally, a calculator with a backlight. Sometimes that would come in handy. But I think I'll stick with the HP's.

**Re: New Casio's fx-9860G Slim**

Message #21 Posted by [Eric Smith](#) on 26 Mar 2007, 6:02 p.m.,  
in response to message #20 by Chaz

Where did you find any indication that the fx-9860g Slim has a backlight? The only information I've found is the press release, which doesn't mention one.

**Re: New Casio's fx-9860G Slim**

*Message #22 Posted by [Chaz](#) on 26 Mar 2007, 8:33 p.m.,  
in response to message #21 by Eric Smith*

Why me thinks there is a backlight is the little button next to zero. It says "LIGHT" and is colored the eerie green color. I might be wrong, but it's a good guess.

**Re: New Casio's fx-9860G Slim**

*Message #23 Posted by [Eric Smith](#) on 26 Mar 2007, 10:19 p.m.,  
in response to message #22 by Chaz*

Thanks, somehow I'd managed to overlook that.

**Re: New Casio's fx-9860G Slim**

*Message #24 Posted by [Eddie Shore](#) on 30 Mar 2007, 1:50 a.m.,  
in response to message #23 by Eric Smith*

I am curious to what the 9860G Slim will have as far as features. Will it be close to the basic models (like 7400G) or closer to the Classpad or the Algebra-2 Plus?

Has anyone tried to program a Casio calculator? I found it confusing.

My favorite Casios are the basic scientific calculators, because Casio manages to pack the most features into the basic calculators. Solar powered with integration, derivative, and normal distribution.

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## HP Forum Archive 17

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**Bringing an HP-42S Back to Life**

Message #1 Posted by [Juan J](#) on 23 Mar 2007, 11:52 p.m.

Hello,

A couple weeks ago I found an HP-42S on that auction site, described as “non functional, for parts or repair.” The description went on, detailing scratches and blemishes, but ended stating that the calculator passed the self-test. This little detail was intriguing to me. So I decided to bid and ended up winning the auction, at roughly less than half the price of a fully functional 42S.

The day seller shipped the 42S I received a message: “I hope you enjoy tearing the calculator apart.” No problem, I wrote back. The 42 eventually came home and stayed untouched, as I was away. But I came back home and decided to get to work on it. A sick puppy, I thought.

This was a battered puppy, S/N 3046SXXXXX with initials engraved on the front plate, next to “42S,” and a few scuffs. I turned it on. It was functional and passed the self-test, as the description said. However, the keys of the rightmost column were dead: [XEQ], [TAN], [<-], [/], [x], [-] and [+]. Strangely, they felt fine and the tactile feedback was the same as the rest of the keyboard.

At first I thought it was a dirt problem and tried contact cleaner, applied through the slits between the front plate and the keys, to no avail. The puppy needed surgery.

I got Paul Brogger’s article on how to disassemble a Pioneer and followed the instructions. The disassembly was just as Paul describes it, and I pulled out the back case half, then the PCB. The keyboard assembly was just as the article described, complicated to tear apart. Since the keys were working, I thought it might be a faulty contact problem, and examined first the PCB and then the contact ribbon that links the keyboard to the PCB.

There are 15 contacts between the keyboard and the PCB, seven to the left and eight to the right. The last contact to the right had what looked like dirt over it. I carefully scraped it with a precision knife, put the calculator back together and turned it on. Nothing. So I took it apart again and this time checked the keyboard contacts ribbon.

Interestingly, the last contact, which went into the PCB contact I had scraped clean was worn out and there was little conductor material left on the plastic. Quite possibly this damaged contact was the cause behind the dead keys. Lacking a conductive marker, I cut a small (3/8 in. x 1/32 in.) copper strip from a piece of foil I had at hand and folded it in half, so that half of it would replace the missing conductor and make contact, and the other half would fit behind the plastic ribbon to hold the strip in place. Just to check this setup, I put the 42S together, installed the batteries and turned it on. It worked. It was time to check the keys.

All the keys worked perfectly, main and shifted functions. The strip was working. I disassembled the 42S, secured the strip in place with a little bit of glue carefully applied with a brush and put it together again.

The sick puppy is cured and now works like a charm. Although the front plate still needs some work, namely removing the engraved initials and the scuffs, now I have a fully functional 42S. It feels so good to bring back to life one of these little machines! It might seem a contraption, but this keyboard fix may be applicable to Pioneers with the same problem. On the other hand, would this contacts wear be something to consider about long-term use (and abuse) of a Pioneer? Has anyone had this problem before?



The next step is removing the engraved initials. I am thinking about sanding them off and repainting the area, either by hand or using an airbrush. But this would need peeling the front plate from the calculator. Is it possible to do it without destroying it?

I have already thanked the seller. Now I want to thank Paul for his article, of which I keep a copy for future reference, and Dave, for this wonderful site.

The HP-35 page states: "it was built tough, and built to be repaired." The same could be said about almost all the subsequent models; the Pioneers are a little harder to repair but it is possible. They may not be as tough as the original 35, but they do endure punishment. Which makes me wonder if we are not only into collecting and repairing, but also into restoration and adoration with our little machines.

### **Re: Bringing an HP-42S Back to Life**

*Message #2 Posted by [Bruce Bergman](#) on 24 Mar 2007, 12:15 a.m.,  
in response to message #1 by Juan J*

Interesting!

I have a 32sii which has almost the exact same behavior. Keyboard fine except the rightmost column. I posted something on here a couple weeks about it but absolutely zero response on what the problem might be, so I assumed it was either a) beyond the skills of the folks on the board, or b) nobody else had this problem.

Now I found your message, which gives me hope. :-) I'll take another read and perhaps see if I can fix mine. THANK YOU for posting!

thanks, bruce

### **Re: Bringing an HP-42S Back to Life**

*Message #3 Posted by [Juan J](#) on 24 Mar 2007, 12:30 a.m.,  
in response to message #2 by Bruce Bergman*

Hello Bruce,

I had not had this problem until now...

I am glad that my experience may help you. Good luck with your repair.

### **Re: Bringing an HP-42S Back to Life**

*Message #4 Posted by [Thomas Radtke](#) on 24 Mar 2007, 4:12 a.m.,  
in response to message #1 by Juan J*

Thanks for your article!

Would you think that conductive glue could have solved that problem more easily? This would have been my approach on Pioneer contact problems.

Quote:

\_\_\_\_\_

The HP-35 page states: "it was built tough, and built to be repaired." The same could be said about almost all the subsequent models; the Pioneers are a little harder to repair but it is possible.

\_\_\_\_\_

The classics are great in nearly any respect. Later models (all?) offered severe problems in repairing them,

mostly due to these plastic rivets (even Woodstock keyboard assemblies have lots of them). Some (Clamshell, Pioneer) can't even be taken apart without drilling here and there.

H-P's are great as long as they are intact. Excellent software, perfect feeling in touch and use. When they are dead, one wishes they were build like a TI or Casio ;-).

### **Re: Bringing an HP-42S Back to Life**

*Message #5 Posted by **Juan J** on 24 Mar 2007, 3:00 p.m.,  
in response to message #4 by Thomas Radtke*

Hello Thomas,

You are right. Conductive glue would do the trick. Alas, I had not any at hand. Hence the little copper strip. Not very elegant but functional.

Quote:

H-P's are great as long as they are intact. Excellent software, perfect feeling in touch and use.  
When they are dead, one wishes they were build like a TI or Casio ;-).

Again, you are right.

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## HP Forum Archive 17

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### 9s

Message #1 Posted by [Tadeyev](#) on 23 Mar 2007, 1:46 p.m.

Just for fun I bought a 9s to play around with. I must say, for the price, it really is lees bad than I expected. The keys work well and seems to have the fuctions one needs for basic stuff, although the layout is illogical and irritating...

The ENTER key is a real joke though, since it seems to function as no more than an '=' on a regular calculator. (And I thought they were giving youmg kids the RPN bug- no way!)

You can fix the length behind the decimal just like other HP's with FIX but what I can't figure out or find anywhere however is a comma separator for thousands...So big numbers not in engineering notation are just unreadable: 1,231,455,689.00 is just 1231455689.00 which I find impossible. Anyone know if this buggy has a comma somewhere? Thanks, Tadeyev

### Re: 9s

Message #2 Posted by [tadeyev](#) on 23 Mar 2007, 5:02 p.m.,  
in response to message #1 by Tadeyev

Well, I have foundd out that there is no comma available as thouands separator.. So, this 9s is bascially as good as a \$2.00 calculator in real use. It belongs in the list below this thread ;-)

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## HP Forum Archive 17

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**Worst (hp) calculator ever?**

Message #1 Posted by [Maximilian Hohmann](#) on 23 Mar 2007, 10:35 a.m.

Hello!

With all the "best calculator ever" threads abunding, I thought it was time for the contrary (didn't find any such thread through the search function).

Why this question? Because yesterday, I received an HP-10BII. Not that I care much about financial calculators or calculators with LCDs, but like everybody else here, I still dream my dream of one day owning a specimen of each hp calculator model. Yes, I know, there is nothing more dis-illusioning than a dream come true, but one keeps trying anyway :-)

So here it is, the worst, by far! calculator I have ever come across: The HP-10BII. Never have I seen such a cheap, flimsy piece of equipment, such a large step back from its predecessor (HP-10B, a solid and well made calculator). Everything about it looks cheap (even the "metal", or wahatever it is, trim around the display and the two top rows of keys), sounds cheap, feels cheap. Several segments of the display are not working anymore (the reason why I got it for one Euro - and this still is one Euro too much) and according to the previous owner he has used it only two ore three times before the display failed, out of warranty of course.

I have also some of the other Chinese made hp calculators (6S, 9S, 9G, 30S, 33S) and they all are about worth what you have to pay for them - but the 10BII is in a class of its own. If I was an hp official, I would try to buy them all back from the market, bulldoze them into pieces and use the plastic to make 12Cs out of it.

Sorry, I had to say this and now I feel better :-))

(And a lot more better, because this morning I got an Elektronika MK61 (Soviet RPN programmable) that looks and feels a litte cheap too and has a little display problem as well, but it is nearly 20 years old and very special in many ways.)

Greetings, Max

*Edited: 23 Mar 2007, 10:38 a.m.*

**Re: Worst (hp) calculator ever?**

Message #2 Posted by [Ron Ross](#) on 23 Mar 2007, 10:59 a.m.,  
in response to message #1 by Maximilian Hohmann

I second your vote for the Hp10Bii!

From my experience with the Hp10Bii which is exactly the same as yours except THAT I did buy mine brand new. The keyboard was CRAP right out of the plastic anti-theft blister pack case (Only the dumbest thief would steal this \$hi7!). The top row right keys had no tactle feedback (mushy) right out of box.

However it sat in my collection for about a year, when I pulled it out to play with (I do that occasionally even with the financials). And guess what, the display had failed, just sitting in my collection. The warrenty had

expired and Hp was unsympathetic about replacement. I have not bought another Hp financial since (nor do I feel bad for not doing so, as I don't feel the need to collect financials).

### **Re: Worst (hp) calculator ever?**

Message #3 Posted by **Olivier TREGER** on 23 Mar 2007, 11:36 a.m.,  
in response to message #2 by Ron Ross

Quote:

... Hp was unsympathetic about replacement. ...

You bet...

### **Re: Worst (hp) calculator ever?**

Message #4 Posted by **Don** on 24 Mar 2007, 1:12 a.m.,  
in response to message #2 by Ron Ross

I will have to agree that the 10Bii is without a doubt the worst piece of junk in the entire solar system. I was so glad when mine died a mysterious death. What were they thinking (drinking?)?

Don

### **Re: Worst (hp) calculator ever?**

Message #5 Posted by **Ron** on 23 Mar 2007, 11:35 a.m.,  
in response to message #1 by Maximilian Hohmann

I'm not actually answering the question posed, but thought this would be a good thread to mention the dumbest ideas I've seen in HP calcs. Top two are:

1. 6S solar, with battery backup, and no OFF key! This is such a bad design, it's funny. Any time it's dark, the battery is running down. At night, the battery keeps the calc on. Put it in the case, the battery keeps the calc on. This calc must have been designed by the Energizer Bunny. 2. Clamshell side battery doors. If it's not broken, it will be soon! It reminds me of the saying that "armadillos are born by the road, dead."

### **Re: Worst (hp) calculator ever?**

Message #6 Posted by **Katie Wasserman** on 23 Mar 2007, 11:53 a.m.,  
in response to message #5 by Ron

I vote for the 6S non-solar. It does have an 'off' key but the color scheme makes the functions almost unreadable.

I sort of like the 6s solar, it's cheap (\$2 each in the large quantity I bought for geocaching prizes) and although the battery does drain in low-light conditions it lasts for years.

### **Re: Worst (hp) calculator ever?**

Message #7 Posted by **Massimo Gnerucci (Italy)** on 23 Mar 2007, 12:54 p.m.,  
in response to message #6 by Katie Wasserman

I completely agree with Katie for the very same reasons.

I pulled off the batteries from the 6Sss (how many "s"!) I own and (very rarely) use them as pure solar calcs.

### **Re: Worst (hp) calculator ever?**

*Message #8 Posted by [Dave Shaffer](#) on 23 Mar 2007, 11:40 a.m.,  
in response to message #1 by Maximilian Hohmann*

Since you put (hp), I think one is allowed to comment about other calcs, too.

My vote goes for the 99 cent store special! There was thread here a few years ago which pointed out its existence. Since at that point I was accumulating cheap calculators (\$5-10 Casios, Canons, and TIs) which I could lend out in physics and astronomy labs (with little fear of loss if they disappeared), I figured I should get one of the 99¢ specials.

It was there in the store, alright. By the time I got it home, though, one of the screws holding the case together had fallen out, and the keyboard was truly crap. It did seem to perform its functions correctly, however.

It gets my vote for worst calculator.

### **Re: Worst (hp) calculator ever?**

*Message #9 Posted by [Paul Brogger](#) on 23 Mar 2007, 11:58 a.m.,  
in response to message #1 by Maximilian Hohmann*

For me, the 6s -- easily the worst H-P I've ever touched. (The 10Bii is a close second, though.)

Its AMAZING capacity for key bounce was instantaneously exasperating, and ultimately fatal (to the calculator).

I've said before, one of my most satisfying H-P moments was frisbee-ing that 6s into the dumpster, and not even bothering to confirm its hoped-for destruction.

### **Re: Worst (hp) calculator ever?**

*Message #10 Posted by [Etienne Victoria](#) on 23 Mar 2007, 2:37 p.m.,  
in response to message #1 by Maximilian Hohmann*

To me, definitely the Hp10A: the expensive cash register.

Fragile and prone to failure Impotent keyboard for speedy calculations Ugly...see below

Worst (hp) calculator ever?



*Edited: 23 Mar 2007, 2:47 p.m.*

### **Re: Worst (hp) calculator ever?**

*Message #11 Posted by [Dia C. Tran](#) on 23 Mar 2007, 3:13 p.m.,  
in response to message #10 by Etienne Victoria*

Never had one so I can't say about how it works but it does look very good in the picture. Expensive cash register??? I think most cash registers cost more than the HP10.

*Edited: 23 Mar 2007, 3:14 p.m.*

### **Re: Worst (hp) calculator ever?**

*Message #12 Posted by [GE](#) on 23 Mar 2007, 5:42 p.m.,  
in response to message #11 by Dia C. Tran*

The HP10A is one of the rarest and most sought after models. I wish you the luck to get one some day. Probably few cash registers cost more (second hand).

My vote for the worst HP goes to the HP38G, the less usable graphical calculator I own. The programming, general behavior, and function set are exactly fine tuned to induce nervous breakdown. As for the 6S, yes it looks bad but it packs lots of function, and mine has not failed - yet. So it was less of a bad surprise.

## **I hate my 15C!!!!**

*Message #13 Posted by [Les Wright](#) on 24 Mar 2007, 9:39 a.m.,  
in response to message #1 by Maximilian Hohmann*

With apologies to Catherine Deneuve in that old commercial, I hate it because it is so beautiful.

It was an early acquisition for me and I paid premium price for it. The owner said it was like new and was right, a fact that became evident only when I got my well worn 11C and had a mode of comparison.

I am afraid to look at it funny. It stays in the case and every few weeks I take it out to admire it, then put it back quickly lest I scratch it.

I feel it is going to waste! I am wondering if I should trade with someone who has a less-than-perfect one that I won't fear using.

On the other hand, my 42S, which cost me even more and is well worn, gets used all the time, and occasionally I have to rescue it from under the belly of one of the fatter cats that live on my desk.

Damned perfect 15C. It many never get to truly know you....

Les

## **Re: I hate my 15C!!!!**

*Message #14 Posted by [Namir](#) on 24 Mar 2007, 10:36 a.m.,  
in response to message #13 by Les Wright*

Les,

Maybe an HP-15C emulator from [RLM Tools](#) can help solve your problem. You can use the emulator without worrying and wear and tear. It lives on your PC and if you have a laptop, it can go with you!!! The emulator can save your programs to the PC and load them later--big convenience. In addition, you can easily view memory registers, programs steps, and so on, in pop-up windows. If you get a master membership (one time fee) you get all of the emulators. There is an HP41 emulator in the works. I am not affiliated with that site. I am just a happy customer

Namir

## **Perfect HP-15C -- to use, or not to use?**

*Message #15 Posted by [Karl Schneider](#) on 24 Mar 2007, 3:01 p.m.,  
in response to message #13 by Les Wright*

Hi, Les --

Quote:

I am afraid to look at it funny. It stays in the case and every few weeks I take it out to admire it, then put it back quickly lest I scratch it.

I feel it is going to waste! I am wondering if I should trade with someone who has a less-than-perfect one that I won't fear using.

I'd use it anyway, with clean hands, and always putting it back into a drawer inside its slipcover or case



when finished. There's no point in not using it; sometime many years down the road, it'll quit working.

Then there's Valentin's approach, using it only through a clear protective cover or glove.

-- KS

**Re: Perfect HP-15C -- to use, or not to use?**

*Message #16 Posted by [Valentin Albillo](#) on 24 Mar 2007, 3:32 p.m.,  
in response to message #15 by Karl Schneider*

Hi, Karl, Les:

Karl posted:

*"I'd use it anyway, with clean hands, and always putting it back into a drawer inside its slipcover or case when finished. [...] Then there's Valentin's approach, using it only through a clear protective cover or glove."*

Yes, that's true. I would advise against using such a perfect instance of an HP-15C with bare hands, because no matter how clean they are, they will nonetheless leave traces of greasy residues that in time will alter the touched surface. Also, unavoidable dust, particles, ambient humidity will also deposit slowly but surely over an unprotected surface.

What I do with my HP-15Cs, even the not-so-mint one, and with all my calculators getting use for that matter (several HP and two SHARP) is to have them hermetically thermo-sealed inside a suitably tight-fitting clear teflon cover, which doesn't affect their usability or visibility in the least, but effectively reduces to nil any effects from fingers, dust, humidity, or whatever. Nothing can enter the sealed protection and I can take the calculator and do whatever calculations with it, almost no matter where, and it remains as mint as it was. Even the occasional water spill (or even sugared coffee!!) means *\*nothing\** because it doesn't penetrate the teflon cover. They could stand open rain wholly unaffected, if necessary (which never is).

I would suggest doing something similar and that failing, at least *\*do\** *\*not\** put the HP-15C in its original slip cover, because this is going to mar the finish and eventually the logo itself. Place it everywhere but its tight-fitting, slip cover. The teflon protection is fine enough but else there are much better covers for it available in the usual places, made of cow-hide and with extremely soft, non-dusting interiors.

Best regards from V.

**Re: Perfect HP-15C -- to use, or not to use?**

*Message #17 Posted by [GE](#) on 24 Mar 2007, 6:40 p.m.,  
in response to message #16 by Valentin Albillo*

How about changing batteries ? (not a problem for the 15C, actually !)

I rather use kitchen plastic film, is not durable but does the job and can be replaced easily.

**Re: Perfect HP-15C -- to use, or not to use?**

*Message #18 Posted by [Valentin Albillo](#) on 24 Mar 2007, 7:22 p.m.,  
in response to message #17 by GE*

Hi, GE:

GE posted:

*"How about changing batteries ? (not a problem for the 15C, actually !)"*

Exactly. Not a problem at all, because batteries last some 10 years or more, while the teflon covering only last 3 years or so, depending on use and abuse, before needing to be replaced.

*"I rather use kitchen plastic film, is not durable but does the job and can be replaced easily."*

Several problems with kitchen plastic film:

- Not tough or resistant at all, gets easily teared or punctured, will deform very quickly with use. Thus, doesn't really protect the calculator as it should, at all.
- Can't be thermo-sealed, so there's no way to hermetically seal it so that moisture and external agents aren't able to penetrate.
- Ugly looking, and would stick to the calculator's surfaces, with unknown effects. Teflon is one of the very best antiadherent plastics, virtually no friction, and tolerates burning temperatures without damage. That's why it's heavily used in frying pans and kitchen appliances everywhere.

Best regards from V.

### **Re: Perfect HP-15C -- to use, or not to use?**

Message #19 Posted by [Bill \(Smithville, NJ\)](#) on 24 Mar 2007, 8:50 p.m.,  
in response to message #16 by Valentin Albillo

Hi Valentin,

I never realized you treated your calculators so carefully.

Quote:

---

I would advise against using such a perfect instance of an HP-15C with bare hands, because no matter how clean they are, they will nonetheless leave traces of greasy residues that in time will alter the touched surface. Also, unavoidable dust, particles, ambient humidity will also deposit slowly but surely over an unprotected surface.

---

Why not put it in a sealed container and just look at it ever now and then? I really cannot imagine not being able to actually touch the keys and I don't mean through a plastic bag. I guess the difference is - do we collect them as a museum piece or as a fun piece of history to play with. If it's a museum piece, then frame it and hang it on the wall to look at and appreciate for it's beauty.

Me, I want to pick it up, touch it, use it, play with it, enjoy it, calculate with it, and generally have fun with it.

Bill

## Re: Perfect HP-15C -- to use, or not to use?

Message #20 Posted by [Valentin Albillo](#) on 24 Mar 2007, 9:42 p.m.,  
in response to message #19 by Bill (Smithville, NJ)

Hi, Bill:

Bill posted:

*"Me, I want to pick it up, touch it, use it, play with it, enjoy it, calculate with it, and generally have fun with it."*

Correct, I want the same. It's only that different people do have different concepts of "having fun with". I simply wouldn't have fun at all if I touched the keys with my bare fingers or anyone else's, I would be upset to the max about it and would later have to give it a thorough and careful cleaning to remove any fingerprints and their unavoidable oily effects. That would take time, be no fun, and ultimately the frequent cleaning would have an undesirable effect on the surfaces.

That would be no fun either, thus the teflon protection, which is as good as it gets and keeps me using (and enjoying and having fun with) my calculators as frequently as possible.

Thanks for your heartfelt comment and

Best regards from V.

## What I wish the 15c had...

Message #21 Posted by [Gene](#) on 25 Mar 2007, 1:18 p.m.,  
in response to message #20 by Valentin Albillo

Rather than trying to add the kitchen sink / everything to the 15c, here are two or three things I really wish were different on the 15c that would make me use mine more. :-)

- 1) More RAM available for programs and/or data.
- 2) Kill the keycodes and use alpha for the function display. Something like the HP41 or TI66 even would be wonderful. I really hate that the 12c / 12cp still use keycodes!
- 3) Perhaps...Perhaps...a few more labels added somehow.

That's all I would do to an otherwise nearly perfect machine.

## Re: What I wish the 15c had...

Message #22 Posted by [Karl Schneider](#) on 25 Mar 2007, 6:30 p.m.,  
in response to message #21 by Gene

Hi, Gene --

Quote:

... here are two or three things I really wish were different on the 15c that would make me use mine more.

- 1) More RAM available for programs and/or data.

---

RAM was costly in the early 1980's. If another R2D2 chip could have been squeezed onto the circuit board, the extra 32 registers or so would have been very welcome, and would likely not have had any significant "side effects". Please see this thread, which also addresses the speed issue:

<http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv016.cgi?read=94725#94725>

Quote:

---

2) Kill the keycodes and use alpha for the function display. Something like the HP41 or TI66 even would be wonderful. I really hate that the 12c / 12cp still use keycodes!

---

Obviously, to make full alphanumeric possible would require a different display unit -- the HP-41 14-segment LCD or, better yet, dot-matrix. ALPHA support would also require a much bigger ROM.

Regarding keycodes, one feature I would have liked is for "A" through "E" to be displayed where appropriate (i.e., for labels and matrix identifiers) instead of a two-digit keycode. For example, "GTO A" would be displayed as "22 A" instead of "22 11". However,  $x^2$  would still be displayed as "43 11", because that function has nothing to do with "A". This enhancement was, in fact, incorporated into the HP-20S, which had a much more capable processor and presumably more space available for ROM.

For what it is, the HP-15C is just about perfect. To add new significant capabilities would have certainly have required more-expensive new or additional hardware. After doing that, it just wouldn't be a Voyager-series model anymore.

-- KS

### **Re: I hate my 15C!!!!**

*Message #23 Posted by **Charlie O.** on 24 Mar 2007, 4:06 p.m.,  
in response to message #13 by Les Wright*

Maybe you'd like to trade for this one?

<http://www.geocities.com/cjoxford2/johnscalculator.html>

<http://www.geocities.com/cjoxford2/johnscalculator.html>

### **preformatting???**

*Message #24 Posted by **Charlie O.** on 24 Mar 2007, 4:08 p.m.,  
in response to message #23 by Charlie O.*

What's up with "pre formatting"?

### **Re: preformatting???**

*Message #25 Posted by **Jeff O.** on 24 Mar 2007, 6:27 p.m.,  
in response to message #24 by Charlie O.*

Preformatting just preserves the formatting exactly as typed in the message box. If you wanted to make a hyperlink, like this:

<http://www.geocities.com/cjoxford2/johnscal.html>

then you would need to type:

[url:http://www.geocities.com/cjoxford2/johnscal.html]

### **Re: preformatting???**

*Message #26 Posted by **Charlie O.** on 24 Mar 2007, 8:08 p.m.,*

*in response to message #25 by Jeff O.*

Thanks Jeff.

I was clicking the "preformatted" button which I now realize is for listings. I needed to click on "more" and read the proper instruction.

### **Re: I hate my 15C!!!!**

*Message #27 Posted by **Les Wright** on 24 Mar 2007, 4:58 p.m.,*

*in response to message #13 by Les Wright*

I must admit there is another reason.

All of the stuff everyone loves about the 15C--matrices, complex numbers, keystroke programming, built-in integrator and solver--I just find a lot easier to use on the 42S, even though the latter is admittedly a lot less attractive to look at. The diarrheal brown and orange lettering on the Pioneers is just not nearly as aesthetically gratifying as the colour scheme of the Voyageurs. And there is of course that annoying faint display on the 42S. The crisp and flawless display on my 15C is impeccable.

Les

### **Re: I hate my 15C!!!!**

*Message #28 Posted by **Rodger Rosenbaum** on 24 Mar 2007, 5:42 p.m.,*

*in response to message #27 by Les Wright*

So buy another one!

I see several on ebay, e.g., item # 260099173439

### **Re: I hate my 15C!!!!**

*Message #29 Posted by **Trent Moseley** on 25 Mar 2007, 12:23 a.m.,*

*in response to message #27 by Les Wright*

And the 42S has no roll-up button on the keypad! I can't believe it. If you don't like menus it's back the old 25C mode and use three roll-downs.

tm

### **"Roll up" function**

*Message #30 Posted by **Karl Schneider** on 25 Mar 2007, 1:00 a.m.,*

*in response to message #29 by Trent Moseley*

Hi, Trent --

Quote:

And the 42S has no roll-up button on the keypad! I can't believe it. If you don't like menus it's back the the old 25C mode and use three roll-downs.

You may have seen my recent post noting that I put "Roll up" in the first level of a custom menu on the HP-42S

The "Roll up" function, truth be told, is most useful for programming. The HP-41 also doesn't have it on the keyboard; the HP-10C and HP-32S (to name several) don't have the function at all.

-- KS

### **Re: "Roll up" function**

*Message #31 Posted by [Trent Moseley](#) on 26 Mar 2007, 9:12 p.m.,  
in response to message #30 by Karl Schneider*

Karl,

I agree with you completely when one is programing. However when I'm just banging around doing some calcs no way am I going to use a menu to get a roll-up, so ala HP-25C it's three roll-downs. The 42 in my opinion should have used two shift keys and relied a little less on menus.

tm

### **Re: "Roll up" function**

*Message #32 Posted by [Ron Ross](#) on 26 Mar 2007, 10:15 p.m.,  
in response to message #31 by Trent Moseley*

Has everyone forgotten about the custom Menu in the 42s? You can customize upto 18 functions onto the soft menu and just leave them there for your convience if you need a certain set of functions on a repetative basis.

Merely assign the Rollup function to the key above ie rplace the SQRT and Voila! you now have the roll up key w/o second function, if that pleases you.

I love my Hp15c, but for me the Hp42s replaced it. I do like the form factor and admittedly complex numbers are integrated well, but the programming and customability of the 42s make it my calculator of choice (YES, IT IS 1 cm to DAMN TALL!).

### **Re: "Roll up" function**

*Message #33 Posted by [Trent Moseley](#) on 26 Mar 2007, 10:26 p.m.,  
in response to message #32 by Ron Ross*

Ron,

How about two shift keys and relying a little less on menus?

tm

## HP-41/42 "View" vs. "Roll up" function

Message #34 Posted by [Karl Schneider](#) on 27 Mar 2007, 12:44 a.m.,  
in response to message #31 by Trent Moseley

Hi, Trent --

Quote:

However when I'm just banging around doing some calcs no way am I going to use a menu to get a roll-up, so ala HP-25C it's three roll-downs.

There is also the "VIEW" command on the HP-41 and HP-42S, which can display a stack register without disturbing the stack and without requiring the user to think about and count "Roll downs". Unfortunately, it's not on the HP-42S keyboard, so the CUSTOM menu is good to utilize.

Quote:

The 42 in my opinion should have used two shift keys and relied a little less on menus.

Ah, but that would effectively renounce the "tidy face" design principle with no shifted function on the unbeveled key, developed for the Pioneer series. The 2nd shifted function would be printed adjacent to the first shifted function -- just like the menuless HP-20S and HP-21S, the subsequent HP-32SII, and the ancestor HP-34C.

-- KS

## Re: HP-41/42 "View" vs. "Roll up" function

Message #35 Posted by [Trent Moseley](#) on 27 Mar 2007, 6:06 p.m.,  
in response to message #34 by Karl Schneider

Karl,

You are indefatigable! I give up. But I still wish.....

tm

## I sent my 15C to a teacher in Estonia

Message #36 Posted by [Sam Levy](#) on 2 Apr 2007, 11:45 p.m.,  
in response to message #29 by Trent Moseley

The math prof was so taken with it he borrowed it over the summer. For all it's strange appearance the 33SII has roll up and down keys that are helpful in programming and selecting stored programs.

## An HP calculator that "missed the mark"

Message #37 Posted by [Karl Schneider](#) on 27 Mar 2007, 12:53 a.m.,  
in response to message #1 by Maximilian Hohmann

Hi, Max --

Another "10" -- the Voyager-series HP-10C -- wasn't even a *bad* calculator by any means, but I'd say that it "missed the mark", and thus lasted less than three years on the market. Here's an archived post of mine linking to several other posts:

<http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv016.cgi?read=92143#92143>

-- KS

### **Re: An HP calculator that "missed the mark"**

Message #38 Posted by **Valentin Albillo** on 27 Mar 2007, 6:33 a.m.,  
in response to message #37 by Karl Schneider

Hi, Karl:

Karl posted:

*"[...] but I'd say that it "missed the mark", and thus lasted less than three years on the market."*

Actually, it lasted less than *\*two\** years, more like 1.5 years to be exact:

Introduction Date: 1982-09-02  
Discontinuation Date: 1984-03-01

(Source: google for "Finseth, HP-10C" or have a look at Wlodek's Guide")

Nice machine, though. I like it very much on aesthetic grounds, having all the good physical points of the Voyager series, plus utmost simplicity with that uncluttered keyboard and that single yellow shift key. I think it would have made an excellent "Four-Function ++" calculator for anyone, me included, if it had been much less expensive. If it were commercially available right now, with the exact same quality as before but for, say, \$50, I would certainly buy several, both as gifts and to have one available at all places.

The sad truth is, it's outrageously difficult to find, though I managed to get a mint one a few years ago for just \$200, which is one of the high-points in my little collection, along with the SHARP EL-5101, PC-1421, and PC-1425.

Best regards from V.

### **Re: An HP calculator that "missed the mark"**

Message #39 Posted by **Karl Schneider** on 28 Mar 2007, 12:12 a.m.,  
in response to message #38 by Valentin Albillo

Hi, Valentin --

Quote:

\_\_\_\_\_

I think it would have made an excellent "Four-Function ++" calculator for anyone, me included, if it had been much less expensive.

\_\_\_\_\_

I agree that the HP-10C was still a good, quality-built basic scientific calculator. To me, however, excellence would have required the presence of backspace, %CH, hyperbolics, and (perhaps) roll\_up. All of these could have been provided with room to spare if its crude programming had been omitted.



I also bought mine several years ago, for \$225 -- a near-mint specimen whose owner stated having used it for his job helping to design a major new airport in the US. It's the most I've paid for any single calc (excluding accessories).

-- KS

## Sharp Calculators

Message #40 Posted by [Trent Moseley](#) on 29 Mar 2007, 11:37 p.m.,  
in response to message #38 by [Valentin Albillo](#)

Valentin,

You mentioned several Sharp calcs in your previous message. I know nothing about those models but I have a Sharp PC-1500A and a Radio Shack TRS-80 (made by Sharp) whose programs can interface with each other. Are they comparable to yours?

tm

## Re: Sharp Calculators

Message #41 Posted by [Valentin Albillo](#) on 30 Mar 2007, 5:58 a.m.,  
in response to message #40 by [Trent Moseley](#)

Hi, Trent:

Trent posted:

*"[...] I have a Sharp PC-1500A and a Radio Shack TRS-80 (made by Sharp) whose programs can interface with each other. Are they comparable to yours?"*

I also own a SHARP PC-1500A and two TRS-80 Pocket Computer units which, as you say, are exact clones of the pioneer SHARP PC-1211 save for minor cosmetic changes.

These are very worthy machines and they're certainly comparable to the models I discussed in my post in terms of physical quality, ruggedness and reliability, mines do work absolutely great and look new after some 20-25 years.

However, in terms of programming power, being the very first, pioneering models introduced into the market, they were later succeeded by more advanced models, with enhanced BASIC language, more RAM, larger displays, faster CPUs, etc. This doesn't demean them at all, they were the first ones and is only natural that improved versions would hit the market next.

It would be akin to compare an HP-65 to an HP-41C, say. It's not that the HP-41C is "better", it's simply that it wouldn't be a fair comparison to begin with. But in terms of actual capabilities, regardless of their time frames, yes, the HP-41C is more capable than the HP-65 and the SHARPs I mentioned in my post are more capable than the ones you have.

I would suggest two things, if you're still interested in SHARP machines and would like to get to know them better:

- Get some of these models (in order of easy availability thus low price): PC-1350 or PC-1360, PC-1262, [PC-1475](#), PC-E500S, PC-1421 (Financial).

- Get a copy of my article "*Know Thy Foe - A New Contender*", a 12-page article published in the 2006 May/June issue of [Datafile](#) (V25N3P21-32) which features a very thorough comparison between the HP-41C and the SHARP PC-1211 (i.e. your TRS-80 PC-1), including several pictures, many code snippets, 2 complete programs for the HP-41C and 6 complete programs for the SHARP including:
  1. Towers of Hanoi Puzzle (8 lines)
  2. Hyperbolic Functions (6 lines)
  3. Computing  $e$  (2.71828...) to 575 decimal digits (6 lines)
  4. Solving the general "N-Queens in an NxN chessboard" Puzzle (9 lines)

I think you'll enjoy both the article and the featured programs a lot and will learn new facts and techniques from them.

Thanks for your interest and

Best regards from V.

### **Re: Sharp Calculators**

*Message #42 Posted by [Gene](#) on 30 Mar 2007, 7:59 a.m.,  
in response to message #41 by Valentin Albillo*

The 1403 is similar to the 1475, except that the matrix functions are calculator mode only, is that correct? Would make them much less useful, IMO.

The EL-5510 aka 1421 (that I picked up recently) is quite nice. Keeping my eyes open for some of the others.

### **Re: Sharp Calculators: PC-1421 in particular**

*Message #43 Posted by [Valentin Albillo](#) on 30 Mar 2007, 9:13 a.m.,  
in response to message #42 by Gene*

Hi, Gene:

Gene posted:

*"The 1403 is similar to the 1475, except that the matrix functions are calculator mode only, is that correct? Would make them much less useful, IMO."*

The matrix functions in the SHARP PC-1475 are also "calculator mode only" if by that you mean that they can't be included in BASIC programs, unlike the financial functions of the SHARP PC-1421 which indeed can.

This does detract from their usefulness but the matrices used in calc mode (matrix mode more like) are shared with BASIC variable space, so you can have a BASIC program do something with a matrix (perhaps initialize it with computed entries dependent on previous user inputs, say), momentarily pause for the user to do something more using the fast built-in matrix functions, then CONTinue with your BASIC program which can then take those matrices and further process them or print them to a printer or to some mass storage device. Certainly not as convenient as having the capability to insert them into your own programs, but not absolutely impossible to pre-process and post-process

the matricial data and results either.

The real difference between the 1403 and the 1475 are:

- The LCD display: 1 line (1403) versus 2 lines (1475).
- The SHARP PC-1475 has double-precision variables and calculations, up to 20 significant digits. This is actually a very important feature for many (if not all) applications, I've always wondered why there are so few advanced models implementing this feature, even if as an option.

*"The EL-5510 aka 1421 (that I picked up recently) is quite nice. Keeping my eyes open for some of the others."*

By the way, Gene, being the knowledgeable financial expert that you are, I would be *\*extremely\** interested in reading your review of this PC-1421 as compared with the HP-12C, namely:

- What do you think of it now that you know it well ? How does it compare with the HP-12C not 'on paper' but in the real world, in actual financial use ? Pros ? Cons ? Would you be caught dead using a 1421 in public, in a financial meeting, say ?
- Have you written any programs for it, mostly those which would exploit its much larger RAM (4 Kb), faster CPU, printing capabilities, and advanced BASIC programming language features such as arrays, merging programs and data from tape, etc ? Would you care to publish some or let us know you impressions on its programming features ? Could we have a look at some actual BASIC code for this machine ?

I own one myself, but I'm no financial expert whatsoever so I am not really entitled to do a full review of its financial aspects, this would be an ideal task for mega-experts like Tony Hutchins and yourself.

I wonder what both of you would do when programming this 1421 model, when taking into account the absolute wonders you've provided us with while constricted by the HP-12C's tremendous programming limitations.

Thanks in advance for any inputs and/or comments on this and

Best regards from V.

*Edited: 30 Mar 2007, 9:14 a.m.*

### **Re: Sharp Calculators: PC-1421 in particular**

*Message #44 Posted by **Gene** on 30 Mar 2007, 9:56 a.m.,  
in response to message #43 by Valentin Albillo*

Thanks for the clarifications about the 1475 vs. 1403. I did not know that. I had assumed the 1475 matrix functions were BASIC programmable.

I've had the EL-5510 for only a little over a week and have only played with it a bit. I'll write up my impressions after I use it for something "real".

I've also got a Sharp Wizard OZ-8200 coming. 64K of ram along with the double

precision math/BASIC card should make it interesting to use.

Just dipping my toe into the sharp world so far.

Gene

P.S. Tony is the expert around here, not me. My only strength seems to be a reasonable ability to explain things to others once I understand them. If I could make a living at it (the kind of living I want, that is), I'd have continued teaching. Alas.

### **Re: Sharp Calculators: PC-1403 in particular**

*Message #45 Posted by [HrastProgrammer](#) on 31 Mar 2007, 5:23 a.m.,  
in response to message #43 by Valentin Albillo*

Hi Valentin and Gene,

Sharp threads are always interesting to me because I was involved into Sharps very much, long time ago ...

It is true that matrix operations are not accessible from BASIC using BASIC commands and functions but this doesn't mean that they aren't accessible at all :-)

I remember hacking PC-1403 some 20 years ago. I disassembled and analyzed large portions of its ROM (PC-1403 has 8K of ROM built-into CPU and 64K of bank-switched ROM in 4x16K banks). Between many other things, I found all matrix operations addresses in ROM. Fortunately, they are all located in ROM4 which is active by default when executing CALL so calling them from BASIC was possible without any trouble.

For example, suppose that you want to solve the following system of linear equations from the PC-1403 users manual (page 77):

$$\begin{aligned} 2x + 5y - z &= -1 \\ x - y + 4z &= 12 \\ 3x + 2y + z &= 9 \end{aligned}$$

The following program can do this without even blinking:

```
5 "A": CLEAR: RESTORE 20
10 DIM X(2,2): FOR I=0 TO 2: FOR J=0 TO 2: READ X(I,J): NEXT J: NEXT I
20 DATA 2,5,-1,1,-1,4,3,2,1
30 DIM Y(2,0): FOR I=0 TO 2: READ Y(I,0): NEXT I
40 DATA -1,12,9
50 CALL 26132: REM invX->X
60 CALL 26119: REM X*Y->X
70 FOR I=0 TO 2: PRINT X(I,0): NEXT I
```

Type DEF A and after less than 2 seconds this program will start printing the results: 3, -1 and 2 ... The results are saved into X because PC-1403 used regular X, Y and M variables to work with matrices.

Best regards.  
HrastProgrammer

### **Re: Sharp Calculators: PC-1403 in particular**

*Message #46 Posted by [Massimo Gnerucci \(Italy\)](#) on 31 Mar 2007, 8:46 a.m.,  
in response to message #45 by HrastProgrammer*

I couldn't expect less from Hrast...

You're great!

Massimo

**Re: Sharp Calculators: PC-1403 in particular**

*Message #47 Posted by [HrastProgrammer](#) on 31 Mar 2007, 9:05 a.m.,  
in response to message #46 by Massimo Gnerucci (Italy)*

Thanks, Max :-)

**Re: Sharp Calculators: PC-1403 in particular**

*Message #48 Posted by [Namir](#) on 31 Mar 2007, 5:10 p.m.,  
in response to message #47 by HrastProgrammer*

You should be working for HP's R&D department!!!

ARE YOU LISTENING HP??????????????????

Namir

**Re: Sharp Calculators: PC-1403 in particular**

*Message #49 Posted by [Gene](#) on 31 Mar 2007, 10:09 a.m.,  
in response to message #45 by HrastProgrammer*

The master!

Do you have the list handy of all the matrix functions addresses? You've provided two...what others do you have? :-)

Gene

**Re: Sharp Calculators: PC-1403 in particular**

*Message #50 Posted by [HrastProgrammer](#) on 31 Mar 2007, 10:24 a.m.,  
in response to message #49 by Gene*

Yes, I have addresses of all of them on paper because this was my main "storage medium" at that time when all of my "armament" consisted only of Texas Instruments TI-57, Sharp PC-1251 and Sharp PC-1403. The only "mass storage" device I had was a simple cassette recorder. BTW, PC-1403 was my main calculating machine until I bought HP-48GX.

I will retype and post them during the weekend ...

**Re: Sharp Calculators: PC-1403 in particular**

*Message #51 Posted by [HrastProgrammer](#) on 1 Apr 2007, 1:40 a.m.,  
in response to message #49 by Gene*

Here is the list of PC-1403 ROM matrix subroutines I found:

```
26109 X+Y->X
26114 X-Y->X
26119 X*Y->X
26124 X*invY->X
26132 invX->X
26140 (x)+X->X
26148 (x)-X->X
26153 (x)*X->X
26158 (x)*invX->X
26163 X<>Y
26171 trnX->X
26176 detX->(x)
26181 -X->X
26186 squX->X
26191 X->M
26199 M->X
26204 X+M->X
```

X, Y and M are matrices (DIMENSIONED 2-dimensional BASIC arrays) while (x) is the simple BASIC variable X. For example, X=10: CALL 26153 will multiply matrix X with a scalar value 10 and CALL 26176: PRINT X will print the determinant of matrix X. Using the above subroutines I was able to squeeze really big programs dealing with matrices into the limited PC-1403 memory (some 6878 bytes after reset).

But, please, don't take for granted that these addresses will work in all PC-1403s because of various ROM revisions or because I maybe retyped some of them incorrectly ...

### Re: Sharp Calculators: PC-1403 in particular

Message #52 Posted by [bill platt](#) on 31 Mar 2007, 3:29 p.m.,  
in response to message #45 by HrastProgrammer

AS an amateur ornithologist I am thrilled by this stuff--digging into the machine and finding capabilities, even if I am incapable of using them myself. It is like finding a stray European gull in Massachusetts or something.

### Re: Sharp Calculators: PC-1403 in particular

Message #53 Posted by [Valentin Albillo](#) on 2 Apr 2007, 7:30 a.m.,  
in response to message #45 by HrastProgrammer

Hi, Hrast:

Thank you very much for your *most worthwhile* contribution to this thread.

I was aware of the fact that the matrix routines could perhaps be called from BASIC either directly by a CALL statement as you did, or else indirectly by using PEEK and POKE to enter some custom machine-language routine which would previously set up whatever was necessary to access them, then a CALL to this initializing routine.

Mentioning this earlier in this thread was probably getting off-topic too much, as it likely would result in more questions which I didn't have the time to answer, so I'm very glad that you already had solved this matter in the far past and had a list of relevant addresses at hand, and the knowledge that they could be called directly, no initialization needed.

Come to think of it, I'm sure I have the full ROM listing of this machine

available in some of the books I own dealing with SHARP PCs machine-language programming. I did also buy a PC-1403 from a very nice German seller which accompanied it with a whole big-sized folder full of his notes, machine-language routines, tentative ROM disassemblies, hardware notes, relevant clips cut from magazines, the works. I've never had the time to closely have a look at it, but the info isn't lost, and could be useful for future threads like this one, again if not too off-topic.

Thanks again, I'll try your entry points in my PC-1403 to see if they work in its ROM revision, and

Best regards from V.

### **Re: Sharp Calculators: PC-1403 in particular**

*Message #54 Posted by [HrastProgrammer](#) on 2 Apr 2007, 8:10 a.m.,  
in response to message #53 by Valentin Albillo*

Thanks Valentin, Bill, Gene, Namir, Max, ...

I hope some of you will find these addresses useful ...

I remember being very surprised by the simplicity of their usage. There was no initialization needed and you could use them almost as simple as using the regular BASIC instructions. I am wondering why Sharp didn't provide at least one BASIC matrix instruction (for example, MATRIX n where n=1..17). They certainly had some unused BASIC tokens at their disposal and all this won't require a lot of ROM.

*I'm sure I have the full ROM listing of this machine available...*

I disassembled the whole 24K PC-1251 ROM manually and started to disassemble PC-1403 ROM but then it was time to go to the army so only the most important addresses were disassembled and explored. Later I moved to other things and this job was never finished :-)

Best regards.  
Hrast

### **Re: Sharp Calculators: PC-1401 in particular**

*Message #55 Posted by [Antonio Maschio \(Italy\)](#) on 2 Apr 2007, 11:20 a.m.,  
in response to message #1 by Maximilian Hohmann*

Any news about the disassembly of the PC-1401 ROM? Has it any point that could be interesting to the user, though no matricial enhancement was present?

-- Antonio

### **Re: Sharp Calculators: PC-1401 in particular**

*Message #56 Posted by [Valentin Albillo](#) on 2 Apr 2007, 11:56 a.m.,  
in response to message #55 by Antonio Maschio (Italy)*

Hi, Antonio:

This is the book I own about programming the SHARP PC-1401 in machine language:

Maschinensprache Handbuch PC1401/1402

Verlag Fischel GMBH ISBN 3-924327-11-4

which probably includes the kind of documentation you're searching for, but it is in German and I don't know if an English (or Italian for that matter) translation does exist. Perhaps you can locate either the original or some translation at online book stores or auction sites.

Pretty interesting stuff for the vocational "tomb raider", though ...

Best regards from V.

### **Re: Sharp Calculators: PC-1401 in particular**

*Message #57 Posted by **Antonio Maschio (Italy)** on 3 Apr 2007, 2:29 a.m.,  
in response to message #56 by Valentin Albillo*

Thanks (or should I say Danke?).

-- Antonio

### **Re: Sharp Calculators: PC-1401 in particular**

*Message #58 Posted by **Klaus** on 3 Apr 2007, 3:42 a.m.,  
in response to message #57 by Antonio Maschio (Italy)*

A good resource for SHARP literature are university libraries. They were used in Network Analysis, Business and Economy, and there are even books about Games in the libraries.

### **Re: Sharp Calculators: PC-1401 in particular**

*Message #59 Posted by **GE** on 10 Apr 2007, 4:16 a.m.,  
in response to message #58 by Klaus*

There are several official Sharp TRMs ("Technical Reference Manuals") available, some are on the Web including the one for the PC1500.

See here : [http://www.pc1500.com/technical\\_reference\\_manual.html](http://www.pc1500.com/technical_reference_manual.html)

I don't know any place for such document specifically for the 14xx line.

### **Re: Sharp Calculators: PC-1401 in particular**

*Message #60 Posted by **GE** on 11 Apr 2007, 6:41 a.m.,  
in response to message #59 by GE*

Without an on-calc assembler (not possible in that small RAM IMHO), you'd be better use a cross-assembler. Ideally it would spit out a BASIC program made of POKE or DATA (+loop) statements capable of putting the target program in RAM.

No knowledge if that sort of beast exists.

I don't think you can directly import machine code from the serial interface.

Another way is to write the machine code on tape, as there is a statement to load ML from tape, but that would be more complex than the BASIC loader method.

Good luck.



**Re: Sharp Calculators: PC-1401 in particular**

Message #61 Posted by [David Jedelsky](#) on 10 Apr 2007, 10:24 a.m.,  
in response to message #56 by Valentin Albillo

Hi, it sounds good. Is there any reference to ROM addresses of arithmetic routines in this book?

I know other book with description of some ROM routines and system variables (also in German):

SHARP Pocket Computer PC-1401 System Handbuch Tips, Trick und Programme

Antonio, are you looking for something special or just for general reference?

Best Regards,

David

**Re: Sharp Calculators: PC-1401 in particular**

Message #62 Posted by [Antonio Maschio \(Italy\)](#) on 10 Apr 2007, 10:53 a.m.,  
in response to message #61 by David Jedelsky

Quote:

Antonio, are you looking for something special or just for general reference?

Well, just to be able to program in machine language on my beloved Sharp PC-1401; of course this means:

- knowing the mnemonics codes
- knowing the calling addresses of library routines (I/O, calculation, math function, and so on).
- knowing about the processor.

It's not a real need, of course. No hurry. Only a curiosity if someone, somewhere, has retrieved such information and published a pdf (or some sort of) book about it.

Thanks everyone for helping.

-- Antonio

P.S.: has the PC-1500 the same chip of the PC-140X series?

**Re: Sharp Calculators: PC-1401 in particular**

Message #63 Posted by [Xerxes](#) on 10 Apr 2007, 4:33 p.m.,  
in response to message #62 by Antonio Maschio (Italy)

The PC-1401 has a SC61860 @ 0.576 MHz inside used in many Sharp Pockets mostly running at 0.768 MHz. The PC-1500 uses a LH5801 @ 1.3 MHz not compatible to the SC61860 at all.

The instruction set of this CPU is a bit strange. Have a look to the various assembly versions of the same algorithm [here](#).

**Re: Sharp Calculators: PC-1401 in particular**

Message #64 Posted by [David Jedelsky](#) on 10 Apr 2007, 4:39 p.m.,

*in response to message #62 by Antonio Maschio (Italy)*

Hi, as I know the PC-1500 has another cpu called LH5801. If you are interested in PC-1401 assembler try to google for SC61860 (which is cpu used in those machines). There are a lot of resources about this cpu e.g. [this page](#). Feel free to contact me by email with technical questions about cpu and PC-1401 (actually I have PC-1402 but it is the same as PC-1401 just with bigger memory).

Best Regards, David

### **Re: Sharp Calculators: PC-1401 in particular**

*Message #65 Posted by [Antonio Maschio \(Italy\)](#) on 11 Apr 2007, 3:57 a.m.,  
in response to message #62 by Antonio Maschio (Italy)*

Well, what to say? Only the MoHPC has such wonderful people.

Thanks.

-- Antonio

### **Re: Sharp Calculators: PC-1401 in particular**

*Message #66 Posted by [Massimo Gnerucci \(Italy\)](#) on 11 Apr 2007, 1:01 p.m.,  
in response to message #62 by Antonio Maschio (Italy)*

Antonio,  
why not having a look at [Pockemul site](#)? There you'll find a complete emulator for several of these old Sharp models. I was using version 0.9 but I see that now v.0.9.2 is available. At first I cannot find now the disassembler that was previously available, that could help you in understanding more the way those machines work.

HTH!

Greetings,  
Massimo

### **Re: Sharp Calculators: PC-1401 in particular**

*Message #67 Posted by [Antonio Maschio \(Italy\)](#) on 11 Apr 2007, 3:11 p.m.,  
in response to message #66 by Massimo Gnerucci (Italy)*

Grazie, grazie, Massimo,

this site is very interesting (I didn't know it); you showed me the way to test programs without cluttering up the calculator.

-- Antonio

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## HP Forum Archive 17

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### HP-49g+ "Insufficient memory" message

Message #1 Posted by [Antonio Maschio \(Italy\)](#) on 23 Mar 2007, 5:04 a.m.

Hi,

I happened to load HP-Lua into my calculator, copying the HP-lua file into Port 0, which had 224 KB free. When I tried to move the HP-Lua file from port 0 to port 2, I probably messed up things, since the calculator refused to do it, and after ON+F3 I found

- port 0 void,
- port 2 with no such HP-Lua file
- and (worse) port 0 reporting 102 KB free.

I know I should defrag port 0 to recover lost chunks, but how can I do it?

Thanks in advance.

-- Antonio

### Re: HP-49g+ "Insufficient memory" message

Message #2 Posted by [Antonio Maschio \(Italy\)](#) on 23 Mar 2007, 5:11 a.m.,  
in response to message #1 by [Antonio Maschio \(Italy\)](#)

Don't bother answer. I did it. ON+A+F did the trick, answering Yes to the question "Try to recover memory?".

-- Antonio

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## HP Forum Archive 17

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### Classic Series Power Supply Schematic?

Message #1 Posted by [Daniel Weed](#) on 22 Mar 2007, 5:36 p.m.

Hi all,

Anyone have a schematic for the power supply of the classic series (HP-35, 45, 55)?

Not the power brick, but the internal supply which converts V<sub>bsw</sub> to V<sub>cc</sub> (+8.2V), V<sub>ss</sub>(+6V) and V<sub>gg</sub> (-12V).

I am wanting to repair an HP-45 and after metering the internal voltages at the testpoints, it looks like that's where the problem is.

Thanks,

-- Dan

### Re: Classic Series Power Supply Schematic?

Message #2 Posted by [Tony Duell](#) on 23 Mar 2007, 6:10 a.m.,  
in response to message #1 by [Daniel Weed](#)

I've traced out full schematics of just about all the old HP handhelds. They're available on the HPCC schematics CD-ROM (see the obvious web site for details).

This CD-ROM is produced by Dave Colver, the HPCC secretary. If you ask him nicely (I believe contact details are on the same site), he might e-mail you just the schematic for your machine.

My experience suggests that the 35 PSU schematic is somewhat different to the later ones (the later ones have a zener diode in the regulator circuit, the 35 one that I've seen simply sets V<sub>ss</sub> to be a certain multiple of the battery voltage).

Incidentally, if you're getting no outputs at all, most of the time it's the oscillator transistor that's failed. A 2N3904 is a suitable replacement. If you're getting excessive ripple on one of the outputs, or if the V<sub>gg</sub> line is crazy, I'd suspect the electrolytic capacitors.

### Re: Classic Series Power Supply Schematic?

Message #3 Posted by [Dan](#) on 23 Mar 2007, 12:03 p.m.,  
in response to message #2 by [Tony Duell](#)

Thanks. I sent a note to Dave.

Looks like this is a flyback converter with the oscillator circuit to the left, 3 windings on the transformer, and 2.2 uF capacitor/diode circuits to the right providing the voltages.

On the oscillator circuit there appear to be two transistors, both Motorola, labeled 4-094 and 4-550 (NPN and PNP?). I tried looking up these part numbers but didn't find anything. It also has a 60uF cap.

Usually the least reliable components would be the capacitors. But I would agree if the oscillator is dead the transistors may be the problem.

So far I've only hooked it up to a multimeter. This weekend I'll scope it to see what I find.

Also I took the board and scanned both sides on a flatbed scanner at a ridiculously high DPI in case I decide to try to reverse engineer this thing myself.

With all of the gold plating and the gold/ceramic Mostek chips, this board is a real work of art. I'm half tempted to frame the picture.

Any other thoughts or related experiences are welcome.

-- Dan

---

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## HP Forum Archive 17

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### **67 card reader problem - help!**

Message #1 Posted by [Dave Bowman](#) on 22 Mar 2007, 3:14 p.m.

I buy HP-67/97 calculators on eBay, fix them and sell them under username davehal2001. I have successfully repaired numerous card readers without any serious problems - until now. Mark Hoskins (waterhosko on eBay) recommends I bring this problem here, indicating there is nothing you folks cannot solve.

So here goes:I have a problem with a 67 card reader and I cannot solve this problem myself. This card reader has the gummy wheel repair complete. The clutch works as is, so it has NOT been repaired; the reader pulls the cards through VERY well. The problem is, when I run a card through, I get an error message almost every time, mostly when I try to read cards. About half the time I write cards it works. The other odd thing is it seems the motor "runs on" for a fraction of a second after the card is finished going through. I have checked the finger contacts and they seem to be connecting properly. Any ideas?

Thanks,

Dave

### **Re: 67 card reader problem - help!**

Message #2 Posted by [Klaus](#) on 23 Mar 2007, 2:27 a.m.,  
in response to message #1 by [Dave Bowman](#)

Did you change the capacitors? I solved problems like this by changing the capacitors on the card reader PCB and some on the Logic PCB. I have a low-resolution photo where I have marked the position, polarity and value of the capacitors. I can email it to you.

### **Re: 67 card reader problem - help!**

Message #3 Posted by [Dave Bowman](#) on 23 Mar 2007, 4:26 p.m.,  
in response to message #2 by [Klaus](#)

Klaus,

Thanks! I don't know if my soldering skills are up to it, but please send the photo to [dmbowman@mchsi.com](mailto:dmbowman@mchsi.com). Thanks!

Dave

### **Re: 67 card reader problem - help!**

Message #4 Posted by [Les Wright](#) on 23 Mar 2007, 5:42 p.m.,  
in response to message #1 by [Dave Bowman](#)

Dave, I don't have an answer for you. I hope you find one.

The sickening "run on" noise is one I am well familiar with. It is a generic symptom of a failed card reading.

In my experience, it accompanies almost all HP67 card reading failures. I don't know what it means for sure. I do know that when it doesn't happen and the card still fails to read, that means usually corrupt card--the card passed normally but the calculator seemed to find no data at all.

I recently received an expertly restored HP67 and I must admit that coping with the sensitivities and idiosyncrasies of the card reader is enough to drive me nuts. I have learned a few things:

1. I try to do card reading and certainly writing with the thing plugged into AC. When the battery begins to flag even slightly, the motor gets sluggish, cards pass too slowly and sometimes get stuck, read failures occur and, most importantly, write failures occur even though the calculator gives no indication that this has happened. Indeed, I have been running my HP67 lately on AC trickle charge most of the time. Yes, scandalous I know!
2. I wash my hands before handling cards. Seriously! I had pizza for dinner one night this week, and evidently my fingers were more oily than I thought, since cards would not feed normally, would get stuck even with a full charge and AC power. Alcohol cleaning of the cards, a thorough handwashing, and a single pass of the evil red card was required to keep the oily residue from propagating further.
3. Inserting the card requires gentleness and good timing. Push it slightly too quickly, it will pass a little too quickly and misread. Hold onto it just a little too long when the motor engages, and that messes things up too. Getting the "touch" has taken me lots of practice.
4. When writing cards of something important I make multiple backups. As I get more comfortable I probably won't be so obsessive about this.

I recently acquired a plasmoid refurbished HP41 card reader and have found it much more forgiving, provided that the calculator is working properly and the batteries are good. Indeed, plasmoid is quite clear that read/write errors should be an uncommon occurrence in a working card reader. However, I do know that my errors on the HP67 are getting fewer with experience and practice. I am glad I have the HP41 card reader, though--since it can read and translate HP67 cards, and is more robust in general, if I get repeat errors on a card passing it through the HP41 reader is diagnostically useful since error messages are more specific. For example, CARD ERR almost certainly means bad card, whereas MALFUNCTION or no error at all means the card probably needs good cleaning before the fussier 67 will accept it, or there is something localizable to the HP67 (usually flagging power, or olive oil on the pinch rollers!!!!).

I really hope you solve your problem. A working card reader on these old calcs is a joy, and I really appreciate why our forebears in the 70s were so amazed by the 65 and 67. But a goofy card reader is sort of frustrating and sad, since you just can't tap into the mystery and power of these old machines if you can't save your programs.

Good luck, and keep us posted--

Les

### Try spit!

*Message #5 Posted by **Palmer O. Hanson, Jr.** on 23 Mar 2007, 8:18 p.m.,  
in response to message #4 by Les Wright*

I am not kidding. Back in the days that I was working regularly with TI-59's there were a number of recognized remedies for card reader problems such as running with the charger connected, installing a new battery pack, rounding the corners of the magnetic cards, and cleaning the card with alcohol or distilled water. I was having difficulty reading a card with a known good card reader and didn't have alcohol or distilled water readily available so I put a little spit on a handkerchief and wiped the card. Voila! It read like a charm. After finding that the method worked better than alcohol or water with other problem

magnetic cards I told others about it. They were always skeptical, but when they tried it they were often successful.

The spit technique did help with one difficult to read HP-67 card. I don't claim to understand why this works. Perhaps spit is just a superior solvent for oily residue.

### **Re: Try spit!**

*Message #6 Posted by **Les Wright** on 24 Mar 2007, 9:00 a.m.,  
in response to message #5 by Palmer O. Hanson, Jr.*

Quote:

Perhaps spit is just a superior solvent for oily residue.

I think it may be a matter of displacement, as saliva is mostly water, hydrophilic vs. hydrophobic, that sort of thing.

Saliva contains some lipase, the enzyme that lops the fatty acids off of their glycerol backbone in biological fats and oils, but doesn't kick in until the low pH in the stomach.

But spit is filled with stuff that makes it viscous and sticky--mucopolysaccharides and glycoproteins, for example. A light film of this on the card may be enough to assist the card reader to grab and pull a rogue card rendered slippery by a grease spot.

Seems plausible?

Les

*Edited: 24 Mar 2007, 9:10 a.m.*

### **Re: 67 card reader problem - help!**

*Message #7 Posted by **Thomas Okken** on 24 Mar 2007, 3:56 a.m.,  
in response to message #4 by Les Wright*

Quote:

I recently acquired a plasmoid refurbished HP41 card reader and have found it much more forgiving, provided that the calculator is working properly and the batteries are good. Indeed, plasmoid is quite clear that read/write errors should be an uncommon occurrence in a working card reader.

I second that. I used to own an HP-41C (later replaced by a CX) with card reader. I used the card reader pretty heavily for several years, writing programs that spanned half a dozen cards or more, using data cards etc. -- and in all that card reader usage, I never had a single read or write error.

I would expect a properly restored card reader to be very reliable as well, provided the electronics are OK - - others have mentioned the need for a stable power supply (problems with electrolytic capacitors going bad etc.). If you're not doing so already, you could also try running the calculator off NiMH batteries instead of NiCd.

Good luck!

- Thomas



### **Re: 67 card reader problem - help!**

*Message #8 Posted by [Les Wright](#) on 24 Mar 2007, 9:09 a.m.,  
in response to message #7 by Thomas Okken*

Quote:

\_\_\_\_\_

I never had a single read or write error.

\_\_\_\_\_

I don't have quite so perfect a record, but when I do have misreads on the HP41 there is a good reason - crud on the card, sluggish batteries, inept insertion.

Quote:

\_\_\_\_\_

If you're not doing so already, you could also try running the calculator off NiMH batteries instead of NiCd.

\_\_\_\_\_

There has been some talk around here recently about building custom NiMH pacs for the Classics, but the sense I got was that the calculator's charging system couldn't do them justice. So I have a waterhosko NiCad pac, and am getting Randy to build me another one with the high quality cells he uses. The waterhosko pac is better than an older pac I have, and I think Randy's pac are better than waterhosko's (though corresponding more expensive).

But I like to use NiMH when I can. The self-fashioned pacs in my Spice calculators run forever, and the 2650mAh NiMH Duracells in my 82240B printer have been charged fully only once and are still powering the printer with a battery rating of 3 almost three months later.

Les

### **Re: 67 card reader problem - help!**

*Message #9 Posted by [Les Wright](#) on 24 Mar 2007, 2:33 p.m.,  
in response to message #8 by Les Wright*

Of the 41 program and data cards in the Standard Pac and Surveying Pac, I have culled 8 that I know for sure do not work and need to be rerecorded.

As for the remaining 33 (65 sides of programs and data), I am happy to report that after charging the HP67 fully with the waterhosko battery pack I have been able to pass these 65 sides thru the card reader with battery power alone two times around so far without generating a single error.

So there is a learning process here.

Les

### **Re: 67 card reader problem - help!**

*Message #10 Posted by [plasmoid](#) on 28 Mar 2007, 10:06 a.m.,  
in response to message #4 by Les Wright*

Quote:

\_\_\_\_\_

I recently received an expertly restored HP67 and I must admit that coping with the sensitivities and idiosyncrasies of the card reader is enough to drive me nuts.

---

I would just like to point out that properly rebuilt HP67/65/97/82104A card readers are all extremely reliable. They should work reliably right up to the point of low battery indication. Read/write errors should be very uncommon. It sounds like your HP67 has some issues which need to be resolved.

That having been said, everything Les says about keeping your cards clean is excellent advice -- even a nearly microscopic bump of "crud" on a card can lift it out of contact with the head and cause a read/write error.

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## HP Forum Archive 17

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### Something's moving?

Message #1 Posted by [Giancarlo \(Italy\)](#) on 22 Mar 2007, 2:05 p.m.

Hi.

Have you seen this:

[http://groups.google.com/group/comp.sys.hp48/browse\\_frm/thread/f05377ce9432cb7f/#](http://groups.google.com/group/comp.sys.hp48/browse_frm/thread/f05377ce9432cb7f/#)

Seems like something's really moving up there...

Best regards.

Giancarlo

### Re: Something's moving?

Message #2 Posted by [Namir](#) on 22 Mar 2007, 3:43 p.m.,

in response to message #1 by Giancarlo (Italy)

Anyone knows the position of Sam Kim in HP's calculator division????? He attended and talked to us at the HHC2006 in San Jose. Sam used to be a member of the PPC!!! It was nice to see a fellow PPC member at the helm of HP's calculators.

Namir

### Re: Something's moving?

Message #3 Posted by [Bruce H](#) on 22 Mar 2007, 6:55 p.m.,

in response to message #2 by Namir

The job being advertised is Fred Valdez's by the look of it. Perhaps Sam will go for it?

### Re: Something's moving?

Message #4 Posted by [Bruce Bergman](#) on 22 Mar 2007, 9:15 p.m.,

in response to message #3 by Bruce H

If he does, then I plan on applying for Sam's position. That would be awesome, working back in the world of HP calculators...

thanks, bruce

### Re: Something's moving?

Message #5 Posted by [Namir](#) on 22 Mar 2007, 10:58 p.m.,

in response to message #4 by Bruce Bergman

Bruce,

Sounds like we share the same dream!!! Something tells me that we are BY FAR not the only ones sharing the same dream!! I'd looooooove to work for HP calculator division.

Namir

*Edited: 22 Mar 2007, 10:58 p.m.*

**Re: Something's moving?**

*Message #6 Posted by [Namir](#) on 22 Mar 2007, 10:56 p.m.,  
in response to message #3 by Bruce H*

Bruce,

I think you are right! After posting my comment I thought of Fred Valdez.

Namir

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## HP Forum Archive 17

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### **FORTRAN inventor dies**

Message #1 Posted by [Don Shepherd](#) on 21 Mar 2007, 6:00 p.m.

John Backus, retired IBM employee who invented FORTRAN, died this past Saturday. FORTRAN was the first language I used on the job (US Census Bureau, 1974). Here's to the memory of another pioneer.

### **Re: FORTRAN inventor dies**

Message #2 Posted by [Egan Ford](#) on 21 Mar 2007, 8:03 p.m.,  
in response to message #1 by [Don Shepherd](#)

```
PROGRAM GOODBYE
WRITE(*,*) 'Goodbye World!'
END
```

More info on Backus and FORTRAN: [http://www-03.ibm.com/ibm/history/exhibits/builders/builders\\_backus.html](http://www-03.ibm.com/ibm/history/exhibits/builders/builders_backus.html)

Edited: 21 Mar 2007, 8:09 p.m.

### **Re: FORTRAN inventor dies**

Message #3 Posted by [Don Shepherd](#) on 21 Mar 2007, 8:42 p.m.,  
in response to message #2 by [Egan Ford](#)

Great example and link, Egan. And what a great article. It would seem that John Backus was to programming language as Steve Jobs was to hardware. Let's hope his work is continued by other brilliant people.

### **Re: FORTRAN inventor dies**

Message #4 Posted by [Howard Owen](#) on 21 Mar 2007, 11:42 p.m.,  
in response to message #2 by [Egan Ford](#)

Quote:

\_\_\_\_\_

We will encourage you to develop the three great virtues of a programmer: laziness, impatience, and hubris

\_\_\_\_\_

- Preface to *Programming Perl, 3rd Edition*

Quote:

\_\_\_\_\_

Much of my work has come from being lazy

\_\_\_\_\_

- John Backus from the referenced article

Great minds think alike, so it is said.

### Re: FORTRAN inventor dies

Message #5 Posted by [Howard Owen](#) on 21 Mar 2007, 11:49 p.m.,  
in response to message #2 by Egan Ford

Another great quote from the article:

Quote:

Each [new computer language] may add a gimmick or two, to automate some of the dirty work, but it's usually done at the price of a much more complicated language. Today's programming manuals are that thick." He held up a thumb and forefinger. "Some of them have 500 pages."

Just the introductory Java and C# books have that many pages or more today.

### Re: FORTRAN inventor dies

Message #6 Posted by [James Biddlecombe](#) on 23 Mar 2007, 5:42 a.m.,  
in response to message #2 by Egan Ford

Reading a couple of other biographies I hadn't realised that Backus-Naur form is named after him.

James.

### Re: FORTRAN inventor dies

Message #7 Posted by [Antonio Maschio \(Italy\)](#) on 23 Mar 2007, 9:06 a.m.,  
in response to message #6 by James Biddlecombe

This demonstrates his great influence over the entire computing community...

-- Antonio

### Re: FORTRAN inventor dies

Message #8 Posted by [Karl Schneider](#) on 22 Mar 2007, 1:03 a.m.,  
in response to message #1 by Don Shepherd

Hi, Don --

Quote:

John Backus, retired IBM employee who invented FORTRAN, died this past Saturday. FORTRAN was the first language I used on the job (US Census Bureau, 1974). Here's to the memory of another pioneer.

My first computer language, as well -- learned in college and used on the job in the 1980's. It's probably still the best-suited and straightforward number-crunching language available, with built-in complex-number support and minimal formalities.

In fact, I have likened aspects of RPN keystroke programming to Fortran:

<http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv014.cgi?read=62844#62844>

-- KS

**Re: FORTRAN inventor dies**

Message #9 Posted by [Palmer O. Hanson, Jr.](#) on 22 Mar 2007, 9:02 p.m.,  
in response to message #8 by [Karl Schneider](#)

You wrote:

quote]

In fact, I have likened aspects of RPN keystroke programming to Fortran:

-- KS [/quote]

I didn't understand. So I read your reference and I still don't understand.

Suppose that you had been asked to program the Mach Number equation in your Fortran class and you had done it by working from the inside out like you must in RPN, in line after line of boring and difficult to read code. What sort of grade would you have received. In my Fortran class back in 1968 something like that wouldn't have got me an F -- it would have got me a zero!

One of the aids we used in learning to use Fortran was the *Fortran Autotester* by Smith and Johnson (John Wiley & Sons, 1962). Near the end the following advice is given:

If anything can go wrong with a program -- it will.

Do not believe in miracles -- rely on them.

Smile -- tomorrow will be worse.

In those days I was known for Hanson's Law of Computer Programming. "There is always one more error. They just get more difficult to find."

I was another of those engineers who learned Fortran while using a mainframe with access with punched cards-- in my case, a Sigma 5. One of things that was good about the punched cards was the punched card boxes which made excellent storage containers. The only other use I found was while teaching Sunday school. We were learning about Joshua. I picked up a couple hundred of the punched card boxes -- they were everywhere in those days. The class built an impressive wall of Jericho. Some one got to play "The Lord" and make the walls come tumbling down. We had to do it as many times as there were students in the class.

**RPN programming features vs. Fortran**

Message #10 Posted by [Karl Schneider](#) on 22 Mar 2007, 11:53 p.m.,  
in response to message #9 by [Palmer O. Hanson, Jr.](#)

Hi, Palmer --

I stated, "*In fact, I have likened aspects of RPN keystroke programming to Fortran:*"

You stated, "I didn't understand. So I read your reference and I still don't understand."

The reference, of course, is my post of several years ago:

<http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv014.cgi?read=62844#62844>

Here's a lightly-edited and slightly-enhanced excerpt:

I would liken keystroke programming more to the assembly-language paradigm rather than to high-level compiled language -- each line contains one operation/instruction, rather than a complete statement.

However, I also believe that Fortran '66 and '77 may have served as an inspiration for the high-end programmable calculators of the mid-70's. I have noticed a number of parallels:

1. "GTO" and "GSB" are like "GO TO" and "CALL"
2. "ISG" and "DSE" provide the "DO" looping functions
3. Flags are like LOGICAL variables
4. HP-41C external labels ("LBL {alphanumeric}") are like entry points
5. HP-41C local labels ("LBL nn or a-e") are like statement labels
6. "END" defines a complete program, like Fortran "END"
7. Conditional tests emulate simple "IF" statements

Maybe a better word is "features", not "aspects" -- as in those programming features that have been provided in HP's upscale RPN calc's since the mid-1970's, providing structure and flexibility.

Keystroke programing -- RPN or any other variety -- is more like assembly language (rather than a high-level language), as I had stated.

-- KS

### Re: FORTRAN inventor dies

Message #11 Posted by [Forrest Switzer](#) on 22 Mar 2007, 1:13 a.m.,  
in response to message #1 by Don Shepherd

My first also.

ForTran II in 1966 and into ForTran IV in 1968-69. This while serving in the Army - Blast and Shock Section, Physical Sciences Branch, Nuclear Weapons Division, Waterways Experiment Station, Vicksburg, Mississippi. July 66 thru December 69. Then back to school.

Forrest

### Re: FORTRAN inventor dies

Message #12 Posted by [Maximilian Hohmann](#) on 22 Mar 2007, 2:38 a.m.,  
in response to message #1 by Don Shepherd

Good morning!

Sad to hear that another pioneer of our trade has passed away.

I think I personally owe John Backus a lot, because not only was Fortran the first programming language that I was taught, but it has helped me in earning my living for the last 20 years and still does now - and hopefully it will also tomorrow.

From the point of view of the computer scientist this may not be the greatest of all computer languages, but for me as an engineer it certainly is: Clear, simple and yet fast and powerful when it comes to high precision number crunching. No wonder that many "cfd" and "cad" and "ct" and "sar" and "fem" and countless other processing cores are still written in Fortran today.



Greetings, Max

**Re: FORTRAN inventor dies**

Message #13 Posted by [Antonio Maschio \(Italy\)](#) on 22 Mar 2007, 4:26 a.m.,  
in response to message #1 by Don Shepherd

Well, I'm so sad to hear this...

FORTRAN was the first language I studied at the University, since then (mid 1980s) C++ wasn't at the top yet, as it's now. FORTRAN and Pascal, of course, but FORTRAN looked (and looks) to me more... professional. Maybe it's because later I became an engineer.

Recently I came across some documents about Fortran history, and boys! if it's intriguing! Backus was a great genius of the XX Century.

Yes, I know, this is an HP calculators Forum, but J. Backus deserves a word.

-- Antonio

**Re: FORTRAN inventor dies**

Message #14 Posted by [Maximilian Hohmann](#) on 22 Mar 2007, 6:11 a.m.,  
in response to message #13 by Antonio Maschio (Italy)

Hello!

Quote:

Yes, I know, this is an HP calculators Forum...

Would you believe that right now I am sitting in front of an HP-unix-workstation (C3600) - maybe not exactly a "calculator", but not far away from it! - programming in guess which :-)

Greetings, Max

**Re: FORTRAN inventor dies**

Message #15 Posted by [Gerson W. Barbosa](#) on 22 Mar 2007, 10:51 a.m.,  
in response to message #14 by Maximilian Hohmann

Hello Max,

Although my preferred programming language is [GW-BASIC](#) (just kidding :-), I am glad FORTRAN is still alive. It was the second programming language I was taught (Nevada FORTRAN, 1986). Because it took me quite a long time to graduate, as I moved from a course to another, various generations of computers, computer-languages, HP-calculators ...and even professors passed me by :-)

Cheers,

GWBarbosa

**Re: FORTRAN inventor dies**

Message #16 Posted by [Maximilian Hohmann](#) on 22 Mar 2007, 11:18 a.m.,  
in response to message #15 by [Gerson W. Barbosa](#)

Hello Gerson,

Quote:

- 
1. Although my preferred programming language is GW-BASIC
  2. I am glad FORTRAN is still alive.
  3. It was the second programming language I was taught (Nevada FORTRAN, 1986). Because it took me quite a long time to graduate, as I moved from a course to another, various generations of computers, computer-languages, HP-calculators ...and even professors passed me by :- )
- 

1. Oh yes, GW-Basic... somewhere in my garage I still have an hp-Version of GW-Basic (with floppy disk and manual - must be as precious now as a good hp-42 from the same vintage :- ) ) for my hp-150, that is also somewhere in my garage.

2. As long as CATIA (V4) is in widespread use as a CAD system, FORTRAN will live! Unfortunately, at least from the point of view of a FORTRAN purist, they chose C/C++ for the successor Catia V5. But then, I can easily program in C as if it was Fortran, much to the disgust of my goto-hating computer-scientist-colleagues ;-)

3. For me, it was actually the first language that I was properly taught (I had taught myself to program my dad's hp-67, my own Ti-59 and the PET 2001 that they bought at school during my last year). At the computer science department of our university (Stuttgart, Germany) we dumb aerospace engineers were not allowed to touch any of the few proper terminals, but had to use keypunches to feed our example programs into the Control Data CDC 6600 mainframe (that had been the fastest computer on German soil not long before 1982 when I took the programming course).

Greetings, Max

## Re: FORTRAN inventor dies

Message #17 Posted by [Ed Look](#) on 22 Mar 2007, 11:58 a.m.,  
in response to message #14 by [Maximilian Hohmann](#)

Not even a year ago, I had taught the basics of FORTRAN to students as part of a chemistry course.

Of course, the ONE student who had some programming experience complained, oh, so much about how primitive and uneconomical and silly FORTRAN seemed to him...

... but what other language with such power can you teach the rudiments of, to those who never even thought about programming, and in just a few weeks?

I still admire the language... and yes, the man who came up with it.

## Re: FORTRAN inventor dies

Message #18 Posted by [Giancarlo \(Italy\)](#) on 22 Mar 2007, 1:11 p.m.,  
in response to message #17 by [Ed Look](#)

FORTRAN was the very first programming language they taught me when at the college - back in the end of the 80's...  
There were still punched card (!!!) going around in the "computer room" full of VAX workstations - how many hours spent in front of those green pixels with a FORTRAN listing on the screen and a paper listing on the desk to take notes...  
Hats off to Backus.  
Best regards.  
Giancarlo

**Re: FORTRAN inventor dies**

*Message #19 Posted by [Walter B](#) on 22 Mar 2007, 5:31 p.m.,  
in response to message #18 by Giancarlo (Italy)*

Me too. Also learned FORTRAN IV as first programming language, also punching - even earned some money for doing it for others in university. Heavy card punchers in a small windowless room. Big stacks of cards for just a simple matrix inversion or some Monte Carlo calculation. Green and amber screens. Mag tapes. And lots of line printer paper!

Way back ...

Thanks to Backus for starting it all!

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## HP Forum Archive 17

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### HP32sii, espresso, and cats--close call!

Message #1 Posted by [Les Wright](#) on 21 Mar 2007, 11:50 a.m.

My newly acquired and very pristine 32sii just missed getting baptised with a couple of ounces of espresso, tipped over by one of our many kittens. I like my coffee sweet, so this could've been a gooey disaster.

My Palm TX took the hit, though. I frantically subjected it to an isopropanol bath, and in a few hours it powered up fine and all functions seem intact. The display is a bit dark and uneven, though, and I expect that it will take a while for the alcohol that got in between the layers to dry out. But the touch screen feature is fine.

Close call. Kids, don't try this at home.

Les

### Re: HP32sii, espresso, and cats--close call!

Message #2 Posted by [Maximilian Hohmann](#) on 21 Mar 2007, 12:57 p.m.,  
in response to message #1 by Les Wright

Hello!

Quote:

Close call...

Lucky you! I did a similar thing to my trustworthy Apple Titanium PowerBook a few weeks ago, without the aid of any animal and with pure mineral water!, but I was less fortunate: Although I unplugged the charger immediately, removed the battery, unscrewed the bottom cover and let it dry in the sun for a few days, it wouldn't power up again :-)

Now I sent it to a guy who promises to repair it with refurbished parts for a fixed sum of 250 Euros - but I will only believe this when I get it back - Apple charges 900 Euros for the replacement of the main board alone...

And the HP-71 that was on my desk next to the PowerBook didn't receive a single drop of the spilled water - I still don't know if I would have preferred to drown this calculator instead of the Apple...

Greetings, Max

### Re: HP32sii, espresso, and cats--close call!

Message #3 Posted by [Egan Ford](#) on 21 Mar 2007, 1:41 p.m.,  
in response to message #1 by Les Wright

Quote:

Kids, don't try this at home.

My kid left her Nokia mobile phone in her pocket and put it in the wash. We did not know this until we heard it banging around in the dryer. I removed it from the dryer, completely disassembled it, let it dry for 24 hours, and then reassembled it.

It worked! And, it was squeaky clean. Sadly, she lost the phone at school the next day.

### **Re: Phones, and cats...**

*Message #4 Posted by **Ron** on 21 Mar 2007, 2:00 p.m.,  
in response to message #3 by Egan Ford*

When I was growing up, we never took our cats to the vet, except for rabies shots. We finally had a cat that was pretty sick, so we took her in. The day after she got home from the vet's, she got hit and killed by a car.

---

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## HP Forum Archive 17

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### **Link to archive: Valentin's review of various sharp pocket computers?**

Message #1 Posted by [Gene](#) on 21 Mar 2007, 9:24 a.m.

Looking for the thread where Valentin discussed various specialized sharp models, such as the one with built-in financial functions, matrix functions, etc. I think these were numbered up in the PC-14-- something range.

I recall the thread where he discussed them and suggested that HP collectors might want to get these.

Can't find it now. :-)

Any help?

### **Re: Link to archive: Valentin's review of various sharp pocket computers?**

Message #2 Posted by [Valentin Albillo](#) on 21 Mar 2007, 9:50 a.m.,

in response to message #1 by [Gene](#)

Hi, Gene:

Apart from mentioning them in various S&SMC and HP-15C Mini-challenges, and assorted postings answering some questions about them, these are the latest threads where I've posted anything about SHARP models:

12c vs 17bii+ comparison?

Message #1 Posted by Bruce Bergman on 15 Feb 2007, 4:17 p.m.

How would you explain the marvels of HP calcs?

Message #1 Posted by Giancarlo (Italy) on 4 Feb 2007, 4:00 p.m.

Spice construction

Message #1 Posted by Hal on 15 June 2006, 6:40 p.m.

How do i input this using RPN?

Message #1 Posted by Cuppo on 29 Oct 2006, 10:59 p.m.

I don't have actual links for them but these references can probably be used to locate the actual threads in the archives (or somewhere else).

Also, in case noone can pinpoint the exact thread, I'll look tonight (six hours from this post) at home to try and locate it for you.

Thanks for your interest and

Best regards from V.

*Edited: 21 Mar 2007, 10:51 a.m.*

### **Re: Link to archive: Valentin's review of various sharp pocket computers?**

*Message #3 Posted by **Gene** on 21 Mar 2007, 5:24 p.m.,  
in response to message #2 by Valentin Albillo*

Thanks, Valentin. Haven't found the exact thread yet.

I seem to recall it was where you gave suggestions about Special Sharps that HP collectors might pick up. I know it mentioned the basic language Sharp w/built in financial functions (just picked one of those up) and the 1475 w/its machine code matrix functions and others.

Just like to bookmark it so I can know which machines to look out for. ;-)

**Re: Link to archive: Valentin's review of various sharp pocket computers?**

*Message #4 Posted by **Karl Schneider** on 22 Mar 2007, 1:10 a.m.,  
in response to message #1 by Gene*

Hi, Gene and Valentin --

Quote:

Looking for the thread where Valentin discussed various specialized sharp models, such as the one with built-in financial functions, matrix functions, etc. I think these were numbered up in the PC-14-- something range.

Here's da help! I had bookmarked the post...

<http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv014.cgi?read=48409#48409>

-- KS

**Re: That's it ! :-) Thanks, Karl [NT]**

*Message #5 Posted by **Valentin Albillo** on 22 Mar 2007, 5:28 a.m.,  
in response to message #4 by Karl Schneider*

Best regards from V.

**Re: Link to archive: Valentin's review of various sharp pocket computers?**

*Message #6 Posted by **gene** on 22 Mar 2007, 8:23 a.m.,  
in response to message #4 by Karl Schneider*

Yes, that's it! Many thanks...I'll bookmark it this time.

Gene

**Re: Link to archive: Valentin's review of various sharp pocket computers?**

*Message #7 Posted by **GE** on 23 Mar 2007, 6:36 a.m.,  
in response to message #6 by gene*

Other Sharp models which are often overlooked are any IQ7xxx, IQ8xxx or IQ9xxx organizer with the additional Basic card.

IMHO the best Sharp pocket computer (apart from I/O) is the IQ8400 with the IQ871 card. With this combination you get :

- 128K Ram (not expandable, but sufficient !)
- a large 8x40 graphical screen, you can switch to 4x30 for old eyes
- Sharp's latest version of Basic with files and 20 digit precision, compatible with the PCE-500
- very fast hardware
- connection to a PC is possible
- a full friendly organizer comes with it, free !
- full keyboard with extended character set

And the full RAM can be swapped with another card and is battery backed.

The IQ871 is compatible with IQ7xxx and IQ9xxxx models, but on these the screen is limited to 8x20, a painful limitation.

---

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## HP Forum Archive 17

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### HP67 Cards--got 'em, need 'em?

Message #1 Posted by [Les Wright](#) on 21 Mar 2007, 5:56 a.m.

Thanks to the miracles of FixThatCalc.com, I am the proud owner of a fully functional HP67, sooned to be joined by an HP97.

I have full card sets for the Surveying Pac and Standard Pac. Several of the cards in the former are toast even after a good cleaning. I attribute read errors to the cards since the HP67 is fully charged and my HP41CV batteries are fresh and I get reading errors consistently in both calculators, and expect the same behaviour in the 97 when it gets here.

I am not surprised by this--I think the Surveying Pac cards were actually used, which means they could have started getting some microscopic damage if they passed thru a drive in days of yore as it was moving toward gummy failure.

I mention this since I would like a full working set of the cards and would like to know if anyone with intact sets can help me out of duplicates of my dead cards? I will in time make an inventory of what I need and post here. If you can help me out I with this I will see what sort of favour in kind I can offer you.

Many thanks!

Les

### Re: HP67 Cards--got 'em, need 'em?

Message #2 Posted by [Les Wright](#) on 21 Mar 2007, 11:55 a.m.,  
in response to message #1 by Les Wright

While I am at it, I should ask if there is any way to restore cards that generate more than their share of errors. Any tips, tricks of the trade, etc? I am guessing that in the old days really prudent HP65 and 67 users made at least one back up copy. A bit of misplaced dust or grit in the card reader could possibly score a card and render it useless. I am also wondering if one of my bum cards was inadvertently erased, though how you do that with protected cards on the 67 is beyond me.

Any insight is always appreciated.

Les

### Re: HP67 Cards--got 'em, need 'em?

Message #3 Posted by [Thomas Okken](#) on 21 Mar 2007, 1:00 p.m.,  
in response to message #2 by Les Wright

It is also possible for cards to lose their information without actually being damaged. You could try keying in the programs from the manuals and then re-recording them; there is some advice on how to trick the card reader into writing to write-protected cards [in this article](#).

- Thomas

**Re: HP67 Cards--got 'em, need 'em?**

*Message #4 Posted by [Les Wright](#) on 21 Mar 2007, 5:14 p.m.,  
in response to message #3 by Thomas Okken*

Quote:

\_\_\_\_\_  
You could try keying in the programs from the manuals and then re-recording them  
\_\_\_\_\_

Thomas, I am really quite lazy and the listings in the HP67 books is quite tiny, being a shrunken facsimile of HP97 printer output. So I was hoping some of our friends could help be bypass the tedium. ;)

Also some of the bum cards are data cards for the surveying programs, and I think the manual includes only program listings but not data. I will have to recheck tonight.

Les

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## HP Forum Archive 17

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### HP-IL Cables, where to get, how to make?

Message #1 Posted by [Egan Ford](#) on 21 Mar 2007, 12:18 a.m.

Google has yield few results.

Thanks.

### Re: HP-IL Cables, where to get, how to make?

Message #2 Posted by [Eric Smith](#) on 21 Mar 2007, 3:13 a.m.,  
in response to message #1 by Egan Ford

I'm not aware of any "reliable" source for HP-IL cables.

Making your own is somewhat impractical, as the connectors were custom-made, and are not any more readily available than complete cables. If you had a bad cable, you could cut out a section and splice replacement cable into it. The cable HP used was more flexible than most cables that one might find for replacement.

For a while there was a glut of NOS 82160A HP-IL modules in the used market, and it appeared that someone was cutting the captive cables from them and selling them separately.

The last time I purchased any HP-IL cables, a local electronics surplus store had a bin of them marked "fan cables". I happened onto them because I was actually looking for fan cables.

If you're sufficiently desperate, HP equipment resellers probably have some, but the pricing might make you ill.

### Re: HP-IL Cables, where to get, how to make? - Try here...

Message #3 Posted by [Leo Duran](#) on 21 Mar 2007, 10:08 a.m.,  
in response to message #1 by Egan Ford

ebaY [http://cgi.ebay.com/HP-82167B-HP-IL-CABLE-1-METER\\_W0QQitemZ170092448126QQcategoryZ1247QQssPageNameZWDVWQQrdZ1QQcmdZViewItem](http://cgi.ebay.com/HP-82167B-HP-IL-CABLE-1-METER_W0QQitemZ170092448126QQcategoryZ1247QQssPageNameZWDVWQQrdZ1QQcmdZViewItem)

Everprint International Tel: 800 984-5777 HP-IL interface cable <http://www.everprint.com/parts56.asp>

### Re: HP-IL Cables, where to get, how to make? - Try here...

Message #4 Posted by [Leo Duran](#) on 21 Mar 2007, 10:16 a.m.,  
in response to message #3 by Leo Duran

<http://www.minnesotacomputers.com/products.aspx?productid=82167A&mfg=HP&search=extended>

### Re: HP-IL Cables, where to get, how to make?

Message #5 Posted by [Howard Owen](#) on 21 Mar 2007, 11:59 p.m.,

*in response to message #1 by Egan Ford*

Slightly related to your question, I have successfully hacked a 50 foot bidirectional HP-IL cable out of cat5 and four connectors cut from two short HP-IL cables. The HP-IL spec calls for twisted pair over a certain distance, and the impedance values match as well.

Regards,  
Howard

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## HP Forum Archive 17

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**Classic RPN**

Message #1 Posted by [John Limpert](#) on 20 Mar 2007, 11:46 p.m.

Was the HP-15C the last scientific calculator to support classic RPN? My definition of classic RPN is the programming model used in calculators like the HP-25C and HP-34C. Simple keystroke programming without things like formula entry and named variables.

**Re: Classic RPN**

Message #2 Posted by [Karl Schneider](#) on 21 Mar 2007, 12:02 a.m.,  
in response to message #1 by John Limpert

Hi, John --

Quote:

---

Was the HP-15C the last scientific calculator to support classic RPN? My definition of classic RPN is the programming model used in calculators like the HP-25C and HP-34C. Simple keystroke programming without things like formula entry and named variables.

---

Well, I'd question that definition, because those features are *supplements and enhancements* to RPN, not *modifications* of it.

However, if those features are grounds for disqualification, several other models released in 1982 or later lacked them:

- 1982: HP-10C (basic scientific)
- 1982: HP-16C (for computer science)
- 1983: HP-41CX (HP-41C/CV were released in 1979/1980)
- 1988: HP-32S ("lettered" storage registers, but not alphanumeric variables or equations)

-- KS

*Edited: 21 Mar 2007, 12:16 a.m.*

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## HP Forum Archive 17

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### Cash for your trash?

Message #1 Posted by [Palmer O. Hanson, Jr.](#) on 20 Mar 2007, 9:52 p.m.

The article "Cash for Your Trash" on page 19 of the March/April 2007 issue of *AARP - The Magazine* states in part "... There's nostalgia value in early high-tech artifacts. 'We're progressing so rapidly that things from the '80s and '90s are becoming collectibles' ... .. An Apple IIe computer, that '80's pacesetter, recently fetched \$6,100. A 1982 HP programmable scientific calculator went for \$425."

I presume that the calculator was an H-15c.

I hate to see this sort of thing published. When an article which declared that slide rules were collectible was published in the *New York Times* back in the 1990's there was an immediate jump in prices at antique stores and an immediate shortage of slide rules in thrift stores. Of course, I admit that the value of my existing collection jumped as well.

And, yes, I am more than old enough to belong to AARP.

### Re: Cash for your trash?

Message #2 Posted by [Karl Schneider](#) on 21 Mar 2007, 12:53 a.m.,  
in response to message #1 by [Palmer O. Hanson, Jr.](#)

Hi, Palmer --

Quote:

\_\_\_\_\_

The article "Cash for Your Trash" on page 19 of the March/April 2007 issue of *AARP - The Magazine* states in part

"... There's nostalgia value in early high-tech artifacts. 'We're progressing so rapidly that things from the '80s and '90s are becoming collectibles' ... .. An Apple IIe computer, that '80's pacesetter, recently fetched \$6,100. A 1982 HP programmable scientific calculator went for \$425."

I presume that the calculator was an (*HP-15C*).

\_\_\_\_\_

But the difference is that the HP still serves its intended purpose quite well, while the Apple IIe is an obsolete relic that takes up considerable space by comparison.

Quote:

\_\_\_\_\_

I hate to see this sort of thing published. When an article which declared that slide rules were collectible was published in the *New York Times* back in the 1990's there was an immediate jump in prices at antique stores and an immediate shortage of slide rules in thrift stores. Of course, I admit that the value of my existing collection jumped as well.

That works both ways, too. HP-16C's and HP-IL's used to be somewhat rare on eBay; the high prices brought them out of the woodwork.

-- KS

## Re: Cash for your trash?

Message #3 Posted by **Eric Smith** on 21 Mar 2007, 3:07 a.m.,  
in response to message #2 by Karl Schneider

I'm not sure I understand this statement:

Quote:

But the difference is that the HP still serves its intended purpose quite well, while the Apple IIe is an obsolete relic that takes up considerable space by comparison.

My HP-41C still works just as well as it did in 1981. It still works fine for simple manual calculations as well as running more elaborate programs such as sidereal time conversion.

My Apple IIe still works just as well as it did in 1984. It still works fine for word processing, spreadsheets, games, and other uses.

Both are obsolete from the point of view of the technology with which they are built, but both work just as well today as they did when originally introduced. I don't see that it makes any sense to say that one is an obsolete relic and the other is not.

From a functional perspective, I think you could find plenty of people who would claim that programmable calculators are obsolete. I don't happen to be one of them.

## "Obsolescence" of old HP calcs vs. old PC's

Message #4 Posted by **Karl Schneider** on 22 Mar 2007, 1:47 a.m.,  
in response to message #3 by Eric Smith

Hi, Eric --

"Obsolete relic" is indeed a bit harsh of a term for something (Apple IIe "non-IBM personal computer") that still performs certain practical tasks as well as it can. However, the bar for "PC" performance has been raised considerably since the 1980's, such that no one wanting to use a PC for modern capabilities (e.g., web access) and applications would use any product from that era.

One could certainly argue that the HP-41 is somewhat obsolete, because the tasks it is equipped to perform can be accomplished more efficiently with modern compact devices that run far faster. I use unaccelerated HP-41's with an application program and Navigation Pac to calculate the position of celestial objects for navigation, and must wait several minutes for a result.

Now, the HP-15C: I see nothing obsolete about it. The applications for which it is best suited have not changed a bit since the 1980's. Newer models such as the HP-32S/32SII/33S/42S do certain things better (e.g., alphanumeric display and 12 times the speed), but can't match the HP-15C's combination of easy accessibility with excellent functional integration. The user interface and functional integration of modern "swiss army knife" low-end calculators, such as the Casio fx-115MS, can't compare to that of any of the HP's mentioned.

-- KS

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**Re: "Obsolescence" of old HP calcs vs. old PC's**

Message #5 Posted by [Antonio Maschio \(Italy\)](#) on 22 Mar 2007, 4:30 a.m.,  
in response to message #4 by Karl Schneider

Ditto! (wow!)

-- Antonio

---

---

**Re: "Obsolescence" of old HP calcs vs. old PC's**

Message #6 Posted by [Maximilian Hohmann](#) on 22 Mar 2007, 6:57 a.m.,  
in response to message #4 by Karl Schneider

Hallo!

Quote:

\_\_\_\_\_

I use unaccelerated HP-41's with an application program and Navigation Pac to calculate the position of celestial objects for navigation, and must wait several minutes for a result.

\_\_\_\_\_

But then, celestial navigation by itself has become obsolete long ago. And for us aviators not only obsolete, but even impossible because the last aeroplane with a little roof window for a star sextant was the Boeing 707. Which reminds me that the ephemeris of my Tamaya NC77 calculator will definitely expire in June :- ( Another device that will become obsolete very soon.

Greetings, Max

---

---

**Re: "Obsolescence" of old HP calcs vs. old PC's**

Message #7 Posted by [Paul Brogger](#) on 22 Mar 2007, 6:16 p.m.,  
in response to message #6 by Maximilian Hohmann

Not so fast on the navigation thing . . .

As was briefly mentioned in the news recently, a few more pieces of orbiting space junk out there, and the treasured convenience and accuracy of GPS might become a wistful memory.

(How do I invest in sextant futures?)

---

---

**Re: "Obsolescence" of old HP calcs vs. old PC's**

Message #8 Posted by [Maximilian Hohmann](#) on 23 Mar 2007, 4:13 a.m.,  
in response to message #7 by Paul Brogger

Hello!

Quote:

\_\_\_\_\_

Not so fast on the navigation thing . . .

As was briefly mentioned in the news recently, a few more pieces of orbiting space junk out there, and the treasured convenience and accuracy of GPS might



become a wistful memory.

(How do I invest in sextant futures?)

---

I think you better invest your money in vintage calculators than in sextants (or maybe vintage sextants) ;-)

The danger to satellites from debris is mainly present in low earth orbit (up to 500 km above the earth surface), whereas the navigation satellites are positioned in a medium orbit at about 20,000 km distance.

Next, the American GPS system ist "backed up", so to say, by the very similar Russian Glonass, there are now even combination receivers available that can get their position information from any of the two systems. And in the near (or not so near, according to recent press releases) future, the european "Galileo" system will provide a third independent source for satellite navigation.

Anyway, (civilian) aviation does not yet depend on GPS in any way: Long and medium range navigation is based on inertial navigation systems, all solid state now with laser gyroscopes and silicon based accelerometers, which brings the price down to reasonable levels, and short range and terminal navigation is done by means of ground based radio navigation aids. Practical satellite navigation is still not part of the training syllabus for pilots!

Greetings, Max

### **Re: "Obsolescence" of old HP calcs vs. old PC's**

*Message #9 Posted by **Paul Brogger** on 23 Mar 2007, 10:04 a.m.,  
in response to message #8 by Maximilian Hohmann*

I love this site! What a place to access some better-informed points of view!

Thanks for the clarification. (Now, to find a good deal on an HP-15C to fund my retirement.)

*Edited: 23 Mar 2007, 10:06 a.m.*

### **Re: "Obsolescence" of old HP calcs vs. old PC's**

*Message #10 Posted by **Valentin Albillo** on 22 Mar 2007, 8:40 a.m.,  
in response to message #4 by Karl Schneider*

Hi, Karl:

I mostly agree with your post ("Mostly Harmless" ... :-)) but I want to comment a little:

Karl posted:

*"One could certainly argue that the HP-41 is somewhat obsolete, because the tasks it is equipped to perform can be accomplished more efficiently with modern compact devices that run far faster."*

Run time isn't everything. There are other timings involved in actually performing some computation in a given device, and it might perfectly be the

case that the time it takes to get the 41C, turn it on, and make the calculations is far below what it takes to do the same with some other, more modern, more complex devices, which might well imply longer delays for turning them on, supplying some password, navigate to some menu, launch some calc emulation or application, etc. When you 'nitpickingly' contabilize each and every delay and timing involved, it might well be the case that running time is one of the smallest factors of the whole process.

Also, the 41C had a tremendous Fun Factor For Fans (FFFF :-), which simply hasn't dissapeared, far from it, and will continue to exist indefinitely. Doing things with synthetics, M-code, or even plain old RPN and the versatility of stack and register addressing was extremely fun and challenging, and I know I was much more enthralled and had a much better time of creating an Othello program, say, for the 41C than I would ever had from doing the same for a more powerful or capable device. The very limitations of the 41C was what made it fun in the first place, and having an all-powerful, all-capable modern device available for this particular task would simply spoil the fun big time.

The same applies, of course, to other HP models, the HP-71B and the HP-15C being my favorite right now for this kind of fun programming. Wait till you see my very next Datafile article (to be published in April), you'll be amazed at what exciting, seemeingly ultra-complicated symbolic feats you can do with an HP-71B and 25+ lines of code ! This is both potentially useful and fun !

*"Now, the HP-15C: I see nothing obsolete about it."*

I fully agree. It would be great if it were revamped with some modern niceties in a transparent manner while maintaining its physical qualities, but it works perfectly as is.

Which is more, at times it seems even *\*more\** advanced than most modern devices. Each time most anyone sees my HP-15C, they are awed by its looks, its 'solidity' so to say, and it goes without saying, its functionality. They initially think it's just a cute but quality scientific calculator, and most of them being technical people, are amazed no end when they get to know it does matrices, complex arithmetic and special functions, hyperbolics, statistics, gamma, programming, the works. "Obsolete" is definitely *\*not\** the word for it, really.

Ah, and the keyboard never fails to elicit appreciative comments and envious looks. Those were the days ! ...

Best regards from V.

## **Re: "Obsolescence" of old HP calcs vs. old PC's**

*Message #11 Posted by [Antonio Maschio \(Italy\)](#) on 22 Mar 2007, 12:58 p.m.,  
in response to message #10 by Valentin Albillo*

Ditto, Valentin; you wrote:

Quote:

Ah, and the keyboard never fails to elicit appreciative comments and envious looks.  
Those were the days ! ...

Ah! I wonder if anyone there at HP sometimes looks at this Forum. The day they decide for an HP-15C renewal and issue it, guaranteed I'll go drunk! And after I'm back restored, I'll go and buy three: one for office, one for home, one spare. And maybe two others for my sons.

HP: it's your turn! I want to pay for quality!

-- Antonio

*Edited: 22 Mar 2007, 12:59 p.m.*

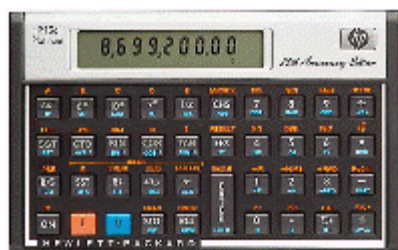
### Re: "Obsolescence" of old HP calcs vs. old PC's

Message #12 Posted by **Jeff O.** on 28 Mar 2007, 12:52 p.m.,  
in response to message #11 by Antonio Maschio (Italy)

Quote:

I wonder if anyone there at HP sometimes looks at this Forum. The day they decide for an HP-15C renewal and issue it.....

Well, if they need an excuse, the 15C was introduced on July 1, 1982. Everybody close their eyes, click their heels together and repeat after me...."HP15C 25th Anniversary Edition....HP15C 25th Anniversary Edition....HP15C 25th Anniversary Edition...."



Careful observers may note that my creation is a 15C *Platinum* 25th Anniversary Edition. This is because I would propose a couple of enhancements to the original. The 15C was of course a wonderful machine, but if given the opportunity to make changes I'm sure there would be no shortage of very worthy improvements. However, to make it as easy as possible for hp to bring it back, only a couple of very basic improvements are requested:

1. Additional memory - Nothing excessive, maybe just a total of 1 or 2 kbytes for programs, with up to 101 storage registers (0 to 99 plus I. This should be an easy change according to [this](#) thread).
2. Input/Output - maybe something as simple as a full download or upload of the calculator's memory to a PC, via a USB to mini-USB cable. Perhaps this would be too much to ask, but it sure would be nice! (IO has been added as a shifted-ON key function in my depiction.)

*Edited: 28 Mar 2007, 1:07 p.m.*

### Re: "Obsolescence" of old HP calcs vs. old PC's

Message #13 Posted by **Antonio Maschio (Italy)** on 29 Mar 2007, 2:29 a.m.,  
in response to message #12 by Jeff O.

HP15C 25th Anniversary Edition....  
HP15C 25th Anniversary Edition....

HP15C 25th Anniversary Edition....  
HP15C 25th Anniversary Edition....  
HP15C 25th Anniversary Edition....  
HP15C 25th Anniversary Edition....  
HP15C 25th Anniversary Edition....  
HP15C 25th Anniversary Edition....  
HP15C 25th Anniversary Edition....  
HP15C 25th Anniversary Edition....

... Well, out of the joke, it's a wonderful idea, Jeff, good picture.

Again: HP, hey! Is there someone, out there?

-- Antonio

## **Re: "Obsolescence" of old HP calcs vs. old PC's**

*Message #14 Posted by **Mike Morrow** on 22 Mar 2007, 7:02 p.m.,  
in response to message #4 by Karl Schneider*

I have owned many HP calculators since I bought my first in 1976(HP-67, to be followed by 12C, 15C, 17BII, 21, 25, 28C, 28S, 32SII, 35, 38, 41C, 41CX, 42S, 48SX, 48GX, 49g+, and several others). My 1986 HP-15C immediately became my favorite. I used it daily for 11 years.

I was at last able to find a HP42S. It blows the HP-15C away in every detail except appearance. The HP42S is far far easier to use than the HP-15C. Its functions are much more naturally accessible and integrated, especially when dealing with complex numbers. It has much more memory, and far better program editing capabilities. Computation is much faster at much greater precision. It has a two-line LCD. It can send output via IR to a printer. It even has an (unadvertised) simple debugger that can be accessed to examine internal ROM/RAM or alter (temporarily) operating system RAM, in order to do such things as double the speed of operation. With all this, the HP42S is still essentially the same size and weight of the HP-15C. IMHO, this 20-year-old design is easily the best RPN calculator of all time.

The only things for which I would fault the HP42S are:

(1) That terribly ugly, low contrast, fecal brown and orange color scheme. Some gang of new-age left-coast artsy nitwits at HP really messed up \*all\* HP calculator color schemes after the mid-1980s (but that really started with that unappealing HP-41C in 1979). The classic sharp HP black case, gold and blue shift keys, and blue/black HP logo are far more attractive and easier on the eyes. The HP-15C was the last of that kind.

(2) I like the "landscape" key arrangement of the HP-15C better.

(3) No real-time clock/calendar, even though the hardware has a quartz clock. (The HP-15C didn't have one either.)

(4) No simple time-value-of-money functions. (Neither does the HP-15C.)

With respect to mechanical properties, the HP-15C is very prone to losing its rubber feet, the small battery door, and/or the model/logo square insert on the front. The aluminum around the LCD is easily scratched. The chrome paint on the logo insert quickly wears off. But despite daily use, my HP42S still has perfect feet and looks as good overall as the day I took it out of the box in 1997.

When I read comments that elevate the HP-15C over the HP42S, I have to wonder if those making

such comments ever actually \*extensively\* used \*both\* calculators over a long period of time. I have eleven years with the HP-15C, followed by ten years with the HP42S. I still have both, but only the HP42S (and my hp49g+) get any use today.

If the HP42S could be re-issued in HP-15C dress, that to me would be ideal.

Mike

### **Re: "Obsolescence" of old HP calcs vs. old PC's**

Message #15 Posted by [Valentin Albillo](#) on 22 Mar 2007, 7:58 p.m.,  
in response to message #14 by Mike Morrow

Hi, Mike Morrow:

A few comments to your post:

Mike Morrow posted:

*"I was at last able to find a HP42S. It blows the HP-15C away in every detail except appearance."*

Nope. The matrix and complex number paradigm are much better implemented in the HP-15C (matrix descriptors and parallel complex stack), among many other advantages.

*"The HP42S is far far easier to use than the HP-15C."*

In your dreams.

*"Its functions are much more naturally accessible and integrated, especially when dealing with complex numbers."*

This must be a joke, right ?

*"It has much more memory, and far better program editing capabilities."*

Agreed. But let it be at just "better" instead of "far better".

*"Computation is much faster at much greater precision."*

Agreement on the speed, but "much greater precision" is just the difference between 10-digit (13-digit internally) and 12-digit (15-digit internally). That's "greater" but not "much greater". If you want to know what "much greater" precision really means, have a look at the 20-digit SHARP PC-1475/E500S.

*"[...] (but that really started with that unappealing HP-41C in 1979)"*

Another joke, no doubt.

*"With respect to mechanical properties, the HP-15C is very prone to losing its rubber feet, the small battery door, and/or the model/logo square insert on the front."*

Agreed on the logo, nope on the other two, most specially the battery door, which I see no way it can get lost taking into account that you only take it out every 10 years or so to change batteries. By the way, I've noticed that you forget to compare

HP-15C's battery life vs HP42S's, why would that be ?

*"When I read comments that elevate the HP-15C over the HP42S, I have to wonder if those making such comments ever actually \*extensively\* used \*both\* calculators over a long period of time [...] I still have both, but only the HP42S (and my hp49g+) get any use today."*

Good for you. I actually find the HP-15C much easier to use than the HP42S, mostly because a set of menus will never beat having each and every function (700+) directly accessible on the keyboard. Free42 running on a palm makes it a little faster but still ...

*"If the HP42S could be re-issued in HP-15C dress, that to me would be ideal."*

Don't hold your breath. Seems the latest people at HP on charge of this just hit the road.

Best regards from V.

### **Re: "Obsolescence" of old HP calcs vs. old PC's**

Message #16 Posted by **Thomas Okken** on 23 Mar 2007, 9:17 a.m.,  
in response to message #15 by Valentin Albillo

Come on, Valentin, is it really necessary to be so rude when you don't agree with someone? Mike gave his opinion, and that's all he claimed to do. You, on the other hand, sound as if you're the guardian of Absolute Truth and Mike must be either an idiot or he must be joking.

Some people have different opinions to yours. And some people really like different calculators than you do, and not because they are ill-informed or stupid.

- Thomas

### **Here we go again ... :-)**

Message #17 Posted by **Valentin Albillo** on 23 Mar 2007, 9:49 a.m.,  
in response to message #16 by Thomas Okken

Hi, Thomas:

Here we go again ... :-)

The bad thing with posting anything in the web is that body language is totally absent, so there's no way to effectively convey the attitude, humor, etc, and general good mood that would be obvious if the exchange were verbal.

I've said time and again that I'm pretty jovial in my attitude towards life and there's no intention whatsoever to belittle anyone, I assume most of us are pretty much adults, with technical or financial careers, etc., so there's little point in trying to outsmart anyone when it's much easier that oneself is the one to be easily outsmarted.

There's also the language barrier. I guess you were alarmed by the "In your dreams" statement, perhaps. The equivalent Spanish idiom, which is "Ni soñando!" or "Ni en sueños!" is absolutely colloquial and devoid of any offensive nature, but probably the

English version tends to be considered rude, judging by your attitude.

In short, this is tiring. I mean no offence to anyone, I'm not the guardian of anything but my house and family, and I'm becoming tired myself of always getting misinterpreted. I'm really tempted to consider the possibility of posting under some other pen name, so that my messages aren't judged because they were uttered by "Valentin Albillo, the High-And-Mighty Guardian of Truth" but just on their face value and contents, and leave my real name just for issuing Challenges and Mini-Challenges or help others by answering to non-controversial technical questions.

Anyway, thanks for your comments and best regards from V.

**Re: Here we go again ... :-)**

*Message #18 Posted by **Maximilian Hohmann** on 23 Mar 2007, 10:15 a.m.,  
in response to message #17 by Valentin Albillo*

Hi!

I have followed this discussion with mild disbelief...

Quote:

---

... I assume most of us are pretty much adults, with technical or financial careers, etc. ...

---

And therefore I am even more puzzled why we can get in such heated discussions about whether a HP-42 is better and faster at doing complex-valued matrix calculations than a HP-15. No "adult with a technical or financial career" has had to do such a calculation on a pocket calculator during the last 20 years or so, at least not during working hours. If he did so, it was because he considers this as part of his hobby!

It is a bit like getting in a fight whether a 1920ies BSA racing motorcycle outperforms a NSU bike of similar vintage - a purely academic question, nothing more, and something to be discussed over a pint or two of english beer :-)

Greetings, Max

**HP-42S vs. HP-15C attributes?**

*Message #19 Posted by **Karl Schneider** on 23 Mar 2007, 1:29 a.m.,  
in response to message #14 by Mike Morrow*

Hi, Mike --

I've seen Valentin's reply, but I've also got my own take on some of the statements...

Quote:

---

The HP42S is far far easier to use than the HP-15C. Its functions are much more naturally accessible and integrated, especially when dealing with complex numbers.

---

I just can't agree with that. Are functions under menus (or sometimes just the catalog) preferable

to functions that are visible and directly-accessible? I'd say not. I put several common, useful functions in the first level of the CUSTOM menu of my HP-42S, because they're not even available on the keyboard or any standard menu otherwise: "%CH", "Roll up", along with several others.

Defining a simple function for numerical integration or rootfinding is a minor hassle on the HP-42S, with its requirement for external-label programs, named variables defined using "MVAR", etc.

As for complex scalars, the main advantage of the HP-42S is the ability to see a complete complex-valued number (or two) in the display, and to directly enter, calculate, and display complex numbers in polar form. Other than that, the capabilities are quite similar.

Quote:

---

With respect to mechanical properties, the HP-15C is very prone to losing its rubber feet, the small battery door, and/or the model/logo square insert on the front. The aluminum around the LCD is easily scratched. The chrome paint on the logo insert quickly wears off.

---

The poorly-adhering logos with non-durable paint were the plastic ones that debuted as part of cost-cutting measures in 1986 -- when yours was likely made. The metal chromed logos of 1981-85 "held up and held on" much better.

Quote:

---

That terribly ugly, low contrast, ... brown and orange color scheme (*of the HP-42S*). Some gang of ... nitwits at HP really messed up *\*all\** HP calculator color schemes after the mid-1980s (but that really started with that unappealing HP-41C in 1979). The classic sharp HP black case, gold and blue shift keys, and blue/black HP logo are far more attractive and easier on the eyes. The HP-15C was the last of that kind.

---

I've commented on color schemes before. The sole shift color of the HP-42S is yellow, not orange. It followed the pattern of yellow, blue, black for shift keys, established with the Spice and HP-41 lines in 1978-79, as far as I know. The HP-41CX and HP-71B of 1983, as well as most Pioneer-series models in 1988, continued that pattern. Different shift colors were used on some models in the mid-1980's (e.g., HP-28C/S, HP-22S, HP-27S) before "designer" colors were introduced in 1993 with the HP-48G line.

Dark brown was used as a face color on the HP-12C and the HP-41CV (1986 model).

Quote:

---

When I read comments that elevate the HP-15C over the HP42S, I have to wonder if those making such comments ever actually *\*extensively\** used *\*both\** calculators over a long period of time.

---

I bought my HP-15C new in late 1983, and used it almost exclusively until 2002, when I got into collecting. I've had my own HP-42S since that year and have written a detailed (but unpublished) program for it. That's long enough to get a fair assessment.

-- KS



*Edited: 24 Mar 2007, 2:38 p.m. after one or more responses were posted*

**Re: HP-42S vs. HP-15C attributes (origin of classical colors)**

*Message #20 Posted by **Walter B** on 24 Mar 2007, 1:58 p.m.,  
in response to message #19 by Karl Schneider*

Agree with almost everything you wrote, Karl. Just one point to correct: IMO the "classical" HP color scheme started with the HP65 (blue/gold) and reached full size with the HP67 (blue/gold/black), so a bit earlier than the Spices. You may even rate the HP55 as first HP with those 3 key colors.

Best regards, Walter

*Edited: 24 Mar 2007, 2:01 p.m.*

**Re: HP-42S vs. HP-15C attributes?**

*Message #21 Posted by **Gerson W. Barbosa** on 26 Mar 2007, 6:10 p.m.,  
in response to message #19 by Karl Schneider*

Hello Karl,

Quote:

Are functions under menus (or sometimes just the catalog) preferable to functions that are visible and directly-accessible? I'd say not.

Totally agree! When I upgraded to the HP-28S, then the most advanced scientific calculator, I loved it but I soon started missing my faithful HP-15C. Although I liked the softmenu keys, I didn't like the trigonometric functions being accessible through them.

Despite the existence of a menu system, the oftenly used functions should always be available right from the keyboard.

As an illustration, what calculator would you use to quickly evaluate this simple expression, the HP-42S or the HP-15C?

$$1 - \tanh(\ln 1.57) - 0.57/(9!)$$

(This is just an approximation, but it is correct to 10 digits! Found when playing with the HP-15C during 10 or 15 minutes)

Regards,

Gerson.

**Re: HP-42S vs. HP-15C attributes?**

*Message #22 Posted by **Walter B** on 26 Mar 2007, 6:48 p.m.,  
in response to message #21 by Gerson W. Barbosa*

Quote:

As an illustration, ...

$$1 - \tanh(\ln 1.57) - 0.57/(9!)$$

(This is just an approximation, but it is correct to 10 digits! Found when playing with the HP-15C during 10 or 15 minutes)

Boa tarde Gerson, my HP-11C returns 0.577 - so, what's the finding??

Cumprimentos, Walter

### **EulerGamma, what else ? :-)**

*Message #23 Posted by [Valentin Albillo](#) on 26 Mar 2007, 7:15 p.m.,  
in response to message #22 by Walter B*

Best regards from V.

### **Re: HP-42S vs. HP-15C attributes?**

*Message #24 Posted by [Gerson W. Barbosa](#) on 26 Mar 2007, 8:34 p.m.,  
in response to message #22 by Walter B*

Boa noite Walter,

Quote:

my HP-11C returns 0.577 - so, what's the finding??

The full 10-digit answer is 0.5772156649. Thanks to Valentin, you should know the meaning of it by now, in case you had forgotten. I hadn't heard of the constant until last month, by what I can remember.

I hope the approximation makes it easier to remember.

More information here:

<http://mathworld.wolfram.com/Euler-MascheroniConstant.html>

Cumprimentos,

Gerson.

*Edited: 26 Mar 2007, 8:57 p.m.*

### **Re: HP-42S vs. HP-15C attributes?**

*Message #25 Posted by [Walter B](#) on 27 Mar 2007, 5:43 p.m.,  
in response to message #24 by Gerson W. Barbosa*

Shame on me! Well, maybe not too much, because I did not use this gamma for 30 years at least. And I'm not sure I used (or had to use) it earlier. The examples in the link look like perfect playground for pure mathematicans. Anyway,

obrigado, Walter

### An application...

Message #26 Posted by **Gerson W. Barbosa** on 27 Mar 2007, 7:16 p.m.,  
in response to message #25 by Walter B

I used it for the first time about one month ago, to solve a somewhat complicated integral. No achievement though, as I already new the answer. All I did was finding a way to reproduce a known result. In case your interested, here's the link:

<http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv017.cgi?read=109056>

Some revision is still required, but this gives an idea of its application in solving some kind of integrals.

Quote:

\_\_\_\_\_  
obrigado,  
\_\_\_\_\_

Não há de quê! (You're welcome!)

Gerson.

### Re: HP-42S vs. HP-15C attributes?

Message #27 Posted by **Paul Dale** on 26 Mar 2007, 8:21 p.m.,  
in response to message #21 by Gerson W. Barbosa

Interesting.

A few keystrokes less albiet slightly less accurate:

4 x! ASINH FRAC x^2 x^2

If you are in degrees mode, you can get a little more accurate with:

3 ACOSH 2 0 \* SIN

If you are in radians mode this is shorter but slightly less accurate:

6 TAN TAN COS COS

And if you use gradians, this is the same length but more accurate:

PI ->H.MS ->DEG FRAC SIN ->DEG

Does anybody run in gradians mode?

- Pauli

### Re: HP-42S vs. HP-15C attributes?

Message #28 Posted by **Gerson W. Barbosa** on 26 Mar 2007, 8:50 p.m.,  
in response to message #27 by Paul Dale

All your approximations give seven correct digits, which is nice. Rather than the number of steps, I was interested in an easy-to-remember approximation, something

like

1 ENTER . 4 TAN -

in radians mode. Six steps and only 4 correct digits. Yours are hard to beat!

Regards,

Gerson.

### Re: HP-42S vs. HP-15C attributes?

Message #29 Posted by [Paul Dale](#) on 26 Mar 2007, 9:41 p.m.,  
in response to message #28 by Gerson W. Barbosa

Quote:

---

1 ENTER . 4 TAN -

in radians mode. Six steps and only 4 correct digits. Yours are hard to beat!

---

Try my:

6 TAN TAN COS COS

Also in radians mode, five keystrokes, more accurate and arguably easier to remember.

- Pauli

### EulerGamma approximation (Was: Re: HP-42S vs. HP-15C attributes?)

Message #30 Posted by [Gerson W. Barbosa](#) on 26 Mar 2007, 10:04 p.m.,  
in response to message #29 by Paul Dale

Quote:

---

Try my:

6 TAN TAN COS COS

---

Seen that!

Interestingly, only the eighth significant digit is wrong:

0.5772156349. A short twelve-digit approximation would be interesting for 12-digit calculators (except, of course, the HP-49G/50G which don't need it).

Regards,

Gerson.

## Pandigital approximation

Message #31 Posted by [Gerson W. Barbosa](#) on 1 Apr 2007, 10:23 p.m.,  
in response to message #27 by Paul Dale

Quote:

Interesting.

$1 - \tanh(\ln 1.57) - 0.57/(9!)$  is just a rational approximation in disguise, as you may have noticed.

Just for fun, I have rewritten it as the difference of two pandigital terms:

[http://www.geocities.com/gwbarbosa/E-G\\_Approx.gif](http://www.geocities.com/gwbarbosa/E-G_Approx.gif)

' $2*(3^{0+9})^4/(8! - 5671) - (48+9)/\sqrt{(2*\sqrt{(3*\sqrt{(5*\sqrt{(70))})})^16}$ '

Gerson.

-----

Another one:

' $(9-8)/\sqrt{\text{SINH}(1637/(2*450))}$ '

This is good to only 8 digits though (0.57721566).

*Edited: 14 Apr 2007, 9:36 a.m.*

## Re: HP-42S vs. HP-15C attributes?

Message #32 Posted by [Karl Schneider](#) on 27 Mar 2007, 12:00 a.m.,  
in response to message #21 by Gerson W. Barbosa

Hi, Gerson --

Quote:

As an illustration, what calculator would you use to quickly evaluate this simple expression, the HP-42S or the HP-15C?

$1 - \tanh(\ln 1.57) - 0.57/(9!)$

Even worse on an HP-41: "TANH" is available only on the Math Pac and must be spelled out; factorial must be spelled out as "FACT".

-- KS

## Re: HP-42S vs. HP-15C attributes?

Message #33 Posted by [Gerson W. Barbosa](#) on 27 Mar 2007, 8:04 p.m.,  
in response to message #32 by Karl Schneider

Hi Karl,

Quote:

"TANH" is available only on the Math Pac and must be spelled out;

If the Math Pac is missing "TANH" can be computed with four more keystrokes:

$e^x$  ENTER 1/x - LASTx ENTER 1/x + /

(perhaps a shorter sequence is possible on the HP-41)

Regards,

Gerson.

*Edited: 27 Mar 2007, 8:12 p.m.*

### Re: "Obsolescence" of old HP calcs vs. old PC's

Message #34 Posted by [Thor Lansen](#) on 24 Mar 2007, 5:34 p.m.,  
in response to message #4 by Karl Schneider

Hello Karl: I am not very familiar with the HP 15C (I have one I bought for business reasons but I do not like it much) so, could you please tell me what are the applications you are referring to that the HP15C is better suited for than the HP41CX? For example, I used my college HP41CX with an Advantage Module (the exam had economic analysis) for the Electrical Engineering PE Exam back in 2001 (and I passed) and I probably would use it again today. Would you use an HP15C for the exam or is this one of the things (in my opinion critical for an Engineer's carrer) not very well suited for?

Regards, Thor.

*Edited: 24 Mar 2007, 5:47 p.m.*

### Applications: HP-15C vs. HP-41

Message #35 Posted by [Karl Schneider](#) on 24 Mar 2007, 7:01 p.m.,  
in response to message #34 by Thor Lansen

Hi, Thor --

Quote:

... could you please tell me what are the applications you are referring to that the HP15C is better suited for than the HP41CX?

I think that you may have misunderstood my intended meaning, which was that the HP-41's best-suited applications could be done better by more modern equipment, while the HP-15C's own *simpler* best-suited applications could not be done better by a more-modern device. I was not comparing the HP-15C directly to the HP-41.

But, since you asked: I had, in fact, three years ago compared the HP-15C to the HP-41 in detail for basic mathematical functionality and comparative ease of use thereof. The HP-15C is much more straightforward for applications that are not programmed by the user, but it cannot support peripherals or expansion hardware. The strengths of the HP-41 are its expandability and

advanced programmability. Here's the archived post:

<http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv014.cgi?read=61367#61367>

The HP-15C's built-in complex-number capability and matrix operations are much easier to use than those of the Advantage Pac (AP), although the AP's matrix operations are more advanced.

The HP-15C's arithmetic keys are on the correct side of the keyboard for right-handers and more-logically arranged, too.

SOLVE and INTEG from the AP are essentially the same as those in the HP-15C, but are a bit easier to use on the HP-15C without the alphanumeric hassle. More about SOLVE and INTEG:

<http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/articles.cgi?read=556>

Quote:

---

For example, I used my college HP41CX with an Advantage Module (the exam had economic analysis) for the Electrical Engineering PE Exam back in 2001 (and I passed) and I probably would use it again today.

---

Actually, you *couldn't* :-)

Four years ago, the NCEES banned the HP-41 and other highly-capable calculators from the EIT/FE and PE exams that the organization administers, based upon more-restrictive standards that were adopted. Subsequently, the NCEES banned all calculators other than those from a short "approved" list that were available on retail shelves. This, of course, excluded the HP-15C, even though it met the standards.

Quote:

---

Would you use an HP15C for the exam or is this one of the things (in my opinion critical for an Engineer's career) not very well suited for?

---

I passed the EIT/FE in 1994 on the first try using an HP-15C. If I had my free choice of compliant calculators to use on the PE, I would use the HP-15C again as my primary calculator.

-- KS

### **Re: Applications: HP-15C vs. HP-41**

Message #36 Posted by **Thor Lansen** on 24 Mar 2007, 10:52 p.m.,  
in response to message #35 by Karl Schneider

Karl, thanks for the response (or maybe not) you remind me I am getting old. I did not know they had banned all those vintage calcs. In my opinion, for the PE, you should be able to use whatever calculator you like (as it used to be) and open book (as it used to be, have they changed that also?). You indicated that if you could you would use your HP15C as your "primary" calculator. So, would you need a secondary? which one and why?

Assuming the HP15C has more straightforward applications, one must ask: is this a great advantage over the HP41CX? The fact that you can not add modules means you are stuck with what you have (well, maybe you can write a program or two but better do it in advance of the exam). I had the HP41CX, Advantage Module, and the card reader (that I did not

have to use) and I left the wand at home (I did not want to show off) and that was it, it had everything I needed it.

Not sure what your basis are to indicate that: "the arithmetic keys are more-logically arranged" but, in my opinion, for field work the HP15C (and alike) do not have the best ergonomics. I find it very uncomfortable to hold in one hand for a long period of time. Work gave us an HP11C for field work and I used it very little for that reason. I used my HP41CX instead. The HP41CX feels nice in my hand, not as nice as my first HP calculator, the HP 25C, but nice (well, no other calc feels like her, I still have it but I had to retire long time ago, maybe I should do the same).

Regards, Thor

*Edited: 24 Mar 2007, 10:58 p.m.*

### **Re: Applications: HP-15C vs. HP-41**

*Message #37 Posted by **Karl Schneider** on 25 Mar 2007, 2:22 a.m.,  
in response to message #36 by Thor Larsen*

Hi again, Thor --

Quote:

You indicated that if you could you would use your HP15C as your "primary" calculator. So, would you need a secondary? which one and why?

Obviously, a calculator with (complete?) built-in financial functions would be helpful. A compact model, such as an HP-27S, HP-17BII, or HP-12C would serve that purpose. (Unfortunately, none of these are on the "approved" list, and the first two have alphanumerics, which would render them "noncompliant".)

Quote:

Assuming the HP15C has more straightforward applications, one must ask: is this a great advantage over the HP41CX?

In a word, quickness -- being able to find and access functions quickly with a minimum of thought and formal protocol. That's important on an exam. If special programs are needed, the special calculator can be used.

Note also that the HP-41 does not have built-in hyperbolic functions, which might very well be required on a PE exam. The Math Pac provides them, but not for complex-valued arguments. The Advantage Pac doesn't provide hyperbolics as named functions. For more about that, see this archived post:

<http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv014.cgi?read=48157#48157>

My emphasis was on "compliant" models, which the HP-41 and HP-48 series are not. I'm assuming that the exam would not put at a comparative disadvantage any testee who lacked a calculator with plug-in modules/cards or downloaded programs.

Quote:



Not sure what your basis are to indicate that: "the arithmetic keys are more-  
logically arranged" but, in my opinion, for field work the HP15C (and alike)  
do not have the best ergonomics.

Work gave us an HP11C for field work and I used it very little for that  
reason.

---

I agree that the landscape-layout calc's are best-suited for desktop work, preferably with  
no extended computer-keyboard tray -- the way most engineers worked before 1990, or  
students in class still do today. The HP-11C might not be the best choice for field work,  
if elaborate custom programs and data exchange are needed.

The columns of arithmetic keys of pre-Voyager and Voyager HP's are arranged as  
shown:

| pre-Voyager | Voyager     |
|-------------|-------------|
| (leftmost)  | (rightmost) |
| -           | /           |
| +           | *           |
| *           | -           |
| /           | +           |

What's wrong with the pre-Voyager arrangement?

1. The fingers of the user's right hand conceal the number keys when an arithmetic  
key is pressed. (90% of people are right-handed, and would use that hand to press  
keys.)
2. The corresponding members of the functional pairs (-, +) and (\*, /) are oriented  
inconsistently (i.e., - above +, but \* above /)

Starting with the Voyager series, HP "wised up" and arranged their arithmetic keys the  
way TI had done it since the 1970's.

-- KS

*Edited: 25 Mar 2007, 5:15 p.m. after one or more responses were posted*

### **karl's HP41 comparison...**

*Message #38 Posted by **Gene** on 25 Mar 2007, 8:30 a.m.,  
in response to message #37 by Karl Schneider*

Hi Karl.

One thing missing from your comparison is that the HP41 had the USER keyboard.  
Each function you label as "alpha" could in fact be assigned to any key you wanted  
and accessed with one or two keystrokes. . . about the same as a shifted function on  
the 15c. You could even use the overlay that had the built-in functions listed on it  
and add your add'l functions where you wanted.

Personally, the PPC ROM did a great number of things you have listed and once  
plugged in, I considered it just part of the machine. That adds root finders,  
integration, etc.

I do agree about the 15c's much better handling of things like complex hyperbolics, etc. There are some things where there just was no comparison.

However, to me, the immense storage capacity, alpha keycodes, alpha messages/prompts, and BEEP made all the difference.

So, two sides to most every story? :-)

### **Re: Karl's HP41 comparison...**

*Message #39 Posted by **Karl Schneider** on 25 Mar 2007, 5:38 p.m.,  
in response to message #38 by Gene*

Hi, Bill --

Quote:

---

One thing missing from your comparison is that the HP41 had the USER keyboard. Each function you label as "alpha" could in fact be assigned to any key you wanted and accessed with one or two keystrokes. . . about the same as a shifted function on the 15c. You could even use the overlay that had the built-in functions listed on it and add your add'l functions where you wanted.

---

True -- in fact, that's just what ASN ("assign") is for, and why ASN was on the keyboard. I, personally, don't think that the overlays look very good, and only one can be used at a time. (Most Pac's had their own overlays, too.)

Only the HP-41CX provided a listing of key assignments ("CATALOG 6"), and the assignments get wiped out by a master clear.

Quote:

---

Personally, the PPC ROM did a great number of things you have listed and once plugged in, I considered it just part of the machine. That adds root finders, integration, etc.

---

Like the Advantage Pac, this added functionality was available only at extra cost to a base price that was already considerably higher than that of the HP-15C. (I do acknowledge that there once may have been an HP-sponsored promotion that provided an Advantage Pac with purchase of an HP-41CX.)

Quote:

---

However, to me, the immense storage capacity, alpha keycodes, alpha messages/prompts, and BEEP made all the difference.

---

The storage capacity of the base HP-41C was surprisingly a bit smaller than that of the HP-15C (64 registers versus the HP-15C's 67 registers). Memory beyond, say, 128 registers as well as X-Memory were most useful for programming, as were the alpha keycodes, alpha messages/prompts, and the BEEP function. (I also acknowledge that the Advantage Pac's matrix functions could store matrices

directly to X-Memory.) Of course, it is understood that HP-41 programming capabilities are far superior to those of the HP-15C.

-- KS

### **Re: Cash for your trash?**

*Message #40 Posted by [Trent Moseley](#) on 21 Mar 2007, 3:36 p.m.,  
in response to message #1 by Palmer O. Hanson, Jr.*

Ditto. I still use my Apple IIGS with separate non-Apple hard-drive on occasion.

tm

---

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## HP Forum Archive 17

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### **Yet another argument for more data storage in the HP-33S . . .**

Message #1 Posted by **Paul Brogger** on 20 Mar 2007, 6:02 p.m.

. . . not that I *understand* any of it.

<http://www.npr.org/templates/story/story.php?storyId=9015527>

---

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## HP Forum Archive 17

[ [Return to Index](#) | [Top of Index](#) ]**Multiple equation solver for the HP-28C (program)**Message #1 Posted by [Mike Ingle](#) on 20 Mar 2007, 3:24 p.m.

RPL calculators never had a simultaneous equation solver until the MSLV function on the 49 series. Recently I got an HP-28C and decided to write one small enough to run on it. I wrote the code on the 48GX and then keyed it in on the HP-28C. The 28C has some annoying limitations like no storage arithmetic or GET/PUT on local variables.

I changed to using stack storage rather than local variables. Surprisingly, all those ROLL and PICK operations use less memory than local variables even though the text is longer. The program after some optimization is 346 bytes on my 48GX. On the HP-28C I had 1274 bytes free after entering it. The 28C can solve useful systems of nonlinear equations.

The program is also useful on a 48G series machine or a 28S, and is small and simple to use. It runs quite a bit faster on the 48GX than on the 48GII, although the 48GII has a much faster editor.

To enter the program on a 28C, bring up the STACK menu first, because most of the keywords you will need are there. Make sure you enter it correctly. You probably will not be able to edit it. You may want to put a CLMF at the end so the display goes back to normal. On a 48 this is not required.

To use the solver:

Enter your expressions and save them in variables. They should be expressions for which the calculator will find a zero. If you start out with equations, put parens around both sides and change the = to a - sign.

Enter initial guesses and save them in the appropriate variables. All the variables must exist, so the expressions will eval to numbers.

Enter four lines on the stack:  
 List of expressions to solve.  
 List of variables to solve for.  
 Acceptable error, indicating when to stop.  
 Delta (small number which is added to obtain slopes.)

Run the solver. If you saved it as MSLV, enter MSLV CLMF

Example:

```
'2*X^3+Y+7*Z-96' 'E1' STO
'3*X+6*Y^3-2*Z-65' 'E2' STO
'-6*X+4*Y+2*Z^3-42' 'E3' STO
1 'X' STO
2 'Y' STO
3 'Z' STO
{ 'E1' 'E2' 'E3' }
{ 'X' 'Y' 'Z' }
1E-7
1E-7
```

```
MSLV CLMF
```

```
In 4 FIX:
X=3.3161
Y=2.1666
Z=2.9857
```

After the first iteration, you will see two lines. The first shows the iteration count starting at 1. The second shows the worst residual. The first line will count up and the second will hopefully move toward zero.

If the equations are ill-behaved the program may generate an error. Try a different set of initial guesses.

The program evals each expression at the current guess and at guess + delta for each variable. It fills out a matrix of the slopes and a vector of the values, uses the built-in linear algebra to solve the linear system, subtracts the result from the guesses, and repeats until the worst residual is less than the acceptable error.

```
%%HP: T(3)A(R)F(.);
\<< 4 PICK SIZE DUP
IDN DUP2 SWAP 1
\->LIST RDM 0 DUP
DO DROP 1 + 0 3
ROLL 1 6 PICK
FOR i 9 PICK i
GET DUP \->NUM 3 ROLL
i 1 \->LIST 3 PICK
PUT 3 ROLL 1 8
PICK
FOR j 10 PICK
j GET 9 PICK DUP2
STO+ 8 ROLL i j 2
\->LIST 6 PICK \->NUM 6
PICK - 12 PICK /
PUT 8 ROLL 1 8
NEXT ABS 4
ROLL MAX 3 ROLL
DROP
NEXT DUP 5 PICK
/ 1 7 PICK
FOR i 9 PICK i
GET OVER i 1 \->LIST
GET STO-
NEXT DROP 3
ROLL OVER 1 DISP
DUP 2 DISP
UNTIL DUP 8 PICK
<
END 9 ROLL 8
DROPN
\>>
```

```
-- END --
```

## Re: Multiple equation solver for the HP-28C (program)

Message #2 Posted by [Egan Ford](#) on 20 Mar 2007, 4:49 p.m.,  
in response to message #1 by [Mike Ingle](#)

Quote:

---

RPL calculators never had a simultaneous equation solver until the MSLV function on the 49 series. Recently I got an HP-28C and decided to write one small enough to run on it. I wrote the code on the 48GX and then keyed it in on the HP-28C. The 28C has some annoying limitations like no storage arithmetic or GET/PUT on local

variables.

---

OT, is there any MES or SES for the 42S?

*Edited: 20 Mar 2007, 4:52 p.m.*

## Re: Multiple equation solver for the HP-28C (program)

Message #3 Posted by **Thomas Okken** on 24 Mar 2007, 3:10 a.m.,  
in response to message #2 by Egan Ford

Quote:

---

OT, is there any MES or SES for the 42S?

---

Here's a quick-and-dirty port of Mike's program to the HP-42S. It could use some work to give it a nice user interface -- entering the vectors with the function and parameter names is pretty awkward right now. See the TEST program for how to initialize the parameters etc.; it's basically identical to Mike's RPL program.

In case you want to run it on an emulator, save yourself the trouble of typing and load [mes.raw](#) instead; it contains all the five programs listed below.

- Thomas

```
00 { 221-Byte Prgm }
01>LBL "MES"
02 CF 21
03 STO 00
04 Rv
05 STO 01
06 Rv
07 STO "VARS"
08 Rv
09 STO "EQS"
10 STO "RES"
11 DIM?
12 Rv
13 ENTER
14 ENTER
15 NEWMAT
16 STO "DER"
17 Rv
18 1E3
19 ÷
20 1
21 +
22 STO 04
23 CLX
24 STO 02
25>LBL 00
26 1
27 STO+ 02
28 CLX
29 STO 03
30 RCL 04
31 STO 05
32>LBL 01
33 INDEX "EQS"
34 RCL 05
35 1
36 STOIJ
37 RCLEL
38 STO 07
39 INDEX "RES"
40 RCL 05
41 1
42 STOIJ
43 XEQ IND 07
```

```
44 STOEL
45 ABS
46 RCL 03
47 X<>Y
48 X>Y?
49 STO 03
50 RCL 04
51 STO 06
52>LBL 02
53 INDEX "VARS"
54 RCL 06
55 1
56 STOIJ
57 RCLEL
58 STO 08
59 RCL 00
60 STO+ IND 08
61 XEQ IND 07
62 RCL 00
63 STO- IND 08
64 INDEX "RES"
65 RCL 05
66 1
67 STOIJ
68 R^
69 RCLEL
70 -
71 RCL÷ 00
72 INDEX "DER"
73 RCL 05
74 RCL 06
75 STOIJ
76 Rv
77 Rv
78 STOEL
79 ISG 06
80 GTO 02
81 ISG 05
82 GTO 01
83 RCL "DER"
84 STO÷ "RES"
85 RCL 04
86 STO 05
87>LBL 03
88 INDEX "RES"
89 RCL 05
90 1
91 STOIJ
92 RCLEL
93 INDEX "VARS"
94 RCL 05
95 1
96 STOIJ
97 RCLEL
98 R^
99 STO- IND ST Y
100 ISG 05
101 GTO 03
102 CLA
103 RCL 02
104 AIP
105 |-" \LF"
106 ARCL 03
107 AVIEW
108 RCL 01
109 RCL 03
110 X>=Y?
111 GTO 00
112 CLD
113 END

00 { 37-Byte Prgm }
01>LBL "E1"
02 MVAR "X"
03 MVAR "Y"
04 MVAR "Z"
05 2
06 RCL "X"
07 3
```



```
08 Y^X
09 x
10 RCL+ "Y"
11 7
12 RCL× "Z"
13 +
14 96
15 -
16 END

00 { 40-Byte Prgm }
01>LBL "E2"
02 MVAR "X"
03 MVAR "Y"
04 MVAR "Z"
05 3
06 RCL× "X"
07 6
08 RCL "Y"
09 3
10 Y^X
11 x
12 +
13 2
14 RCL× "Z"
15 -
16 65
17 -
18 END

00 { 41-Byte Prgm }
01>LBL "E3"
02 MVAR "X"
03 MVAR "Y"
04 MVAR "Z"
05 -6
06 RCL× "X"
07 4
08 RCL× "Y"
09 +
10 2
11 RCL "Z"
12 3
13 Y^X
14 x
15 +
16 42
17 -
18 END

00 { 89-Byte Prgm }
01>LBL "TEST"
02 1
03 STO "X"
04 2
05 STO "Y"
06 3
07 STO "Z"
08 3
09 1
10 NEWMAT
11 ENTER
12 EDIT
13 "E1"
14 ASTO ST X
15 ->
16 "E2"
17 ASTO ST X
18 ->
19 "E3"
20 ASTO ST X
21 EXITALL
22 X<>Y
23 EDIT
24 "X"
25 ASTO ST X
26 ->
```

```
27 "Y"  
28 ASTO ST X  
29 ->  
30 "Z"  
31 ASTO ST X  
32 EXITALL  
33 1E-7  
34 1E-7  
35 XEQ "MES"  
36 .END.
```

*Edited: 24 Mar 2007, 3:29 a.m.*

**Re: Multiple equation solver for the HP-28C (program)**

*Message #4 Posted by [Egan Ford](#) on 24 Mar 2007, 11:33 a.m.,  
in response to message #3 by Thomas Okken*

Thanks! I will give this a try.

**Re: Multiple equation solver for the HP-28C (program)**

*Message #5 Posted by [Les Wright](#) on 24 Mar 2007, 1:48 p.m.,  
in response to message #3 by Thomas Okken*

Thomas, this is great!

You know, I am embarrassed to say that prior to this I didn't know that alphanumerics could be stored in matrices and vectors on the 42S. I thought you had real matrices and complex matrices, and that was it.

Les

**Re: Multiple equation solver for the HP-28C (program)**

*Message #6 Posted by [Les Wright](#) on 24 Mar 2007, 5:01 p.m.,  
in response to message #3 by Thomas Okken*

Thomas, for my own purposes I added SF 21 and VIEW "X", etc., to the test routine so I could either see or print the solution rather than search it out in my variable directory.

Les

**Re: Multiple equation solver for the HP-28C (program)**

*Message #7 Posted by [Thomas Okken](#) on 24 Mar 2007, 9:01 p.m.,  
in response to message #6 by Les Wright*

Printing the solution is a nice improvement, and there are a few others that come to mind: an easier way to enter the list of functions and parameters, and using a VARMENU to let the user set initial values...

I'll try to find some time to spiff up the MES program a little bit next week.

- Thomas

**Re: Multiple equation solver for the HP-28C (program)**

*Message #8 Posted by [Gerson W. Barbosa](#) on 20 Mar 2007, 5:34 p.m.,  
in response to message #1 by Mike Ingle*

This is worth going to the [Software Library](#). So far there's only one 28C/S program there. You might also consider submitting it to [hpcalc.org](http://hpcalc.org).

Quote:

---

I changed to using stack storage rather than local variables. Surprisingly, all those ROLL and PICK operations use less memory than local variables even though the text is longer.

---

This technique also makes for faster programs, as you may have noticed. I used it on this [simple prime-factorizer](#) for the HP-28C/S, which lacks it. I initially used global variables, then local variables and finally the stack only. The program is not fast because of the simple algorithm I used, but it would have been even slower otherwise.

Since we're talking about equation solver, I'd like to present a linear equations system solver for the HP-28S. It was written by one of my classmates back in 1987 and it was very useful in Circuit Analysis classes:

```
%%HP: T(3)A(D)F(.);
DIR
  \183\<-
  \<< VARS 1 OVER
  '\183\<-' POS 1 - SUB
PURGE
  \>>
  SYS
  \<< DUP SIZE \-> 1
n
  \<< n \->LIST
'EQS' STO 0 n
  FOR i 1 n
    FOR j i j
== 1 0 IFTE 1 j GET
STO
      NEXT 1 n
    FOR j '
EQS(j)' \->NUM
      NEXT n
  \->ARRY i
    IF NOT
    THEN NEG
  'VET' STO
    ELSE VET
  + ARRY\-> DROP
    END
    NEXT { n n
} \->ARRY 1 PURGE TRN
CONJ 'MAT' STO VET
MAT / n 1
  FOR i DUP i
GET 1 i GET STO -1
  STEP VET
  ARRY\-> DROP { n 1 }
  \->ARRY 'VET' STO
  DROP
  \>>
\>>
END
```

Usage and examples in this old thread:

<http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv015.cgi?read=82010>

Unfortunately it doesn't work on the HP-49/50G. One possible reason is TRN (transpose) behaves differently on the 28/48 and on the 49/50 calculators. Could anyone please point out other reasons?

Regards,

Gerson.

Edited: 22 Mar 2007, 7:24 a.m.

## Now 333.5 bytes

Message #9 Posted by [Mike Ingle](#) on 21 Mar 2007, 2:32 p.m.,  
in response to message #1 by [Mike Ingle](#)

Multiple equation solver now down to 333.5 bytes - this is fun!

```
%%HP: T(3)A(R)F(.);
\<< 4 PICK SIZE DUP IDN
DUP2 SWAP 1 \->LIST RDM
0 DUP DO DROP 1 + 0
ROT 1 6 PICK
FOR i 9 PICK i GET DUP
\->NUM ROT i 1 \->LIST
3 PICK PUT 3 ROLL
1 8 PICK FOR j
10 PICK j GET 9 PICK DUP2
STO+ 8 ROLL i j 2 \->LIST
6 PICK \->NUM 6 PICK -
12 PICK / PUT 8 ROLL STO-
NEXT ABS 4 ROLL MAX 3 ROLL
DROP NEXT 4 PICK / 1 6 PICK
FOR i 8 PICK i GET OVER
i 1 \->LIST GET STO- NEXT
3 ROLL DUP2 2 DISP 1 DISP
UNTIL DUP 8 PICK < END
9 ROLL 8 DROPN \>>
```

---

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## HP Forum Archive 17

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### **FYI: HP-IL interface card (82973)**

*Message #1 Posted by [Leo Duran](#) on 20 Mar 2007, 2:38 p.m.*

I came across this, and thought you may find it useful: <http://www.computerpartsgalore.com/cards-io.htm> Hewlett Packard 82973-60001 HP Interface Loop Card ISA 8bit \$45.00

Leo Duran.

---

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## HP Forum Archive 17

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### **Annoying HP popup**

Message #1 Posted by [Johan](#) on 20 Mar 2007, 8:03 a.m.

I have a little problem, it's about HP registration where i can send my personal information to HP. I have filled out the boxes and questions and done the registration thing, but the HP registration thing is still popping up every 10 min.. It's kinda annoying cos i have written my registration several times now.. :/

### **Re: Annoying HP popup**

Message #2 Posted by [gw](#) on 23 Mar 2007, 1:02 a.m.,  
in response to message #1 by Johan

one of the reasons I returned my recently purchased notebook. Main reason of course is the crappy Vista

---

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## HP Forum Archive 17

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**HP-75C Battery Question**

Message #1 Posted by [Maximilian Hohmann](#) on 20 Mar 2007, 7:14 a.m.

Hello!

This morning I got my first Christmas present for this year, when the postman delivered a box containing an HP-75C :-)

From the auction description I knew already that it has no battery (but is complete otherwise with charger, manuals, magnetic cards, video interface and cables - and working of course). It looks as if a classic series battery pack (3 AA cells) could fit inside, but the contacts are definitely different, as there are three of them instead of two... Unfortunately, the dead battery pack was not included, so I have no starting point for making a replacement

And so my question is: What are the specifications of the HP-75C battery pack? And is there maybe a source for refurbished batteries anywhere (I had no luck with google and ebay searches so far)?

Greetings, Max

**Re: HP-75C Battery Question**

Message #2 Posted by [Tony Duell](#) on 20 Mar 2007, 7:20 a.m.,  
in response to message #1 by Maximilian Hohmann

The original battery is the same as the one used in classic calculators -- 3 AA NiCds in series. It makes contact to 2 of the spring terminals only.

I forget what the third contact is for (and the service manual is not very clear on this).

**Re: HP-75C Battery Question**

Message #3 Posted by [Maximilian Hohmann](#) on 20 Mar 2007, 8:27 a.m.,  
in response to message #2 by Tony Duell

Hello!

Quote:

\_\_\_\_\_

The original battery is the same as the one used in classic calculators -- 3 AA NiCds in series.  
It makes contact to 2 of the spring terminals only.

\_\_\_\_\_

That is definitely the good news of the day (for me). Thank you for the quick reply, I will try one of my classic battery packs when I am home tonight!

Greetings, Max

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## HP Forum Archive 17

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**OT sticky plastic**

Message #1 Posted by [Charlie O.](#) on 19 Mar 2007, 1:32 p.m.

I have a Sharp OZ-6500 that has been inside a plastic grocery bag with a half dozen TI's. It is now very sticky except for the hinge. Does anyone know a cure? I've tried plain water and then liquid hand soap to no avail. Private email is ok if you consider this inappropriate.

Thanks, ceo

**Re: OT sticky plastic**

Message #2 Posted by [Egan Ford](#) on 19 Mar 2007, 3:13 p.m.,  
in response to message #1 by [Charlie O.](#)

Some wax-based hair removal kits have a thin cylindrical vial of blue liquid--ask your wife for some. If you take a Q-tip with some of that liquid (I think it's a light oil) and gently rub away at the sticky goo followed by water on the other end of the Q-tip followed by a dry cloth you should be gooless.

My wife also suggests trying candle wax remover or medical bandage goo remover wipes. I have tried the medical bandage goo remover wipes and the blue liquid on gooey plastic with success.

**Re: OT sticky plastic**

Message #3 Posted by [Paul Brogger](#) on 19 Mar 2007, 5:43 p.m.,  
in response to message #1 by [Charlie O.](#)

I've used a product called "Goo Gone" on lots of sticky stuff, like tape residue, etc. It seems pretty gentle, but if you try it, you'll want to test it somehow. (I don't know that I've yet used it on a calculator.)

Good luck!

**Re: OT sticky plastic**

Message #4 Posted by [Alan Firth](#) on 19 Mar 2007, 9:20 p.m.,  
in response to message #3 by [Paul Brogger](#)

Anyone tried using such a product to lift the back labels on 65's and 67's?

**Re: OT sticky plastic - not residue**

Message #5 Posted by [Charlie O.](#) on 19 Mar 2007, 9:47 p.m.,  
in response to message #3 by [Paul Brogger](#)

I find lighter fluid to work very well on sticker/tape residue but this is a case of the plastic turning sticky. It seems like the textured plastic case has had a reaction but the slick portions like the hinge, catch and working faces are fine. When I returned to my work area I layed the Sharp on a paper towel and later it stuck to the towel. The plastic has just softened, it seems. I had the bag in a laptop case behind the seat of

my truck while at work but it hasn't even been hot till the past week.

**Re: OT sticky plastic - not residue**

*Message #6 Posted by [Paul Brogger](#) on 20 Mar 2007, 10:37 a.m.,  
in response to message #5 by Charlie O.*

One of the plastics experts should chime in here.

I wonder whether you might harden it again by gently warming it in a well-ventilated space. If some volatile compound is at work, you might be able to "boil it off". (But I'm *way* out of my element, so do look for more informed advice!)

Sounds yucky -- good luck!

**Re: OT sticky plastic**

*Message #7 Posted by [Frank Boehm](#) on 20 Mar 2007, 11:03 a.m.,  
in response to message #1 by Charlie O.*

This is flexibilizer, used in a lot of plastic products (like plastic bags or plastic cases). I don't think there is a method to get rid of it again without damaging the plastics.

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## HP Forum Archive 17

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**82153A Wand**

Message #1 Posted by [Chiu Yiu Wai](#) on 19 Mar 2007, 9:47 a.m.

Do anyone know what is the problem of the bar code wand that can not scan the bar code into calculator? I have tried all 4 ports has same result, when I press the button on bar code wand the calculator has been turned on, 'red light' has generated, and I pressed cat 2, the calculator can detected wand and show 'wand 1E', I scan the bar code from original paper keyboard, the calculator without any reaction. Please help me, it make me depressed.

*Edited: 19 Mar 2007, 9:57 a.m.*

**Re: 82153A Wand (w. correction)**

Message #2 Posted by [Vieira, L. C. \(Brazil\)](#) on 19 Mar 2007, 4:00 p.m.,  
in response to message #1 by [Chiu Yiu Wai](#)

Hi, Chiu Yiu Wai;

do you have the manuals? There are two programs in the wand ROM that can also be used to check functionality. (*correction: one program, WNDTST*)

Let us know.

Success!

Luiz (Brazil)

*Edited: 20 Mar 2007, 6:33 a.m.*

**Re: 82153A Wand**

Message #3 Posted by [Bill Smith](#) on 19 Mar 2007, 9:21 p.m.,  
in response to message #1 by [Chiu Yiu Wai](#)

I've found that my wand doesn't scan well when the calculator batteries are low, but not low enough to trigger the warning. Perhaps a charge-up or fresh batteries will do the trick.

**Re: 82153A Wand**

Message #4 Posted by [Thor Lansen](#) on 19 Mar 2007, 9:54 p.m.,  
in response to message #1 by [Chiu Yiu Wai](#)

Hello: I had trouble with mine getting it to work when I first got it. Nothing wrong with the wand, it was me, make sure you:

1) hold the wand angled between 10 and 20 deg 2) press wand switch and start to scan about 1 cm from first bar in the row 3) use a quick uniform speed, and 4) keep the wand in contact with the paper

Try it several times until it works.

Note: make sure the bar images you are trying to read are well defined and have sharp contrast with the paper.

Good luck, Thor

**Re: 82153A Wand**

*Message #5 Posted by [Chiu Yiu Wai](#) on 20 Mar 2007, 1:41 p.m.,  
in response to message #4 by Thor Lansen*

Thank you everybody give me respond and good suggestion , as Thor Lansen mention,the problem is me , not the wand, other item 1) ,I did not do anything suitable for wand operation.

*Edited: 23 Mar 2007, 10:52 a.m. after one or more responses were posted*

**Re: 82153A Wand**

*Message #6 Posted by [Les Wright](#) on 21 Mar 2007, 11:43 a.m.,  
in response to message #5 by Chiu Yiu Wai*

I am so relieved your wand works.

For me, the wand is proving the most reliable way to get programs into the calculator, and I have devoted some time to producing my own barcode using Leo Duran's hp41uc utility.

I am finding that magnetic cards are more fragile than I first thought, and the HP41 card reader works best only with the freshest batteries--I have been getting a lot more reading errors lately on cards that were recorded just a few weeks ago. But barcode is easily generated and printed and the wand seems more forgiving when the batteries start to weaken. If the paper printout becomes marked or stained, it is easy enough to print out a clean duplicate.

I love my wand. If there were an easy way to get edited programs out of my calculator on to my PC to produce revised barcode for archival purposes, that would be really cool!

Have fun with the wand.

Les

**Re: 82153A Wand**

*Message #7 Posted by [Dia C. Tran](#) on 21 Mar 2007, 4:35 p.m.,  
in response to message #6 by Les Wright*

Leo Duran's utilities has the ability to convert program in text form to raw then to barcode. I can print program from a 41 via the IR printer module to an HP48 capture with the inprt utility running on the 48. The text can be transfer to the PC. But I need to write a routine to fix the text file as it not quite the same as Leo's util expects.

**Re: 82153A Wand**

*Message #8 Posted by [Les Wright](#) on 21 Mar 2007, 5:07 p.m.,  
in response to message #7 by Dia C. Tran*

Wow!

I have an IR module. I have an HP48G (not GX). I have a 48G serial cable and a serial port on my computer.

I am dying to know more about how to do this! Can you tell me more about the inprt utility? Is it intrinsic to the 48G or is it something I need to get from hpcalc.org? Is it complicated to use? Is it possible to "print" programs from the 42S to the 48G in this way? Is there a comparable utility for the 49G+ or 50G, which have admittedly much weaker IR capabilities?

This sounds so cool and I would love to learn more.

Les

**Re: 82153A Wand**

*Message #9 Posted by [Chan Tran](#) on 21 Mar 2007, 7:35 p.m.,  
in response to message #8 by Les Wright*

You will need to down load the inprt program from some where. HPcalc.org is a good place. There are 2 version I think, one for the SX and one for the GX. It's a program written by HP.

**Re: 82153A Wand**

*Message #10 Posted by [Chan Tran](#) on 21 Mar 2007, 7:40 p.m.,  
in response to message #9 by Chan Tran*

And yes it will capture printout from the 42S as well as the 28C and S.

**Re: 82153A Wand**

*Message #11 Posted by [Vieira, L. C. \(Brazil\)](#) on 22 Mar 2007, 8:24 a.m.,  
in response to message #8 by Les Wright*

Hi, Les;

This is somehow easy to achieve, once you are able to transfer files from your HP48G to your computer. I've been doing this for such a long time, in order to store my original HP41/HP42/HP28 listings, that I thought everyone else knew the 'how-to'.

As explained, you'll need the specific HP48G [inprt](#) file to capture the IR originated listings and, if you are dealing with HP41 programs, you'll also need Leo Duran's lifutil (I still use the original DOS version...) to convert the captured listings to printable barcode. I must confess I have not been doing this for some time, but I remember reading about a Windows® version of Duran's lifutil. I also remember that I could generate HPGL coded barcodes that printed perfectly fine in my HP1100 laser printer, but I was never able to add the barcodes to, say, a Word®-based document. I once found an HPGL converter that returned convenient graphics from the HPGL file with the barcode data that could be inserted in a Word®-based document, but the line numbers that follow each row of the barcode were converted to a series of dots, though. No numbering...

I think better results may be achieved with newer converters and newer Word® versions, but I did not test any.

Sorry not being of further help.

Best regards.

Luiz (Brazil)

*Edited: 22 Mar 2007, 10:00 a.m.*

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## HP Forum Archive 17

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**HP9800 Emulator update release 0.30**

Message #1 Posted by [Achim \(Germany\)](#) on 18 Mar 2007, 1:06 p.m.

Dear friends and collectors of old computers, a new release of HP9800E is available from

<http://sourceforge.net/projects/hp9800e>

This release 0.30 contains new major functions, a completely new user manual, and some minor bug fixes. Please read the changes\_0.30.txt.

Have fun.

**Re: HP9800 Emulator update release 0.30**

Message #2 Posted by [J-F Garnier](#) on 28 Mar 2007, 7:13 a.m.,  
in response to message #1 by [Achim \(Germany\)](#)

I spent some time with the 9830 emulation during the last days. It is the most interesting machine for me, because it's the first HP Basic implementation on a desktop calculator.

A lot of documentation for the 9830 and ROM is available on The Australian Site, but I didn't find anything on the Infotek Fast Basic. Do these ROMs speed-up the Basic language, as their names imply? Any information will be appreciated.

I really liked the documentation, and the possibility to configure the optional ROMs. Great work, Achim!

J-F

(Still hoping to see a 9825/9835/9845 version some day...)

---

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## HP Forum Archive 17

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### Distance between geographic points

Message #1 Posted by [Sam Levy](#) on 18 Mar 2007, 11:53 a.m.

Around the HP-65 HP-67 era my boss had me calculate distances for his glider club. It was in the calculator book I was using, I shortened the program and made it automatic for crossing the equator. I have the manuals on CD and I request help finding that worked solution. If you could help me find the book and page please. Sam

### Re: Distance between geographic points

Message #2 Posted by [Thomas Okken](#) on 18 Mar 2007, 3:12 p.m.,  
in response to message #1 by Sam Levy

I have an HP-42S program that computes Great Circle Distance [here](#). Should be easy to adapt to the HP-65 or HP-67 or any other RPN scientific.

It takes coordinates in decimal degrees, so you may want to add ->HMS commands at a few places; it calculates the distance in kilometers, but that is easy enough to change to nautical miles by changing the final multiplication to 21600.

The formula used is

$$\text{dist} = \text{acos}(\cos(\text{lat1}) * \cos(\text{lat2}) * \cos(\text{lon1} - \text{lon2}) + \sin(\text{lat1}) * \sin(\text{lat2}))$$

Where dist is an angle on the Great Circle passing through the two points. Assuming the calculator is in DEG mode, multiply by 60 to get nautical miles, etc. This formula works for any pair of coordinates -- no issues with crossing the equator or passing over the poles or anything like that.

UPDATE: There is more information, and more accurate formulae, [here](#).

- Thomas

```
00 { 101-Byte Prgm }
01>LBL "GC"
02 MVAR "LAT1"
03 MVAR "LON1"
04 MVAR "LAT2"
05 MVAR "LON2"
06 MVAR "DIST"
07 DEG
08 RCL "LAT1"
09 COS
10 RCL "LAT2"
11 COS
12 ×
13 RCL "LON1"
14 RCL- "LON2"
15 COS
16 ×
17 RCL "LAT1"
18 SIN
19 RCL "LAT2"
20 SIN
21 ×
22 +
23 ACOS
24 360
25 ÷
```



```
26 40076
27 ×
28 RCL- "DIST"
29 .END.
```

*Edited: 18 Mar 2007, 5:07 p.m.*

**Re: Distance between geographic points**

*Message #3 Posted by [Charles](#) on 18 Mar 2007, 5:50 p.m.,  
in response to message #2 by Thomas Okken*

Sam,

Try the "HP25 Applications Programs" book, pages 61-69

**Re: Distance between geographic points**

*Message #4 Posted by [Jean-Marc](#) on 18 Mar 2007, 6:00 p.m.,  
in response to message #1 by Sam Levy*

Hi,  
you could try the "Terrestrial geodesic distance" programs  
in the HP-41 library.

Regards  
JMB

**Re: Distance between geographic points**

*Message #5 Posted by [Sam Levy](#) on 18 Mar 2007, 10:13 p.m.,  
in response to message #4 by Jean-Marc*

Thanks to all. I had hoped to find the example I used before but I will be more adventurous and try one of the complex solutions. Sam

**Re: Distance between geographic points**

*Message #6 Posted by [Les Wright](#) on 18 Mar 2007, 11:27 p.m.,  
in response to message #5 by Sam Levy*

Are you referring to the programs in the Navigation Pacs for HP65 or HP67? Both of those manuals are on the DVD under the "Calculator Software Manuals" subheading.

Les

**Re: Distance between geographic points**

*Message #7 Posted by [Les Wright](#) on 19 Mar 2007, 6:56 a.m.,  
in response to message #6 by Les Wright*

Actually, there is a simpler routine called Great Circle Navigation in the manual for the HP65 Standard Pac. That is on the DVD too. Maybe that is the one you are remembering? It just fits into the HP65's 100 steps.

Les

## Re: Distance between geographic points

Message #8 Posted by [Les Wright](#) on 19 Mar 2007, 7:01 a.m.,  
in response to message #4 by Jean-Marc

I would recommend this highly.

Jean-Marc doesn't post nearly frequently enough on the Forum for my liking. I have become a huge fan of his work--indeed, most of my more recent programming efforts in special functions for the HP33S and 32sii are basically shameless plagiarisations of his stuff. His contributions are prolific and are almost always huge improvements over what has previously been available in the HP41 users' library solution books.

Can you let us know if you ever locate the old program you were thinking of?

Les

## Re: Distance between geographic points

Message #9 Posted by [Sam Levy](#) on 19 Mar 2007, 9:04 a.m.,  
in response to message #8 by Les Wright

First my surprise at finding my own entry in this forum on Google search for Kinpo. Second the equation I used must have been in a calculator manual as I did not buy any other texts or programs. It specifically had a correction for crossing the equator when a certain term was evaluated. I found that term in the equation and during the solution added a test and a flag to make the correction automatic. It must have been for the HP-65 as it fit in the program space with few steps left. Sam Thanks all.

## Re: Distance between geographic points

Message #10 Posted by [Jean-Marc](#) on 20 Mar 2007, 5:46 p.m.,  
in response to message #8 by Les Wright

Hi Les, Thank you for praising my programs. The angular distance  $d$  between  $(L,b)$  and  $(L',b')$  on a sphere may also be obtained by

$$(\sin(d/2))^2 = (\sin(b-b')/2)^2 (\cos(L-L')/2)^2 + (\cos(b-b')/2)^2 (\sin(L-L')/2)^2$$

where  $L, L'$  = longitudes and  $b, b'$  = latitudes

These formulas are less accurate than Andoyer's formulas, except perhaps for nearly antipodal points.

Actually,  $d/2$  is in X-register at line 30 of the "TGD" program listed in "Terrestrial Geodesic Distance for the HP-41. ( delete lines 27 and 23 which are unuseful here ) and simply multiply by the Earth diameter to get the distance.

Regards, JMB.

---

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## HP Forum Archive 17

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### 42s Screen problem

Message #1 Posted by [Alan](#) on 18 Mar 2007, 1:31 a.m.

<http://img179.imageshack.us/img179/6963/untitledus8.jpg>

As you can see, a black patch has form on the screen. Is there any way to DIY fix it? Or is this the end of this 42s?

### Re: 42s Screen problem

Message #2 Posted by [Walter B](#) on 18 Mar 2007, 1:14 p.m.,  
in response to message #1 by Alan

Seems this is the end of this LCD :(

If you have another Pioneer to sacrifice, there may be a way out. IIRC, there were earlier threads about exchanging LCDs in this forum. May be worthwhile to search the archives. Good luck!

### Re: 42s Screen problem

Message #3 Posted by [Les Wright](#) on 18 Mar 2007, 3:19 p.m.,  
in response to message #2 by Walter B

Quote:

\_\_\_\_\_

If you have another Pioneer to sacrifice

\_\_\_\_\_

I don't think it can be just any Pioneer, alas. My 14B and 32Sii seem to have a very different pixel size and density from the 42S. Can't speak for the 17B or 17BII.

However, the screen on my much maligned 17Bii+ seems very 42S-like. Is it remotely feasible, I wonder, to fetch a 17Bii+ cheaply and cannabalize its LCD, or is the similarity merely superficial?

Randy of FixThatCalc.com has a masterful awareness of display issues, so you could try writing him. I find he is very generous with his advice.

Les

### Re: 42s Screen problem

Message #4 Posted by [Randy](#) on 18 Mar 2007, 4:04 p.m.,  
in response to message #3 by Les Wright

Quote:

\_\_\_\_\_

I wonder, to fetch a 17Bii+ cheaply and cannabalize its LCD, or is the similarity merely superficial?

\_\_\_\_\_

Yes, it's merely superficial. While it appears the same from the outside, it will not work in the 42S.  
Been there, done that.

The LCD's in the 17B, 17Bii and 27S are the only compatible displays.

---

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## HP Forum Archive 17

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### Clearing memory [HP41C]

Message #1 Posted by [eev](#) on 18 Mar 2007, 8:56 a.m.

Is there a way to clear al memmory's of the Hp 41C?

eev

### Re: Clearing memory [HP41C]

Message #2 Posted by [Randy](#) on 18 Mar 2007, 9:42 a.m.,  
in response to message #1 by [eev](#)

1. Turn unit off
2. Press and hold down the backspace key (cl x)
3. Press and release the ON key
4. Release the backspace key

You should see the message MEMORY LOST and the 41 is now reset to all factory defaults with memory cleared.

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## HP Forum Archive 17

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### 15 C Copy made in China ?

Message #1 Posted by [dan moise](#) on 18 Mar 2007, 6:07 a.m.

Hi there!

Has anyone heard about a 15 C Copy made in China?

regards

May HP bring back the 15 C !

### Re: 15 C Copy made in China ?

Message #2 Posted by [Walter B](#) on 18 Mar 2007, 7:28 a.m.,  
in response to message #1 by dan moise

Hi Dan, is this only a rumour or more? 7E9 people produce a lot of them. What's the evidence?

### Re: 15 C Copy made in China ?

Message #3 Posted by [moise dan](#) on 18 Mar 2007, 10:18 a.m.,  
in response to message #2 by Walter B

Thank You Walter!

I was told there was a company on internet selling such an item!

Anyhow I did try to get into contact, but there was nothing to find!

regards dan

### There was a 12C copy made in China

Message #4 Posted by [CME750](#) on 18 Mar 2007, 3:09 p.m.,  
in response to message #3 by moise dan

A few years ago, a Taiwanese company began selling a 12C clone, marketed as the Aurora FN-1000. You could get it for \$25 from Fry's. More info here:

<http://www.finseth.com/hpdata/craig-aurora.html>

There was speculation that if the 12C could be cloned, then the 15C might be next. But the FN-1000 experiment was apparently unsuccessful. As far as I know, it was discontinued, and no further clones have appeared.

### Re: There was a 12C copy made in China

*Message #5 Posted by [moise dan](#) on 19 Mar 2007, 3:14 p.m.,  
in response to message #4 by CME750*

Thank You!

sincerely dan

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## HP Forum Archive 17

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**HP 17bii+ solver problem, another solution**

Message #1 Posted by [Don Shepherd](#) on 17 Mar 2007, 8:52 p.m.

A few weeks ago I posted this solver equation that would not work on the 17bii+ (although it apparently worked on the older 17bii):

$$\text{sumofdigits}=\text{sigma}(i:0:\log(n):1:\text{mod}(n:10)+0xL(n:\text{ip}(n/10)))$$

A fellow forum member (as well as an HP rep) offered a solution that worked, but it involved defining and using another variable and using it in place of n. Today I determined that the offending part of the original equation was the  $\text{ip}(n/10)$ , and I found that the following solution also works (and does not require a second variable):

$$\text{sumofdigits}=\text{sigma}(i:0:\log(n):1:\text{mod}(\text{ip}(n):10)+0xL(n:n/10))$$

Interesting.

---

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## HP Forum Archive 17

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### HP 97 - 30th birthday

Message #1 Posted by [Patrick R](#) on 17 Mar 2007, 4:26 p.m.

As the end of the 11th week of 2007 approaches, I celebrated the 30th birthday of my HP97 sn. 1711Sxxxxx.

<http://www.physique.lu/hpcalculators/pictures/HP97-birthday-30.jpg>

### Re: HP 97 - 30th birthday

Message #2 Posted by [Eduardo](#) on 18 Mar 2007, 12:04 a.m.,  
in response to message #1 by Patrick R

It has SOOO become my desktop's background image ;-)

Thanks.

Eduardo

### Re: HP 97 - 30th birthday

Message #3 Posted by [Les Wright](#) on 18 Mar 2007, 3:39 p.m.,  
in response to message #1 by Patrick R

Mine is a later model--SN 22xxxxxxxx.

It is on its way back from FixThatCalc, so if its 25th birthday has passed it gets a belated cake too!!!!

Les

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## HP Forum Archive 17

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### 71B Math ROM, is there an alternative?

Message #1 Posted by [Egan Ford](#) on 17 Mar 2007, 1:54 p.m.

Math ROMs are scarce, is there an alternative?

Thanks.

### Re: 71B Math ROM, is there an alternative?

Message #2 Posted by [Eric Smith](#) on 17 Mar 2007, 2:19 p.m.,  
in response to message #1 by Egan Ford

An HP 50G? :-)

### Re: 71B Math ROM, is there an alternative?

Message #3 Posted by [JeffD](#) on 17 Mar 2007, 2:30 p.m.,  
in response to message #1 by Egan Ford

If you can find a 32K Ram Module then you could find the Math Rom on the internet and load this onto your HP-71B using the 9114 disc drive. The Ram modules might be easier to find???

### Re: 71B Math ROM, is there an alternative?

Message #4 Posted by [Namir](#) on 17 Mar 2007, 3:37 p.m.,  
in response to message #1 by Egan Ford

The HP-71B emulator by J-F Garnier has the MATH ROM included in the software.

Namir

### Re: 71B Math ROM, is there an alternative?

Message #5 Posted by [Howard Owen](#) on 18 Mar 2007, 3:20 a.m.,  
in response to message #1 by Egan Ford

I obtained a 64K CMT EEPROM with a 71 I bought off eBay. I also had a 32K EEPROM I had acquired earlier. I cut a deal with Mike (his username on this board is "Mike") to program the 64K chip in exchange for the 32K chip. I chose the math ROM and the JPCROM, plus a few other miscellaneous LEX files. Mike sells 64K and 32K EEPROMs on eBay along with the service of burning whatever software you supply him with onto the parts before he ships them to you. It's generally a lot cheaper than trying to outbid other collectors for the rare add-ons like the math ROM.

You can also just copy MATHROM.LEX (available on the swap disks) into RAM if you have enough. It works fine that way.

Regards,

Howard

## Re: 71B Math ROM, is there an alternative?

Message #6 Posted by [Valentin Albillo](#) on 19 Mar 2007, 8:17 a.m.,  
in response to message #1 by Egan Ford

Hi, Egan:

Egan posted:

*"Math ROMs are scarce, is there an alternative?"*

They're scarce indeed if offered individually, but much less when bundled with the HP-71B itself.

A couple of years ago I found someone offering several HP-71B for auction. The add only mentioned that they were clean, working, and included an HP-IL module and a 4 Kb RAM module, all ports, etc. I got three of them for just \$150 in all.

Once they arrived, I was astonished when I saw that not only were the machines virtually mint (with just a small case of battery corrosion which simply required a minor clean job of the battery contacts with a cloth) and working perfectly, but each and everyone of them did also include a mint, working Math ROM plugged in, which wasn't even mentioned in the add.

I guess these machines were part of a larger lot belonging to some company which decided to get rid of them all, including backup, never used models which had been in store for a long time (thus the minor corrosion in one of them and their pristine status). Their business obviously did require HP-IL and Math ROM functionality (matrices or complex arithmetic, most likely), plus 4 Kb extra RAM, so all their calcs did include all three modules. The seller was obviously unaware of such finesses and was merely getting rid of the lot for what he/she considered a fair amount for such obsolete, weird handhelds (\$50-\$70).

Perhaps you could also have a look at HP-71Bs offered to see if they might perchance include a Math ROM, which seems much more likely than finding the individual ROM, most specially if the seller isn't very knowledgeable about what he/she's selling.

Best regards from V.

## Re: 71B Math ROM, is there an alternative?

Message #7 Posted by [Egan Ford](#) on 19 Mar 2007, 7:55 p.m.,  
in response to message #1 by Egan Ford

Thanks for all the responses.

Eric, I have a 50G, but desire a more complete 71B. I am a fan of the Voyagers (best calculators--ever), the 71B is like an expandable 11C, but I need the ROM to make it more 15C-like (best Voyager--ever).

JeffD, I think getting the 9114 may be harder and I do not have the RAM (yet). If a fellow 71Ber and I both had HP-IL could it be transferred that way? I hope my batteries never die.

Namir, got it and use it. Very nice. The simulated 80 column display is also nice. [rumor]I look forward to the upcoming GUI based on emu48[/rumor].

Howard, great idea. "Mike", if you are listening, message me when you have EEPROMs in stock.

Valentin, with buyers asking more questions and sellers posting the answers the odds are low for such a pleasant surprise. But I will try.

Thanks.

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## HP Forum Archive 17

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### Help!! programming hp 48G

Message #1 Posted by [Marco](#) on 17 Mar 2007, 9:16 a.m.

hey! I hope someone could help me!

I have a set of equations that I would like to solve with a program:

$$A = bd - zd^2 \quad P = b + 2d \sqrt{1 + z^2} \quad R = A/P \quad V = 1/n * R^{(2/3)} * (1/2) \quad Q = A * V$$

I have already done it with the Multiple Equation Solver, but I'd like to know if there's another way of doing it. This is what I did:

```
<< {'A = bd - zd^2' 'P = b + 2d v(1 + z^2)' 'R = A/P' 'V = 1/n * R^(2/3) *(1/2)' 'Q = A * V'} 'EQ' STO MINIT
MSOLVR >>
```

And then I created another program to erase the variables that it stored:

```
<< {A b d z P R V n S EQ Mpar Q} PURGE >>
```

Please help me, I think this is not the best way to do it!

### Re: Help!! programming hp 48G

Message #2 Posted by [Benny](#) on 17 Mar 2007, 2:55 p.m.,  
in response to message #1 by Marco

Hi Marco,

This is what I do: I put each formulae in a variable F1, F2, F3, F4. Then I add a description in the variable TITLE and next I complete the sequence of the params in a list and store it in LVARI. Be shure the list is complete. The main program then looks clearly structured: << F1 F2 F3 F4 4 \-> LIST STEQ TITLE LVARI MINIT MITM MSOLVR>>

Using STEQ shortens the program.

Hope this helps.

Kind regards,

Benny Vanruten

### Re: Help!! programming hp 48G

Message #3 Posted by [Marco](#) on 17 Mar 2007, 5:20 p.m.,  
in response to message #2 by Benny

Hey Benny thanks for your answer!

I have some doubts in what you told me: how can I add a title in the global variable?, and what does LVARI do? thanks for your answer!, but I have another doubt, When I don't give a lot of values it tells me that it has TOO MANY UNKNOWNS, but with the same values that I give it I can solve the problem manually but it takes some time, I don't know if I can apply in the program an iteration method or something, what would you suggest me?

Thanks!,

Marco

### **Re: Help!! programming hp 48G**

*Message #4 Posted by **Benny** on 18 Mar 2007, 6:43 p.m.,  
in response to message #3 by Marco*

Hi Marco,

In the variable LVARI you put ALL your parameters in the sequence you like them to appear on the display above the F-keys: e.g. { A b d z P R V ... } In TITLE you put the title you want to appear on top of the display e.g. "MY EQUATIONS" TOO MANY UNKNOWNS: that is normally what you get when you did not define enough variables. Perhaps the program needs startvalues. You can find more in the hp50G users guide on pages 7-10 ... 7-21 (hp50gug.pdf) which you can download from [www.hp41c.org](http://www.hp41c.org) (november 24 2006). If you like to Purge you can call LVARI and issue PURGE. That saves time. The best way is to run the program in a separate directory.

KR

Benny Vanruten

### **Re: Help!! programming hp 48G**

*Message #5 Posted by **Mike Ingle** on 23 Mar 2007, 2:09 p.m.,  
in response to message #1 by Marco*

Try my multiple equation solver. Scroll down to multiple equation solver for the HP28C. It works on the 48G too.

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## HP Forum Archive 17

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### a 32sii equation bug?

Message #1 Posted by [Les Wright](#) on 17 Mar 2007, 8:23 a.m.

A recent thread dealt with integrating the bell curve integrand,  $\exp(-x^2)$ , on the HP48G, and I have been playing with the problem on my recently acquired 32sii.

When trying to integrate this expression as an equation, the calculator does not seem to like  $\exp(-x^2)$  in that very form and never seems to converge. But it seems to like  $\exp(-(x^2))$ ,  $1/\exp(x^2)$ , and  $\exp(-\text{sq}(x))$  just fine. It also works adequately when the function is provided as an RPN program (RCL X,  $x^2$ , +/-,  $e^x$ ).

The 33S handles  $\exp(-x^2)$  just fine in that form, without any need for extra parentheses or alternate representations of the quantity to be antilogged.

Weird....

Les

### Re: a 32sii equation bug?

Message #2 Posted by [Thomas Radtke](#) on 17 Mar 2007, 8:52 a.m.,  
in response to message #1 by Les Wright

In this case, the 32sii can't tell minus from a signed number, which has a higher operator precedence as the exponentiation. So, +/- seems to be the same token as '-' in the equation editor.

If you write explicitly  $\exp(0-x^2)$  instead, everything works fine.

Edit: And congrats to the 32sii! :-)

Edited: 17 Mar 2007, 8:54 a.m.

### Re: a 32sii equation bug?

Message #3 Posted by [Les Wright](#) on 18 Mar 2007, 3:32 p.m.,  
in response to message #2 by Thomas Radtke

Quote:

And congrats to the 32sii! :-)

I am particularly proud of this acquisition. It is in impeccable shape, and I got it for \$130 from a fellow Canadian, so no customs and shipping was inexpensive and quick. I didn't think this was such a big deal, but then I learned that some folks pay twice that for this item. As a lover of the 33S, I am right at home with it, though the tiny memory size takes some adjustment.

It came with a nice case too--the thicker lined stitched leatherette one, not the thin molded vinyl one.

Les

### Re: a 32sii equation bug?

Message #4 Posted by [bill platt](#) on 17 Mar 2007, 6:54 p.m.,  
in response to message #1 by Les Wright

It isn't a bug as much as a poorly implemented system for "unary minus" that is at the root of the problem. There is a "bug" aspect to the unary minus with the 32sii but that is not really the point.

If you read the manual for the 32sii, and then read the 33s manual, you will see that in fact the "unary minus" function was changed and improved (simplified) in the 33s. The 32sii has a bad behavior with it in equations and reading the manual, you can see that it might be trouble.

I think Jordi Hidalgo's DATAFILE article on the 33s has some discussion of this, too.

As Thomas points out, just use the parenthesis whenever you have leading minuses, and it makes life easier in the 32sii.

### Re: a 32sii equation bug?

Message #5 Posted by [Les Wright](#) on 18 Mar 2007, 3:26 p.m.,  
in response to message #4 by bill platt

Quote:

\_\_\_\_\_

If you read the manual for the 32sii, and then read the 33s manual, you will see that in fact the "unary minus" function was changed and improved (simplified) in the 33s. The 32sii has a bad behavior with it in equations and reading the manual, you can see that it might be trouble.

\_\_\_\_\_

So the much-denigrated 33S actually IMPROVED on something in a pre-Kinpo calculator? And a Pioneer at that?

Egad, the scandal!

Les

### Re: a 32sii equation bug?

Message #6 Posted by [Rav](#) on 19 Mar 2007, 12:51 p.m.,  
in response to message #5 by Les Wright

Actually I think that the 33s improved on the equation solver too. It seems that the 33sii is an iterative solver and so can fall over.

The people who kindly responded to this question,

<http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv015.cgi?read=85299>

explain it much more eloquently.

Rav



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## HP Forum Archive 17

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### what's the beef with the 17bii+?

Message #1 Posted by [Les Wright](#) on 17 Mar 2007, 8:16 a.m.

Due to goofy timing on eBay I ended up with two of these, and I can't seem to even give the extra one away.

I have been playing with it and even though I know it pales in comparison to its beloved Pioneer predecessor I really like it. It is so much easier to use than the 12C for financial and two variable statistical work, it has IR printer capability, the the display is an example of the crispness and good contrast that the 42S should have.

I know the Kinpos are generally disdained around here (even though the 50G may be winning some loyalty), but is the thing really that horrible? I have had no bites on my classified, and the reseller in my area who moves new Kinpo/HP stuff tells me he can't seem to sell these things, though the 50G and kinpo 12C and CP move like crazy.

Any ideas? I am mystified....

Les

### Re: what's the beef with the 17bii+?

Message #2 Posted by [Don Shepherd](#) on 17 Mar 2007, 9:11 a.m.,  
in response to message #1 by Les Wright

Hi Les.

I think the answer is easy. The business and financial people are hooked on the 12c, that's their gold standard and, as a group, they are reluctant to change.

The hobbyists (like us) don't want to put up with the 17ii+'s funky solver. Back when I taught programming, I said that any programming language needs to support 3 structures: sequence, decision, and iteration. The solver supports the first 2, but it only supports loops that have a specific beginning and ending limit; that is, it does not support do...while. I think that is true even in the original 17bii. As such, it is not a strong programming platform.

So where is the market?

### Re: what's the beef with the 17bii+?

Message #3 Posted by [buygm](#) on 17 Mar 2007, 12:00 p.m.,  
in response to message #2 by Don Shepherd

It could be the 12C preference!

But that said... I'm sort of in the same boat. I have a 17bii+ posting that expires today with no bites. Not even any watchers. They were pretty popular a short time ago, so I'm hoping that it maybe just that many folks are busy with the kids on spring break????

Anyway... I agree with you that the 17bii+ is very nice.

### **Re: what's the beef with the 17bii+?**

*Message #4 Posted by [Les Wright](#) on 17 Mar 2007, 12:09 p.m.,  
in response to message #3 by buygm*

That is discouraging!

I just had someone email a totally absurd lowball offer, so I am going to pull the ad, and give the thing to my partner to try to expose it to a more general eBay audience. Failing that, I will hang on to it. Heck, I am not that desperate to get rid of the thing.

Someone emailed me to suggest that the equation solver can call fewer functions than the original 17bii. I am a bit perplexed--I just looked at the table in question in the 17bii manual, and it doesn't look much different from the 17bii+ version. I really wonder if the strengths and limitations of the calculator are not properly understood.

Compared to the 12C, I just prefer everything about this thing--the alpha prompting, the menus, the cash flow lists that can be named meaningfully, the two variable statistics and regression stuff that is fairly intuitive. The IR printing is a bonus too.

Les

### **Re: what's the beef with the 17bii+?**

*Message #5 Posted by [Don Shepherd](#) on 17 Mar 2007, 12:25 p.m.,  
in response to message #4 by Les Wright*

Les, I think the fewer functions \*might\* be the financial functions. I think I read that the original 17bii could use all of the financial functions in solver equations, but the + cannot. Since I am not interested in financial functions, I have not tried them on the +.

### **Re: what's the beef with the 17bii+?**

*Message #6 Posted by [Christoph Widmer](#) on 18 Mar 2007, 5:47 a.m.,  
in response to message #4 by Les Wright*

In my opinion there might two problems: 1) The 17BII+ is actually quite expensive. 2) There are a lot of 17BII around to buy for (sometimes much) less than a 17BII+, with the added benefit of getting a Pioneer machine rather than a Chinese one.

Regards Chris

### **Re: what's the beef with the 17bii+?**

*Message #7 Posted by [bill platt](#) on 17 Mar 2007, 4:43 p.m.,  
in response to message #1 by Les Wright*

Hey Les: I'd be happy to relieve you of the burden of an extra 17bii+.

Best regards,

Bill

### **Re: what's the beef with the 17bii+?**

*Message #8 Posted by **Bruce Bergman** on 18 Mar 2007, 4:38 p.m.,  
in response to message #1 by Les Wright*

Hi Les --

To be honest, I think it lacks a following, simply because people don't know much about it. I've been collecting my favorite HP calcs since 1977 and really never thought twice about it until recently when I needed a good, solid financial calc. I wanted something new (I've got a ton of old calcs) and I liked the form factor better than that of the 12c, of which I have two. I decided to just "go for it" and see what I thought.

I really like the feel and style of this calculator. Much more than I expected. And I had almost given the solver the thumbs up until Don Shepard and I started some offline conversations about what it could do, and then I found it was VERY capable. Yeah, it's got some differences from the solvers in the 17b and the 19b, but it still surpassed what I thought it could do. I really feel bad because I had severely underestimated this calc.

It is now, believe or not, one of my favorite calculators. I don't think it will ever be my MOST favorite, or have the power and flexibility of the 42s or 50g, but it is definitely in my pocket and used almost daily. That's quite a statement for a calculator that I thought wasn't worth the time of day.

I think if people gave it more of a chance, they'd be pleasantly surprised.

thanks, bruce

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## HP Forum Archive 17

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### memory problem on HP48G

Message #1 Posted by [Teun Vorselman \(netherlands\)](#) on 17 Mar 2007, 3:26 a.m.

After renewing my programs via IR, i can't change the modes, cannot open programs which names i see in HOME. I did a soft and a hard reset, i renewed the batteries, but the problem remains. What to do or where to look ???

Thanks Teun

### Re: memory problem on HP48G

Message #2 Posted by [James M. Prange \(Michigan\)](#) on 17 Mar 2007, 10:08 p.m.,  
in response to message #1 by [Teun Vorselman \(netherlands\)](#)

Can you give us more information?

Do you have any libraries installed? If so, then try purging them and doing another warmstart.

Regards,  
James

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## HP Forum Archive 17

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**aged 50g**

Message #1 Posted by [joan](#). on 16 Mar 2007, 2:23 p.m.

hi all,

Finally the hinges of my 49g+ went all silly and Hp gave a new 50g as a replacement, previous 150 € and only six more month of warranty. Maybe is because I'm not used to it but I like the look of the 50g. Don't get me wrong I'm proud owner of nearly all LCD RPN Hp's but they're safer at home. So my question is, has somebody been using the 50 intensively enough to tell how it ages?

Thanks

**Re: aged 50g**

Message #2 Posted by [James M. Prange \(Michigan\)](#) on 16 Mar 2007, 4:15 p.m.,  
in response to message #1 by joan.

Better than early units of the 49g+.

Regards,  
James

**Re: aged 50g**

Message #3 Posted by [Buy A BackUp Unit](#) on 16 Mar 2007, 11:06 p.m.,  
in response to message #1 by joan.

The new HP50 is outsourced stuff made by Kinpo. I love my HP50, but have bought a backup in case the original unit quits.

**Re: aged 50g**

Message #4 Posted by [Tadeyev](#) on 17 Mar 2007, 7:52 a.m.,  
in response to message #3 by Buy A BackUp Unit

So you mean to say that all those excellent Singaporean and Brazilian made Voyagers and Pioneers were made by special, purpose built HP factories :-)? I doubt it.

Don't get me wrong; almost all my old HP's are the USA made ones...because I hate the kind of economic globalization that causes industry to leak away to low cost labor markets.

But the fact is that Kinpo can make every level of quality their major customers dictate. And the demands HP makes on them qua design and quality is different from Citizen or Casio's. For me, an HP by Kinpo is still an HP.

The best Chinese factories are slowly taking over the lead(or they already have!) over Japan. We have to see how the newly announced TI series will be; but I think when you look at the marketplace the Kinpo/HP

products will still be the best around (since HP got back on track with calculators with the revised 33s and 50 anyway...) Just my 2 cents.. Tadeyev

### Re: aged 50g

Message #5 Posted by [Not Until The Process Is Improved](#) on 17 Mar 2007, 10:50 a.m.,  
in response to message #4 by Tadeyev

Until management institutes true quality control, unfortunately the best predictor of future performance is past performance. The atrocious key problems of the HP49+, paint flaking off after just a few months use, made them junk. One HP50 unit I have still misses some keypresses, despite all the ballyhoo that problem has been fixed.

Unless and until KinHPo improves their process, establishes a good track record, they are not like HPs of old to me, they're just outsourced Chinese junk. Whether you get quality or not is currently a statistical fluke. The Chinese could do well by studying how Deming revitalized Japanese manufacturing, and put his methods to work.

You are correct in that the only thing for users to do is to complain loudly, insist that KinHPo produce units that work to customers satisfaction. And I have done so.

Edited: 17 Mar 2007, 10:51 a.m.

### Re: aged 50g

Message #6 Posted by [Bern](#) on 17 Mar 2007, 11:59 a.m.,  
in response to message #5 by Not Until The Process Is Improved

Did you adjust your ->KEYTIME? If not, then 400 ->KEYTIME should solve your problem. Also, put the command in your STARTUP file.

### Re: aged 50g

Message #7 Posted by [the person formerly known as dot](#) on 17 Mar 2007, 6:08 p.m.,  
in response to message #5 by Not Until The Process Is Improved

>You are correct in that the only thing for users to do is to complain loudly, insist that KinHPo produce units that work to customers satisfaction. And I have done so.

Why would HP do so? As a company, they care about money - and by producing lower quality units, they make more sales. If the HP49g+ was well built, who would have bought a HP50g (assuming they already owned a 49g+)?

Personally however I think the HP50g is fairly decent. But when people buy multiple calculators as 'spares' because of concerns over quality, it just rewards HP for doing a less than perfect job.

### Re: aged 50g

Message #8 Posted by [John McCormick](#) on 18 Mar 2007, 2:08 a.m.,  
in response to message #1 by joan.

I got mine in August and use it heavily in school (7 sets of batteries before I finally went lithium). I'm not sure the button issues are completely fixed. My negation button is just mush and the tactile feedback on 0 no longer guarantees the appearance of a 0. I never had a 49g+, but I have a 48GX, so I know what "good" feels like. All in all though, I still love it.

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## HP Forum Archive 17

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### Angles in radians using expressions with PI??

Message #1 Posted by [Alex](#) on 16 Mar 2007, 5:02 a.m.

I am in radian mode and I want to enter a complex number using polar notation with angles expressed with PI. For example, I am trying to enter a complex number,  $(10[\text{angle\_symbol}]\text{PI}/4)$ . As soon as I try to enter any angle involving PI, it croaks with an "Invalid Syntax" error. Being in radian mode, it's really odd to not be able to express angles using PI. Any help is appreciated!

### Model is 49g+

Message #2 Posted by [Alex](#) on 16 Mar 2007, 10:47 a.m.,  
in response to message #1 by Alex

Sorry, I didn't mention which calc I have...49g+.

### Re: Model is 49g+

Message #3 Posted by [James M. Prange \(Michigan\)](#) on 16 Mar 2007, 4:13 p.m.,  
in response to message #2 by Alex

Sorry, for better or worse, in RPL models, "complex number" objects use only "real numbers" for their contents.

Regards,  
James

### Re: Model is 49g+

Message #4 Posted by [Alex](#) on 18 Mar 2007, 2:09 a.m.,  
in response to message #3 by James M. Prange (Michigan)

Thanks for the response, James.

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## HP Forum Archive 17

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### HP48 integration error?

Message #1 Posted by [k](#) on 15 Mar 2007, 10:53 p.m.

When I evaluate the integral of  $\exp(-x^2)$  from 0 to 1000 [by using the equation writer, then pressing "Evaluate"], the HP48 gives an answer of zero. Anyone know why this happens? When I evaluate the integral from 0 to 100, the HP48 gives an answer of 0.8862, which is the right answer.

### Re: HP48 integration error?

Message #2 Posted by [Karl Schneider](#) on 16 Mar 2007, 12:17 a.m.,  
in response to message #1 by [k](#)

Quote:

When I evaluate the integral of  $\exp(-x^2)$  from 0 to 1000 [by using the equation writer, then pressing "Evaluate"], the HP48 gives an answer of zero. Anyone know why this happens? When I evaluate the integral from 0 to 100, the HP48 gives an answer of 0.8862, which is the right answer.

The exact answer is  $0.5 * \sqrt{\pi}$ . The reason for the erroneous answer of zero for a large upper limit of integration is sparse sampling. Too many values of the integrand are extremely small when the samples are stretched out to  $x = 1000$ , such that the calculated integral doesn't change very much when additional widely-spaced samples are taken. There's absolutely no point in setting the upper limit greater than 34, because the value of the integrand is less than  $1E-499$  from  $x = 33.89675$  onward. In fact  $x = 6$  would suffice as an upper limit.

This issue might not be covered in the HP-48 manuals, but a very similar problem is covered in the HP-15C Advanced Functions Handbook.

-- KS

Edited: 16 Mar 2007, 12:21 a.m.

### Re: HP48 integration error?

Message #3 Posted by [Les Wright](#) on 16 Mar 2007, 3:53 a.m.,  
in response to message #1 by [k](#)

I echo Karl's answer.

There is a lot of talk in the 15C manuals about how the algorithm samples the "interesting" part of the curve, and if there is lots of uninteresting tail stuff, these samples predominate.  $\exp(-x^2)$  goes to zero for big  $x$ , so lots of zeros get the weight.

Improper integrals are often handled best by a transformation of variables. In the case of the bell curve, integrating  $0.5/\sqrt{-\log[t]}$  from 0 to 1 is equivalent to integrating your problem from zero to infinity--still

an improper integral with poles at each end, but a finite interval, which is nicer. I leave it to you to determine the variable transform that leads from one to the other, because I am a lazy devil and it is late.

HTH,

Les

*Edited: 16 Mar 2007, 4:03 a.m.*

### **Re: HP48 integration error?**

*Message #4 Posted by [Les Wright](#) on 16 Mar 2007, 4:10 a.m.,  
in response to message #3 by Les Wright*

Actually, I think in this case cutting off the tail as Karl suggested is faster and easier.

Where the transform could be useful is if you want to find the area of the tail itself, from  $x$  to infinity, as in the computation of the complementary error function. But if you want  $\text{erfc}(x)$ , `SQ 2 * 1 SWAP UTPC` after putting your  $x$  on the stack is a lot faster. As a matter of fact, the following little code snippet of mine handles all real arguments:

```
<< DUP SQ 2 * 1 SWAP UTPC IF SWAP 0 < THEN 2 - NEG END >>
```

HTH,

Les

*Edited: 16 Mar 2007, 7:11 p.m.*

### **Re: HP48 integration error?**

*Message #5 Posted by [k](#) on 17 Mar 2007, 2:53 a.m.,  
in response to message #3 by Les Wright*

Les, Karl,

Thank you for your response, and your suggestions on evaluating the integral appropriately.

Still, what seems strange is that when evaluating the integral from 0 to 35, it takes about 5 seconds for the HP48G to yield the (correct, to specified decimal places) answer.

However, when evaluating the integral from 0 to 1000, the HP48 in a split second returns a zero answer. I would think it would take longer to evaluate the integral from 0 to 1000, compared to the time it took to evaluate the integral from 0 to 35, which is not the case.

Any thoughts on this?

In any case, when using the HP integrate function, it is clear the user must make sure the answers make sense.

This issue on evaluating integrals is not discussed in the HP48G Users Manual. Is there anyway you can copy the relevant excerpts from the HP15C manual into a response to this message?

Any help you could provide would be appreciated.

Thanks - kelly

**Re: HP48 integration error?**

Message #6 Posted by [Les Wright](#) on 17 Mar 2007, 6:31 a.m.,  
in response to message #5 by k

Yup, I have an idea.

The integration algorithm makes an estimation at a few points, then doubles the number of points and makes another estimation, refines this by something called Richardson extrapolation, etc., and continues until two or three subsequent estimations are equal to each according to the tolerance implied by the setting for FIX, SCI, or ENG.

When estimating this integral, the value of the integrand is  $< 1e-499$  for the huge majority of the range 0 to 1000. Basically, this is zero as far as the calculator is concerned. The value of integrand only becomes nonzero, as far as the calculator is concerned, somewhere between  $x = 33$  and  $x = 34$ . That part of the range of integration is stuck way on the left end, and it is unlikely that in a few sequential estimates the algorithm even samples much from that end. This means that you are going to get two or three consecutive estimates that are effectively zero, since the integral estimates are basically weighted averages of the integrand at the sample points. The weighted average of a bunch of zeros is always zero. This happens a a few times in a row (I think at least three) and tells the calculator convergence has been reached. That happens really quickly, right at the beginning, so false convergence is reached quickly.

The stuff in the 15C manuals is not conveniently copied in this forum, as there is pages of stuff. But, in a general sense, if you want to basic idea of what the 48G does in integration, google Romberg Method or Romberg algorithm. The math is not very hard, even though the notation can be confusing--subscripts to keep track of and that sort of thing. If you can appreciate graphically this sampling issue, you may grasp why the HP48G goes to 0 when you set up the integral with the 0-1000 limits.

Les

*Edited: 17 Mar 2007, 8:32 a.m.*

**Re: HP48 integration error?**

Message #7 Posted by [Les Wright](#) on 17 Mar 2007, 8:44 a.m.,  
in response to message #6 by Les Wright

Actually, trying plotting  $\exp(-x^2)$  directly on the calculator. Set the vertical range to  $-.1..1$  and the horizontal to  $0..1000$ .

When you execute DRAW you won't see much--mostly blank plot with maybe some extra pixels up against the y-axis. Even with the range set to  $0..35$  the visible part of the curve is scrunched up to the left, but the integrator will still sample some points over there. If you play around with the upper limit and replot, you will see why one can chop off the tail and still get a good estimate of the integral--there is just not much area under that tail once you get past  $x = 4$ , even. Choosing  $x = 35$  as an upper limit is sort of overkill.

Plotting a function before trying to integrate it always makes sense. And do try to learn about the Romberg method. I am of the school that no one who uses numerical integration should treat them just as black box routines.

Les

*Edited: 17 Mar 2007, 8:44 a.m.*

**Re: HP48 integration error?**

Message #8 Posted by [Les Wright](#) on 17 Mar 2007, 11:54 a.m.,  
in response to message #7 by Les Wright

Quote:

And do try to learn about the Romberg method

Just a warning--most theoretical discussions of the Romberg method seem to talk about it as extrapolating the trapezoid rule. In HP calculators since the 34C, the Romberg integrator actually use the midpoint rule (after certain transformations of variable), so that the endpoints of the interval of integration are never directly sampled.

For example, if integrating on the interval -1..1, the first iteration will sample at 0, the next at +1/2 and -1/2, the next at +1/4, +3/4 and the negative of these, the next at +1/8, +3/8, +5/8, +7/8 and the negative of these, etc.

On the other hand, the trapezoid rule would sample the endpoints 1 and -1 first, then the 0 between them, then the series of points given above, BUT the estimate integral would be trapezoid estimates based on the integrand values at the end of each subinterval, not midpoint estimates based on the middle point of each subinterval.

It really is a lot easier to look at pictures or draw this stuff out.

Les

**Re: HP48 integration error?**

Message #9 Posted by [k](#) on 20 Mar 2007, 1:50 a.m.,  
in response to message #6 by Les Wright

Les,

Your explanation below (shown in quotes) makes sense. Thank you. Guess I had to know why the HP was yielding the zero answer, even though the Calculus was telling me it was not zero.

Cheers - Kelly

"The integration algorithm makes an estimation at a few points, then doubles the number of points and makes another estimation, refines this by something called Richardson extrapolation, etc., and continues until two or three subsequent estimations are equal to each according to the tolerance implied by the setting for FIX, SCI, or ENG.

When estimating this integral, the value of the integrand is  $< 1e-499$  for the huge majority of the range 0 to 1000. Basically, this is zero as far as the calculator is concerned. The value of integrand only becomes nonzero, as far as the calculator is concerned, somewhere between  $x = 33$  and  $x = 34$ . That part of the range of integration is stuck way on the left end, and it is unlikely that in a few sequential estimates the algorithm even samples much from that end. This means that you are going to get two or three consecutive estimates that are effectively zero, since the integral estimates are basically weighted averages of the integrand at the sample points. The weighted average of a bunch of zeros is always zero. This happens a a few times in a row (I think at least three) and tells the calculator convergence has been reached. That happens really quickly, right at the beginning, so false convergence is reached quickly."

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## HP Forum Archive 17

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**The Silver Line**

Message #1 Posted by [Ron](#) on 15 Mar 2007, 5:01 p.m.

I know there has been lots of discussion in the past (though not recently) concerning refurbishment of the silver lines on the 35, 45, etc... To the best of my knowledge, no one has yet come up with a suitable method for restoring the lines.

I thought I had a winner, but it didn't work out. I used the adhesive and silver leaf kits found a craft stores, as the representative example shown on the packaging looks close to the lines. But, alas, the real thing wasn't smooth and shiny. In fact, it looked a lot like the silver paint pens I've seen used before. Plus, the silver leaf is not durable at all. The one advantage leaf has over the paint pen, is that the leaf stays where you put it. With the pen, it's hard to keep the paint confined to the high places.

Does anyone else have a good solution for restoring the silver lines?

**Re: The Silver Line**

Message #2 Posted by [Trent Moseley](#) on 16 Mar 2007, 12:16 a.m.,  
in response to message #1 by Ron

My HP-67 is 27 years old and the "silver line" doesn't have a blemish anyplace. Could it be an aluminum strip?

tm

**Re: The Silver Line**

Message #3 Posted by [Walter B](#) on 16 Mar 2007, 3:10 a.m.,  
in response to message #2 by Trent Moseley

Trent,

on my 67 and 65, the lines look like silver print on top of plastic definitively, like the side lines on 35 and 45. AFAIK the only metal parts used in this context were the protruding lines next to the power switch on some models of 35 and 45. These are exposed to extra wear, as many of us know, while the others may survive decades almost unblemished, because they stand back a bit.

Best regards, Walter

*Edited: 16 Mar 2007, 3:11 a.m.*

**Re: The Silver Line**

Message #4 Posted by [Les Wright](#) on 16 Mar 2007, 3:39 a.m.,  
in response to message #1 by Ron

I don't have a good permanent solution. I use a metallic silver Sharpie on my 45. It is an okay colour match, not perfect, is harmless to the plastic (I think), the tapered tip allows accurate application with a steady hand,

and it can be restored when it wears off.

I think purists would recommend good quality silver paint of the kind scale model hobbyists use. I remember Testor's brand as a kid but I think there is better stuff.

HTH

Les

### **Re: The Silver Line**

*Message #5 Posted by **Jeff O.** on 16 Mar 2007, 8:33 a.m.,  
in response to message #4 by Les Wright*

I once received the following advice on silver trim repair:

"For the silver paint...  
I get powdered aluminum from a model shop and mix it in with  
a clear varnish to make a silver paint. I then hand paint it  
with a very fine/small brush. It takes a steady hand."

I never tried it so I cannot vouch for how well it works.

### **Re: The Silver Line**

*Message #6 Posted by **Frank Boehm** on 16 Mar 2007, 9:20 a.m.,  
in response to message #5 by Jeff O.*

Quote:

\_\_\_\_\_

I get powdered aluminum from a model shop and mix it in with a clear varnish to make a silver paint.

\_\_\_\_\_

This is exactly the "silver paint" you can purchase. (Though I have seen Inox steel based silver paint as well - looks much nicer, but is very expensive). The silver paint looks semi-good but is for display usage only. Touching the (dry) paint will rub it off and it gets dull. You will have black/silver fingers though :) It might work to cover the silver paint with clear varnish (it did not work out for me, though).

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## HP Forum Archive 17

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### **220V to 110V voltage converter for U.S. charger : that works !**

Message #1 Posted by [Jean-Michel](#) on 15 Mar 2007, 2:51 p.m.

Hi everybody,

I recently posted a thread when I was looking for a solution to use the charger designed for U.S. voltage of a HP-33C I received a few weeks ago, as I live in France where the voltage supply is 220V, instead of 110V in the U.S.

First of all, I would thank here all the persons who answered my question and helped me.

I finally found, and bought (12,50 Euro shipping included), a 45W 220V-240V AC to 100V-120V AC Plug-In Voltage Converter, and tested it last days : that works fine !

Probably most of the readers will know this solution, but maybe it may help someone who's got the same "problem" one of this days, who knows ?

This will be my modest contribution to this forum...

Regards.

### **Voltage converters vs. transformers**

Message #2 Posted by [Andrés C. Rodríguez](#) on 17 Mar 2007, 10:32 a.m.,  
in response to message #1 by [Jean-Michel](#)

They are not the same.

A transformer has an iron core (you can tell by its weight), and will deliver a sinusoidal voltage output. In your example, you will get a 110 V sinusoidal output from a 220 V sinusoidal input.

So the output will be similar enough to the USA 110 V mains, and your HP charger (which, incidentally, contains a transformer itself) will not "be aware of any difference" (see note below).

On the other hand, there are devices called "voltage converters", which are suited for irons, hairdryers, mixers, and other appliances. They work by altering the waveform, their output is no longer sinusoidal, but its power is equivalent (root mean square) to the 110 V mains. It is up to the receiving device to cope with the waveform issue. A heating element, a lamp, or a motor will almost always work with such converters; but electronic devices or transformers may suffer because their input will not be similar enough to the 110 V sinusoidal mains.

These voltage converters are electronic circuits, and are much lighter than transformers. Sometimes they are advertised as "travel" or "foreign" power converters.

I would strongly advise against using voltage converters to feed HP calculator AC adapters. They may just work (by luck, or for a while), but they may cause harm, even not instantaneously.

Transformers are on the safe side.

Note: Actually, 220 V mains have a 50 Hz frequency almost everywhere; 110 V USA mains are 60 Hz based. Using the HP USA AC adapter with the 110 V 50 Hz output of a 220 to 110 transformer will make it work a little warmer because of the different frequency and it's influence on the core magnetic behaviour. But this difference will not cause any harm.

### **Re: Voltage converters vs. transformers**

Message #3 Posted by **James M. Prange (Michigan)** on 17 Mar 2007, 9:24 p.m.,  
in response to message #2 by **Andrés C. Rodríguez**

Perhaps a minor point, but the single-phase (normal residential or office) voltage here is supposed to be 120V +/-5%, or 114V-126V. The previous requirement was 120V +5% -10%, or 108V-126V, or taking the average of the highest and lowest, 117V, which no doubt explains why that's a fairly common nominal voltage for appliances. That's at the service entrance with no load; the voltage at an outlet on a loaded circuit will be lower, depending on the wiring resistance and load. Often an appliance will have a nominal voltage of 115V or 110V, and many will work okay as low as 100V. Of course for heavier duty appliances that use both "hot" wires, double the voltages.

Regarding the frequency, it's not just the U.S., but all of North and Central America, and quite a bit of South America, that uses 60Hz for most electrical power.

Regards,  
James

### **OT: Voltage converters vs. transformers**

Message #4 Posted by **Karl Schneider** on 19 Mar 2007, 1:58 a.m.,  
in response to message #3 by **James M. Prange (Michigan)**

Hi, James --

Quote:

Of course for heavier duty appliances that use both "hot" wires, double the voltages.

For international readers, this is typical of 120-volt household AC systems, in which two circuits and a neutral are provided. With the neutral tapped to the center of the 120-V transformer secondary, the two circuits are effectively 180 degrees apart, like a see-saw. Single-phase 240 V for heavy loads -- such as ranges, dryers, and fixed heaters -- is achieved by using both circuits instead of just one circuit and the neutral.

I believe that three-phase 220-V AC is common in Europe, at least in urban areas.

Quote:

Regarding the frequency, it's not just the U.S., but all of North and Central America, and quite a bit of South America, that uses 60Hz for most electrical power.

Surprisingly enough, part of Japan is also developed for 60 Hz, while other parts utilize 50 Hz. The infrastructure built after World War II by American companies, such as General Electric and/or Westinghouse, is 60 Hz. The infrastructure built by European companies (I assume Siemens) is 50 Hz. Energy can be exchanged between the systems using a set of "back-to-back" AC-DC-AC converters.

-- KS

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**Re: OT: Voltage converters vs. transformers**

Message #5 Posted by **Walter B** on 19 Mar 2007, 7:15 a.m.,  
in response to message #4 by Karl Schneider

Quote:

\_\_\_\_\_

I believe that three-phase 220-V AC is common in Europe, at least in urban areas.

\_\_\_\_\_

Today, it is three phase 230 VAC. Reason was the unification of former 240 VAC (used in Britain) and 220 VAC (used elsewhere). IIRC this was done some 15 years ago.

Best regards, Walter

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**Re: OT: Voltage converters vs. transformers**

Message #6 Posted by **Maximilian Hohmann** on 19 Mar 2007, 7:57 a.m.,  
in response to message #5 by Walter B

Hello!

Quote:

\_\_\_\_\_

IIRC this was done some 15 years ago.

\_\_\_\_\_

Add 10 years to that ... some things really take awfully long to accomplish! The common 230 volts were agreed upon through IEC standard 60038 in 1983 already.

Greetings, Max

BTW: As others have already said, the small differences in voltage usually create no problems. But the difference in frequency can cause problems, especially with video signals and electric motors (like in cooling fans and synchronous drives like those of telescope mounts).

*Edited: 19 Mar 2007, 7:58 a.m.*

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**Re: OT: Voltage converters vs. transformers**

Message #7 Posted by **Richard Ottosen** on 19 Mar 2007, 6:06 p.m.,  
in response to message #4 by Karl Schneider

Look here for more than you ever wanted to know about power line voltages, frequencies and types of electrical plugs:

<http://www.calinst.com/literature.asp>

Click on "World Power Guide".

You have to register to do this download but it is well worth it if you want to know about the many variations. Be warned that this is a PDF of over 30 pages.

Scanning the Guide, I found that Johannesburg, South Africa is listed as having both 50 HZ a.c. power as well as d.c. power. My copy of the guide is several years old so I don't know if this is still true.

-- Richard.

### **Re: OT: Voltage converters vs. transformers**

*Message #8 Posted by **Gerson W. Barbosa** on 19 Mar 2007, 10:26 p.m.,  
in response to message #4 by Karl Schneider*

Hello Karl,

Quote:

For international readers, this is typical of 120-volt household AC systems, in which two circuits and a neutral are provided. With the neutral tapped to the center of the 120-V transformer secondary, the two circuits are effectively 180 degrees apart, like a see-saw. Single-phase 240 V for heavy loads -- such as ranges, dryers, and fixed heaters -- is achieved by using both circuits instead of just one circuit and the neutral.

In Brazil this system is used only in central São Paulo city, except that the voltages are 110 and 220 V. Everywhere else three-phase wye systems are used (mostly 220/127 V; 380/220 V in some states). Frequency is 60 Hz, as already mentioned by Luiz. Because of São Paulo influence it's not uncommon to hear low-skilled electricians saying 110 V instead of 127 V. Until recently, incandescent light bulbs labeled 110 V (and actually designed for that voltage) were sold all over the country. Of course, they didn't last long under 127 V.

Regards,

Gerson.

### **Re: OT: Voltage converters vs. transformers**

*Message #9 Posted by **John** on 22 Mar 2007, 4:40 p.m.,  
in response to message #4 by Karl Schneider*

Quote:

I believe that three-phase 220-V AC is common in Europe, at least in urban areas.

In the UK (and I assume the rest of Europe) a 3-phase supply is available anywhere at a price. Such supplies are typically used for large motors, or for computer centres. The 'low voltage' 3-phase supply has three wires (red, yellow, blue) at 120 degrees out of phase with one another. The voltage between one phase and earth is 240V, the voltage between two phases is 415V.

I see from Wikipedia the colours are going to be 'harmonised': [http://en.wikipedia.org/wiki/Three-phase\\_electric\\_power](http://en.wikipedia.org/wiki/Three-phase_electric_power) to brown/black/grey.

I don't have any 'big iron' but I understand some hobbyists have a 3-phase supply to their home!  
Regards, John

### **Re: Voltage converters vs. transformers**

*Message #10 Posted by **Vieira, L. C. (Brazil)** on 19 Mar 2007, 4:23 p.m.,  
in response to message #2 by Andrés C. Rodríguez*

Hi Andrés, guys;

In Brazil we have the 'conventional' three-phase 220VAC, 60Hz. Reasons apart, I have no informations about where are 60Hz or 50Hz used. I do not remember having access to such information. Anybody?

About video signals and electrical motor speed: current all-analog TV sets (either generation or receivers) are somehow rare, most of the new stuff (if not all) being digital when generating control signals are the issue. TV receivers mainly use switching power supplies, thus converting the AC supply into DC and using high-frequency PWM to control conversion (some thousands of hertz). So the 60Hz reference is internally generated, instead of using the AC mains reference.

Electrical motors designed to operate with 60Hz actually may need extra fanning when connected to 50Hz to keep lower temperature because, in most cases, their fan is built in their own axle and the air flow will be reduced in about 17% in this case.

Cheers.

Luiz (Brazil)

### **Re: Voltage converters vs. transformers**

*Message #11 Posted by **Gerson W. Barbosa** on 19 Mar 2007, 10:44 p.m.,  
in response to message #10 by Vieira, L. C. (Brazil)*

Olá Luiz,

Quote:

Reasons apart, I have no informations about where are 60Hz or 50Hz used. I do not remember having access to such information.

Paraguay uses 50 Hz. Half the turbines in Itaipu are designed for 50 Hz. That's why a 600 kV DC transmission is used when Paraguay sells its surplus energy to Brazil. If I am not wrong, the power of the voltage converters in both ends are 5000 or 6000 MW. That's what I call a voltage converter! :-)

Cheers,

Gerson.

### **Re: Voltage converters vs. transformers**

*Message #12 Posted by **Dave Shaffer** on 20 Mar 2007, 12:55 a.m.,  
in response to message #11 by Gerson W. Barbosa*

re: "That's why a 600 kV DC transmission is used when Paraguay sells its surplus energy to Brazil. If I am not wrong, the power of the voltage converters in both ends are 5000 or 6000 MW. That's what I call a voltage converter!"

Even here in the US, where there is no need to change from 50 to 60 Hz, some transmission lines are also run in DC at similar voltage levels, so they get the big voltage converters, too. Benefit: no radiation loss from the line.

### **DC transmission line**

*Message #13 Posted by **bill platt** on 24 Mar 2007, 10:19 a.m.,*

*in response to message #12 by Dave Shaffer*

I never heard of that before. Interesting.

## **Re: Voltage converters vs. transformers**

*Message #14 Posted by [Andrés C. Rodríguez](#) on 24 Mar 2007, 8:52 a.m.,  
in response to message #10 by Vieira, L. C. (Brazil)*

Hi Luiz, everybody!!

First of all, I apologize if my posting was not as complete or correct as it could have been. My main concern was to alert for possible damage to some of our beloved calculators because of the not-always-known difference between "electronic power converters" and "transformers". I felt time was running out, and something has to be posted in the shortest possible time.

I learned about this difference in a hard way some 30 years ago. I was connecting a (then) rare telephone answering machine (110 V based) in my "soon-to-be parents-in-law" home (220 V, as AC comes here). The salesperson included a power adaptor with the answering machine, but (oh!) it was not heavy at all!... Well, the machine worked for some ten minutes... but then we all heard a loud noise, and the smell of a burned electrolytic capacitor showed that something had went wrong.

I then realized a triac circuit was doing a not good enough "voltage conversion"...

End of story: Fortunately, I was able to put a new electrolytic in, fix the thing, connect a classical transformer, and the whole incident was over; as witnessed by the fact that we are about to celebrate our 24th wedding anniversary this year :-)

Regarding power systems, in Argentina we are supposed to have 220 V 50 Hz, and triphase systems are 380 V. Of course, these are rms, not peak values.

Our government here is trying to "manage" a large increment in the electric power demand, caused by a combined effect of politically-fixed prices, increased economic activity, and little long-term infrastructure planning (you may perceive my disagreement here). So it is very possible that, at this very same moment, we have something like 199.95 V and 48.7 Hz... You know, it is within the 10% range and the populace will not notice it. And the engineers out there have little influence for the upcoming elections. Sad.

One of these days they may decide to "manage" gravity...

## **50 hz**

*Message #15 Posted by [bill platt](#) on 24 Mar 2007, 9:53 a.m.,  
in response to message #14 by Andrés C. Rodríguez*

I didn't know that Argentina was on the euro-electric standard (220, 50 Hz) rather than the U.S. 60 Hz system. Are your neighbors (other than Paraguay) also 50 Hz?

(O.T. I have a beautiful stringed instrument I had custom-made in Buenos Aires. The 1st try got lost in the mail, but the luthier had insured it and so he simply made another one and sent it along a few weeks later. Apparently valuable things have a habit of getting "lost" in correo argentino. Perhaps there is some "management" of the post as well as electricity and gravity).

*Edited: 24 Mar 2007, 9:54 a.m.*

## **Electric Power**

*Message #16 Posted by [Katie Wasserman](#) on 24 Mar 2007, 12:13 p.m.,  
in response to message #15 by bill platt*

It's amazing how well informed and interested this group is in electric power distribution and generation (I assume). I am too and just came across this new book that might be of interest to others here: [The Grid](#). I'm waiting for my copy to arrive so can't tell you how good/bad it is, but there was a review of it in some journal that I get (IEEE Spectrum maybe?) and they liked it.

*Edited: 24 Mar 2007, 12:15 p.m.*

## **Electric Power: my name in the list! d8^ (N.T.)**

*Message #17 Posted by [Vieira, L. C. \(Brazil\)](#) on 24 Mar 2007, 1:18 p.m.,  
in response to message #16 by Katie Wasserman*

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## HP Forum Archive 17

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**Antikythera**

Message #1 Posted by [J. Mosand](#) on 15 Mar 2007, 2:42 p.m.

The March/April issue of "Archaeology" has a very interesting article on The Antikytera Mechanism.

It turns out that the one who made the most important break-through is a scientist at the HP Labs.

There is also interesting stuff at [www.hpl.hp.com](http://www.hpl.hp.com).

**Re: Antikythera**

Message #2 Posted by [Trent Moseley](#) on 16 Mar 2007, 12:03 a.m.,  
in response to message #1 by [J. Mosand](#)

HP's role in these new findings was made known last November 30, 2006 in the San Francisco Chronicle. There were subsequent discussions in this Forum at that time. Please consult the archives.

tm

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## HP Forum Archive 17

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### **OT: Have you heard "Code Monkey"?**

Message #1 Posted by [Paul Brogger](#) on 15 Mar 2007, 12:08 p.m.

A nice MP3 at Jonathan Coulton's [Code Monkey page](#).

(Where was he when *I* was the worker bee, and not the boring manager?)

### **Re: OT: Have you heard "Code Monkey"?**

Message #2 Posted by [Eduardo](#) on 17 Mar 2007, 12:39 p.m.,  
in response to message #1 by Paul Brogger

No, I hadn't. But I \*loved\* it. Thanks!

### **Re: OT: Have you heard "Code Monkey"?**

Message #3 Posted by [Eric Smith](#) on 17 Mar 2007, 3:42 p.m.,  
in response to message #1 by Paul Brogger

Code monkey like song. Code monkey busy working, but like have something nice listen to.

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## HP Forum Archive 17

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### HP-33S

Message #1 Posted by [Antonio Maschio \(Italy\)](#) on 15 Mar 2007, 10:50 a.m.

Does anyone know if the HP-33S has been updated in ROM?

Many bugs have been discussed here (let apart its shape and beauty), and probably these rumors have reached HP. So I suspect (or I hope?) an improvement/restyling is on the way.

What do you think about it? Have you heard news?

I own such model (CNA5150).

-- Antonio

### Re: HP-33S

Message #2 Posted by [Dave](#) on 15 Mar 2007, 12:56 p.m.,  
in response to message #1 by Antonio Maschio (Italy)

I certainly vote for a restyling. In addition to a traditional button layout, I'd also like to see a slimmer, more pocketable unit. Functionally, 15C style complex number and matrix capabilities would also be a plus (I'm not holding my breath for that one). Unable to tolerate the current styling, I promptly sold the 33s I bought when it first came out. I've been relying on a cheap casio as my pocket calc ever since, patiently waiting for HP to realize their mistake and produce something that fits in my pocket and doesn't make me cross-eyed.

### Re: HP-33S

Message #3 Posted by [Les Wright](#) on 15 Mar 2007, 1:37 p.m.,  
in response to message #2 by Dave

I am a fan of the 33S, warts and all, but having recently acquired a 32sii for a nice price I am perplexed why HP just didn't stick with a good thing and keep the Pioneer styling. A 33S with the 42S two-line display (only a little crisper) and somewhat more memory than the tiny 384 bytes of the 32sii would be darn near perfect for that class of calculator. Indeed, my only complaint about my 32sii is the limited memory--get a couple of good size programs in there, assign a few variables, do some statistical sums, and it goes pretty quickly. The 33S has gobs of memory but you are likely to use up all of the labels before you make much of a dent in it. Some middle ground would be nice indeed.

As for a day-to-day in-your-pocket calc, might a suggest splurging on a working grade 11C?

Les

### Re: HP-32S, 32SII & 33S

Message #4 Posted by [Paul Brogger](#) on 15 Mar 2007, 2:31 p.m.,  
in response to message #3 by Les Wright

The TWO improvements I've suggested for the 32SII: use a **32S** instead, and add memory to *that*.

The whole line has *such* a cool, easy-to-use (and easy-to-remember!) programming model -- *that's* what salvages the 33S, in my opinion.

A 33S with a clean 32S-ish layout (even at the cost of extensive menu access to tertiary functions) would be GREAT, even without more labels & data memory. (But those wouldn't hurt.)

### Re: HP-32S, 32SII & 33S

Message #5 Posted by [Gene](#) on 15 Mar 2007, 2:37 p.m.,  
in response to message #4 by Paul Brogger

Paul wrote: "A 33S with a clean 32S-ish layout (even at the cost of extensive menu access to tertiary functions) would be GREAT..."

Gene: I seem to recall that the HP32s was updated to the HP32SII because, in large part, the clean look of the HP32s made prospective buyers think the calculator could not DO MUCH.

A clean look translated into "simple, not very powerful" for the 32s calculator.

That's one reason why the functions were put all over the place with the 32SII version.

Go figure. I'd prefer menus myself, but who am I?

**Re: HP-32S, 32SII & 33S**

Message #6 Posted by [Paul Brogger](#) on 15 Mar 2007, 2:58 p.m.,  
in response to message #5 by Gene

I'd always assumed it was to reduce keystrokes for the Math Olympics (or whatever) competitors.

**Re: HP-32S, 32SII & 33S**

Message #7 Posted by [Eduardo](#) on 17 Mar 2007, 12:34 p.m.,  
in response to message #6 by Paul Brogger

\*Not\* for the Math Olympiads! As a former IMO (International Mathematics Olympiad) contestant and an active mathematician, I take exception to the comment. \*The\* mathematics olympiad is a contest based on theoretical knowledge in which calculators are not only banned, but also totally useless.

There \*are\* competitions that test (almost exclusively) calculation speed. The most famous is probably [Calculator Applications](#). I happen to know a high-school teacher who trains his students for this contest. Looking at the 80 problems (30 minutes to solve'em all!) I'd think it'd take a couple of hours to solve them with a calculator if you are pretty good and fast, \*if only\* contestants really had to \*think\* during test-taking. However, the contest is rather close to "standardized" in that many of the problems are taken from training booklets and based on, or copied from, problems from previous years. Sadly, what I discovered is that students who do well have to drill a lot on repetitive tasks; they like to use RPN calculators (32SII is the most popular) and, as far as I know, it's entirely possible that they have formulas pre-programmed on their device to speed things up considerably (there are always many problems on uniform and uniformly accelerated motion, ratios and proportions, solving triangles, and even a problem or two that need the use of a numerical solver.

Basically, students who do well do not necessarily understand the underlying mathematical concepts; the teacher trains them in previous years' problems (plus a public "study list" of problems for a given year) and gives them the keystrokes and/or programs to solve the "difficult" problems. Overall, as much as I love calculators and scientific computing, I think these contests are very much a step in the wrong direction---as a mathematician I strive for understanding and know that real challenges take time (by contrast, International Math Olympiad problems are 3 per 4:30 hour-long session---they require you to THINK!!! And of course research problems can take months or years to solve---if at all!)

Eduardo

**Re: HP-32S, 32SII & 33S**

Message #8 Posted by [Egan Ford](#) on 15 Mar 2007, 6:06 p.m.,  
in response to message #5 by Gene

I actually prefer the overloaded keys of the 32Sii, 48GX, 50G, 34C, and the 15C. I like the reduction in keystrokes and having more functions in plain sight. Not that I am opposed to menus, I like them too for what cannot be displayed in plain sight.

Clearly the 34C and 15C illustrate how to best overload the keyboard. Just look at them, clean and crisp:

<http://www.hpuseum.org/3qs/34c3q.jpg>  
<http://www.hpuseum.org/15.jpg>

IMHO, the 33S with its malformed keyboard and poor color selection is an exercise in what not to do.

**Re: HP-32S, 32SII & 33S**

Message #9 Posted by [Trent Moseley](#) on 16 Mar 2007, 12:35 a.m.,  
in response to message #8 by Egan Ford

And don't forget the HP-67, like the 34C it had three shift keys. I love my 42S but with the one shift key and all those menus I have some problems, particularly when one is programming. No ROLL-UP on the keyboard?! I go back to my 25C mode and do three roll-downs instead of using a custom menu.

tm

**Re: HP-32S, 32SII & 33S**

Message #10 Posted by [Maximilian Hohmann](#) on 16 Mar 2007, 1:08 p.m.,  
in response to message #9 by Trent Moseley

Hallo!

Quote:

And don't forget the HP-67, like the 34C it had three shift keys. I love my 42S but with the one shift key and all those menus I have some problems, particularly when one is programming.

The same with me! I never had the slightest problem adapting to shift-keys. The last time I really worked with (and programmed) an hp-67 must be 20 years ago and still I remember that it is "f"-LBL, "g"-x^2, "h"-RTN and so on. You work with it for a few hours and the shift-prefixes automatically become part of the command in your mind.

On the other hand, I last played with an hp-48 a few days ago and I wouldn't be able - even if threatened with torture! - to say which menu and sub-menu leads to an inverse sin (it is the blue "g" shift key on the hp-67 :-)) ...

And more awful still are the alpha-functions of the hp-41: "Alpha" - letter letter letter letter letter "Alpha", what a nightmarish way to work with any device!

So from my point of view, and with my way of memorising things, the two function keys of the 33S are quite OK, the only bad thing about them is the weakish green and magenta colouring of the key labels. Make them yellow and blue like the "f" and "g" keys of a 67 and everything is OK for me!

Greetings, Max

NB: And as for the bugs with certain functions, I couldn't care less. I stopped doing the kind of calculations where these bugs matter on pocket calculators 20 years ago - we live in the age of the Gigaflop-Personal computer now :-))

*Edited: 16 Mar 2007, 1:10 p.m.*

### Re: HP-32S, 32SII & 33S

Message #11 Posted by [Paul Guertin](#) on 17 Mar 2007, 4:49 p.m.,  
in response to message #8 by Egan Ford

Quote:

I actually prefer the overloaded keys of the 32Sii, 48GX, 50G, 34C, and the 15C

Me too. When I bought an HP calculator as a university student in the early 1990s, I chose the 32Sii over the 42S and the 28S in part because the functions I'd use most often were in plain sight and accessible with one or two keystrokes. I never regretted my choice, and now that I'm a math teacher, I'm still using the very same calculator every day at work.

### Re: HP-32S, 32SII & 33S

Message #12 Posted by [Karl Schneider](#) on 15 Mar 2007, 11:39 p.m.,  
in response to message #5 by Gene

Hi, Gene --

Quote:

I seem to recall that the HP32s was updated to the HP32SII because, in large part, the clean look of the HP32s made prospective buyers think the calculator could not DO MUCH.

A clean look translated into "simple, not very powerful" for the 32s calculator.

That's one reason why the functions were put all over the place with the 32SII version.

Go figure. I'd prefer menus myself, but who am I?

Hmm, the HP-32S and HP-42S are difficult to distinguish at first glance. Perhaps the "clean look" was not the best for the flagship RPN model?

I suspect that the real objections were hidden and missing functions. I would prefer that functions be visible and easily accessible with as few keystrokes as practicable. For example, a few menus (e.g., "LOOP", "P<->RECT", "H<->HMS", "D<->RAD") offered only two functions, making the user think where they would be found, and requiring extra keystrokes.

The HP-32SII offered quite a few more functions, too:

<http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv014.cgi?read=70928#70928>

-- KS

*Edited: 15 Mar 2007, 11:57 p.m.*

### Re: HP-33S

Message #13 Posted by [Ed Look](#) on 15 Mar 2007, 7:45 p.m.,  
in response to message #3 by Les Wright

It had been discussed in this forum some time ago: it is not feasible to manufacture a product exactly like a Pioneer... or a Spice... or a Classic, etc. Manufacturing paradigms change. Chip fabs age and the equipment used in them update and the product, if not by intention then by forced (economic) necessity changes. In fact, I think even the old solid-feeling heavier plastic cases, double shot molded keys, etc., can no longer be made with any of the current manufacturing methods (and no one's going to spend money to go back and open a plant like in the old days). I doubt if any chip fab will go back and "scale up" (batch manufacture is more like it) to make 8088s just to satisfy a few graying old fashioned DOS based video game junkies. I doubt if any shipyard is going to gear up to stamp out new battleships (even if the ship design was updated and technologically

superior) ; the technology is essentially lost, even if many still remember how it's done. (In the same way I doubt if we could duplicate the Gemini or Apollo spacecraft.)

It doesn't bode well for my dream of going to Macy's or someplace like that and pick up an affordable and spanking new HP-34C.

This and its actual good performance is why I have more than come to terms with the 33C; I actually like it quite a bit... more than bigger, badder models, as the 33C's form factor and weight in proportion to its power is quite good.

### Re: HP-33S

Message #14 Posted by **Dave** on 15 Mar 2007, 7:55 p.m.,  
in response to message #13 by Ed Look

Don't mean to go off on a "bring back the 15C" tangent here, but given that the 12C has been updated to modern hardware and manufacturing processes, why would it be such a leap to make something like a 15C, or even a 33s with mostly 12C hardware? Just make the buttons rectangular and readable. Is that too much to ask of modern technology?

As for the having to re-engineer the existing ROM, I assume somebody (Kinpo or HP) had to rewrite the 32s ROM for the 33s hardware. Many have written excellent simulators of the 42s and 15C for many platforms, including ARM, if that's the processor of choice. So that shouldn't be a huge hurdle either. It's already mostly done. And with many willing to pay up to \$300 for the old form factor and functionality, why wouldn't it be profitable?

As for adding too much functionality for the PE exam, that's a valid argument. Leave the function set alone if you have to. Please just fix the wacky keys and I'll buy at least two tomorrow, as will many others, I'm sure.

Edited: 15 Mar 2007, 8:30 p.m.

### Re: HP-33S

Message #15 Posted by **Jeff O.** on 16 Mar 2007, 8:10 a.m.,  
in response to message #14 by Dave

The only functionality that the PS/PE/EIT (NCEES) examiners worry about is input/output with text capability. Make it as powerful as you want. Of course there is the issue of the NCEES not wanting to have a long list of approved calculators to worry about. So if HP created a new 15C, they would have to take it to the NCEES and ask them to put it on the approved calculator list. Retaining NCEES compliance and approval might best be done by revamping the 33s, say into a 33sii:

<http://people.freenet.de/thradtke/33sii.jpg>

As far as the ease with which a new 15C could be created based on the fact that the 12C is still in production, the 12CP was created, etc., I once [though as you do](#), but wiser voices convinced me otherwise.

### Re: HP-33S

Message #16 Posted by **Dave** on 16 Mar 2007, 9:35 a.m.,  
in response to message #15 by Jeff O.

I'm still not convinced HP couldn't make something like a 15c cheaply and easily if they had the will. However, I realize it's never going to happen. As you said before, wishful thinking.

But your 33sii is perfect! Are you listening Cyrille?

Edited: 16 Mar 2007, 9:39 a.m.

### Re: HP-33S

Message #17 Posted by **Jeff O.** on 16 Mar 2007, 12:42 p.m.,  
in response to message #16 by Dave

Quote:

But your 33sii is perfect!

If you look closely, you will see that the pictured calculator is a 33sii. It was created by Thomas Radtke, in response to my flight of fancy describing a postulated 33sii, detailed [here](#).

### Re: HP-33S

Message #18 Posted by **Walter B** on 18 Mar 2007, 2:46 a.m.,  
in response to message #14 by Dave

Hi Dave, all,

Just to give some idea what is possible on the surface of a 12CP, here is a draft of a 15Cii:



Best regards, Walter

*Edited to format.*

*Edited: 18 Mar 2007, 7:22 a.m.*

### Re: HP-33S

Message #19 Posted by [Norris](#) on 15 Mar 2007, 2:30 p.m.,  
in response to message #1 by Antonio Maschio (Italy)

The oldest 33S units (like mine) have significant bugs with the HMS, polar conversion, and combinations functions. HP actually issued a "User's Manual Update" to describe these problems and to provide workarounds. I understand that these problems were subsequently corrected in ROM. You can still see a copy of the "Update" at:

<http://homepage.mac.com/nwjh/HP-33S/c00251639.pdf>

The oldest 33S units also had a very hard-to-see decimal point. Again, I understand this problem was subsequently corrected.

I doubt that HP is planning any further changes, because it wouldn't make sense from a marketing standpoint.

It's probable that the biggest single market for the 33S is among people taking NCEES engineering and surveying licensing exams in the US. The 33S is the only RPN or programmable calculator that is legal on such exams. But since the 33S has no competition in these respects, there is no incentive for HP to improve it. Anyone who wants an RPN or programmable calc for NCEES exams already buys the 33S in its current form.

Furthermore, NCEES may change the rules again next year, and limit all examinees to just one acceptable model. If this does happen, and if NCEES doesn't choose the 33S, then sales of the 33S will collapse, regardless of any redesign. And if NCEES does choose the 33S, then sales will jump, regardless of any redesign. So again, there is no incentive for HP to invest in 33S improvements.

*Edited: 15 Mar 2007, 2:36 p.m.*

### Re: HP-33S

Message #20 Posted by [Ron Ross](#) on 15 Mar 2007, 3:54 p.m.,  
in response to message #19 by Norris

Ironically, Any design changes would most likely result in the calculator becoming banned for that exam. It is already, by far the most powerful calculator allowed and just squeaks by the exam council as is.

### Re: HP-33S

Message #21 Posted by [Sam Levy](#) on 15 Mar 2007, 7:56 p.m.,

*in response to message #20 by Ron Ross*

The rocket ship styling wastes keyboard space. I think the yellow and blue prefix keys and text were good, all black is a loss. I gave a 11\$ Casio to a student and read that it has linear,log, power, exponential,inverse and quadratic curve fitting capability. With the large memory possible now I should like to input the data pairs and then try various matches afterward. With the wide use of GPS I should like to see calculations for distance and direction between coordinates built in. The Casio has a slide on front cover that stows in the back. The 33S case is bulky and clunky.

**Re: HP-33S**

*Message #22 Posted by [Antonio Maschio \(Italy\)](#) on 16 Mar 2007, 3:49 a.m.,  
in response to message #21 by Sam Levy*

What 11\$ Casio Model?

-- Antonio

*Edited: 16 Mar 2007, 11:17 a.m.*

**Re: HP-33S**

*Message #23 Posted by [Sam Levy](#) on 16 Mar 2007, 1:17 p.m.,  
in response to message #22 by Antonio Maschio (Italy)*

Antonio, the Casio model was Fx MS300. It looks like algebraic has won, but we had fun for a while. Sam

**Re: HP-33S**

*Message #24 Posted by [Antonio Maschio \(Italy\)](#) on 16 Mar 2007, 4:11 p.m.,  
in response to message #23 by Sam Levy*

Thanks.

-- Antonio

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## HP Forum Archive 17

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### Need battery cover for HP-16c

Message #1 Posted by [James Biddlecombe](#) on 15 Mar 2007, 7:05 a.m.

I recently acquired an HP-16c from ebay which came without a battery cover (which I knew about). Does anyone know of a source where I can buy one? - maybe someone breaking a voyager for spares? If so, feel free to email me at jamesb300 at hotmail dot com.

If not, I'll put an add in the classified section on this website, and failing that I'll try and source the cheapest 12c I can.

Can anyone confirm if the Voyager battery covers have changed over the years or would any vintage fit a 16c?

Cheers, James.

### Re: Need battery cover for HP-16c

Message #2 Posted by [Frank E. Travis](#) on 15 Mar 2007, 8:04 a.m.,  
in response to message #1 by James Biddlecombe

Two good places I have dealt with (that have these kind of items) are: [www.calcpro.com](http://www.calcpro.com) manager Paul Nelson  
[www.internationalcalculator.com](http://www.internationalcalculator.com) manager Don O'Rourke Good Luck!

### Re: Need battery cover for HP-16c

Message #3 Posted by [bill platt](#) on 15 Mar 2007, 8:16 p.m.,  
in response to message #1 by James Biddlecombe

Some years ago Luiz posted a photo of a voyager battery cover that he fabricated from scratch!

### Re: Need battery cover for HP-16c

Message #4 Posted by [Vieira, L. C. \(Brazil\)](#) on 16 Mar 2007, 3:27 p.m.,  
in response to message #3 by bill platt

Hi, Bill; thanks for mentioning.

In fact, it was a Pioneer battery cover. I have the pictures off-line, will set them available to download soon. I used a VHS tape cover to produce the Pioneer battery cover, and I am still trying to find a suitable raw source to cut a Voyager battery cover.

As you may have noticed, I am not appearing at the Forum as often as I'd like to... Lack of time, unfortunately.

Best regards.

Luiz (Brazil)



*Edited: 16 Mar 2007, 3:28 p.m.*

### **Lack of time**

*Message #5 Posted by [bill platt](#) on 16 Mar 2007, 7:52 p.m.,  
in response to message #4 by Vieira, L. C. (Brazil)*

I have that situation too, but should be glad for it---work is a good thing.

### **Re: Need battery cover for HP-16c**

*Message #6 Posted by [James Biddlecombe](#) on 20 Mar 2007, 11:44 a.m.,  
in response to message #4 by Vieira, L. C. (Brazil)*

Further to my last note I have since noticed that there is some corrosion on the battery contacts as well as the contacts being a bit bent out of shape. The calculator itself is the older style with the sprung contacts at each end as opposed to the later models with the fixed contact and one end and the large spring at the other end. If I was to get an old 12c for parts, can anyone confirm what serial number range I should be looking for, in order to get a model with the earlier style sprung contacts.

Thanks, James.

---

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## HP Forum Archive 17

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### When/where will HHC 2007 be?

Message #1 Posted by [Dave Shaffer](#) on 14 Mar 2007, 3:50 p.m.

I am trying to organize my travel planning for most of the rest of 2007, and am hoping that I can include this year's conference so I can meet many of the Forum's contributors.

Has a data and location been chosen for this? A check of the archives indicates September, but I couldn't find anything more specific.

### Re: When/where will HHC 2007 be?

Message #2 Posted by [Namir](#) on 14 Mar 2007, 4:55 p.m.,  
in response to message #1 by Dave Shaffer

Dave,

San Diego, CA (HP's offices) on September 29 and 30 is my best guess so far. I plan to attend by my step-son is getting married on the 30th at 4pm, so I will have to catch a red-eye on Saturday night back to VA!!

:-(

Namir

### Re: When/where will HHC 2007 be?

Message #3 Posted by [Paul Brogger](#) on 14 Mar 2007, 5:39 p.m.,  
in response to message #2 by Namir

Marry him off in SD!

You're guaranteed a boatload of interesting folks for the reception.

(I've got family down there -- maybe *I'll* make it . . .)

*Edited: 14 Mar 2007, 5:40 p.m.*

### San Diego, but not necessarily in HP's offices

Message #4 Posted by [Gene](#) on 14 Mar 2007, 5:48 p.m.,  
in response to message #2 by Namir

That was the hope, but as of today (3/14/07), the conference is not going to be held on HP's premises.

Richard Nelson should have the exact arrangements soon.

Gene

**Re: San Diego, but not necessarily in HP's offices**

*Message #5 Posted by [Namir](#) on 14 Mar 2007, 5:58 p.m.,  
in response to message #4 by Gene*

Gene,

Ah ok. Somewhere else in SD? But same weekend, right?

Namir

**Re: San Diego, but not necessarily in HP's offices**

*Message #6 Posted by [Gene](#) on 14 Mar 2007, 9:49 p.m.,  
in response to message #5 by Namir*

Yes!

**Re: San Diego, but not necessarily in HP's offices**

*Message #7 Posted by [Bruce Bergman](#) on 15 Mar 2007, 1:32 a.m.,  
in response to message #6 by Gene*

Hi Gene --

I've sent Richard at least \*three\* e-mail messages since HHC 2006 was held, offering my assistance in any way, shape or form. Since I live here in San Diego, and have for 24 years, I might be able to help out. I also have a significant background in conference and event planning, so I'm somewhat edu-ma-cated. ;-) However, I've never heard back from Richard with any of my messages, so either he's been busy every time I've sent him a message, or he never got them. Either way, if you could pass along my offer to help, I'd appreciate it!

thanks, bruce

**Re: San Diego, but not necessarily in HP's offices**

*Message #8 Posted by [Namir](#) on 15 Mar 2007, 1:59 a.m.,  
in response to message #7 by Bruce Bergman*

Bruce,

Sounds like you can really help!!!

I don't know if Richard visits this forum. I have not seen messages from him here (unless he is using an alias, like TI\_Fan, to throw us off completely :-))

Namir

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## HP Forum Archive 17

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### Pi day - Calculate Pi on your 15C

Message #1 Posted by [Egan Ford](#) on 13 Mar 2007, 9:51 p.m.

What's Pi day with out a Pi computation?

Yes, there have been a few short and fast solutions posted in this forum to compute Pi, but what about something painfully slow?

I submit for your consideration:

```

1      LBL A
2      0
3      STO 0
4      STO 1
5      LBL 0
6      RAN#
7      RAN#
8      ->P      # P is for Pythagoras
9      1
10     TEST 9 # x>=y
11     STO+ 1
12     0
13     1
14     STO+ 0
15     RCL 1
16     RCL/ 0
17     4
18     *
19     PSE
20     GTO 0

```

IANS, 2 random numbers are generated. The numbers represent the x and y coordinates of a point. If the distance to the point from the origin is  $\leq 1$ , then it lies within the unit circle and a counter is incremented.

The ratio of the area of the unit circle to the unit square is  $\pi/4$ . To calculate simply divide the number of hits by the total number of attempts and multiple by 4.

The real question is how many Pi days will pass before the 15C gets all 10 digits?

Screenshot (last 10 minutes of activity):

Dynamic update of my run, refresh often.

<http://xmission.com/~egan/slow15cpia.gif>

*Edited: 14 Mar 2007, 2:07 p.m. after one or more responses were posted*

### Re: Pi day - Calculate Pi on your 15C

Message #2 Posted by [Les Wright](#) on 13 Mar 2007, 10:14 p.m.,  
in response to message #1 by Egan Ford

Pi meets Monte Carlo!

Neat!

I should set this up on Free42, which is very fast, and see how long it takes....

Les

**Re: Pi day - Calculate Pi on your 15C**

*Message #3 Posted by **Egan Ford** on 13 Mar 2007, 10:35 p.m.,  
in response to message #2 by Les Wright*

If you want speed consider a DSE loop within the main loop. Allow 1000s of iterations before displaying results.

**Re: Pi day - Calculate Pi on your 15C**

*Message #4 Posted by **Les Wright** on 14 Mar 2007, 5:10 a.m.,  
in response to message #3 by Egan Ford*

Actually, I just change the PSE to VIEW ST X and can watch the approximations race crazily past like in some sort of wild pi stopwatch!!!

I think you can do likewise on the real Free42 and watch the approximations click by a lot more quickly than if you pause the thing at each iteration--it is much faster, but obviously not nearly as fast as Free42 on handheld or PC.

Les

**Re: Pi day - Calculate Pi on your 15C**

*Message #5 Posted by **Les Wright** on 14 Mar 2007, 5:15 a.m.,  
in response to message #4 by Les Wright*

Since we are talking about probabilistic approximations of Pi, any out there up for an HP calc simulation of Buffon's Needle Problem?

**Re: Pi day - Calculate Pi on your 15C**

*Message #6 Posted by **Kiyoshi Akima** on 14 Mar 2007, 12:38 p.m.,  
in response to message #5 by Les Wright*

Quote:

\_\_\_\_\_  
Since we are talking about probabilistic approximations of Pi, any out there up for an HP calc simulation of Buffon's Needle Problem?  
\_\_\_\_\_

A discussion of Buffon's problem, with RPN and RPL programs:

<http://kiyoshiakima.tripod.com/funprogs/buffon.pdf>

**Re: Pi day - Calculate Pi on your 15C**

*Message #7 Posted by **Egan Ford** on 14 Mar 2007, 12:45 p.m.,  
in response to message #6 by Kiyoshi Akima*

Great stuff! Thanks.

### Re: Pi day - Calculate Pi on your 15C

Message #8 Posted by [Les Wright](#) on 14 Mar 2007, 7:26 a.m.,  
in response to message #4 by Les Wright

I have run the original version of Egan's code (with the change of PSE to VIEW ST X) on Free42 on a Palm TX for a little over 2 hours.

The approximant to Pi is 3.14319940195 after 222,054 iterations.

I will run the PC version next. A lot faster I am sure.

Les

### Re: Pi day - Calculate Pi on your 15C

Message #9 Posted by [Egan Ford](#) on 13 Mar 2007, 10:55 p.m.,  
in response to message #1 by Egan Ford

Faster version (30 vs 18 iterations/minute):

```

1      LBL A
2      0
3      STO 0
4      STO 1
5      LBL 0
6      1
7      10^x
8      STO I
9      LBL 1
10     RAN#
11     RAN#
12     ->P
13     1
14     TEST 9 x >= y
15     STO+ 1
16     0
17     1
18     STO+ 0
19     DSE I
20     GTO 1
21     RCL 1
22     RCL/ 0
23     4
24     *
25     PSE
26     GTO 0

```

### Re: Pi day - Calculate Pi on your 15C

Message #10 Posted by [Paul Dale](#) on 13 Mar 2007, 11:30 p.m.,  
in response to message #1 by Egan Ford

How about this attempt:

```

001  LBL A
002  CLEAR REG
003  RAD
004  LBL 0
005  1
006  STO+I
007  RCL I
008  STO RAN#
009  RCL RAN#
010  1

```

```
011 0
012 *
013 COS
014 1
015 +
016 TEST 0      x<>0?
017 GTO 0
```

It is probably way faster to converge that the dart board approach.

- Pauli

## Re: Pi day - Calculate Pi on your 15C

Message #11 Posted by [Valentin Albillo](#) on 14 Mar 2007, 8:09 a.m.,  
in response to message #1 by Egan Ford

Hi, Egan:

Egan posted:

*"The real question is how many Pi days will pass before the 15C gets all 10 digits?"*

Assuming each "try" takes 2 seconds to complete, it will take on the order of  $2.31 \times 10^{15}$  days to get 10 correct digits. That's  $6.34 \times 10^{12}$  years, give or take a few thousand millennia, which is the asked number of 'Pi days' if there's one 'Pi day' a year.

Though HP-15C's battery life verges on the incredible, I guess the batteries would be utterly flat by then. The HP-15C would be flat. Heck, even the Earth would be flat by then !

More seriously, the HP-15C's random number generator has a much shorter period than necessary for so long a computation, so tries would start to badly repeat and some bias would be introduced which could affect results making it ultimately impossible even in theory to get 10 correct digits, no matter how long it would take.

Best regards from V.

*Edited: 14 Mar 2007, 8:12 a.m.*

## Re: Pi day - Calculate Pi on your 15C

Message #12 Posted by [Les Wright](#) on 14 Mar 2007, 8:24 a.m.,  
in response to message #11 by Valentin Albillo

In my high speed computations on Free42 I am noticing that very bias in the pseudorandom number generator. The thing can go thru one million or two million loops and will get stuck around 3.143 and won't budge from there....

Les

## Re: Pi day - Calculate Pi on your 15C

Message #13 Posted by [Egan Ford](#) on 14 Mar 2007, 10:43 a.m.,  
in response to message #11 by Valentin Albillo

Quote:

More seriously, the HP-15C's random number generator has a much shorter period than

necessary for so long a computation, so tries would start to badly repeat and some bias would be introduced which could affect results making it ultimately impossible even in theory to get 10 correct digits, no matter how long it would take.

I was concerned about this as well. I should have stated hypothetical. Does any have a paper or URL to how the 15C generates random numbers?

### **Re: Pi day - Calculate Pi on your 15C**

*Message #14 Posted by [Dave Shaffer](#) on 14 Mar 2007, 3:58 p.m.,  
in response to message #13 by Egan Ford*

At the risk of making your program even slower, it seems to me that you could randomize which random number(s) you are using to pick X and Y in order to reduce the effects of the finite length of the random number generator.

Easy way: after some number of loops (ideally, probably the length of the random number generator), insert an extra random call (or two or three or ...) between the one used to get X and then to get Y.

More work: generate a random number, pick a particular digit thereof (say, the fourth), generate that many random numbers before generating the one you will use. Do for both X and Y.

Without thinking too hard about it, this ought to greatly "lengthen" the generating sequence you are using.

### **Re: Pi day - Calculate Pi on your 15C**

*Message #15 Posted by [Egan Ford](#) on 14 Mar 2007, 12:32 p.m.,  
in response to message #1 by Egan Ford*

I have updated my initial screenshot to update dynamically. This will remain in effect until I kill it.

### **Re: Pi day - Calculate Pi on your 15C**

*Message #16 Posted by [Palmer O. Hanson, Jr.](#) on 14 Mar 2007, 9:49 p.m.,  
in response to message #1 by Egan Ford*

I don't know how old the method which compares the number of "hits" within the circle to the total number of "shots" really is. It was discussed in A. K. Dewdney's column "Computer Recreations" in the April 1985 issue of *Scientific American*. Dewdney asked readers to send the results of 1000 "shots" to him.

The method appeared again in Michael Ecker's column "Easy Pieces" in the January 1991 issue of *Algorithm*. At that time graphing calculators had become available so the "shots" could be displayed on the screen as they occurred. If the random number algorithm of a given machine yields uniformly distributed numbers then one would expect the screen should approach being completely filled as the number of "shots" is increased. That was true with my Radio Shack Model 100 and my TI-81 but not at all true with my Casio fx-7000G which had a random number generator problem. The random number generator problem was fixed in the fx-7000GA.

All of this reminds me of John Von Neumann's admonition that "Anyone who considers mathematical methods of producing random numbers is, of course, in a state of sin."

### **Re: Pi day - Calculate Pi on your 15C**



*Message #17 Posted by **Egan Ford** on 15 Mar 2007, 5:11 p.m.,  
in response to message #16 by Palmer O. Hanson, Jr.*

I first encountered this method in *Using MPI*. MPI is the standard for parallel programming distributed memory supercomputers (a.k.a superclusters). As you can imagine 100s, 1000s, or 10s of 1000s of high-speed processors generating random numbers in parallel will crank out Pi to 10 digits much faster. Not surprisingly it still can take a relatively long time (a proper deterministic algorithm on a 15C will still best it). If you're ever interested in exploring the other side of the scientific computing spectrum, pick up this book, a cheap switch, a few cheap PCs, and Linux.

The Linux random number generator utilizes entropy to increase its randomness. Entropy sources include keyboard and mouse usage, disk I/O, and system interrupts. I have never tested how random this is, but it should be easy to test by simply generating a series of random bits and then trying to compress it.

Entropy should be possible on some calculators. The 50G should be able to create an entropy pool over time based on keystrokes, battery voltage, I/O, etc... Perhaps the 50G does this today. Probably not, it is unimportant for a handheld calculator to have a robust random number generator. Random numbers in Linux are critical for security. If I want to secure my 50G I'll just lock it in my office or car.

Back to the 15C. Instead of using random numbers we can assume that we have a random number generator with a perfect uniform distribution and at the same time we will assume that all numbers are generated at least once first before reoccurring similar to shuffling a deck of cards.

The smallest fraction that will generate Pi/4 is:

```
1570796327
-----
2000000000
```

If we generate  $2e9$  points with an even distribution from 0,0 to 1,1 then we should get Pi faster by simulating the uniform distribution of the inevitable if we had a true random distribution. Points for x and y will range from 0 to 1 step  $1/\sqrt{2e9}$ .

At 2 sec/iteration generating the 10 digits of Pi will only take ~ 126.75 years.

### **Re: Pi day - Calculate Pi on your 15C**

*Message #18 Posted by **Palmer O. Hanson, Jr.** on 15 Mar 2007, 9:07 p.m.,  
in response to message #17 by Egan Ford*

You wrote:

Quote:

\_\_\_\_\_

The Linux random number generator utilizes entropy to increase its randomness. Entropy sources include keyboard and mouse usage, disk I/O, and system interrupts.

\_\_\_\_\_

That got me thinking about the random number generator on the fx-7000G. It turned out that the mean value and distribution of 1000 random numbers from a program on that machine would vary when the execution time between subsequent calls of the random number generator was changed. I didn't think of it at the time, but could it have been that Casio was trying to enhance the randomness?

### **Re: Pi day - Calculate Pi on your 15C**

*Message #19 Posted by **Egan Ford** on 17 Mar 2007, 2:31 a.m.,*

*in response to message #18 by Palmer O. Hanson, Jr..*

I know nothing about the fx-7000G. Does it have a clock or way to specify a delay?

**Re: Pi day - Calculate Pi on your 15C**

*Message #20 Posted by **Palmer O. Hanson, Jr.** on 17 Mar 2007, 9:35 p.m.,  
in response to message #19 by Egan Ford*

Quote:

I know nothing about the fx-7000G. Does it have a clock or way to specify a delay?

It does not have a clock. I mechanized the delays by loops in the program. Since this is off-topic I suggest that if you want to pursue it further that you go to Viktor Toth's site at [www.rskey.org/](http://www.rskey.org/), go to the Library, go to Texas Instruments, go to TI PPC Notes and then look at page 13 of V10N4 and pages 8 and 9 of V11N1 to see all that I know about it.

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## HP Forum Archive 17

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### HP48-SX MES

Message #1 Posted by [J. Veazey](#) on 13 Mar 2007, 8:34 p.m.

(The 48 is my office machine; I have an HP-50g at home for serious play).

I've got an application that seems to be tailor made for the Multi-Equation solver, yet MES consistently tells me I have too many unknowns.

This is a vector triangle problem, having to do with the placement of sonobuoys in front of an advancing convoy by an ASW helicopter, and the flight time and course of the helo.

Here are my 3 equations:

$$Ca = Sr + Vc * Slt + Vc * t$$

$$R = \text{SQRT}(Ca^2 + D^2 - 2 * Ca * D * \cos(\alpha))$$

$$t = R / Vh$$

My 3 unknowns are:

Ca - convoy advance

R - flight distance of helo to sonobuoy location

t - flight time of helo to sonobuoy location

All the rest of the variables above are known constants:

Sr - sonobuoy detection range

Vc - convoy speed

Slt - sonobuoy lifetime

D - Distance from convoy to helo at start

Vh - helo speed

alpha - Angle on the bow from the convoy to the helo

This system can be solved iteratively by just cycling thru the 3 equations to generate updated values of the unknowns. It usually takes about 7 or 8 iterations to converge to full displayed accuracy (which is way overkill).

I have set it all up in its own directory. I have done an MINIT, and an MITM just fine. When I punch MSOLV softkey, all the softkey labels act like they should, displaying all my variable names on white softkeys. I initialize the constants and those soft keys turn dark to show they are not variables.

When I try to solve via LS-ALL, I get the message "Too Many Unknowns". Trying to solve for a single variable also fails with the same message.

I have tried reordering the equations. No joy. I even added the other 2 angles in this vector triangle as unknowns, and more triangle relations (3 law of sines equations) and the equation  $Pi = \text{sum}(\text{the angles in the triangle})$ . I hoped this would help since I added just 2 more variables, and 4 equations. But, attempting to solver still gets the "Too Many Unknowns".

Am I doing something wrong, or is this system simply something that the MES can't handle? It seems too simple for that to be the problem, but ....

**Re: HP48-SX MES**

Message #2 Posted by [Han](#) on 13 Mar 2007, 9:33 p.m.,  
in response to message #1 by J. Veazey

Have you tried giving each of the unknowns an initial value (to be used as guesses)?

**Re: HP48-SX MES**

Message #3 Posted by [J. Veazey](#) on 14 Mar 2007, 2:38 a.m.,  
in response to message #2 by Han

I forgot to mention that step.

I initialized the unknowns with values I knew were very close to the answers; I also tried 0's, and other "reasonable" values.

I still got the "Too Many Unknowns" message when attempting to solve.

**Re: HP48-SX MES**

Message #4 Posted by [Jean-Michel](#) on 14 Mar 2007, 10:29 a.m.,  
in response to message #1 by J. Veazey

Hi,

probably isn't what follows the answer you're waiting from, but why don't you put the algebraic value of Ca and t into the equation of R ? That would lead you to a simple second degree equation like :

$$K1.R^2 + K2.R + K3 = 0$$

where K1, K2 and K3 are constants which comes from the 3 equations you gave.

Regards.

**Re: HP48-SX MES**

Message #5 Posted by [Mike Ingle](#) on 20 Mar 2007, 3:27 p.m.,  
in response to message #1 by J. Veazey

I just posed a multiple-equation solver program that works on the 28 and 48. It might solve these equations.

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## HP Forum Archive 17

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### HP 50g - Loading Programs, Symbolic Calculus

Message #1 Posted by [DieCommie](#) on 13 Mar 2007, 4:10 p.m.

Hello, I have purchased the HP50g and am liking it so far. However, I find the manual and online references lacking in particular areas. For example...

1) How do I load a program into the calculator and then access it? I am able to use Conn4x and connect to my calculator. But then all I get is a list of files and a folder of more files.

The particular program I want to load is a periodic table. I dont know where to put the file, nor do I know how to access it once in the calculator. The readme for the program says this

#### 2.1 Installing

----- a) send either chemlb27.lib(full) or chemlt27.lib(light) to the HP48

b) put a copy of the library on the stack

c) enter the port number to store the library (0-33 GX, 0-2 SX)

d) here is an example of the stack setup so far:

-----

4:

3:

2: Library 1014: CHE...

1: 0

|||||||

e) at this point, press [STO]

f) perform a warmstart with [ON][C] or turn on and off the HP48

g) erase the variable containing the library. eg. 'CHEMLB27.LIB' PURGE

h) read the next section for the Universal Font Library (UFL) requirements

For part a, I dont know where exactly I need to send it. Part b, what does that mean, 'put a library in the stack'? I am pretty much lost after that...

2)Any tips on how to do symbolic integration? The integral button seems to only do definite integrals. I am having a feeling that this calculator is not good at doing symbolic calculus....

3) Finally if you have any tips/tricks or useful programs for the calculator please share! I want to learn how to use this thing real well over spring break.

## Re: HP 50g - Loading Programs, Symbolic Calculus

Message #2 Posted by **James M. Prange (Michigan)** on 13 Mar 2007, 10:34 p.m.,  
in response to message #1 by DieCommie

First off, if you use a "binary" transfer, then the compiled object has to be compatible with the 49 series. In general, compiled 48 series commands, and compiled 48 series programs, lists, and libraries that contain UserRPL or SysRPL commands, lack binary compatibility with the 49 series, because the entry points for many commands have changed. If it shows up on the 50g as a character string starting with "HHP48-x" (where "x" is a ROM version letter), then you used a binary transfer of a 48 series object and the 49 series safely stores it within a character string instead of as a compiled object. It's sometimes possible to fool the calculator into treating the object as compatible, but that may very well result in a TTRM (Try To Recover memory?) and clearing user memory.

In most cases, 48 series UserRPL objects can be transferred to the 49 series and will work, but you have to use an "ASCII" or "Text" transfer so that the calculator will compile the source code. At worst, with this type of transfer, you may get an "Invalid Syntax" error.

From your post, it appears that you're trying to install a library designed for the 48 series, which you shouldn't even try to install in a 49 series. Look in <http://www.hpcalc.org/> for libraries specifically designed for the 49 series.

For a port of the 48SX's *HP Solve Equation Library Library Application Card* (HP 82211B), except for the Tetris game, that works with the 49 series, see <http://www.hydrinx.com/Download/Hp/4950Libraries/> or <http://www-fourier.ujf-grenoble.fr/~parisse/english.html>. For the Equation Library, install libraries 226 and 227, or for the Periodic Table, install library 229. The Owner's Manuals for this card are available on the MoHPC CD-ROM set / DVD-ROM; see <http://www.hpmuseum.org/cd/cddesc.htm>, or some documentation for it is available in the 48G series and 49 series documents.

For a "program", just leave it in home or whichever sub-directory you transferred it to, or copy or move it to any sub-directory or any of ports 1, 2, or 3, and execute it from there.

For a "library", if you used a "via wire" or "via IR" transfer, then move it to any of ports 0, 1, or 2 (but not 3). Don't leave a copy of the library in the home directory (or any sub-directory) because its presence in "user memory" will interfere with the memory recovery routine in case you respond YES to a TTRM. If you used an MMC or SD card to transfer the library to the 50g, then it's okay to just transfer it to port 0, 1, or 2, leaving a copy of the file on the card (port 3). With the 49 series, it may be easiest to use the "filer" (press LeftShift FILES, over the G key) to move or copy the variable or file. Invoke a warmstart by holding down the ON key, pressing and releasing the C key, and releasing the ON key. Most libraries have a configuration routine that auto-attaches them to the home directory, and it will be invoked by the warmstart. If a library isn't auto-attaching, then get in whichever directory you want it to be attached to, put the library number on the stack and execute the ATTACH command. You can also use the DETACH command to (what else?) detach a library.

In a few cases (such as the Equation Libraries and Periodic Table library) the library will be attached even without doing a warmstart or an explicit ATTACH command.

In some cases, once attached, the library will be available by pressing the APPS key on the 49 series, otherwise press RightShift LIB (over the 2 key) to see the library names in the menu, and press the library's menu key to see its user commands.

In the event of a buggy library (or reserved variable STARTUP) "hanging" the 49 series, hold down the backspace key while doing a warmstart. This prevents the library configurations routines and STARTUP from

running, giving you an opportunity to purge the buggy library or edit or purge STARTUP.

By the way, in most cases, for RPL models, you'll have better luck with the comp.sys.hp48 usenet group. A searchable archive (going back all the way to 1991) is available at <http://groups.google.com/group/comp.sys.hp48>. If you can't find an answer to your question, then ask on the newsgroup.

Regards  
James

### **Re: HP 50g - Loading Programs, Symbolic Calculus**

*Message #3 Posted by **Bruce Bergman** on 14 Mar 2007, 12:07 a.m.,  
in response to message #2 by James M. Prange (Michigan)*

I swear I'm going to start calling you the "50g Guru", James. :-) You always have the most thorough answers on any 50g topic I've ever seen in this forum. Great job!

I just wanted to add my \$0.02 about 48 libraries. I found some stats software I wanted to use on the 50g and decided to take a chance that it might work. Not only did it fail to work, but it also locked up my calculator so badly that I thought I had trashed it. I eventually got it back (again, thanks to your help James), but that taught me a lesson that I hope never to repeat.

My \$0.02 anyhow.

thanks, bruce

### **Re: HP 50g - Loading Programs, Symbolic Calculus**

*Message #4 Posted by **DieCommie** on 14 Mar 2007, 12:27 a.m.,  
in response to message #2 by James M. Prange (Michigan)*

Thank you very much for your thorough answer. Unfortunately much of it seems lost on me... I have no experience with programming. I dont know what is meant by UserRPL, SysRPL, binary transfer, libraries, strings etc. But I do want to learn!

First off I think my program is for HP 50G (or 49). I got it from <http://www.hp48.org/>. It is under chemistry, ChemLab 2.7. Is this a library or a program? What is the difference between a library and a program?

You say for a program I can leave it any directory. But what do you mean "or any of ports 1, 2, or 3, and execute it from there."? What are these ports and how could I execute it from them?

----Lookin in calculator---- Ok, I just looked in my calculator using Conn4x. I have ChemLab under the home directory and it appears to be a library. So I hit the LIB key and get the choices of 0 , 1 and 2. I am guessing these are ports? Under 0 and 1 there is no choice. But under 2 there are two choices, 226 and 227. I dont think either of these are my ChemLab. Regardless, I try to use one by clicking on it but all it does is put it in the stack.

??

### **Re: HP 50g - Loading Programs, Symbolic Calculus**

*Message #5 Posted by **Clear, Simple, How To Do It** on 14 Mar 2007, 5:02 a.m.,  
in response to message #4 by DieCommie*

Chemlab 2.7 is a library. You've managed to download it to your calculator. Good, here's how to install and use it:

- 1) After downloading, you'll see the variable "Chem..." or "L1014" in the list of variables. In RPN mode, press the small button under that variable. You'll now see on stack level 1: "Library 1014: ChemLab 2.7..."
- 2) Now type :2: 1014 STO - this stores the library in the flash memory of port 2.
- 3) Now type :2: 1014 ATTACH - this attaches the library so you can actually use it.
- 4) To access/use the library, do RIGHT SHIFT, LIB and you'll see ChemL. Press that button, then the button under CHEM, and you get the periodic table you're after. Storing and using other libraries uses the same process, only the library numbers are different.
- 5) Now that the library is actually stored, you don't need the original stored variable anymore. Press the key under the variable. Again you'll see on stack level 1: "Library 1014, Chemlab..." Type PURGE, and it's gone, you're done.

For symbolic integration:

- 1) To get it right the first time, use the equation writer, RIGHT SHIFT, EQW to write your function, as a simple example, 'x^2-1'. You can use other variables if you wish, such as y or t.
- 2) ENTER the function onto the stack level 1. Then ENTER the variable of integration, which here is the variable of the function, x. You'll now see the function on stack level 2, the variable on stack level 1.
- 3) Simply type the RISCH command (which can be assigned to KEYS, another topic), which integrates to a specified variable. You will now see '1/3\*x^3-x' The constant of integration is omitted.

Enjoy your HP50!

*Edited: 14 Mar 2007, 5:08 a.m.*

## Re: HP 50g - Loading Programs, Symbolic Calculus

Message #6 Posted by [Giancarlo \(Italy\)](#) on 14 Mar 2007, 6:08 a.m.,  
in response to message #4 by DieCommie

Hi DieCommie.

You may find helpful to have a look at the following:

> how to install programs and libraries:  
<http://www.hpcalc.org/install.php>

> tutorials

<http://www.hpcalc.org/hp49/docs/misc/hptute.zip>  
Various Quick tutorials for the HP49x series of calculators. Broken up into 5 sections, ranging from getting started for new users (flags, data entry etc), to basic macros with user RPL and customizing menus and the keyboard. In HTML, lots of screenshots (with both the 49G and G+). By Alistair Borowski

<http://www.hpcalc.org/hp49/docs/misc/20essentialthings49.zip>  
20 Essential Things to Know About the HP-49G: A guide for the hopelessly confused! That about sums it up! =) This is designed answer many common questions, and to teach new users a bunch of neat tricks that makes thier calculator easier to use. Also points to documents that will help them out. By Tim Wessman



<http://h20331.www2.hp.com/Hpsub/downloads/hp50gPDFfiles.zip>  
All available training modules for the HP 50g graphing calculator. (.zip, 9.64MB)  
from HP calculator website

<http://www.quickclose.com.au/tut.htm>  
HP 48 & 49 Programming Tutorials

Hope this helps (to feed your learning eagerness :)  
Best regards.  
Giancarlo

## Re: HP 50g - Loading Programs, Symbolic Calculus

Message #7 Posted by **James M. Prange (Michigan)** on 16 Mar 2007, 4:03 p.m.,  
in response to message #4 by DieCommie

Quote:

---

Thank you very much for your thorough answer. Unfortunately much of it seems lost on me... I have no experience with programming. I don't know what is meant by UserRPL, SysRPL, binary transfer, libraries, strings etc. But I do want to learn!

---

Then it seems to me that you have a bit of catching up to do. Do learn to do at least some UserRPL programming for your 50g; it makes using the calculator a lot faster and easier, at least for repeating a task frequently or repeating a lengthy or "complicated" task even once.

Of course see the printed "User's manual" that came with your 50g, but I expect that the "user's guide" that's on the accompanying CD-ROM will be more helpful. Also be sure to download and use the [hp 49g+/ hp 48gII graphing calculator advanced user's reference manual](#). The differences from the 49g+ to the 50g is that the 50g has a higher battery voltage (4 AAA cells instead of 3) and that the 50g adds a "serial" (but not RS-232 compatible) external I/O port; for transfers or printing "via wire", system flag -78 is clear for the USB port or set for the serial port.

Also see the "training modules" available at [HP's site](#). Besides this link, [hpcalc.org](#), and the [comp.sys.hp48](#) newsgroup, other helpful links include [The HP Knowledge Base](#), [Wolfgang's site](#), [Carsten's HP page](#), and <http://m.webring.com/hub?ring=hp48>.

For a deeper understanding of RPL, see Bill Wickes's *Insights* books, or if you're already familiar with "Classic RPN", then first see his *HP 48/HP 41 Transitions* book, all available on the MoHPC CD-ROM set / DVD-ROM.

In general, each new version of RPL, from the 28S through the 49 series, is a superset of the previous RPL language. The older documentation, particularly for the 28 series and 48SX/S, is often better written than the documentation for the newer models. Don't ignore information just because it's written for an older model; it often applies to a newer model too.

Quote:

---

First off I think my program is for HP 50G (or 49). I got it from <http://www.hpcalc.org/>. It is under chemistry, ChemLab 2.7.

---

Sorry, from your original post, you seemed to have instructions for installing it on a 48 series, so I assumed that you were trying to install a library intended for them. It seems that the developer ported his 48 series library to work on the 49 series, but didn't bother to update its documentation. I see that

hpcalc.org has two separate entries for ChemLab 2.7; if you haven't succeeded in installing this yet, be sure that the downloaded file is named chemlb27\_49.zip, not chemlb27.zip.

The library does seem to work in the 49g+ and 50g, but apparently was developed for the 49G, so only 64 (instead of 80) pixel rows are used for the graphical display.

In case you still haven't gotten it working, here's a method of installing it on the 49 series:

- Unzip the downloaded chemlb27\_49.zip file.
- Use Conn4x to download the file ChemLab.HP to the calculator's home directory, where it will be stored as a global variable named ChemLab (the menu label will show just ChemL).
- Press LeftShift FILES (over the G key).
- With Home highlighted, press CursorRight.
- With ChemLab highlighted, press the menu key for MOVE (the C key).
- Press the CursorUp key once or twice to highlight 2:Flash (or 1:ERAM or 0:IRAM).
- Press the menu key for OK (the F key), or press the ENTER key.
- Press CANCEL (the ON key) to exit the filer.
- Hold down the ON key, press and release the C key, and release the ON key to invoke a warmstart, which configures and attaches this library.

To use this library, press RightShift LIB (over the 2 key), press the menu key under the label ChemL (press the NXT key if it's not on the first menu page), then press the menu key for whichever command you want to use.

I do realize that I'm leaving many of your questions unanswered, but I expect that, with a little research, you'll easily find at least most of the answers yourself.

Regards,  
James

### **Re: HP 50g - Loading Programs, Symbolic Calculus**

*Message #8 Posted by [DieCommie](#) on 17 Mar 2007, 1:59 a.m.,  
in response to message #7 by James M. Prange (Michigan)*

Thank you all. I did get the program installed, its good. I have also visited many of the links and done some cool stuff.

I have learned about RISCH and INTVX as promoted by the posts above. I am wondering what the difference is between them. I know INTVX automatically assumes a variable of X, but is that the only difference? Do they use different algorithms? Are there certain functions that are better integrated by the one or the other?

Anyway, thx again. I learned alot over spring break about this calc, but alas the break ends and I go back to classes. I will however likely be back come summer, see you all then.

### **Re: HP 50g - Loading Programs, Symbolic Calculus**

*Message #9 Posted by [Answer And More Links](#) on 17 Mar 2007, 11:06 a.m.,  
in response to message #8 by DieCommie*

The advantage of using the RISCH command over INTVX is RISCH integrates with respect to any variable, INTVX just to the variable in VX. Supposedly RISCH uses a partial implementation of the Risch integration algorithm used, but there doesn't seem to be any difference in answers returned by the two commands.

A nice explanation of the HP49 (which are the same on the 50) CAS commands was done by Prof. Renee deGraeve. The top of the page is in French, but the document is in English:

[http://72.14.203.104/search?q=cache:\\_N18IQonm2IJ:www-fourier.ujf-grenoble.fr/~parisse/degraeve/cas49\\_1.pdf+Renee+deGraeve&hl=en&ct=clnk&cd=1&gl=us](http://72.14.203.104/search?q=cache:_N18IQonm2IJ:www-fourier.ujf-grenoble.fr/~parisse/degraeve/cas49_1.pdf+Renee+deGraeve&hl=en&ct=clnk&cd=1&gl=us)

A two-volume book series on using the HP49 was written by Prof. Gilberto Urroz. Here is the link for volume two, scroll to the bottom of the page to buy both together, recommended:

[http://www.amazon.com/Science-Engineering-Mathematics-differential-statistics/dp/1588980448/ref=sr\\_1\\_6/002-3476684-9613639?ie=UTF8&s=books&qid=1174143817&sr=1-6](http://www.amazon.com/Science-Engineering-Mathematics-differential-statistics/dp/1588980448/ref=sr_1_6/002-3476684-9613639?ie=UTF8&s=books&qid=1174143817&sr=1-6)

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## HP Forum Archive 17

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### **An eBay story with a happy ending**

Message #1 Posted by [Les Wright](#) on 13 Mar 2007, 3:12 a.m.

A few months ago I paid a pretty generous sum for an HP65 with case, plastic case, adapter, dead battery, manual, QRG, and almost complete card sets for the Standard Pac and Surveying Pac (just one blank card was missing). But the manuals for the latter were missing and I didn't think anything of it, knowing I had our great DVD.

A few weeks later the seller contacted me to advise me he had located the manuals and he sent them along. So now I have a complete set, and since it was all recently lovingly refurbished by our friends at FixThatCalc.com, it is fully functional.

Just thought I would share this warm fuzzy to remind us that not all eBay calculator transactions are fraught with dishonesty and misinformation.

Les

### **Re: An eBay story with a happy ending**

Message #2 Posted by [Bill \(Smithville, NJ\)](#) on 13 Mar 2007, 7:31 a.m.,  
in response to message #1 by Les Wright

Hi Les,

A great reminder to us all that most people are honest and try to do the right thing.

I have a similar story - only not with ebay but with the HPMuseum Classifieds. I worked out a deal to trade a HP-45 for a HP-25. I sent off the HP-45 and he mailed the HP-25 to me. But he also emailed me to say that he had accidently damaged the HP-25 when he was cleaning it before shipping and that if I wasn't happy with it, he'd gladly undo the deal. A day later he e-mailed that he was shipping a second HP-25 to me and that I could compare the two and keep which ever one I wanted and send the other back or we could undo the deal.

The two units arrived and I selected the one I wanted and sent the other back with a nice thank you. It was very trusting of him - I could have easily just kept both units.

Bill

### **Re: An eBay story with a happy ending**

Message #3 Posted by [Matthias Wehrli](#) on 13 Mar 2007, 4:37 p.m.,  
in response to message #1 by Les Wright

Hi

I wish I could tell you a similar story but I can not:

10 month ago I won several auction for EPROMS from shturman76 (Emmanuel Compes). My paypal history shows, that I paid for the EPROMs on 2/5/06. Since then I'm waiting for the EPROMs (Emmanuel sent them,

but they were returned to him as they were sent to Italy instead of Switzerland). On 22/11.06 I got the manuals of these EPROMs from Emmanuel, but for the EPROMs itself I'm still waiting.

In January I won again an auction from Emmanuel. As I still did not get the EPROMs (I was waiting for them since 7 month) I decided not to pay for the newest auction unless I get the EPROMs first.

Since then I try to contact Emmanuel about 1-2 times a month but he does no longer reply on my mails. Finally we both gave us a negative feedback in ebay.

As I'm a honest buyer I still want to fix this deal and get my stuff I paid for. Emmanuel itself will also get some money from me for the last auction item. So it should also be an interest for him to fix this. But unfortunatelly he does no longer reply on my mails (I do not know why). So, what we need is maybe an adjustor, a mediator who can bring us together again. Maybe it's best if it's a person Emmanuel an I know. Is there someone out here who would try to help me (and Emmanuel) to get a conclusion again? Please let me know.

Yours, Matthias Wehrli

### **Re: An eBay story with a happy ending**

*Message #4 Posted by **Pascal** on 14 Mar 2007, 2:06 a.m.,  
in response to message #3 by Matthias Wehrli*

Hello Matthias,

I recently had a problem with an IBM PC 110 that was advertised as working but needing a new OS. The problem was more serious than that and it seemed that the graphic card was damaged. The seller refused to admit that it was DOA and said it was my fault if I was not able to install a new OS.

In order to solve this situation, I used squaretrade dispute resolution service as a mediator, as the seller advertised himself as squaretrade "compliant". After a few weeks of message exchange through squaretrade, he accepted that I return the computer and got a refund.

You can use squaretrade as a free service and you just exchange messages like in a message board (that's what I did) or you can at any time ask for a mediator to come in and help solve the problem. In this case the fee is \$30.

I've had several problems recently, with people never answering their emails. I've learned that the best way to solve an issue is always to call them directly by phone (you can request a seller's address and phone number through ebay). To illustrate this I recently bought an HP-110 and I paid but the item was never sent. After 2 months and at least 5 emails, I still got no answers. I called the guy and I was told by the father that his son has got into his mother's ebay account and made the sale without his mother's approval. His mother never checks her email account linked to ebay as she does not use ebay anymore and voilà ... the explanation of the unanswered emails.

I hope it helps.

Pascal.

### **Re: An eBay story with a happy ending**

*Message #5 Posted by **Matthias Wehrli** on 14 Mar 2007, 4:59 p.m.,  
in response to message #3 by Matthias Wehrli*

Interesting... within 24h I got three mails from frequent forum users that told me, they have / had problems

with Emmanuel too.

Here is my summary:

- All of us four had to wait long times for replies on our mails:

*It seems, that Emmanuel does have a problem answering mails continuously, either he has not the possibility to or he does not want to...*

- All of us four had to wait a extremely long periode of time until the paid item arrived:

*It seems, that the postal office in Evreux has internal problems as many parcels Emmanuel sends out were sent to wrong contries and then returned or the parcels were rubbed by thieves (3 years ago Emmanuel could prove this, and I trust him for this) or they were sent by Emmanuel several month after the payment without explanations.*

I was also told Emmanuel had another ebay account (XEQ41) he closed about two years ago, maybe because of negative feedbacks.

I'm very frustrated about his methods as I know him since a HP Meeting here in my apartment about 4 years ago. I had a good relationship to him and wonder what I did wrong that made him changing his mind.. :( I do not think, I'm a unethical ebayer.

Matthias

### **Pb with Emmanuel Compes**

*Message #6 Posted by **Jean-Michel** on 15 Mar 2007, 11:07 a.m.,*

*in response to message #5 by Matthias Wehrli*

Hi,

I also had some problems with Emmanuel COMPES (eBay "XEQ41", mail "shtruman76") when I bought him a HP-41C on eBay. I payed immediatly, but received the calculator only 2 weeks later, with quite no answer to my several mails. He said to me that the post service returned the parcel to him twice, and finally he sent it when I said to him that I had told Paypal about this problem. Finally, he called me by phone and seemed to be a very nice person ! He said that, due to his job, he hadn't time enough to read his mail and answer it. (?) He also never put any feedback for me on eBay..., even I asked him several times. (It was important for me because it was my first purchase on eBay, and then I would need a feedback for my future purchases)

Hope it helps...

Regards.

### **Re: An eBay story with a happy ending**

*Message #7 Posted by **Matthias Wehrli** on 21 Mar 2007, 1:54 a.m.,*

*in response to message #5 by Matthias Wehrli*

Still bad news for me and all winners of auctions from Emmanuel Compes...

Still no parcel from Emmanuel with my items won on 5/2/2006. But this is not the thing that makes me angry, but it's that Emmanuel does still not reply on any mails or on this forum topic. It shows me that he has become a rude seller with no respect.

**Emmanuel, you can be shure: As soon as I get my parcel I will tell the forum you sent it to me and that you became a trustfull seller again. It's up to you to blame yourself or not!**

Matthias

## **Re: An eBay story with a happy ending**

*Message #8 Posted by [Matt Kernal \(US\)](#) on 13 Mar 2007, 6:04 p.m.,  
in response to message #1 by Les Wright*

I have a very happy ending to an Ebay auction that I lost..

About eight years ago, I was wanting an HP 42S and was keeping my eyes open to different Ebay auctions for any good deals. One auction was offering a New-In-Box (NIB) 42S, but the description was written in an obscure manner, so unfortunately for the seller, the calculator wasn't getting a lot of bids. So I placed a bid of \$45, and was the high bidder.

The auction was going end the next morning at 6:30 am. But wouldn't you know it, my home PC decided to have a problem the night before, which meant I wouldn't be able increase my bid (if needed).

So the next morning I went to work early, to watch the auction and make sure I continued to be the high bidder. With five minutes left, someone out bid me, so I intended to increase my bid. But at that very minute, our IT department started some network backup/maintenance process, which decreased network performance to the point that it was useless. So I lost the auction, and the 42S went to the other bidder for \$50.

Five minutes after the end of the auction, the network was back up to full speed. I was SO frustrated!! I don't know why I did this, but I decided to write the seller just to say I would've bid so much more if my home PC and work PC hadn't of "locked" me out of the auction. Again, I don't know why I sent the message, because I knew it was pointless - the auction was over.

Within five minutes of sending the message, I received a phone call from the seller. He was calling to say he could tell how bad I wanted to win the auction, and if I really wanted a 42S, that he had bought a SECOND NIB calculator on clearance, at the same time as the first one (the one he just auctioned). He even said I could have it for the price I had bid - \$45! He wanted to know my address because he was going to the post office and wanted to drop it in the mail! I said I needed to pay him first, and he said we could take care of that later.

Needless to say, I was SO elated! I couldn't believe what had just happened! I sent him the money and added some more money too. I still can't believe that Texan man's unselfishness.

Matt

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## HP Forum Archive 17

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### Intermittent IR printing problem from HP 50g

Message #1 Posted by [Steve Pence](#) on 12 Mar 2007, 9:15 p.m.

I am using an HP 50g to print to an old 82240B that has seen a lot of use. I still prints fine, but there seems to be some intermittent communication issue. It will print a line or 2 (sometime quite a few lines) then the calculator will issue a very faint but audible beep, display an hour glass for a second or two, and all printing stops. Eventually, and I can't tell you when or why - seems random, printing starts again. When it dies, I just do "something else" for while, e.g. continue coding and testing non-print functionality. And mysteriously, the printing always, eventually, starts working again. When it prints, the print quality, fidelity, speed, etc. are excellent. I've changed the batteries and checked flag 34 at least 34 times. I've tried warm re-starting the calculator, which doesn't help. I can't do a pinter self test because the paper advance key (the one on the right) has died. (Too much sawdust. The setup is used by my Amish brother in law to print cut lists in his cabinet shop. His church prohibits PCs, but calculators aren't covered by the rules. :) ) Perhaps someone knows how to send the printer a soft command to run the self test. Other suggestions? Thanks, Steve Pence Chennai, India

### Re: Intermittent IR printing problem from HP 50g

Message #2 Posted by [Les Wright](#) on 12 Mar 2007, 10:52 p.m.,  
in response to message #1 by Steve Pence

I don't know if this will help you or if it answers your question, but my understanding is that the 82240 series printers are generally fussy with the 49 series calculators, and the calc has to be nestled pretty closely to the IR receiver for consistent printing--and then it can still act up.

Does the printer respond more consistently when you use an AC adapter?

If there is a way to "soft test" your printer from the calculator, someone around here will know.

Interesting that Amish are permitted calculators and not PCs!

Les

*Edited: 12 Mar 2007, 10:53 p.m.*

### Re: Intermittent IR printing problem from HP 50g

Message #3 Posted by [Les Wright](#) on 13 Mar 2007, 5:18 a.m.,  
in response to message #1 by Steve Pence

You know, it occurred to me that if you gave a specific example of the sort of print jobs you are doing when this occurs then there is the best possible chance that someone here (like the awesomely knowledgeable James Prange, for example) can help you.

I have no idea why things are occurring as they are, but to my unsophisticated way of understanding it seems like your work is loafing about in the print buffer until something happens to cue the printer to continue doing its thing. Do you keep the calc in close proximity to the printer during these frustrating wait times? It seems the calculator is usable during the wait times, which tells me that the information has been sent and the delay



in printing is likely on the printer side of things while it decides when it is good and ready to empty its buffer and carry on.

I also wonder if it is feasible to open the printer up, gently blow out some of that dust, and restore the function of the paper advance switch to you can do a proper test.

FWIW, I love my 82240B printer. I run it on a set of 2650 mAh NiMH Duracells that were fully charged once a couple of months ago and still report BAT: 3 when I run a self-test. I use it mostly my 42S, 17bii+, and HP41CV or CX with IR module. I know it works with my 28S, 48G, and 49G+, but I don't use those calculators as much. The good news is that these printers are not prohibitively expensive should you, heaven forbid, need to replace it. But I do hope you manage to troubleshoot this one first.

Hope this little bit of non-help is at the very least encouraging :)

Les

### **Re: Intermittent IR printing problem from HP 50g**

*Message #4 Posted by [Bruce H](#) on 13 Mar 2007, 2:30 p.m.,  
in response to message #1 by Steve Pence*

Printing to an 82240B is an entirely one-way affair - the printer does not send anything back. So the beep and intermittent/irregular printing is something on the 50g and nothing to do with the printer.

I'll try with my 50g/printer combination but won't be able to do so until the weekend.

### **Re: Intermittent IR printing problem from HP 50g**

*Message #5 Posted by [James M. Prange \(Michigan\)](#) on 13 Mar 2007, 8:31 p.m.,  
in response to message #1 by Steve Pence*

Hi Steve,

As Bruce noted, communication with the 82240A/B printers is entirely one-way; the printer is unable to tell the calculator anything about its status, which leads me to expect that the problem is with the calculator, not the printer.

Which ROM revision are you using in your 50g (execute the VERSION command to find out)? I'm not aware of any bugs that should affect printing, but in general, if you haven't already done so, then I recommend upgrading the 49G, 49g+, and 50g to either the official [2.09 revision](#) or to [Bernard Parisse's 2.10-7 revision](#).

Which printing commands are you using, and are you printing text, column graphics escape sequences, or grobs (graphic objects, which the calculator encodes as column graphics for printing)? How long are your print jobs?

As Les noted, the range for IR printing is drastically reduced with the 49g+ and 50g (and, I expect, the 48gII as well). This has to do with an intentional reduction of both the IR transmit power and IR receive sensitivity to result in a non-compliant IrDA range of only about 100mm (4 inches), to assure the educational community that it won't be used for surreptitious communications. In the 48 series, only the IR receive sensitivity is intentionally reduced for this purpose. Experimentally, the 49g+ and 50g IR printing range seems to be only about 2 1/2 inches (maybe 60-65mm), but this may well depend on the condition of the batteries in both the calculator and printer. Be sure to align the little triangle at the top of the calculator's display cover with the printer's IR receive window.

Does the printer occasionally print what looks like a solid block character? That would (except for character

158 in the ECMA 94 set or character 252 in the Roman 8 set) indicate that the printer received a byte with an uncorrectable error, usually due to a weak or briefly interrupted IR signal, but possibly due to interference from some other IR signal (such as from an IrDA transmitter), or conceivably from a problem with the calculator's encoding or the printer's decoding of the byte (including its error correction code bits).

The calculator can (after sending up to the first 200 bytes) insert a delay between sending lines to give the printer time to free up some room in its 200-byte input buffer before sending more bytes. With the 48 series, the default delay (in seconds) is 1.8, but with the 49 series (49G, 49g+, 48gII, and 50g) the default delay seems to be 0 (usually appropriate for printing "via wire"). Try changing the delay to 1.8 seconds by executing 1.8 DELAY (or by editing the first element of the list stored as the reserved variable PRTPAR, or by editing the delay in an input form), or if you're using an external power supply for the printer, a delay of about 1.1 should be okay.

With a fresh battery in the printer, you can get away with a delay of less than 1.8, but of course when using the battery only (no external power supply) the print speed goes down as the battery is used up, so the delay would need to be increased. Basically, with a long print job, near the end of the printing, you want a slight delay between the lines of printing.

If you use the printer only for printing grobs or character strings of column graphics escape sequences, a delay of 0 should be okay because a full line of column graphics (170 bytes total) prints in about the same time as a line of text, and the IR print transmitting speed is only about 78 bytes per second.

Of course, if you send 200 bytes or less in each print job and let the printer finish before sending anything else to it, then the delay doesn't matter.

Does the calculator sometimes print a character that looks like a block with a white slash through it? That would indicate that it experienced an input buffer overflow, usually caused by having the delay set too low, but conceivably from missing a "linefeed character" (control code <10> or <4>) that would tell the printer to print out whatever's in its buffer.

Yes, there is an escape sequence to tell the printer to start a repeating self-test (unlike the self-test by holding down the paper advance button when turning the printer on, this self-test repeats until the printer is turned off or the battery goes dead, whichever comes first). Where <n> represents a character with the decimal value n, the sequence is <27><254>. A program to send this to the calculator would be:

```
%%HP: T(3);
\<<
 27 CHR
 254 CHR
+
PR1
DROP
\>>
```

But note that although this built-in self-test checks such things as the print mechanism, at least some of the built-in font, the power supply, and that it correctly received those two bytes, I doubt that it thoroughly exercises the receiving circuits and input buffer.

For more information about the printers, see the *HP 82240B Infrared Printer Technical Interfacing Guide*, and, of course, the Owner's Manual, available on the current MoHPC CD-ROM set / DVD-ROM; see <http://www.hp-museum.org/cd/cddesc.htm>. There's also some interesting background information and diagrams in the October, 1987 HP Journal, also available on the CD-ROM set / DVD-ROM.

Regarding the problem with the paper advance button, as Les noted, it might be possible to fix that, although it's been a long time since I've taken one of these printers apart and don't recall how accessible the switch is, or what kind of switch it is. I'm pretty sure that the screws are hidden under the little rubber "feet" on the back of the case, and it seemed to me pretty easy to take it apart and put it back together without any damage, except possibly in getting the rubber feet to stick again.

Please let us know about any success or failure you have in solving the problem.

Regards,  
James

**Re: Intermittent IR printing problem from HP 50g**

*Message #6 Posted by [Dan](#) on 22 Mar 2007, 12:38 p.m.,  
in response to message #1 by Steve Pence*

In the PRINT menu, try checking the line feed box, set the delay to 0 and uncheck the double space key....

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## HP Forum Archive 17

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### Any good RPN calc for smartphones?

Message #1 Posted by [Scott](#) on 12 Mar 2007, 6:53 p.m.

I'm looking for a RPN calc which runs on Windows Mobile smartphones.

Thanks.

### Re: Any good RPN calc for smartphones?

Message #2 Posted by [Egan Ford](#) on 12 Mar 2007, 7:12 p.m.,  
in response to message #1 by Scott

Quote:

I'm looking for a RPN calc which runs on Windows Mobile smartphones.

Me too.

This is what I have been able to find:

This only works with Windows Mobile 5 Pocket PC (stylus-based):

<http://lygea.com/pocket15cse.htm>

This works with Windows Mobile 5 Smartphone, but the user experience is lacking. I have had key binding issues with my Blackjack.

[http://3grtech.com/Prod\\_spec.asp?pid=30289&cat=%2010](http://3grtech.com/Prod_spec.asp?pid=30289&cat=%2010)

On my list of things to do is to port emu48, free42, or nonpareil to my phone. I have the SDK, but I have had no time.

### Re: Any good RPN calc for smartphones?

Message #3 Posted by [Scott](#) on 12 Mar 2007, 8:42 p.m.,  
in response to message #2 by Egan Ford

I have the Blackjack, too. How usable is it on the Blackjack with the key binding troubles? I would actually settle for even a very simple RPN calc with a stack. The built-in calc is terrible.

### Re: Any good RPN calc for smartphones?

Message #4 Posted by [Egan Ford](#) on 12 Mar 2007, 10:01 p.m.,  
in response to message #3 by Scott

It is usable with the positional keys. You can use it 20 times before you have to pay. Try it out.

**Re: Any good RPN calc for smartphones?**

Message #5 Posted by **Thomas Okken** on 13 Mar 2007, 1:00 a.m.,  
in response to message #2 by Egan Ford

*On my list of things to do is to port emu48, free42, or nonpareil to my phone. I have the SDK, but I have had no time.*

How are smartphones different from Pocket PCs? Is it just the smaller screen size, or are there major APIs missing?

(I guess I shouldn't be asking these questions; I have eVC++ which includes the smartphone SDK, but still, I don't want to catch malaria exploring Terra Incognita if someone else already has.)

- Thomas

**Re: Any good RPN calc for smartphones?**

Message #6 Posted by **Howard Owen** on 13 Mar 2007, 1:10 a.m.,  
in response to message #2 by Egan Ford

Quote:

On my list of things to do is to port emu48, free42, or nonpareil to my phone. I have the SDK, but I have had no time.

The first two work fine on my XV6700 with Windows Mobile 5. What's the issue with the Blackjack? There's also ev41 if you want a capable 41CX emulator.

emu48 for Pocket PC is annoyingly spread out in chunks across several downloads from hpcalc.org. What worked for me was to install [this one](#) for emu48.exe, mkshared.exe, the icon and program directory, then [this one](#) for beep.4[89], keyboard.kmi and some kml scripts. Then I dropped the 48g and 49g roms into \Program Files\emu48 and it all worked. I still don't have a nice vertical KML, but I'm sure they exist somewhere on hpcalc.org.

Regards,  
Howard

**Re: Any good RPN calc for smartphones?**

Message #7 Posted by **Egan Ford** on 13 Mar 2007, 1:35 a.m.,  
in response to message #6 by Howard Owen

Quote:

What's the issue with the Blackjack?

The XV6700 is WM5 Pocket PC, the Blackjack is WM5 Smartphone. The interfaces are a bit different. One major difference is stylus vs keyboard only. Bottomline smartphone will not exec most PPC apps.

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**33s repeated operations**

Message #1 Posted by [Sam Levy](#) on 12 Mar 2007, 1:52 p.m.

I am used to the RPN stack and often use the repeating t register to stream down a constant. For example the multiplication of a series by 2. I found in the algebraic mode if I keyed 2 X 2 enter, it of coursr gave 4. I entered again, it put the X number in Y and gave me the answer 8. It can be repeated.

**Re: 33s repeated operations**

Message #2 Posted by [Thomas Radtke](#) on 12 Mar 2007, 2:11 p.m.,  
in response to message #1 by Sam Levy

I think this a called 'constant mode' or an extended version of it. The idea is really old :-).

**Re: 33s repeated operations**

Message #3 Posted by [Hal Bitton](#) on 13 Mar 2007, 10:11 a.m.,  
in response to message #1 by Sam Levy

I remember the old TI's having this feature back in the 70's.  
Regards, Hal

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### hp50g surveying solutions

Message #1 Posted by [tom grimes](#) on 12 Mar 2007, 1:34 p.m.

Looking for hp50g land survey solutions, or instructions, comparable in simplicity to hp48 with cogo card. Curves, grades, triangles etc...

### Re: hp50g surveying solutions

Message #2 Posted by [ssf](#) on 12 Mar 2007, 6:37 p.m.,  
in response to message #1 by tom grimes

see precision DC50 at psslc com

### Re: hp50g surveying solutions

Message #3 Posted by [buygm](#) on 12 Mar 2007, 11:13 p.m.,  
in response to message #2 by ssf

I saw this on Ebay! Item no. 150101027312. It's a COGO software and instructional download for \$28.

But I don't have it myself... And I don't know much about it... But am curious. If you do get this (or something like it) please let us know what you think!

### Re: hp50g surveying solutions

Message #4 Posted by [Tim Wessman](#) on 13 Mar 2007, 2:46 a.m.,  
in response to message #2 by ssf

Well if you are going to link. . . [www.pssllc.com](http://www.pssllc.com)

Anyway, our software is set up for data collection. We've had one person from TDS cogo cards buy and dislike the interface. The majority however, have been very pleased. If you want something changed/added, we always take feedback.

We also offer a 30 day money-back policy. We have full page ads in POB, American and Professional Surveyor. Check one of those out if you have one. The DC50 assistant (calc+software+free upgrades) runs at 495\$. In the future you can upgrade to the full DC should you like. Also, on our page you can download the manual to see capabilities.

Another option is here: [www.softwarebydzign.com](http://www.softwarebydzign.com)

Ted's is good for desktop calcs. He does a few calculations we don't (mainly older layout type calcs) and uses a completely menu driven interface. We use a custom overlay, and mix direct keypresses, menus and graphics. Things we do that he lacks: GPS calcs, SPCs, real time plotting, autolinerwork, instrument communication, etc. (higher level stuff)

In other words, we are competing against TDS, Carlson, Topcon etc. . . not just providing something that

took 2 days to make. Many of the "COGO" packages you'll find, with the exception of Ted's are quite worthless.

Now I'll stop since I feel like I'm advertising. . .don't want to advertise. Sorry if this has bothered anyone.

pw 1234

TW

*Edited: 13 Mar 2007, 2:52 a.m.*

**Re: hp50g surveying solutions**

*Message #5 Posted by [buygm](#) on 17 Mar 2007, 12:11 p.m.,  
in response to message #4 by Tim Wessman*

Don't feel bad about the "advertising" ! You provide a lot of good info.

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## HP Forum Archive 17

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**Remember that TI ?**

Message #1 Posted by [Gilles Collas](#) on 12 Mar 2007, 5:54 a.m.

Hi all and please forgive me to open a point concerning the HP's "enemy" but I know that many of you are remembering TI calculators as valuable and maybe own some of them as well beside the HP collection...

I would like to find back the lost track of the TI assembler kit that has been sold by TI by the ending 70's... It was something like a TI59 box, keypad and display soldered on an epoxy card containing processor and memory (up to 4kb if I remember well) ...

I just lost the commercial name of this item ... Anyone remember ?

gilles

**Re: Remember that TI ?**

Message #2 Posted by [Maximilian Hohmann](#) on 12 Mar 2007, 9:47 a.m.,  
in response to message #1 by Gilles Collas

Hello!

You mean one of these (TM990/189 TMS 9980 A): <http://cgi.ebay.de/ws/eBayISAPI.dll?ViewItem&item=260091632530&ru=http%3A%2F%2Fsearch.ebay.de%3A80%2Fsearch%2Fsearch.dll%3Fcgiurl%3Dhttp%253A%252F%252Fcgi.ebay.de%252Fws%252F%26fkr%3D1%26from%3DR8%26satitle%3D260091632530%26category0%3D%26fvi%3D1>

ViewItem&item=260091632530&ru=http%3A%2F%2Fsearch.ebay.de%3A80%2Fsearch%2Fsearch.dll%3Fcgiurl%3Dhttp%253A%252F%252Fcgi.ebay.de%252Fws%252F%26fkr%3D1%26from%3DR8%26satitle%3D260091632530%26category0%3D%26fvi%3D1

Sorry for the horrible link, you can search for item number 260091632530 on eBay Germany instead ( <http://www.ebay.de> ). Ended slightly over 200 Euros a few days ago, these things seems to be quite rare!

Greetings, Max

*Edited: 12 Mar 2007, 9:50 a.m.*

**Re: Remember that TI ?**

Message #3 Posted by [Gilles Collas](#) on 12 Mar 2007, 11:53 a.m.,  
in response to message #2 by Maximilian Hohmann

Yes, Max!

That' s it! I never own one of these but I think it put me on the tracks of the mysterious and fascinating assembly language programming I started to study at computer school two years after..

For a calculator collector, that one is a "pièce de choix"...

**Re: Remember that TI ?**

Message #4 Posted by [Maximilian Hohmann](#) on 12 Mar 2007, 12:00 p.m.,  
in response to message #3 by Gilles Collas

Hello!

Quote:

For a calculator collector, that one is a "pièce de choix"...

Yes, definitely! I still keep some old electronics magazines from the late 70ies and early 80ies (like "Electronics Today International" and "Elektor/Elektuur") that have full-page advertisements for this assembly language trainer. For me, it was too expensive then (and still is, at over 200 Euros at eBay) but if I ever find one for an affordable price, I will certainly add it to my collection!

Greetings, Max

**Re: Remember that TI ?**

Message #5 Posted by [Marcus von Cube, Germany](#) on 12 Mar 2007, 1:33 p.m.,  
in response to message #1 by Gilles Collas

You find some more info about the TM-990/189 on Viktor Toth's excellent site: <http://www.rskey.org/tm990.htm>

*Edited: 12 Mar 2007, 1:34 p.m.*

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## HP Forum Archive 17

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**Pi day**

Message #1 Posted by [Don Shepherd](#) on 11 Mar 2007, 1:10 p.m.

OK, Pi day is next Wednesday. Before my students ask me the obvious question, what is my answer?

The question is: Mr. Shepherd, you said that Pi is the ratio of the circumference of a circle to its diameter, but you also said Pi is an irrational number, which means it cannot be expressed as a ratio of one number to another. What gives?

**Re: Pi day**

Message #2 Posted by [Gerson W. Barbosa](#) on 11 Mar 2007, 1:34 p.m.,  
in response to message #1 by Don Shepherd

Quote:

\_\_\_\_\_

Pi is an irrational number, which means it cannot be expressed as a ratio of one number to another.

\_\_\_\_\_

Perhaps rephrasing this as "...a ratio between two integer numbers" would be better. A textbook might give a more rigorous definition for rational and irrational numbers.

Regards,

Gerson.

P.S.:

By the way, in this part of the world, Pi day falls on my birthday, 22/07 (Jul 22) :-)

*Edited: 11 Mar 2007, 1:35 p.m.*

**Re: Pi day**

Message #3 Posted by [Karl Schneider](#) on 11 Mar 2007, 1:37 p.m.,  
in response to message #1 by Don Shepherd

Hi, Don --

Quote:

\_\_\_\_\_

OK, Pi day is next Wednesday. Before my students ask me the obvious question, what is my answer?

The question is: Mr. Shepherd, you said that Pi is the ratio of the circumference of a circle to its diameter, but you also said Pi is an irrational number, which means it cannot be expressed as a ratio of one number to another. What gives?

---

It's straightforward: An irrational number cannot be expressed as a ratio of two *integers*.

Even a ratio of two floating-point values, each having a finite number of decimal digits, can be expressed as a ratio of integers, one of which may have trailing zeroes.

-- KS

*Edited: 11 Mar 2007, 1:39 p.m.*

## Re: Pi day

Message #4 Posted by [Dave Shaffer](#) on 11 Mar 2007, 4:05 p.m.,  
in response to message #1 by Don Shepherd

Of course, the "ratio of integers" is a good response, but I think you could also add that the radius and diameter are not "numbers" (let alone integers) but concepts.

While we humans insist on trying to give a value to everything, and one can measure the value of the diameter and radius, the values, at least in this case, are not exact, but only the best approximation that can be made with the measuring equipment at hand. (This is perhaps a good time to introduce the concept of significant figures and measurement/experimental errors. Even after a semester of beating on them, my physics students often screwed up their answers with regard to "sig. fig." (the notation from my red pen). Since our favorite calculators give results with 10 or 12 digits, they find it hard not to write them all down!)

## Re: Pi day

Message #5 Posted by [Valentin Albillo](#) on 11 Mar 2007, 8:06 p.m.,  
in response to message #1 by Don Shepherd

Hi, Don:

You might consider offering the following very easy Pi-related teaser to your students:

"Without using a calculator or actually computing the values, can you say which is greater,  $e^{\pi}$  or  $\pi^e$ ?"

A very simple argument, which involves only trivial arithmetic with integers and a little geometrical visualization, is sufficient to decide the question. They might enjoy the reasoning and also get the idea that calculators aren't everything there is and some logical thinking can get you very far.

Best regards from V.

## Re: Pi day

Message #6 Posted by [Don Shepherd](#) on 11 Mar 2007, 8:43 p.m.,  
in response to message #5 by Valentin Albillo

Hello Valentin!

Gosh, as much as I would like to use " $\pi^e$ " on Wednesday, my sixth-graders won't know what  $e$  is. In fact, they may not learn that until high school (9th grade here). Most of them have heard of  $\pi$ , and many will know that it is (approximately) 3.14, but I know that few of them know its relationship to a circle's diameter and circumference. So I'm going to bring in a bunch of round objects and let them measure diameter and circumference and see how close they get to 3.14.

My goal is for them to learn that diameter and circumference are related, no matter how big the circle, and that relationship is pi.

Interestingly, some web sites (www.brainpop.com in particular) claim that  $22/7$  is not a valid approximation for pi (presumably because, being irrational, pi cannot be expressed as the ratio of two integers), but 3.14 is. If a sixth-grader can come to understand that pi relates circumference to diameter, I don't think it is important whether he/she uses  $22/7$  or 3.14 or 3.14159.

Thanks V.

### Re: Pi day

Message #7 Posted by [htom](#) on 12 Mar 2007, 4:43 p.m.,  
in response to message #6 by Don Shepherd

You could try Count Buffon's Method, too. That's the one where you drop toothpicks (or pennies or ...) onto spaced lines and count intersections.

<http://www.worsleyschool.net/science/files/buffon/buffon.html>

### Re: Pi day

Message #8 Posted by [Crawl](#) on 15 Mar 2007, 3:59 a.m.,  
in response to message #7 by htom

No, pennies wouldn't work. The reason pi comes up in that calculation is because the possibility of having an angle with the toothpick. But a penny is round, and its angle of orientation has no effect on whether it'd hit a line. It's pretty obvious that if the line spacing was  $L$ , and the penny's diameter was  $D$ , then the probability of hitting a line would be  $D/L$ . No pi term.

### Re: Pi day

Message #9 Posted by [htom](#) on 15 Mar 2007, 12:10 p.m.,  
in response to message #8 by Crawl

Huh. Right. Why did I think that pennies would work?

If you drop pennies on a regular square grid with the square sides being diameters ( $d$ ) of the penny? Imagine circles centered at the intersections of the grid; the center of the penny falls either inside a quarter circle covering a part of the square or towards the center of the square, between the four circular arcs. If we take the unit to be the radius  $r$  rather than the diameter, the area of the square is  $4r^2$ , the circle is  $\pi r^2$ , the excluded area is  $4r^2 - \pi r^2$ .

There has to be a way to recover pi from that, but I'm stuck. Seventh grade was a long time ago.

--- later ---

If you randomly drop 400 coins, 314 of them should cover an intersection point, 85 should not, and the other should cover sometimes.

Edited: 16 Mar 2007, 12:28 a.m.

### Re: Pi day

Message #10 Posted by [Chuck](#) on 12 Mar 2007, 6:37 p.m.,

*in response to message #1 by Don Shepherd*

Pi-day is much celebrated, as is e-day (Feb 7th at 6:28 PM). There are numerous math days, but my favorite is i-day. You missed it!! It was February 29th. It's one of the quaternion days since it's real only once every four years! :)

Cheers.

CHUCK

**Re: Pi day**

*Message #11 Posted by [J. Mosand](#) on 13 Mar 2007, 7:38 a.m.,  
in response to message #10 by Chuck*

One of my favorite numbers is '0', which also has its 'day', namely Feb. 29 in a non-leap-year :-)

(Right now I'm reading Charles Seife: "Zero".)

I have 'e', 'pi' and 'i' on a menu on my HP48SX, and by golly there is a '0' on one of the keys :-))

John

**Re: Pi day**

*Message #12 Posted by [Les Wright](#) on 15 Mar 2007, 4:22 a.m.,  
in response to message #11 by J. Mosand*

i am rather found of Euler's gamma, myself....

**Re: Pi day**

*Message #13 Posted by [Bruce Bergman](#) on 13 Mar 2007, 10:59 a.m.,  
in response to message #1 by Don Shepherd*

Interesting side note: here's a guy who has memorized pi to over 12,000 digits. THAT's dedication! :-)

[Link to San Diego UnionTribune article](#)

thanks, bruce

**Re: Pi day**

*Message #14 Posted by [Ron](#) on 13 Mar 2007, 2:39 p.m.,  
in response to message #13 by Bruce Bergman*

Daniel Tammet got it to 22,514 digits! See [this](#), or just google him.

**Re: Pi day**

*Message #15 Posted by [Antonio Maschio \(Italy\)](#) on 13 Mar 2007, 1:29 p.m.,  
in response to message #1 by Don Shepherd*

Well, for tomorrow:

3.14 PI day à la US way

the PI Fraction Day is

22.7 (22/7) (or July 22) à la EU way.

**Re: Pi day**

Message #16 Posted by **Eduardo** on 13 Mar 2007, 3:21 p.m.,  
in response to message #15 by Antonio Maschio (Italy)

Elaborating on the 22/7 approximation to Pi. This is the partial fraction

$$[3;7] = 3 + 1/7$$

Anybody here know anyone born 16 July '03? (Either 1903 or 2003)

$$\pi = [3;7,16,\dots]$$

The next term in the fraction expansion of pi is 16, giving  $\pi = 3 + 1/(7 + 1/(16 + \dots))$ . Truncating, one gets the fraction 355/113, which is within  $3 \times 10^{-7}$  of the correct value.

Eduardo

*Edited: 14 Mar 2007, 12:37 a.m.*

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## HP Forum Archive 17

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### **HP97 and HP91 printer paper does not move**

Message #1 Posted by [Prabhu Bhooplapur](#) on 11 Mar 2007, 10:51 a.m.

Does anyone suggest how to overcome the problem of paper not moving in the HP97 and HP91? Thanks. Prabhu

### **Re: HP97 and HP91 printer paper does not move**

Message #2 Posted by [Vassilis Prevelakis](#) on 12 Mar 2007, 3:50 p.m.,  
in response to message #1 by Prabhu Bhooplapur

Has been discussed before:

<http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv015.cgi?read=78799>

\*\*vp

### **Re: HP97 and HP91 printer paper does not move**

Message #3 Posted by [Prabhu Bhooplapur](#) on 13 Mar 2007, 12:17 a.m.,  
in response to message #2 by Vassilis Prevelakis

Thanks Vassilis. I will try the suggestions mentioned in this link. Prabhu

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## HP Forum Archive 17

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### **program stored on cassett disk**

Message #1 Posted by [sevennt2020](#) on 10 Mar 2007, 3:30 p.m.

I have a computer program written in BASIC language in the 70's on a cassett tape. Are there computers available today that can read the tape for me?

### **Re: program stored on cassett disk**

Message #2 Posted by [Eric Smith](#) on 10 Mar 2007, 4:52 p.m.,  
in response to message #1 by sevennt2020

What kind of computer? For the most part, each kind of computer had its own tape format. Even when two used the same tape interface (e.g., Kansas City Standard), there were still incompatibilities in how BASIC programs were stored.

As long as the computer you used wasn't too obscure, it's likely that a suitable computer can be found. If the tape is in good condition (not sticky, and not too much printthrough), it can probably still be read.

### **Re: program stored on cassett disk**

Message #3 Posted by [Klaus](#) on 12 Mar 2007, 5:10 a.m.,  
in response to message #1 by sevennt2020

A member of this forum created this website, maybe it helps you: <http://www.mvcsys.de/doc/casioutil.html>

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## HP Forum Archive 17

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### 12C - sell or collect

Message #1 Posted by [Patrick R](#) on 10 Mar 2007, 1:28 p.m.

Hello!

I've had the luck to buy 7 new 12C calculators (new in the box) at a very attractive price (at a discount of 84 %). The serial numbers are CN11xxxxxx, the calculators use 3 button cells.

What do you think would be better: selling them and making some profit or waiting 10 or 20 years before selling?

### Re: 12C - sell or collect

Message #2 Posted by [Raymond Del Tondo](#) on 10 Mar 2007, 1:57 p.m.,  
in response to message #1 by Patrick R

Hello,

the 12C is \*very\* common, and the Chinese and Indonesian models are not really comparable to the U.S. made or even the Malaysian or Brazilian units IMHO.

As you have the 3-cell version, it's the older design, so that could push up the value slightly somehow.

But I wouldn't wait years before selling the units, as I don't think the price will rise into the region of the HP-42S, HP-32SII, or HP-15C ;-)

<OT> I have to admit that the '12c Platinum Anniversary Edition' (of which I have two) is very nice.

The plastic of the shift keys looks a bit cheap, and the 'orange' shifted key legends are not the optimal color choice IMHO.

Not surprising, because nearly all newer 'hp' calcs from about 1999 on seem to have been designed by color-blind people...

</OT>

Raymond

### Re: 12C - sell or collect

Message #3 Posted by [Gene](#) on 10 Mar 2007, 2:15 p.m.,  
in response to message #2 by Raymond Del Tondo

I would agree about the color choices, in general.

However, I do think the contrast of the 50g color choices is very nice.

Worst? Probably the initial 39g+ with its dark blue, dark green shift functions, and black letters.

Amazingly bad.

---

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## HP Forum Archive 17

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### CMT HP-IL RAM Disc

Message #1 Posted by [Raymond Del Tondo](#) on 10 Mar 2007, 9:29 a.m.

Hi all,

I know it's the wrong forum for this kind of ad (sorry for that) ,  
but the classified ads form didn't let me place my ad.  
Although I filled all fields correctly, it always cries 'Your ad is incomplete'...  
Anything changed in the ads section ?

However here it is:

Now you have the very rare opportunity to get a fully functional  
and fully portable CMT RAM Disc for HP calculators equipped with HP-IL.

The eBay item number is: 230102273987

Happy bidding;-)

For further questions: [magic48ges@gmx.de](mailto:magic48ges@gmx.de)

Raymond

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## HP Forum Archive 17

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**HP 28S Screen**

Message #1 Posted by [Howard](#) on 9 Mar 2007, 8:29 p.m.

The screen of my HP 28S has lost a set of lines ie gone blank. Is there any way to fix. Can I take the screen out of my HP 28C and replace it? How does one pull the calculator apart? Remove the "Spam" from my email address to reply. Thank you in advance.

**Re: HP 28S Screen**

Message #2 Posted by [Ron](#) on 10 Mar 2007, 8:58 a.m.,  
in response to message #1 by Howard

See [this](#) thread. Basically, when the clamshells are gone, they're gone. Yes, where there's a will, there's a way; so I'm sure it can be done. But not really worth it... Except for fun and for the thrill of victory. As for the screen, it's probably still good, and just needs the contacts cleaned - Uh, right, someone else?

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## HP Forum Archive 17

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### Pioneer Puzzle: a different kind of challenge

Message #1 Posted by [allen](#) on 9 Mar 2007, 11:44 p.m.

The Pioneer series was undoubtedly the most diverse series HP ever made..  
So, my fellow HP fans, here is a challenge for you:

1. Identify each Pioneer model by only the top row of keys. (picture below)
2. Let S be the Sum of the product of row number and model number for each calculator.  
For 17bii and 32sii use  $17^2$  and  $32^2$ .  
Voyager Example:

<http://www.enterhp.com/images/VoyagerPuzzle.jpg>

3.  $\text{SQRT}(S)+1$  is the year my first (and favorite) HP calculators were made.
4. What are my favorite calculators?

<http://www.enterhp.com/images/PioneerPuzzle2.jpg>

Edited: 9 Mar 2007, 11:57 p.m.

### Re: Pioneer Puzzle: a different kind of challenge

Message #2 Posted by [Karl Schneider](#) on 10 Mar 2007, 1:29 a.m.,  
in response to message #1 by allen

Hi, allen --

I suppose that you also own the complete Pioneer series.

Unless I made a mistake,

```
27S
21S
22S
14B
32SII
17B
32S
17BII
42S
10B
20S
```

```
sum = 8647
sqrt(8647) + 1 = 93.98925
```

Your favorites: HP-48G series

-- KS

**Re: Pioneer Puzzle: a different kind of challenge**

*Message #3 Posted by [allen](#) on 12 Mar 2007, 7:45 p.m.,  
in response to message #2 by Karl Schneider*

Ahh. Actually my preference is tied with 32sii and 48g (both 1994 vintage). Well done Karl!!! perhaps too easy?? Which ones did you have to pull out and look at?? I personally couldn't do it without a look at the 20S.

**Re: Pioneer Puzzle: a different kind of challenge**

*Message #4 Posted by [Karl Schneider](#) on 13 Mar 2007, 1:27 a.m.,  
in response to message #3 by allen*

Quote:

Well done Karl!!! perhaps too easy?? Which ones did you have to pull out and look at?? I personally couldn't do it without a look at the 20S.

I just pulled out the whole set of Pioneers. A few of the photos I could recognize without checking, but others were tricky.

That's really the main thing missing from the MoHPC -- a section dedicated to the Pioneer series. I've contributed some material, but it will be quite an undertaking to develop.

-- KS

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## HP Forum Archive 17

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### **Kinpo & Hewlett Packard**

Message #1 Posted by [Joerg Woerner](#) on 9 Mar 2007, 9:43 p.m.

Just found this one: <http://www.kinpo.com.tw/English/Calculator/17bII+/17bII+.html> Regards, Joerg

### **Re: Kinpo & Hewlett Packard**

Message #2 Posted by [John](#) on 9 Mar 2007, 11:28 p.m.,  
in response to message #1 by [Joerg Woerner](#)

Yes, Kinpo has made many of HP's calculators over the last couple of years.

### **Re: Kinpo & Hewlett Packard**

Message #3 Posted by [Matthias Wehrli](#) on 11 Mar 2007, 6:45 a.m.,  
in response to message #2 by [John](#)

Can someone gives us a complete list of all Kinpo made HP's?

### **Re: Kinpo & Hewlett Packard**

Message #4 Posted by [S. Easterling](#) on 12 Mar 2007, 6:54 p.m.,  
in response to message #3 by [Matthias Wehrli](#)

Quote:

Can someone gives us a complete list of all Kinpo made HP's?

I thought Kinpo manufactured all of the HP calculators now. If the cover does not read "Kinpo" then doesn't it at least read "Made in China"?

### **Re: Kinpo & Hewlett Packard**

Message #5 Posted by [Larry Corrado](#) on 11 Mar 2007, 10:25 p.m.,  
in response to message #1 by [Joerg Woerner](#)

> Battery Life: 0.76 year

That's pretty precise. Wonder if the internal timer automatically shorts the battery after 277 days? :-P

Larry

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## HP Forum Archive 17

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### Kinpo & Hewlett Packard

Message #1 Posted by [Joerg Woerner](#) on 9 Mar 2007, 9:43 p.m.

Just found this one: <http://www.kinpo.com.tw/English/Calculator/17bII+/17bII+.html> Regards, Joerg

### Re: Kinpo & Hewlett Packard

Message #2 Posted by [Sam Levy](#) on 10 Mar 2007, 4:15 p.m.,  
in response to message #1 by Joerg Woerner

I would like to get a couple of those Kinpo calculators, the SG1 and SG2 possibly. Heres the URL, I couldn't find a sales point. <http://www.kinpo.com.tw/English/Calculator.htm>

### Re: Kinpo & Hewlett Packard

Message #3 Posted by [GE](#) on 12 Mar 2007, 11:38 a.m.,  
in response to message #2 by Sam Levy

Those machines are available under the "Citizen" brand. I have the SG1 (official Citizen name is different, I don't recall), but could'nt find the "SG2" anywhere, including the official branch. YMMV.

### Re: Kinpo & Hewlett Packard

Message #4 Posted by [Peter A. Gebhardt](#) on 12 Mar 2007, 3:29 p.m.,  
in response to message #3 by GE

GE,

you might want to look here for further info:

[http://www.citizen-systems.co.jp/english/electronic/calculator/scientific\\_01.html](http://www.citizen-systems.co.jp/english/electronic/calculator/scientific_01.html)

and here for manuals:

<http://www.citizen-systems.co.jp/english/download/electronic/calculator/instruction/scientific.html>

Best regards

Peter A. Gebhardt

*Edited: 12 Mar 2007, 3:33 p.m.*

### Re: Kinpo & Hewlett Packard

Message #5 Posted by [Dave](#) on 12 Mar 2007, 4:40 p.m.,  
in response to message #3 by GE

I've seen other sites state that one or both of those are clones of the Kinpo made HP 9G or 9S, with



only minor cosmetic differences. I haven't bothered to compare them, so I don't know if it's true or not. The 9G is still available from HP's web site AFAIK.

**Re: Kinpo & Hewlett Packard**

*Message #6 Posted by [Eduardo](#) on 12 Mar 2007, 11:44 p.m.,  
in response to message #2 by Sam Levy*

I'm pretty sure that the Datexx DS-883 is a rebadged Kinpo SG2 (also same as Citizen SRP-400G). The DS-83 can be bought directly from [Datexx](#) for \$60, but it's not hard to find it in Fleebay.

I'm not so sure about the Kinpo SG1, but it may be the same as the HP-9G, which in turn is the same as the Citizen SRP-320G.

Eduardo

*Edited: 13 Mar 2007, 2:19 p.m. after one or more responses were posted*

**Re: Kinpo & Hewlett Packard**

*Message #7 Posted by [Bruce Bergman](#) on 13 Mar 2007, 12:43 a.m.,  
in response to message #6 by Eduardo*

It appears that link is wrong. The correct link has two 'x's at the end, as in [www.datexx.com](http://www.datexx.com).

Corrected link: [Datexx](#)

BTW, interesting! I never heard of them, but intriguing.

thanks! bruce

**Re: Kinpo & Hewlett Packard**

*Message #8 Posted by [Eduardo](#) on 13 Mar 2007, 2:20 p.m.,  
in response to message #7 by Bruce Bergman*

Yep, I messed up the link. It's corrected now.

**Re: Kinpo & Hewlett Packard**

*Message #9 Posted by [Anthony L. Mach](#) on 14 Mar 2007, 12:12 a.m.,  
in response to message #7 by Bruce Bergman*

Just don't put an extra x in there.

My goodness!

**Re: Kinpo & Hewlett Packard**

*Message #10 Posted by [Eduardo](#) on 14 Mar 2007, 12:35 a.m.,  
in response to message #9 by Anthony L. Mach*

If anything, I was being \*too\* cautious with the x's!

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## HP Forum Archive 17

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### Texas Instruments Nspire

Message #1 Posted by [Joerg Woerner](#) on 9 Mar 2007, 9:30 p.m.

Today is the official web announcement of the TI-Nspire to coincide with the T3 International Conference in Chicago.

<http://www.ti-nspire.com/tools/nspire/index.html>

Regards, Joerg

### Re: Texas Instruments Nspire

Message #2 Posted by [Don Shepherd](#) on 9 Mar 2007, 11:35 p.m.,  
in response to message #1 by Joerg Woerner

Wow!

Remember how the Macintosh rewrote all the rules of what a personal computer should be in 1984? Looks like TI is doing it for calculators today. This will be interesting.

### Re: Texas Instruments Nspire

Message #3 Posted by [Howard Owen](#) on 10 Mar 2007, 12:42 a.m.,  
in response to message #2 by Don Shepherd

Quote:

Remember how the Macintosh rewrote all the rules of what a personal computer should be in 1984? Looks like TI is doing it for calculators today. This will be interesting.

It strikes me that a reinvention of the calculator is *long* overdue. This thing looks interesting. I'll reserve judgement until I get my hands on one, however. 8)

Regards,  
Howard

### Re: Texas Instruments Nspire

Message #4 Posted by [Les Wright](#) on 11 Mar 2007, 3:26 a.m.,  
in response to message #2 by Don Shepherd

I am particularly impressed that the model in the introductory video is a teenage girl.

I am surrounded by women my age who not only think my calculator fetish is a bit weird but who clearly were educated in the days when math and science education was very much a boys' club. That said, I just read in the paper here that one of the highest performing schools here on standardized tests in math is a Catholic girls' school.

I really do hope that things are changing for the better. Disparities in numeracy based on gender are nothing to be proud of.

Les

### **girls and math**

*Message #5 Posted by **Don Shepherd** on 11 Mar 2007, 8:52 a.m.,  
in response to message #4 by Les Wright*

It is changing, Les, and that is good. I teach middle school (ages 11 to 13) math. In my classes, I have observed that most of the mathematically brighter students are girls. And they are not afraid to demonstrate their knowledge, which is different from past generations. I think more teachers today, than in the past, recognize that ability in math is not a gender thing. Even when I was programming for a living, I saw that there were as many good female programmers as male, although their total number was fewer.

### **Re: girls and math**

*Message #6 Posted by **Dia C. Tran** on 20 Mar 2007, 8:19 a.m.,  
in response to message #5 by Don Shepherd*

The Mac changed the way people use computers from computing to something else (desktop publishing etc..) although the computers still have to do serious computing inside. May be the Nspire does the same thing that people will rarely use the calculator for calculating but for something else.

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## HP Forum Archive 17

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### HP opinion poll

Message #1 Posted by [Sam Levy](#) on 9 Mar 2007, 8:11 p.m.

I visited the HP calculator site and got a message that I could sign up for an upcoming opinion poll. It might be a good chance for us to all get signed up. Maaybe we could make a difference.

### Re: HP opinion poll

Message #2 Posted by [Cameron Paine](#) on 10 Mar 2007, 6:00 a.m.,  
in response to message #1 by [Sam Levy](#)

Sam, you might generate a bit more interest if you provided a link to click through. A precis of the opinions being sought might pique some curiosity too.

Cameron (who thinks he can work out how to get there but doesn't want to steal the OP's thunder)

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## HP Forum Archive 17

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### HP 50G PC Connection Problems...Old Fool Needs Help...!!

Message #1 Posted by [Alan Taylor](#) on 9 Mar 2007, 11:16 a.m.

Well I'm back in the HP fold. I have just purchased the HP 50G, my previous HP's were "the electronic slide rule" circa 1972. This unit replaced my trusty Decilon 10 inch and 5 inch slide rules (which I still have!!), then in the late 1980's I had a HP41..

First impressions.....well after all the technical inovations etc..the documentation for the HP50G is magnificently inadequate, to be more direct....it really \*\*cks!! My goodness, I remember when it was possible to settle down with a HP calculator and the superb manual(s)for a good evening read, and when finished to put everything back into the hard plastic carry case...those were the days...sigh.....)

Well here I am prostrating myself on this forum....stumped by my inability to connect my 50G to my PC. Any help would be much appreciated... God!! I feel such a fool!!!!!!

Really, I would not mind paying the few extra bucks for some good old fashioned HP manuals of yester-year style.... :(

Alan

### Re: HP 50G PC Connection Problems...Old Fool Needs Help...!!

Message #2 Posted by [Giancarlo \(Italy\)](#) on 9 Mar 2007, 12:13 p.m.,  
in response to message #1 by Alan Taylor

Hi Alan,  
welcome back to the group :)

I resonate with you about the quality of the last HP manuals....  
You might find some consolation by downloading and reading the good ol' 48G series manual  
(as far as programming RPL programming is concerned):

<http://www.hpcalc.org/hp48/docs/misc/hp48gaur.zip>

or the 49G user guide as far as getting to know how the 50G can be (almost fully) exploited:

<http://www.hpcalc.org/hp49/docs/misc/hp49gpugb.zip>

Please consider that 99% of what you can learn about the 49G+ hold trus for the 50G as well -  
and the manual is better....

Turning to your specific issue, you might find helpful to read this (long) thread on  
[comp.sys.hp48](http://comp.sys.hp48)  
(which is, by the way and IMHO, a better place to find help about the 50G than HP Museum  
forum):

[http://groups.google.com/group/comp.sys.hp48/browse\\_frm/thread/fea856d8f18cab28/5325118f3c1de62b?  
lnk=gst&q=50g+CONNECTION+TO+PC&num=9#5325118f3c1de62b](http://groups.google.com/group/comp.sys.hp48/browse_frm/thread/fea856d8f18cab28/5325118f3c1de62b?lnk=gst&q=50g+CONNECTION+TO+PC&num=9#5325118f3c1de62b)

Last but not least, as far as transferring files between a PC and a 50G is concerned,  
I'd strongly advise to use a SD card instead of the ConnKit (which I myself struggled a bit to  
get to work).

Hope this helps.  
Best regards.  
Giancarlo

### **Re: HP 50G PC Connection Problems...Old Fool Needs Help..!!**

*Message #3 Posted by [Dave](#) on 9 Mar 2007, 2:35 p.m.,  
in response to message #2 by Giancarlo (Italy)*

There's a fantastic manual for the 49/50g, even more comprehensive than the old 48 AUR. This post from James Prange has all you need.

Quote:

Regarding the manuals, get the [hp 49g+/ hp 48gII graphing calculator advanced user's reference manual](#) instead of (or in addition to) the 49G manual.

If your 50g comes with ROM revision 2.08 (check this with the VERSION command), upgrade it to [2.09](#) or Bernard Parisse's [2.10-7](#). Optionally, install libraries 226 and 227 for the equation library and 229 for the periodic table. Use the libraries that come with 2.10-7, also available at [Hydrix](#).

This forum is good, but for RPL models, you'd probably be better off with the usenet group comp.sys.hp48. In case you don't already use a newsreader, you can also access it (including the archive) through <http://groups.google.com/group/comp.sys.hp48>.

Regards,  
James

### **Re: HP 50G PC Connection Problems...Old Fool Needs Help..!!**

*Message #4 Posted by [Alan Taylor](#) on 12 Mar 2007, 10:44 a.m.,  
in response to message #2 by Giancarlo (Italy)*

Hi Giancarlo,

Thanks for this. I eventually managed to get the 50G to talk to my PC.

One of the issues was the activation of the XMODEM server. I eventually managed to start the server via the CAT dropdown.

Thanks for all the help from the guys.

The next issue is the 50G screen capture. The manual refers to the "up arrow"?? Just what is this??

Or is there a simpler command format...

Very Best Regards Alan Taylor

### **Re: HP 50G PC Connection Problems...Old Fool Needs Help..!!**

*Message #5 Posted by [Giancarlo \(Italy\)](#) on 12 Mar 2007, 11:45 a.m.,  
in response to message #4 by Alan Taylor*

Hi Alan.

Don't know if I understand correctly, but you can use the "File" menu in the ConnKit program - it provides a "Capture Calculator Screen..." option that according to the on-line help, allows to:

Quote:

---

#### Capture Calculator Screen

The screen image of the calculator can be captured into a graphic window. This window can then be copied to the Windows clipboard ready to be used in a graphics application.

The calculator provides this feature through its printing capability. It thinks that the HP 48, 49 Calculator Connectivity Kit is an HP graphics printer.

To use Screen Capture:

Disconnect any XModem connection with the calculator by selecting disconnect from the File menu. On the calculator, make sure flag -33 is clear and flag -34 is set. Get the screen that you want to show on the calculator Select Screen Capture from the file menu Follow the prompts to start the screen print on the calculator The captured screen should then appear Once the calculator screen has been captured, you may customize its appearance with the Screen Capture View Menu

---

Hope this helps.  
Best regards.  
Giancarlo

### **Re: HP 50G PC Connection Problems...Old Fool Needs Help...!!**

*Message #6 Posted by [dbatiz](#) on 9 Mar 2007, 1:18 p.m.,  
in response to message #1 by Alan Taylor*

Sir,

First make sure flag 33 is set to Transfer Via Wire.

Install the connectivity kit and calculator driver on your PC.

Connect the calculator to the PC with the USB cable.

Press (AND RELEASE) the right shift, then the right arrow. The display should say "Xmodem Server Waiting for command."

Start your Calculator Connectivity Kit. Set Connect Using to AUTO. Then press the quick connect button (it's right beside the button that looks like a camera).

Your directory tree should appear on the screen.

Good luck!

Very Respectfully,

David

### **Re: HP 50G PC Connection Problems...Old Fool Needs Help...!!**



*Message #7 Posted by [cfh](#) on 9 Mar 2007, 6:08 p.m.,  
in response to message #1 by Alan Taylor*

- 1) Make sure you have the latest connx4.
- 2) press and release shift right arrow (as pointed out here)
- 3) if no connection, turn on and off the 50, plug and unplug it again, sooner or later the PC will "find it". I have had similar problems - it seems a little stochastic at times finding the calculator for the connX4 program (while ALWAYS finding the calc as a RAM-card...)

If anyone else has ha perfectly clear answer to this I'd be glad to read it.

cheer

Carl

### **Re: HP 50G PC Connection Problems...Old Fool Needs Help...!!**

*Message #8 Posted by [Les Wright](#) on 13 Mar 2007, 5:26 a.m.,  
in response to message #1 by Alan Taylor*

I am so baffled by the USB interface with my 49G+ I don't even bother with it, and transfer files with an SD card. Fortunately, this is very straight forward for me since I have a cardreader on my PC--put the SD card in the slot, drop files into the folder, put card in calculator, navigate to the SD card with FILES, recall desired object to stack, store it accordingly as program, variable, or library on the calc.

The smaller SD cards, which are more than adequate for storing relatively tiny calculator programs and libraries, are really cheap these days, as are card readers that plug into a USB port. It means shelling out a little more money, but maybe this is a more sensible and intuitive file transfer solution? Were it not for my little SD card and card reader, I would be pretty befuddled when i comes to ROM updates and other file transfer tasks.

Les

### **Re: HP 50G PC Connection Problems...Old Fool Needs Help...!!**

*Message #9 Posted by [Giancarlo \(Italy\)](#) on 13 Mar 2007, 9:12 a.m.,  
in response to message #8 by Les Wright*

Hi Les.

To me, there seems not to be any other chaeper and easier way.  
No bothering with cables and connections and software and drivers.....  
I find it straightforward - as you point out - to simply extract the SD card from one side and put it into the other one :)  
And a 1/2 Gb card is far more than I'll ever need in this life :))  
Best regards.  
Giancarlo

### **Re: HP 50G PC Connection Problems...Old Fool Needs Help...!!**

*Message #10 Posted by [Alan Taylor](#) on 18 Mar 2007, 8:32 p.m.,  
in response to message #9 by Giancarlo (Italy)*

Hi Guys,

This is also the conclusion that I have come to! :)

The only thing that I am having difficulty with concerns PC interconnection is with the calc screen

download to the PC.

I disconnent via the software prompt, press the screen download button: Then I am instructed to press the HP50G "on key" and "up arrow"....

????? What is the "up arrow"?

Does anyone have a better routine??

Alan

**Re: HP 50G PC Connection Problems...Old Fool Needs Help..!!**

*Message #11 Posted by **Gerson W. Barbosa** on 18 Mar 2007, 9:05 p.m.,  
in response to message #10 by Alan Taylor*

Quote:

????? What is the "up arrow"?

That's one of the four round-shaped silver keys, the one just below the F5/E key.

Regards,

Gerson.

**Re: HP 50G PC Connection Problems...Old Fool Needs Help..!!**

*Message #12 Posted by **James M. Prange (Michigan)** on 18 Mar 2007, 9:23 p.m.,  
in response to message #11 by Gerson W. Barbosa*

Quote:

That's one of the four round-shaped silver keys, the one just below the F5/E key.

Yes. Personally, I prefer to call it the "CursorUp key", largely because character 144 really does look like an arrow pointing up, and there are also characters that look like arrows pointing down, left, and right.

Anyway, to invoke the PRLCD command (used for Conn4x's "screen capture"), press and hold the ON key, press and release the CursorUp key, and release the ON key.

Regards,  
James

**Re: HP 50G PC Connection Problems...Old Fool Needs Help..!!**

*Message #13 Posted by **Alan Taylor** on 19 Mar 2007, 3:52 a.m.,  
in response to message #12 by James M. Prange (Michigan)*

Gerson, and James,

Thanks for this. I like the 50G, however the learning curve is quite steep, even for an old HP user. The lack of adequate documentation makes it even steeper.

Alan

**Re: HP 50G PC Connection Problems...Old Fool Needs Help..!!**

*Message #14 Posted by [Pete](#) on 22 Mar 2007, 11:11 a.m.,  
in response to message #11 by Gerson W. Barbosa*

LOL!!!

Thanks. I just got my calculator about 5 minutes ago. Popped in the batteries and wanted to make a connection just to test it out. I couldn't find it either for the life of me!!! Thanks for responding to his message!

**Re: HP 50G PC Connection Problems...Old Fool Needs Help..!!**

*Message #15 Posted by [Les Wright](#) on 19 Mar 2007, 7:14 a.m.,  
in response to message #9 by Giancarlo (Italy)*

Quote:

\_\_\_\_\_

And a 1/2 Gb card is far more than I'll ever need in this life :))

\_\_\_\_\_

Heck, I am fine with an old 128mb card, which does double duty in my Palm TX and the HP49G+. This is plenty to store all of my little files for the HP49G+ and Free42.

I do have a 2gig card but it is better used in a digital stereo recorder I have--the highest quality wave files are very big and 2gig handles about an hour of recording, I think.

Les

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## HP Forum Archive 17

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**HP 28c**

Message #1 Posted by [Tadeyev](#) on 8 Mar 2007, 1:54 p.m.

Hello all, I recall hearing something a while back about the hinged portion on these models, connecting both halves, being finicky or giving out in older models after long use. Can anyone enlighten me about that? Also: any impressions about use, quality? Thanks, Tadeyev

**Re: HP 28c**

Message #2 Posted by [John Limpert](#) on 8 Mar 2007, 3:10 p.m.,  
in response to message #1 by Tadeyev

I haven't seen any problems with the hinges on the calculators in my collection. The main problem is the battery door, which is easy to damage when changing the batteries. I've seen a few calculators with flakey displays. The keyboards seem to be pretty durable.

**Re: HP 28c**

Message #3 Posted by [James M. Prange \(Michigan\)](#) on 8 Mar 2007, 3:40 p.m.,  
in response to message #2 by John Limpert

Agreed; the hinge seems as if it ought to be a likely failure with the clamshells, but I don't recall ever reading of it actually failing.

The battery cover is indeed difficult to to insert, particularly when in a rush to get it in place before memory is lost. Damage to the cover or the case in that area seems to be a common problem.

Regards,  
James

**Re: HP 28c**

Message #4 Posted by [Paul Marin](#) on 8 Mar 2007, 9:23 p.m.,  
in response to message #1 by Tadeyev

The only thing that I've known about that was bad about these units was that when I bought my first units in the late 80's, it kept losing memory if it was shaken a little, say when in a brief case. It was a few months old at the time and after getting frustrated I took it to a HP retailer who, after checking the serial number, replaced it with a new model. He told methat a bad batch were made with faulty battery contacts. Apart from that, the unitis in pristine condition and I have no trouble with either battery cover or hinge. Nice unit. Won't part with this one foe anything

Paul

**Re: HP 28c**

Message #5 Posted by [Juan J](#) on 8 Mar 2007, 10:56 p.m.,

*in response to message #1 by Tadeyev*

Hello,

Other than the battery door, there are no major problems with the 28C/28S. One of my 28S accidentally hit the ground a couple times but nothing happened.

I had to put my 28Ss under storage for three years, with batteries. All of them had the clock program; when I took them out from storage it was still running and kept time more accurately than a wrist watch.

My two cents.

### **Re: HP 28c**

*Message #6 Posted by [martin](#) on 18 Mar 2007, 2:57 a.m.,  
in response to message #5 by Juan J*

hello Juan J, my son throw away the batteries in my HP28S,thankfull if you can help me what type of battery I need to replace the batteries..Thank you in advance..do have a nice day!!

### **Re: HP 28c**

*Message #7 Posted by [Juan J](#) on 18 Mar 2007, 9:02 a.m.,  
in response to message #6 by martin*

Hello Martin,

The 28 uses three size N batteries. These are 1.5 Volts each. If I remember correctly, they are available from Eveready as model E90 and from Kodak as model KN. I prefer the latter, because it lasts longer and does not leak.

Be careful, as there are a few models with the same size (for garage door remote controls and similar devices) that are 3 Volts and even 6 Volts each. Check the voltage.

Hope this helps.

### **Re: HP 28c**

*Message #8 Posted by [Thomas Radtke](#) on 9 Mar 2007, 1:53 a.m.,  
in response to message #1 by Tadeyev*

Randy reported broken plastic rivets to cause keyboard failures, not the hinge IIRC. Aside from this potential problem and the battery door, the clamshell models seem to be quite reliable. I have and enjoy an 18C since years and lately got a 19B.

### **Re: HP 28c**

*Message #9 Posted by [tadeyev](#) on 10 Mar 2007, 4:09 a.m.,  
in response to message #8 by Thomas Radtke*

Thank everyone for the remarks and comments, it was valuable info for this HP collector!

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## HP Forum Archive 17

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**I-Hp?**

Message #1 Posted by [dbatiz](#) on 8 Mar 2007, 8:42 a.m.

Form,

Has anybody tried powering thier HP50g using an Apple power block (or one of the many aftermarket products) intended for an I-Pod? They way these calculators kill betteries, it would be great to be able to use the power block as a power supply.

From my limited understanding of these devices, they only provide the operating voltage of a USB connection without any of the data lines being connected.

I'm suffering a little bit of chicken-ites. After reading about the damage caused by HP chargers being used without the re-chargable batteries installed I'm hesitant to just try it.

Very Respectfully,

David

**Re: I-Hp?**

Message #2 Posted by [Les Wright](#) on 8 Mar 2007, 9:12 a.m.,  
in response to message #1 by [dbatiz](#)

how would this work?

I never had the impression the 49G+ or 50G drew power thru the USB connection.

Les

**Re: I-Hp?**

Message #3 Posted by [Giancarlo \(Italy\)](#) on 8 Mar 2007, 9:45 a.m.,  
in response to message #2 by [Les Wright](#)

Hi Les.

The 49G+ was not capable of being powered through the USB, but the 50G is.

You can see it by yourself: press [ON]-[F] then [8] to enter the battery environment and you'll see it switching between "battery" and "USB" if you plug out or in a USB powered cord to the 50G.

Hope this helps.

Best regards.

Giancarlo

**Re: I-Hp?**

Message #4 Posted by [Les Wright](#) on 8 Mar 2007, 10:27 a.m.,

*in response to message #3 by Giancarlo (Italy)*

I have a 49G+, not a 50G.

If that is the case, then I think the iPod power block should work and be safe for the calculator. If the current carried through a USB connection doesn't fry the iPod, and if the Griffin powerblock is intended to replicate that delicate power source, it shouldn't cook the calculator either.

Les

**Re: I-Hp?**

*Message #5 Posted by [Gene](#) on 8 Mar 2007, 11:42 a.m.,  
in response to message #4 by Les Wright*

I'll test the Griffin Powerblock when I can.

**Re: I-Hp?**

*Message #6 Posted by [Bill \(Smithville, NJ\)](#) on 9 Mar 2007, 7:21 a.m.,  
in response to message #4 by Les Wright*

Hi Les,

Quote:

\_\_\_\_\_

If the the current carried through a USB connection doesn't fry the iPod

\_\_\_\_\_

Having too much "Current" can never fry anything. Too much voltage can. The Current rating on a power supply is the maximum amount of current that the power supply can provide at a certain voltage. The device using the power supply determines how much current will be attempted to be drawn from the power supply. If the device tries to draw more current than the power supply can provide, then, depending upon the regulation ability of the supply, the voltage will drop and the supply can overheat or malfunction.

As long as the power supply is rated at the corrent voltage and has, as a minimum, the required current rating, then the power supply can be used. Of course, polarity is very important. Make sure you don't get it reversed.

The nice thing about devices being powered through the USB connector, is that there is no way to get the polarity wrong. And any of the USB power devices can be used. I use the Griffen power cube with the USB cable to power my Ipod, Dell Axim, and a MIO GPS unit. I also have a Belkin USB lighter plug adapter that lets every thing be used in the car.

Bill

**Re: I-Hp?**

*Message #7 Posted by [Les Wright](#) on 9 Mar 2007, 7:32 a.m.,  
in response to message #6 by Bill (Smithville, NJ)*

Yet another reason why I should get a 50g, which regrettably is not cheap in Canada.

I would have multiple uses too for a Griffin powerblock (iPod, Palm, etc.)

**External power for 50g**

Message #8 Posted by [James M. Prange \(Michigan\)](#) on 8 Mar 2007, 3:31 p.m.,  
in response to message #1 by dbatiz

I haven't tried other power supplies with the 50g, but note that the 50g requests 50mA from the USB port. I expect that any source that can supply at least 50mA at 5V should work for powering it from the USB port.

Another possibility is that two of the pins of the "4-pin USB" port used for the serial connection are supposed to connect directly to the battery, so it should be possible to power it through that port too, as long as at least one AAA cell is removed. If rechargeable cells are used, it should be possible to connect an appropriate charger / battery eliminator through the serial port.

Of course the nominal purpose of the battery connection at the serial port is to optionally provide power to anything the user cares to connect to the serial port. I don't know whether power is available from the serial port while the calculator is being powered from only the USB port; but I rather doubt it.

Regards,  
James

**Re: External power for 50g**

Message #9 Posted by [James M. Prange \(Michigan\)](#) on 8 Mar 2007, 3:47 p.m.,  
in response to message #8 by James M. Prange (Michigan)

PS:

On second thought, although the 50g requests 50mA from the USB port, I don't know how much it actually draws; I expect somewhat less. But I guess that supplies intended for music players are probably rated to supply at least that much.

Regards,  
James

**HP50g External Power**

Message #10 Posted by [dbatiz](#) on 9 Mar 2007, 7:05 p.m.,  
in response to message #1 by dbatiz

I contacted Griffin and here is thier response:

Quote:

\_\_\_\_\_  
Hello,

We have not tested it with that unit, so we cannot guarantee that it will work, but it outputs the standard 5volts required for USB operation. So it should work.

Thanks,

JR

Griffin Technology Tech Support  
\_\_\_\_\_



I'm still waiting for a response from HP. I think it should work, but since I'm not a gambler man, I'm not willing to bet my HP on it. I'll wait for HP's answer first,

Very Respectfully,

Dave

## **HP50g External Power**

*Message #11 Posted by [dbatiz](#) on 16 Mar 2007, 7:26 a.m.,  
in response to message #1 by dbatiz*

I finally got an answer from HP: They were unable to test the 50g with an Apple Powerblock because they couldn't figure out how to connect it. I've not seen the Apple Powerblock, but they said its connector is not standard USB.

I tested my 50g using a Griffin model 17B061001 AC power supply. It has a standard USB output, 5.0V 500mA. Using the ON+F6, then option 8, I was able to verify it would switch to USB power using the Griffin PS.

I also took the AAA batteries out, and connected to the Griffin, the 50g worked.

After my test, I verified the operation of the USB connection, it suffered no apparent damage.

I think we have a winner!

Very Respectfully,

David

---

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## HP Forum Archive 17

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### What's the beef with the 14B?

Message #1 Posted by [Les Wright](#) on 8 Mar 2007, 7:42 a.m.

I acquired an Anniversary edition 14B mostly for its collector appeal. It did not come as a bargain and I figured recently to make the purchase worthwhile I should spend a little time with it. I must admit that even though the obligatory algebraic entry can be a bit annoying at times, I really do like it, particularly the great big 32S like display. All of the TVM and cashflow routines are aided by prompts and easy to use and seem very fast.

There is has been a lot of recent talk of financials here, such as the 17bii and 17bii+, but I never hear a peep about the 14B. Any idea why?

Les

### Re: What's the beef with the 14B?

Message #2 Posted by [Spacedog](#) on 8 Mar 2007, 9:50 a.m.,  
in response to message #1 by Les Wright

I don't have anything against the HP 14B, but then I don't really know anything about it either. The HP 17BII, however, feels like an old friend. This is because I used to use an HP 27S for years, which IMHO believe to be the most user-friendly scientific calculator ever made. And, viola, a lot of the 17BII works the same way as with the 27S (very user-friendly and with RPN to boot!, though sans firmware trig transcendentals).

An "HP 27SII" would have been great (Paul Ceruzzi thought the 4 register "stack" could so easily have been used for RPN right from the beginning (who gave me my 27S in the first place)), but alas I don't think it will ever happen.

### (deleted post)

Message #3 Posted by [deleted](#) on 8 Mar 2007, 10:16 a.m.,  
in response to message #1 by Les Wright

This Message was deleted. This empty message preserves the threading when a post with followup(s) is deleted. If all followups have been removed, the original poster may delete this post again to make this placeholder disappear.

### Re: What's the beef with the 14B?

Message #4 Posted by [Ren](#) on 8 Mar 2007, 12:13 p.m.,  
in response to message #3 by deleted

Quote:

My wife and I really like the [deletia] nuclear science calcs, [deletia] Interestingly our 8 year old daughter really loves the easy-to-read display of the 14B and the very friendly way it displays the operators (plus, minus, divide etc). She uses it to check her maths homework after

doing the sums on paper (...at least that's what she tells me).

Is an 8 year old the youngest HP calculator fan here at the museum (Born Feb 1999)?

---

an 8 y.o. who likes HP calcs, and nuclear science...

Should I be VERY afraid?

B^)

Ren

dona nobis pacem

### **Re: (deleted post)**

*Message #5 Posted by [Les Wright](#) on 9 Mar 2007, 7:10 p.m.,  
in response to message #3 by deleted*

Ian, thank you for your encouraging comments, which I got to see before the post was deleted. I really like the 14B, and it looks like I got a good deal on it, as I paid far less then you did (no box though).

I am also becoming a big fan of the 17bii+. I have little use now for my 12cp, with its sticky keys and TVM and cashflow capabilities that are a little less intuitive to use for me. I do get a kick out the old HP80 though, even though its TVM and cashflow features are even more peculiar to figure out!

Les

### **(deleted post)**

*Message #6 Posted by [deleted](#) on 10 Mar 2007, 2:36 p.m.,  
in response to message #5 by Les Wright*

This Message was deleted. This empty message preserves the threading when a post with followup(s) is deleted. If all followups have been removed, the original poster may delete this post again to make this placeholder disappear.

### **Tulip bulbs**

*Message #7 Posted by [bill platt](#) on 12 Mar 2007, 8:55 p.m.,  
in response to message #6 by deleted*

Were worth a lot of money once, too.

### **Re: Tulip bulbs**

*Message #8 Posted by [bill platt](#) on 13 Mar 2007, 7:10 p.m.,  
in response to message #7 by bill platt*

Why did Jacksonconsult delete his post?

### **Re: Tulip bulbs**

*Message #9 Posted by [Les Wright](#) on 13 Mar 2007, 10:11 p.m.,  
in response to message #8 by bill platt*

Maybe concern about spambots? Perhaps the cheeky reference to his child and nuclear science caused some offense? I have had a little correspondence with him since about the 14B and he didn't mention it one way or the other, so I am guessing that he has his own very good reasons that are idiosyncratic to him even if they seem obscure to us.

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## HP Forum Archive 17

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### Need crash course in HP41 HP-IL stuff

Message #1 Posted by [Les Wright](#) on 8 Mar 2007, 6:25 a.m.

I am awaiting delivery on an HP-IL module and HP-IL thermal printer from one of our members. This is an admittedly rather expensive alternative to a straight replacement of the 82143 printer I recently murdered, so I am obviously interested in exploring other peripherals to make the HP-IL module acquisition, which cost quite a bit more than the printer, truly worthwhile.

What should I be trying to acquire? Keep in mind I am not a sophisticate when it comes to these things. In the most basic sense, I guess you could say I am interested in mass storage, like the cassette drive, and in particular means to get HP41 programs to and from a modern day Windows XP PC--i.e. I don't want to have to deal with an old computer running DOS just to manipulate and transfer HP programs. This does not strike me as something for the faint of heart--I looked at the RS232 interface manual on our DVD and was utterly perplexed. I also surmised that the serial connector in question is not the same as that on my 48G serial cable or the old serial mouse I know longer use. One of our members has suggested to me the CMT 512K RAM Box with built in RS232 interface, which sounds positively fascinating but I would like to know more about what it could do for me before I break the piggy bank yet again.

Thanks for your wisdom.

Les

*Edited: 8 Mar 2007, 6:26 a.m.*

### Re: Need crash course in HP41 HP-IL stuff

Message #2 Posted by [Tony Duell](#) on 8 Mar 2007, 1:18 p.m.,  
in response to message #1 by [Les Wright](#)

I still do quite a bit with HPIL on the HP41 and HP71, but my PC runs (an ancient version of) linux, so some of what I say will not be directly applicable to you.

The first essential is the extended I/O module for the HP41. Without it, you can't do most useful things to HPIL devices. If you only have the 82162 printer and 82161 tape drive, I guess you'll be OK without the extended I/O module, but for any other devices (like the RS232 interface) it's a must!

The HPIL Development ROM (DevIL module) is useful, but suprisingly I use it less than the Extended I/O ROM

Forget the 82161 cassette drive unless you want to read old tapes. It's not really a practical solution for mass storage now, the tapes are hard to find (they're not standard audio tapes, not even mini or micro cassettes), and they tend to be unreliable.

If you can find one, get a 9114 disk drive (IMHO it doesn't matter whether it's a -A or -B, and I do have both). It uses DD floppy disks (aka '720K disks') which are not that hard to find. And you can read them on a PC -- there is software for MS-DOS and linux to do this.

The 82164 RS232 interface is 'interesting' (in the sense of 'may you live in interesting times' :-)). I have got it to talk to my linux PC, but I did have to wire up a special cable (I can give you details of the connections), and sorting it out involved a few long nights with a breakout box and the 82164 user and service manuals. I see no reason why it can't talk to a Windows machine, or to a modern machine via a USB-RS232 interface, but, not having any such hardware I can't talk you through it.

Those are, IMHO the essentials (disk drive and RS232). Other 'fun' devices include the 2225B (Thinkjet printer), 7470 Opt 003 (pen plotter), 82165/82166 (parallel interface modules, I use them a lot to link to homebrew projects), 82169 (HPIB interface).

### **Re: Need crash course in HP41 HP-IL stuff**

*Message #3 Posted by [Les Wright](#) on 8 Mar 2007, 6:17 p.m.,  
in response to message #2 by Tony Duell*

This is very informative.

I think right now the most useful addition I can think of is the diskette drive. I do have a floppy drive on my PC and tons of 3.5" floppies that are easily formatted as single density.

Does the PC based software for reading these disks work in DOS box under Windows XP, or do I need a proper pre-Windows 95 DOS machine? Is the disk format out of the 9114 drive readable under DOS and Windows XP, or would my computer simply regard such 3.5" single density floppies as unformatted disks?

The member who has been writing to me about the CMT RAM box/RS232 interface mentioned both the Extended I/O Module and the Extended IL modules, like they were different things, but I must admit I have never heard of the latter and can't find a manual for it on the DVD. Can someone enlighten me?

I do have a small size serial port on my computer so I expect that if I got any RS232 interface I would need a 25-to-9 pin adapter to connect. Is it any more complicated than that? I did get a USB-to-serial adapter cheap once to try to connect the 48G to USB, but it doesn't work. I do know that an expensive Dynex adapter works with the 48G cable and an old serial mouse, but I took it back after I put the cheap one on order. False economy! I guess I could splurge the 50 bucks again and get another if I ever replace the computer for one without a serial port.

I have looked into Clonix and MLDL but there seems to be a bit of a hi-tech DIY requirement here. I just made a mess of my 82143 printer with a soldering iron, so I shouldn't be trying to build delicate electronics.

Also, let's say I just got the disk drive and couldn't find the Extended I/O Module. Would I be able to do basic read/write operations to the disk without it? Does that basic functionality exist in an IL with only the disk and the HP-IL module?

Many thanks for guiding me.

Les

### **Re: Need crash course in HP41 HP-IL stuff**

*Message #4 Posted by [Les Wright](#) on 9 Mar 2007, 1:19 a.m.,  
in response to message #3 by Les Wright*

I guess I should ask the most basic question of all:

What is a fair price for these things? I must confess I have positively no clue. One of our members

mentioned to me an Extended I/O module and 9114 drive, and I threw out a very tentative first offer based on my experience regarding other tough to find HP41 modules and peripherals, but I fear I may have egregiously insulted him! Also, one of our members recent put a 512K CMT RAM drive up for auction, and the starting bid is much higher than I possibly could've guessed. Suffice to say I am really in the dark when it comes to pricing this stuff, so I am grateful for guidance. I want to pay a fair value to those who wish to sell me their stuff, but I don't want to get soaked either.

Many thanks,

Les

*Edited: 9 Mar 2007, 6:11 a.m. after one or more responses were posted*

### **Re: Need crash course in HP41 HP-IL stuff**

*Message #5 Posted by [Les Wright](#) on 9 Mar 2007, 2:05 a.m.,  
in response to message #4 by Les Wright*

And another question:

If all I am really interested in with the 9114 is basic reading and writing to the disk, could I survive with just the HP-IL modules READP and WRTP functions? Could I get away without the Extended IO module if I don't plan on anything more fancy than this?

It is appearing to me that the Extended IO module could be more expensive than the disk drive itself, and if I don't really need it for basic storage and retrieval operations I would be happy to give it a pass.

Les

### **Re: Need crash course in HP41 HP-IL stuff**

*Message #6 Posted by [Tony Duell](#) on 9 Mar 2007, 5:35 a.m.,  
in response to message #3 by Les Wright*

Quote:

\_\_\_\_\_

This is very informative.

I think right now the most useful addition I can think of is the diskette drive. I do have a floppy drive on my PC and tons of 3.5" floppies that are easily formatted as single density.

\_\_\_\_\_

Actually, it's double density. The 1.44M disks are 'high density'.

However, there are 2 problems with using 1.44M disks (PC 'HD' disks) in the 9114. The first is that the coercivity of the media is different. The 2 values are close, but not the same. This may not be reliable.

The second is that the 'HD detect hole' -- the extra hole that tells the PC that it's an HD disk -- lines up with the disk-inserted sensor in the 9114's drive and the latter will not recognise it has a disk inserted. A bit of tape over the hole will fix that.

But personally I'd look for some real DD disks.

Quote:

\_\_\_\_\_

Does the PC based software for reading these disks work in DOS box under Windows XP, or do I need a proper pre-Windows 95 DOS machine? Is the disk format out of the 9114 drive readable under DOS and Windows XP, or would my computer simply regard such 3.5" single density floppies as unformatted disks?

---

A PC will not recognise the disks. The low-level format is totally different (the HP disk is 77 cylinders, 2 heads, 16 sectors/track, 256 bytes/sector, the PC (720K) format is 80 cylinders, 2 heads, 9 sectors/track, 512 bytes/sector).

Quote:

---

The member who has been writing to me about the CMT RAM box/RS232 interface mentioned both the Extended I/O Module and the Extended IL modules, like they were different things, but I must admit I have never heard of the latter and can't find a manual for it on the DVD. Can someone enlighten me?

---

The Extended IL module (XIL) was a third-party ROM that allowed the HP41 to easily use the entire capacity of the floppy disk, to print listings efficiently on an 80 column printer, and so on.

I don't use it. If I need a program listing on 'wide' paper, I transfer the HP41 program to the PC, and run it through a couple of programs there that firstly produce a listing and then reformat it as I want.

Quote:

---

I do have a small size serial port on my computer so I expect that if I got any RS232 interface I would need a 25-to-9 pin adapter to connect. Is it any more complicated than that? I did get a USB-to-serial adapter cheap once to try to connect the 48G to USB, but it doesn't work. I do know that an expensive Dynex adapter works with the 48G cable and an old serial mouse, but I took it back after I put the cheap one on order. False economy! I guess I could splurge the 50 bucks again and get another if I ever replace the computer for one without a serial port.

---

The 82164 RS232 interface has a male DB25 plug on it. An internal jumper block lets you configure it either as DTE (terminal) or DCE (modem). You will therefore need the right adapters to link it to your PC DE9 connector

Personally I find the only sane way to use the 82164 is to leave that jumper block in the 'DTE' position and wire up the appropriate cables to get the signals where I want them for the other device. But then I think nothing about taking a soldering iron to a bit of hardware.

The reason it was more complicated for me is that I wanted to be able to transfer HP71 binary files. This meant I couldn't use XON/XOFF handshaking, I had to use hardware handshaking (some form of handshaking/flow control is essential or you will lose characters). And the 82164 uses the handshake lines in a somewhat odd way.

Quote:

---

Also, let's say I just got the disk drive and couldn't find the Extended I/O Module. Would I be able to do basic read/write operations to the disk without it? Does that basic functionality exist in an IL with only the disk and the HP-IL module?



---

Yes. You can use the disk drive with the normal commands for the cassette drive (they're in the ROM in the 82160 HPIL module, you don't need any other modules), but you can only use the first 128K of each disk. That's actually quite a lot of storage for an HP41, so you may be satisfied with that.

---

**Re: Need crash course in HP41 HP-IL stuff**

Message #7 Posted by [Tony Duell](#) on 9 Mar 2007, 5:37 a.m.,  
in response to message #6 by Tony Duell

One thing I forgot to mention is that the Extended I/O (or HPIL Development) ROM is pretty much essential to use the RS232 interface. You can't change any of the communication parameters (baud rate, handshake, etc) without it.

---

**Re: Need crash course in HP41 HP-IL stuff**

Message #8 Posted by [Les Wright](#) on 9 Mar 2007, 6:07 a.m.,  
in response to message #6 by Tony Duell

Quote:

---

Yes. You can use the disk drive with the normal commands for the cassette drive (they're in the ROM in the 82160 HPIL module, you don't need any other modules), but you can only use the first 128K of each disk. That's actually quite a lot of storage for an HP41, so you may be satisfied with that.

---

Actually I would be ecstatic with that.

128K holds the equivalent of about 570 magnetic cards, if I have my math correct. That is pretty impressive. If I could get a 9114 just to make back-ups of my mag cards, of which I have at most a few dozen, I would be positively tickled.

And I believe I have some real DD disks around here someplace. Not many, but I don't need many.

BTW, if a PC can't read a 9114 formatted floppy, how does LIFUTL work?

Thanks for the excellent information.

Les

---

**Re: Need crash course in HP41 HP-IL stuff**

Message #9 Posted by [Les Wright](#) on 9 Mar 2007, 6:24 a.m.,  
in response to message #8 by Les Wright

Quote:

---

And I believe I have some real DD disks around here someplace.

---

and even if I don't, I am finding these things cheaply on eBay with a cursory search. I am seeing around 5 bucks plus shipping for a 10 pack. That's 5700 magnetic cards, or 2850 if I make two back up sets. That would keep me busy for years....

Les

---

**Re: Need crash course in HP41 HP-IL stuff**

Message #10 Posted by [Les Wright](#) on 9 Mar 2007, 4:49 p.m.,  
in response to message #8 by Les Wright

Quote:

BTW, if a PC can't read a 9114 formatted floppy, how does LIFUTL work?

I have found a couple of DD disks around here that format fine as FAT but when I try to initialize them to the appropriate format using LIFUTL I get an "error at track 0" message.

So I am starting to get the point.

I will try to keep an eye peeled for an old x86 machine. If it has DOS and LIFUTL, I am off to the races, since I really only need it to get programs on to the diskettes. I can do all of the editing and compiling to LIF or RAW format on my newer machine, where hp41uc works beautifully.

For this purpose, will any x86 series machine do, or does it have to be a really slow one, like a 286? If a 386, 486, or early Pentium machine will work, that would be great--indeed, I have an old Pentium 120 laptop, about 11 years old. Dead screen but the video output works fine. Needs DOS though, and I think my old MSDOS 6.22 disks have been toasted.... Any thoughts? I could try to turn the old laptop into a Linux box, but frankly that is a little complex for my blood. I am sure MSDOS can be found cheaply or for free.

One of our fellow contributors has offered me a 9114 for a superb price, so I look forward to experimenting with that. If I can use my old laptop as a transfer medium, then this would keep me happy, though I know I will want the convenience of the RS232 interface eventually....

Eager for more opinions,

Les

---

**Re: Need crash course in HP41 HP-IL stuff**

Message #11 Posted by [Howard Owen](#) on 9 Mar 2007, 7:12 p.m.,  
in response to message #10 by Les Wright

I had mixed luck with Linux on a Compaq Pentium/70 system. It worked better under DOS, which I had set up dual boot with Linux.

I got my DOS 6.22 from eBay. There's also [FreeDOS](#)

Shoehorning a modern Linux distro onto an old PC isn't easy. I ended up going with Slackware, as it was the only one whose installer would run in 32MB of RAM.

Don't forget those ISA slots if you get an old DOS PC. Cristoph's card or the HP 82973A ISA card it clones work really well with JF's EMU41 and EMU71.

Regards,  
Howard

**Re: Need crash course in HP41 HP-IL stuff**

*Message #12 Posted by **Tony Duell** on 11 Mar 2007, 6:15 a.m.,  
in response to message #8 by Les Wright*

I have used a 9114 (either version, A or B) with an HP41 with the 82160 HPIL module and no other ROMs.

The normal PC hardware can be programmed to read (and write) a LIF formatted disk, but standard PC software doesn't do it. That's why you need the LIFUTILS package or equivalent.

**Re: Need crash course in HP41 HP-IL stuff**

*Message #13 Posted by **Les Wright** on 9 Mar 2007, 10:47 p.m.,  
in response to message #6 by Tony Duell*

Quote:

Yes. You can use the disk drive with the normal commands for the cassette drive (they're in the ROM in the 82160 HPIL module, you don't need any other modules), but you can only use the first 128K of each disk. That's actually quite a lot of storage for an HP41, so you may be satisfied with that.

I have communicated with my prospective seller, and even though he has an Extended IO module, it is more expensive than the drive itself and I have decided if I can live without it he should hang on to it for now. Frankly, looking at the HP-IL manual, it seems I am interested really in only four mass storage commands--NEWM, to format the floppies, WRTP to write programs to the floppies, READP to recall them to the calculator, and DIR to see what's on the disk. If I get into the RS232 interface, I will need the extended functions IO, but right now since I am just interested in basic reading and writing to disk I will spare myself the extravagance of the expensive module but consider myself lucky to find a 9114 drive from a considerate collector at a good price.

Les

**Re: Need crash course in HP41 HP-IL stuff**

*Message #14 Posted by **Garth Wilson** on 9 Mar 2007, 1:23 p.m.,  
in response to message #2 by Tony Duell*

Quote:

Forget the 82161 cassette drive unless you want to read old tapes. It's not really a practical solution for mass storage now. The tapes are hard to find (they're not standard audio tapes, not even mini or micro cassettes), and they tend to be unreliable.

What kind of problems did you have? I used my 82161A drive a lot in the 1980's and never had any problem of any kind with it or the tapes. It proved to be 100% reliable. The cost per kilobyte was sure high though! OTOH, a kilobyte went a long way on a 41.

I haven't used the tape drive in years though, even though I use my 41 every day, because the 41cx has enough memory to simultaneously hold all the programs I need and it never loses memory. (One program I often use has been in the 41's memory continuously for almost 20 years.) I don't have the card reader. What I've been doing in recent years is to write programs in a text editor on the PC so I can put more than one instruction on a line and add lots of comments, and when I'm happy with it, key it into the 41, where it stays until I'm done with it. With the 71 nearby and the other computers around however, my HP-41

programs these days are seldom even 100 steps; and in the unlikely event that I accidentally delete one before I'm done, the small amount of time it would take to key it back in would be trivial compared to the time and money and uncertainty involved in buying a tape drive on eBay if I didn't already have one.

E-mail: wilsonmineszdslextremezcom (replace the z's with @ and .

### **Re: Need crash course in HP41 HP-IL stuff**

*Message #15 Posted by **Tony Duell** on 11 Mar 2007, 6:17 a.m.,  
in response to message #14 by Garth Wilson*

Quote:

What kind of problems did you have? I used my 82161A drive a lot in the 1980's and never had any problem of any kind with it or the tapes. It proved to be 100% reliable. The cost per kilobyte was sure high though! OTOH, a kilobyte went a long way on a 41.

It was probably fine when the tapes were new...

The problems I have had (and in fact I wrote an article in Datafile (HPCC journal) several years ago about this) include :

The pressure pad in the cassette decaying and no longer holding the tape against the read/write head

The tape coming detached from the leader

The tape shedding oxide.

Even NOS tapes can suffer from the above, and the tapes haven't been made for years AFAIK.

### **Re: Need crash course in HP41 HP-IL stuff**

*Message #16 Posted by **Howard Owen** on 8 Mar 2007, 1:53 p.m.,  
in response to message #1 by Les Wright*

I second much of what Tony said. I can confirm that the RS232 interface works with Linux (and Windows XP) and a USB to serial adapter. I was able to make the connection without extensive cable hacking, other than a 25 to 9 pin adapter and a 9 pin gender bender.

The simplest solution for getting software *from* your 41 *to* your PC is the 9114 floppy, as Tony points out. I've had less luck going the other way with just the floppy drive. What I use for that is an old PC (Pentium II/400, 256 MB of RAM) that has a single ISA slot. In that I place one of Cristoph Klug's HP-IL ISA cards. I drive it from Debian Linux directly, or via DOSEMU/FreeDOS, which are a Free Software 286 emulator and DOS 6.22 work alike respectively. In this environment I run various tools, but especially JF Garnier's 41 and 71 emulators. These give me complete flexibility in moving bits around between the 20th and 21st centuries.

I also agree that the extended I/O ROM makes the 41 a lot more capable with HP-IL. Unless you are motivated to collect old ROMs, I would suggest you look into acquiring a NovRAM32 or MLDL2000 rather than the ext-io ROM itself. These can be loaded with a variety of old ROMs from images available on the Internet. They are no doubt much cheaper than any classic MLDL you might find on eBay or elsewhere, and they each come with software to talk to a modern Windows PC. In fact, beating around the bush a little, you could configure either device to emulate a HEPAX with some RAM pages, and fill the latter (using the hex/binary representation) with all the user code you could stuff into them. That would solve the bidirectional file transfer issue in a very cool but geeky way. 8)

Good luck!  
Howard

**Re: Need crash course in HP41 HP-IL stuff**

Message #17 Posted by [Christoph Klug](#) on 8 Mar 2007, 2:37 p.m.,  
in response to message #16 by Howard Owen

For HP41 & HP-IL I recommend :

IL-Module + Clonix or NoVRAM with ROM image of the EXT-I/O Module

EMU41 fom Jean-Francois Garnier in combination with the HP-IL/PC Interface Card (needs ISA slot) or alternatively the RS232 gateway

Best wishes - Christoph Klug

**Re: Need crash course in HP41 HP-IL stuff**

Message #18 Posted by [Les Wright](#) on 9 Mar 2007, 2:47 a.m.,  
in response to message #16 by Howard Owen

Quote:

\_\_\_\_\_

The simplest solution for getting software from your 41 to your PC is the 9114 floppy, as Tony points out. I've had less luck going the other way with just the floppy drive. What I use for that is an old PC (Pentium II/400, 256 MB of RAM) that has a single ISA slot. In that I place one of Cristoph Klug's HP-IL ISA cards. I drive it from Debian Linux directly, or via DOSEMU/FreeDOS, which are a Free Software 286 emulator and DOS 6.22 work alike respectively. In this environment I run various tools, but especially JF Garnier's 41 and 71 emulators. These give me complete flexibility in moving bits around between the 20th and 21st centuries.

\_\_\_\_\_

Is it really that complex? I did just download LIFUTL and it runs nicely on my PC, and appears to read the floppy drive fine. I am also very adept with Leo Duran's utility, and have no trouble creating raw files and barcode, so creating LIF files and moving them onto a disk can't be too terribly difficult.

I guess I will just have to acquire a 9114 drive and experiment. To start, I would be happy just to have the mass storage capability of the floppies, even if I can never use them as a transfer medium with the PC.

Les

**Re: Need crash course in HP41 HP-IL stuff**

Message #19 Posted by [Howard Owen](#) on 9 Mar 2007, 6:41 p.m.,  
in response to message #18 by Les Wright

I've had trouble writing files with LIFUTIL. I don't recall at the moment what exactly the issue was. I didn't try awfully hard because I went ahead with the ISA card solution, which I would have pursued anyway for the sheer geekly joy of it. 8) But that means I may have given up on LIFUTIL prematurely.

The 9114 is a very nice add on. It's the fastest and most convenient mass storage you can get for the 41C/71B/75C/Portable, in addition to being at least half of a file transfer solution.

Regards,  
Howard

**Re: Need crash course in HP41 HP-IL stuff**

*Message #20 Posted by [Meindert Kuipers](#) on 8 Mar 2007, 3:42 p.m.,  
in response to message #1 by Les Wright*

My favourite is the HP-IL Video Interface. It will not help you in data transfer, but when connected to the TV card of your PC it save a lot of printer paper

Meindert

**Re: Need crash course in HP41 HP-IL stuff**

*Message #21 Posted by [Tony Duell](#) on 9 Mar 2007, 5:36 a.m.,  
in response to message #20 by Meindert Kuipers*

Quote:

My favourite is the HP-IL Video Interface. It will not help you in data transfer, but when connected to the TV card of your PC it save a lot of printer paper

Meindert

But try to get the 80 column one (a 3rd party device). The HP82163 32 column one is much less useful IMHO (I have both).

**Re: Need crash course in HP41 HP-IL stuff**

*Message #22 Posted by [Les Wright](#) on 9 Mar 2007, 3:41 p.m.,  
in response to message #1 by Les Wright*

I have hit the motherlode and a fellow contributor to our community is willing to pass on a 9114 drive for what I consider a very excellent price.

But it needs an adapter and I want to make sure I have the right ones.

I have two 82059B adapters for use with my HP97, dead 82143 printer, and HP-IL thermal printer when I get it. I know this adapter is compatible with the 9114B, but is it usable with other versions of the 9114 in the event that the drive I am getting is not the 9114B? In other words, did all versions of the 9114 drive have the same AC jack and thus took the same adapter?

Many thanks,

Les

**Re: Need crash course in HP41 HP-IL stuff**

*Message #23 Posted by [Howard Owen](#) on 9 Mar 2007, 6:58 p.m.,  
in response to message #22 by Les Wright*

The power adapters went through many revisions, but all the ones I've tried (I have about a dozen) are interchangeable. HP used that for many, many computers and peripherals. Here are the ones I know about:

- HP-97 (91, 92, 95C and 97S?)
- 41C rechargeable battery pack
- HP 82143A HP-41C Printer
- HP 82161A Cassette Drive
- HP 82162A Printer.
- HP 82163 HP-IL Video interface
- HP 82164A HP-IL/RS232-C Interface
- HP 82169A HP-IL/HP-IB Interface
- HP 9114/9114B Disc Drive
- HP 75C/D
- HP 71B
- HP 110 Portable and Portable Plus
- HP 2225B Thinkjet Printer

Those are the ones that I know first-hand use the 82059[ABCD] power supply (or their equivalents for the rest of the world.) I'm sure I'm missing several others.

Regards,  
Howard

*Edited: 9 Mar 2007, 7:00 p.m.*

### **Re: Need crash course in HP41 HP-IL stuff**

*Message #24 Posted by [Les Wright](#) on 9 Mar 2007, 7:19 p.m.,  
in response to message #23 by Howard Owen*

Thanks Howard. I have the right adapters. I will let the seller know.

### **Re: Need crash course in HP41 HP-IL stuff**

*Message #25 Posted by [Vassilis Prevelakis](#) on 9 Mar 2007, 8:47 p.m.,  
in response to message #22 by Les Wright*

Les Wright wrote:

> a fellow contributor to our community is willing to pass on a  
> 9114 drive for what I consider a very excellent price.

> But it needs an adapter and I want to make sure I have the right ones.

a) this discussion applies to both 9114A and 9114B. The two models have a lot of differences but they take the same battery packs, floppies etc.

b) The 9114 does not connect directly to the HP82059B adapter. The 82059 connects to the battery pack which in turn slots inside the 9114 battery bay.

As such, an unmodified 9114 without a battery pack is dead in the water. Having said that, I recall seeing (I think on eBay) pictures of an 9114 with an external (home made) power supply which bypassed the battery entirely.

BTW the 82059 cannot, on its own, provide enough power to operate the 9114, it needs a working battery inside the battery pack.

9114 battery packs contain a lead-acid battery which is difficult to replace, but I recall an another thread (couple of years ago) in this forum discussing 9114 batteries.

\*\*vp

### **Re: Need crash course in HP41 HP-IL stuff**

*Message #26 Posted by [Les Wright](#) on 9 Mar 2007, 9:39 p.m.,  
in response to message #25 by Vassilis Prevelakis*

Well the seller is powering this thing somehow and claims it works, so I need to clarify with him what is actually going on. Les

### **Re: Need crash course in HP41 HP-IL stuff**

*Message #27 Posted by [Tony Duell](#) on 11 Mar 2007, 6:24 a.m.,  
in response to message #25 by Vassilis Prevelakis*

Quote:

Les Wright wrote:

> a fellow contributor to our community is willing to pass on a  
> 9114 drive for what I consider a very excellent price.

> But it needs an adapter and I want to make sure I have the right ones.

a) this discussion applies to both 9114A and 9114B. The two models have a lot of differences but they take the same battery packs, floppies etc.

I thought the -A battery pack should only be used in the 9114A, but the -B pack could be used in either. Why I don't know, the difference is in the charger circuit (inside the battery pack).

Incidentally, the battery packs for the 9114 are probably dead by now and will need rebuilding. It's a 6V lead-acid battery, the pack originally contained a 'block battery', but 3 2.5Ah Cyclon cells fit perfectly into the housing and seem to be easier to obtain.

Quote:

b) The 9114 does not connect directly to the HP82059B adapter. The 82059 connects to the battery pack which in turn slots inside the 9114 battery bay.

As such, an unmodified 9114 without a battery pack is dead in the water. Having said that, I recall seeing (I think on eBay) pictures of an 9114 with an external (home made) power supply which bypassed the battery entirely.

The battery pack connects to the rest of the 9114 via a 2-pin 'mini Jones' connector inside the cavity that the pack fits into. Electrically the socket on the battery pack is connected to the terminals of the lead-acid battery (with a fuse in series, actually).

If you feed 6V DC with the correct polarity to the plug in the drive, the unit will work. That 6V can come from a specially-designed mains power supply. I made up a cable to link the 9114 to my workbench adjustable PSU, works fine.

Quote:



BTW the 82059 cannot, on its own, provide enough power to operate the 9114, it needs a working battery inside the battery pack.

Correct

Quote:

9114 battery packs contain a lead-acid battery which is difficult to replace, but I recall an another thread (couple of years ago) in this forum discussing 9114 batteries.

Difficult to replace or difficult to obtain? Actually fitting the replacement battery is not hard, getting the original type, I believe, is.

### **Re: Need crash course in HP41 HP-IL stuff**

*Message #28 Posted by **Bill Smith** on 11 Mar 2007, 12:09 p.m.,  
in response to message #27 by Tony Duell*

I found a drop-in replacement lead-acid battery for my 9114B at Rage Batteries on-line, about \$14 a couple years ago. Hopefully they are still available.

### **Re: Need crash course in HP41 HP-IL stuff**

*Message #29 Posted by **Howard Owen** on 11 Mar 2007, 3:36 p.m.,  
in response to message #28 by Bill Smith*

I got the HP part number, 88014A, off a battery that is currently powering one of my 9114Bs. Looking at the Rage Battery cross-reference, [this one](#) is the replacement part.

Thanks for the reference!

Regards,  
Howard

### **Re: Need crash course in HP41 HP-IL stuff**

*Message #30 Posted by **Les Wright** on 11 Mar 2007, 9:37 p.m.,  
in response to message #29 by Howard Owen*

Thanks for all of the information.

I have written my prospective seller and advised him that I know nothing of the electrical or electronic nuances of these things and to clarify what, if anything, I need in order to use the drive. My understanding is that I would need my own 82059B power source since he didn't have a spare one. I also was of the impression that said power source was mandatory to power this thing since, to quote him directly, "their accus are all dead, so you need to use a power cable". I have no idea what an "accu" or "accus" is--I assumed he was referring to the lead acid battery cells. I assumed by power cable he meant the standard HP82059B adapter and nothing more fancy. If he uses a customized arrangement to power his 9114 drives that bypasses the need for working batteries, I need to know what it is to see if I can replicate it.

I have written the gent and have been candid with him as to my perplexity. From him, I seem to be hearing "batteries are dead but everything works fine on AC" yet in this thread I am hearing "drive won't work with dead batteries even with AC plugged in". And you all seem very credible to me! The good news is that if all this thing needs is a replacement SLA cell to drop inside the existing battery pack, these things seem readily available.

Money has not yet changed hands and I am confident all questions will get settled before it does.

Thanks for all of your time on this.

Les

**Re: Need crash course in HP41 HP-IL stuff**

*Message #31 Posted by [Howard Owen](#) on 11 Mar 2007, 10:02 p.m.,  
in response to message #30 by Les Wright*

I have run a 9114 on a dead cell - or at any rate, a cell that wouldn't power the device on its own - with an attached 82059 transformer. I'm guessing that there are degrees of "dead." That would allow for what Vassilis said being true at the same time as your seller's statement, even though they seem to contradict each other.

Bottom line, if your seller says it works, then he's representing that it will work for you. If this is a fellow collector, then odds are he will make things right one way or the other.

Regards,  
Howard

**Re: Need crash course in HP41 HP-IL stuff**

*Message #32 Posted by [Garth Wilson](#) on 12 Mar 2007, 1:24 a.m.,  
in response to message #30 by Les Wright*

I've never had a 9114, but I suspect it uses the same NiCd battery pack the Thinkjet used. When mine died, I wasn't about to pay what they were asking for a new one (something like \$37), and until I made myself a power supply for it, I actually ran it off a 9V alkaline battery a little bit. Then I built the power supply for fifty cents. I had everything I needed except one diode, and the diode was \$.50.

The one thing I didn't like about the tape drive was that it was not made to use standard alkaline batteries. Left to log data in a remote location unattended, a full charge was only good for 4 hours, whereas alkalines would have allowed it to go a whole work day.

**Re: Need crash course in HP41 HP-IL stuff**

*Message #33 Posted by [Tony Duell](#) on 12 Mar 2007, 2:16 p.m.,  
in response to message #32 by Garth Wilson*

Quote:

\_\_\_\_\_  
I've never had a 9114, but I suspect it uses the same NiCd battery pack the Thinkjet used. When mine died, I wasn't about to pay what

Alas not. The Thinkjet takes a 7.2V NiCd pack (6 off sub-C cells in series, with a fuse and a little charger circuit in the case), the 9114 takes a 6V lead acid battery.

They're physically different too, of course -- the Thinkjet has a couple of metal contacts on the pack and spring terminals in the printer, the 9114 has that 2-pin Jones plug I mentioned.

### **Re: Need crash course in HP41 HP-IL stuff**

*Message #34 Posted by [Meindert Kuipers](#) on 12 Mar 2007, 2:26 p.m.,  
in response to message #30 by Les Wright*

Seems like your seller is European. The term 'accu' is typically used for a rechargeable battery, probably NiCad. Same for the power cable, I think it is the adapter.

Meindert

### **Re: Need crash course in HP41 HP-IL stuff**

*Message #35 Posted by [Les Wright](#) on 12 Mar 2007, 5:46 p.m.,  
in response to message #30 by Les Wright*

I have gotten some clarification from the seller, and it appears that the unit at least powers up on AC power, so maybe the batteries are not completely flat just yet. However, the seller uses other mass storage media for daily work so the 9114 has not had recent routine use. I was of the impression that this was an active-service unit that is functioning fully off of AC power despite dead or near dead batteries. This little bit of wishful thinking stems entirely from my misinterpretation of the information provided-- the seller made no such representation. So you can see now the source of my perplexity-- it comes entirely from my misapprehension of the information provided. The seller never made any such claims, and the confusion that ensued is due entirely to me.

If the seller hasn't become totally exasperated with me by this point, I hope to take the unit on an as-is basis, since it really is a very very good deal in any case. The best case scenario I envision is that all it really needs is new SLA cells, which seem to be readily and inexpensively available. As for testing the read/write capacity of the unit, this will be sort of jumping off a cliff at first. I have been advised that in some of these old units the drive heads can stick to the surface of the floppy and there is a risk of damaging the heads if one removes a disk too vigorously or quickly. I have had the exact experience in the floppy drive of an old Hitachi laptop, and I am not keen to repeat it!

Thank you so much for all of the information and clarification. I will let everyone know how it all works out.

Les

### **Re: Need crash course in HP41 HP-IL stuff**

*Message #36 Posted by [Vassilis Prevelakis](#) on 13 Mar 2007, 1:43 a.m.,  
in response to message #35 by Les Wright*

If you are going to mess with the battery pack, please remember:

- 1) There are two Torx screws on the top cover (on either side of the latch -- picture 1)

2) Assuming the two screws are on the side away from you, the other three sides of the cover have small protrusions that help secure it to the base. Be sure not to break any of them.

Apart from these warnings (and the Torx screwdriver) changing the battery inside the pack is trivial (its not even soldered).

Also, Tony Duell wrote:

```
> Difficult to replace or difficult to obtain?  
> Actually fitting the replacement battery is not hard,  
> getting the original type, I believe, is.
```

Yes.

\*\*vp

-----

Sorry for the horrible quality of the pictures, I used my idiotic phone.

Picture 1: Shows the battery pack connected to the external charger. Note the two Torx screws on the top cover, on either side of the latch.

<http://www.series80.org/Misc/9114-bat-3.jpg>

Picture 2: You can see the PowerSonic lead-acid battery pack with the charger circuit next to it. The two leads are connected to the battery via spade connectors so no soldering.

<http://www.series80.org/Misc/9114-bat-1.jpg>

*Edited: 13 Mar 2007, 1:48 a.m.*

## **Re: Need crash course in HP41 HP-IL stuff**

*Message #37 Posted by [Les Wright](#) on 13 Mar 2007, 9:21 a.m.,  
in response to message #36 by Vassilis Prevelakis*

This is very helpful, thank you!

This is a repair that I could probably manage, given the correct tool and the correct replacement cell.

Since the mystery of the battery (actually, mysterious only to me) has been settled, I wonder if there is any wisdom out there regarding the care of the disk mechanism and drive heads themselves. I have been chagrined to learn that the 9114 (more so than the 9114B) is vulnerable to drive heads sticking to disk media and getting torn out with ejection of the disk. Is this a preventable problem? Is there anyway to diagnose an incipient problem before it occurs? I have asked the prospective seller to inspect this if he can, since I would be deeply mortified to separate this beloved unit from a collection only to irreversibly destroy it the first time I insert a disk! The seller has prudently reminded me that sometimes great care and patience is required to coax these old machines back to full function, and I really don't want to go blundering into that disk drive like a bull in china shop. So if you have any other wisdom or

experience to share, I would be grateful. For example, is it possible to clean the drive mechanism and/or prepare the floppies so as to minimize the risk of permanent damage to the heads?

Grateful as always for your patience and kind advice.

Les

### **Re: Need crash course in HP41 HP-IL stuff**

*Message #38 Posted by **Vassilis Prevelakis** on 13 Mar 2007, 10:37 a.m., in response to message #37 by Les Wright*

Les Wright wrote:  
> I have been chagrined to learn that the 9114 (more so than the  
> 9114B) is vulnerable to drive heads sticking to disk media and  
> getting torn out with ejection of the disk. Is this a preventable  
> problem?

I bought 3 9114 units about 5 years ago (two 9114B and one 9114A) and they all had bad packs and stuck loading mechanisms.

I know nothing about the 9114 then, but I was lucky and the drives were OK. I had to take apart the drives to lubricate the loading mechanisms and also replace the lead-acid cells on their packs.

The 9114 box also uses Torx screws and since the screws are deeply recessed unless you have a long Torx screwdriver you will have a lot of trouble removing them.

Once the box is open you will see the motherboard on one side and the floppy drive mechanism. Although it looks like a PC floppy mechanism, it is not! So be careful not to damage it.

Tony has posted a detailed explanation on how to take the drive apart to lubricate the parts, but I can't find it now (it could have been about the floppy drive for the Integral PC which uses the same device as the 9114B).

BTW please do not use WD40 on the drive though!

\*\*vp

### **Re: Need crash course in HP41 HP-IL stuff**

*Message #39 Posted by **Dan M (Vermont, USA)** on 13 Mar 2007, 2:12 p.m., in response to message #38 by Vassilis Prevelakis*

As far as I know, the Torx screws in 9114 drives and battery packs are size T9. So make a note of that before you go to the tool shop. For some reason I have sizes T8, T9, and T10 near my HP stuff. T6 is/was useful for taking apart (and reassembling!) cell phones.

Have fun,

Dan M.

**Re: Need crash course in HP41 HP-IL stuff**

*Message #40 Posted by [Tony Duell](#) on 14 Mar 2007, 5:57 a.m.,  
in response to message #39 by Dan M (Vermont, USA)*

TX6 is also the size you need to take a HP71B apart.

**Re: Need crash course in HP41 HP-IL stuff**

*Message #41 Posted by [Tony Duell](#) on 14 Mar 2007, 5:56 a.m.,  
in response to message #38 by Vassilis Prevelakis*

The 9114A is prone to having dried-up grease on the loading mechanism, and if it's not caught in time, the top head will catch in the disk shutter when you eject the disk and will be ruined.

I'd always dismantle an 'unknown' 9114A (or any other machine that uses a similar drive) and clean off the grease. I wrote an article on how to do this (step-by-step with pictures) in the V26 N1 issue of Datafile (HPPC journal). If you ask the editor nicely, he might send you a copy of said article, I certainly have no objections to it being more widely distributed.

I can talk you through taking the casing, etc, apart if you have problems doing that.

**Re: Need crash course in HP41 HP-IL stuff**

*Message #42 Posted by [Eric Smith](#) on 14 Mar 2007, 1:51 p.m.,  
in response to message #41 by Tony Duell*

Does the 9114B require any similar precautions?

**Re: Need crash course in HP41 HP-IL stuff**

*Message #43 Posted by [Tony Duell](#) on 15 Mar 2007, 2:20 p.m.,  
in response to message #42 by Eric Smith*

I don't think the 9114B's drive suffers in the same way. It's a totally different design to the full-height drive used in the 9114A, in fact it's mechanically similar to an Apple Mac 800K drive. Even some of the electronic parts are the same.

I've never had any problems with the eject mechanism of the 9114B sticking, but if anyone's seriously interested, I can take my 9114B apart sometime and do a photoshoot and thus write an article. But I doubt very much if it will appear in Datafile.

**Re: Need crash course in HP41 HP-IL stuff**

*Message #44 Posted by [Eric Smith](#) on 15 Mar 2007, 6:43 p.m.,  
in response to message #43 by Tony Duell*

That would be interesting. I enjoyed your article in Datafile on the 9114A drive. I have not yet decided whether I dare try maintaining my 9114A drives myself, as I am not very mechanically inclined, but without your article I would not even have considered it.

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## HP Forum Archive 17

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### **can i use a HP41 printer charger with a HP-97?**

Message #1 Posted by [Hugo](#) on 8 Mar 2007, 3:24 a.m.

I recently found an HP 97 without peripherals and i wander if i can use a charger of the HP41 printer (82143A) to test it? Can i do so without risk to damage the HP97? Does anyone have experience with this? thanks for helping me out!

### **Re: can i use a HP41 printer charger with a HP-97?**

Message #2 Posted by [Klaus](#) on 8 Mar 2007, 3:53 a.m.,  
in response to message #1 by Hugo

Yes, you can use this charger

### **Re: can i use a HP41 printer charger with a HP-97?**

Message #3 Posted by [Les Wright](#) on 8 Mar 2007, 6:08 a.m.,  
in response to message #1 by Hugo

Same charger, same battery pack. Be sure to have a working battery in the 97, otherwise it will behave strangely--even on AC, the 97 needs a working battery back installed to properly complete the circuit and work correctly.

Les

### **Re: can i use a HP41 printer charger with a HP-97?**

Message #4 Posted by [Hugo](#) on 9 Mar 2007, 4:52 a.m.,  
in response to message #3 by Les Wright

thanks, i will give it a try!

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## HP Forum Archive 17

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### question on the 34C

Message #1 Posted by [Don Shepherd](#) on 7 Mar 2007, 9:34 p.m.

The picture of this calculator from the top end shows that something can be plugged in. Anybody know what plugs into it?

### Re: question on the 34C

Message #2 Posted by [Eric Smith](#) on 7 Mar 2007, 9:38 p.m.,  
in response to message #1 by Don Shepherd

An AC adapter, so that you can charge the batteries.

### Re: question on the 34C

Message #3 Posted by [Don Shepherd](#) on 7 Mar 2007, 9:39 p.m.,  
in response to message #2 by Eric Smith

OK, thanks Eric.

### Re: question on the 34C

Message #4 Posted by [Les Wright](#) on 8 Mar 2007, 7:07 a.m.,  
in response to message #3 by Don Shepherd

It is a funny looking connector, isn't it? Looks like a sort of serial connector for data transfer. But no such luck--its just a simple plug.

Les

### Re: question on the 34C

Message #5 Posted by [Walter B](#) on 8 Mar 2007, 5:44 p.m.,  
in response to message #4 by Les Wright

It's the most desperate power connector you can find in an HP calc. All the other models have higher quality, just Spices are cheap and dirty - connectorwise. However, besides this, the 34C was high tech for its time and still is a very remarkable little power brick :)

Edited: 8 Mar 2007, 5:48 p.m.

### Re: question on the 34C

Message #6 Posted by [Eric Smith](#) on 9 Mar 2007, 12:13 a.m.,  
in response to message #5 by Walter B

From Woodstock to Spice they went from the best industrial design they'd ever done to the

worst, presumably all in the interest of cost reduction. The press-fit construction cost them so much for warranty repairs that they redesigned it to be soldered.

They apparently really learned from that, as the industrial designs of the 41C and original Voyager series are very good and that of the slightly later Voyagers (single PCB) is excellent.

Unfortunately things started going downhill again in the 1990s, as HP moved away from double-shot injection molded key legends and metal snap discs.

Since almost no one will spend more than \$100 now for a calculator, and \$100 now is the equivalent of only about \$40 in early 1980s dollars, it's a reasonably safe bet that no calculators with industrial design approaching those of the Woodstock, 41C, or early-mid 1980s Voyagers will ever be mass-marketed again.

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## HP Forum Archive 17

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### **Re: HP Calculator seen in new movie Astronaut Farmer**

*Message #1 Posted by [Ed](#) on 7 Mar 2007, 8:28 p.m.*

Just saw Astronaut Farmer this past weekend. During part where B.B. Thornton discusses fueling of his rocket with his son and camera pans toward his desk, an HP calculator makes a movie appearance. I couldn't tell if it was an HP-11C, HP-15C, or perhaps an HP-12C. Only the bottom left hand corner of the calculator was visible and you could clearly see the "ON" button and the gold and blue shift keys, and the distinctive shape of that series of calculators.

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## HP Forum Archive 17

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### **RE: Good books on MICROPROCESSORS and Integrated Circuits?**

Message #1 Posted by [Frank E. Travis](#) on 7 Mar 2007, 3:16 p.m.

I have a Bachelor of Science degree in Math/Computer Science from 1982 and 3 years of Computer Information Sciences (CIS) classes from a community college in the 1990s. My understanding is mainly software, although I have *Repairing & Upgrading Your PC*, as well as *Building the Perfect PC* (2nd ed.), both by O'Reilly publishing. I want to gain a greater understanding of how microprocessors work (but not too technical) and how integrated circuits work in today's computers and electronic devices. I purchased several Schaum's outline (and other related types of books), but these focus on the mathematics involved in finding the unknown resistance, inductance, etc. My main source of book reviews is [www.amazon.com](http://www.amazon.com) and [www.bn.com](http://www.bn.com). Any feedback in this matter is greatly appreciated.

### **Re: RE: Good books on MICROPROCESSORS and Integrated Circuits?**

Message #2 Posted by [Les Bell](#) on 7 Mar 2007, 5:06 p.m.,

in response to message #1 by [Frank E. Travis](#)

I used to run a seminar on "Supporting PC's" back in the early to mid eighties. Some of the articles used in it are online in the "Archive" section of my site. In particular, see [Hardware Basics](#) and especially the section on "PC System-Level Operation". The article is quite old - it was last updated to deal with the PS/2 family and micro-channel architecture - but even today, PC's work the same basic way to provide backward compatibility.

Best,

--- Les Bell

[<http://www.lesbell.com.au>]

### **Re: RE: Good books on MICROPROCESSORS and Integrated Circuits?**

Message #3 Posted by [Frank E. Travis](#) on 7 Mar 2007, 5:56 p.m.,

in response to message #2 by [Les Bell](#)

Thanks for the information.

### **Re: RE: Good books on MICROPROCESSORS and Integrated Circuits?**

Message #4 Posted by [John Smitherman](#) on 7 Mar 2007, 6:22 p.m.,

in response to message #1 by [Frank E. Travis](#)

Hi Frank. While this link may not contain the exact information that you are looking for it may help:

<http://ibiblio.org/obp/electricCircuits/>

Regards,

John

**Re: RE: Good books on MICROPROCESSORS and Integrated Circuits?**

*Message #5 Posted by **Tony Duell** on 8 Mar 2007, 5:06 a.m.,  
in response to message #1 by Frank E. Travis*

A good book on general electronics (not specifically microprocessors, although they are covered) is

The Art of Electronics

by Horowitz and Hill

There's a companion book of experiments ('The student manual for the Art of Electronics' or some similar title) which is good too, but as it was written for a university course, it assumes you have access to reasonable test gear. But IMHO worth reading even if you can't do the experiments.

Be warned that neither book is cheap, but I find them to be clearly written, 'practical', and thus easy to follow.

**Re: Thank you all for this information**

*Message #6 Posted by **Frank E. Travis** on 8 Mar 2007, 7:55 a.m.,  
in response to message #5 by Tony Duell*

I appreciate the feedback from all of you.

**Re: RE: Good books on MICROPROCESSORS and Integrated Circuits?**

*Message #7 Posted by **Ren** on 13 Mar 2007, 4:35 p.m.,  
in response to message #1 by Frank E. Travis*

Going beyond "a book", I recommended a microprocessor trainer.

I think you should consider one (or more!) to gain "hands-on" experience with microprocessors. Unlike a PC, you will be entering assembly language and actually wiring up input/output ports.

A couple of decades ago u-processor trainers were all the rage, mainly because they were 8-bit so they were simple enough to understand. Personally I have Intel SDK's (System Development Kit) for the 8080, 8085, and 8086 UPC's. I also have a couple for the Motorola 6805 family. One in particular is the Lab-Volt System 348 which appears on eBay periodically. More recently, development kits for PIC's and Atmel processors are available.

Let me know if this is what you had in mind.

Sincerely,

Ren

dona nobis pacem

**Re: RE: Good books on MICROPROCESSORS and Integrated Circuits?**

*Message #8 Posted by **Frank E. Travis** on 14 Mar 2007, 11:14 a.m.,  
in response to message #7 by Ren*

Thanks for your input. It appears as if The Art of Electronics (2nd ed.) ISBN # 0521370957 that was mentioned earlier is what I am looking for. A local branch of the Detroit, MI Public Library is trying to inter-loan it for me (for a \$3 fee) from one of the University Libraries in the state of Michigan that has it.

This book gets rave reviews on both [www.bn.com](http://www.bn.com) and [www.amazon.com](http://www.amazon.com). One of the librarians who is working on trying to inter-loan this book said that her husband (who designs electronic circuitry) borrows a copy of it from a friend of his every now and then. This book retails for about \$95. If it was more reasonably priced I probably would have bought it. I remember working with Microprocessor boards in college in 1981 and 1982 (LEDs and Assembly language programming). I have not really used Assembly language programming since the 1980s. Does any new type of training device exist which covers more modern microprocessors and integrated circuits (such as Intel Pentium 4, Core Duo, and well as AMD Athlon)?

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## HP Forum Archive 17

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### **KEY command with 50g and 39g**

Message #1 Posted by [Eddie Shore](#) on 7 Mar 2007, 10:01 a.m.

Say if I want the calculator to display random numbers to no end until the user presses a key.

If I create a game where the user "stops" the calculator to win (cyber)bucks.

The amounts for example would be "\$500", "\$1,000", "\$2,500", "\$5,000", "\$0} to be displayed randomly for a second. When the user presses any key, the "wheel" is stopped and you get a message "You win \$x!".

Any help is much appreciated, Eddie

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## HP Forum Archive 17

[ [Return to Index](#) | [Top of Index](#) ]**HP-15C Mini-Challenge: Bits o'Pi**Message #1 Posted by [Valentin Albillo](#) on 7 Mar 2007, 9:12 a.m.

Hi, all:

A new month's just begun, the Spring is nearing, and before posting my traditional "*S&SMC 2007 Spring's Special*" next April, 1st, I'll submit for your consideration this petite & nifty

**HP-15C Mini-Challenge: Bits o' Pi**

(Well, not actually of Pi proper but it's *reciprocal*,  $1/\text{Pi} = .31830988618379\dots$ )

You're asked to write a program for the **HP-15C**, which must be *as short as possible*, take no input, and upon running *it must produce in order the bits of 1/Pi*, i.e.: the binary digits of 1/Pi when expressed in base 2.

**Notes:**

- As  $1/\text{Pi} = .31830988618379\dots = .010100010\dots$  in base 2, your program should work like this:
 

```
GSB A -> 0 -> 1 -> 0 -> 1 -> 0 -> 0 -> 0 -> 1 -> 0 -> ...
```
- The HP-15C being a 10-decimal digit calculator, your program is expected to produce *at least the first 30 correct bits of 1/Pi* (but the more the merrier of course, subject to minimum program size).
- Your program can assume any necessary display or angular modes are in effect (such as FIX 0 or radians mode, etc.) if required, no need to set them up in code. It must not assume any other requirements at all, such as specific registers' or stack's contents.

**Extra-Goals !**

As Bill has quickly succeeded in achieving the original goal with his 11-step, 31-bit solution (see his post below; congratulations, Bill !), I've added the three following additional goals, namely:

▪ **Goal 2:**

To improve upon Bill's solution to get *more than 31 bits* in 11-steps or less.

▪ **Goal 3:**

To get a solution in 11 steps or less and which can produce at least 30 correct bits, *without using the [Pi] function*.

▪ **Goal 4:**

To get a solution in 11 steps or less and which can produce at least 30 correct bits, *using neither the [Pi] function nor the [1/x] function*.

Well, give it a try. It may seem simple, even trivial, but let me assure you that there's more than meets the eye, and you'll be hard pressed to come up with the *shortest* possible HP-15C program to deliver what's asked.

If you don't have a physical HP-15C at hand, you can download Nonpareil for free, which provides a perfect HP-15 virtual replica, and you're of course welcome to use any other HP (or SHARP, say) model although in such case the shortest code will certainly vary a lot.

As always, within a few days I'll post my original solution (plus comments) which is an *11-step HP-15C-specific program* (including LBL A at the beginning but no RTN instruction at the end, as always) which meets the above requirements and correctly produces *the first 34 bits of 1/Pi*



**Note:**

For the sake of it, I'll also post a 27-character command-line expression for the HP-71B (i.e., slightly over 1/4th of a full-length line) which outputs even more correct bits; no ROMs required, just a bare-bones HP-71B. See if you can duplicate that as well ! :-).

Best regards from V.

*Edited: 7 Mar 2007, 1:17 p.m. after one or more responses were posted*

**Re: HP-15C Mini-Challenge: Bits o'Pi**

Message #2 Posted by [Bill \(Smithville, NJ\)](#) on 7 Mar 2007, 12:28 p.m.,  
in response to message #1 by Valentin Albillo

Hi Valentin,

Since I used the snow today as an excuse to skip work, I get a chance to try one of your wonderful HP-15C mini-challenges.

The following is an 11 line program for the HP-15C which is good to 31 digits.

```
LBL A
PI
1/X
LBL B
2
*
ENTER
INT
R/S
-
GTO B
```

Thanks again for an enjoyable challenge.

Bill

**Re: HP-15C Mini-Challenge: Bits o'Pi**

Message #3 Posted by [Valentin Albillo](#) on 7 Mar 2007, 1:01 p.m.,  
in response to message #2 by Bill (Smithville, NJ)

Hi, Bill:

Congratulations on your quick solution, which perfectly meets the mini-challenge requirements ! You're a winner ! :-)

Just to give you and the rest of interested people extra fun, I've added three new additional goals directly edited in my original post above which you might want to try :-)

Thanks again, I hope you'll get interested in the additional goals and

Best regards from V.

*Edited: 7 Mar 2007, 1:14 p.m.*

**Re: HP-15C Mini-Challenge: Bits o'Pi**

Message #4 Posted by [hugh steers](#) on 8 Mar 2007, 4:07 a.m.,  
in response to message #3 by Valentin Albillo

Nice one Bill!

i like bill's answer. in fact, if he's allowed to also assume FIX 0. can't his solution be presented in 10 steps as,

```
LBL A
2
PI
/
LBL B
R/S
FRAC
2
*
GOTO B
```

furthermore, by taking the  $2/\pi$  out, this form should be more accurate than his original (don't have my 15 here to test unfortunately). ??

### Re: HP-15C Mini-Challenge: Bits o'Pi

Message #5 Posted by **Bill (Smithville, NJ)** on 8 Mar 2007, 7:26 a.m.,  
in response to message #4 by hugh steers

Hi Hugh,

Quote:

\_\_\_\_\_  
Nice one Bill!

Thanks. I normally don't have the time to do Valentin's challenges justice.

Quote:

\_\_\_\_\_  
in fact, if he's allowed to also assume FIX 0

Unfortunately, the display is rounded up, so 1.55 displays as 2 and not binary digit 1. Likewise, 0.55 would display as 1 instead of 0.

Bill

### Re: HP-15C Mini-Challenge: Bits o'Pi

Message #6 Posted by **Bill (Smithville, NJ)** on 8 Mar 2007, 10:47 a.m.,  
in response to message #1 by Valentin Albillo

I've tried a couple of PC programs to calculate the binary sequence for  $1/\pi$  and have come up with the following for the first 50 bits:

```
Bits 1-10      0101000101
Bits 11-20     1111001100
Bits 21 - 30   0001101101
Bits 31 - 40   1100100111
Bits 41 - 50   0010001000
```

Could someone please verify that I have it correct?

Thanks,

Bill

### Re: HP-15C Mini-Challenge: Bits o'Pi

Message #7 Posted by **GE** on 8 Mar 2007, 12:23 p.m.,  
in response to message #6 by Bill (Smithville, NJ)

I see an interesting formula on <http://mathworld.wolfram.com/PiFormulas.html> :

$$1/\pi = \sum_{n=0,+\infty} \text{Comb}(2n,n)^3 \cdot (42n+5) / 2^{12n+4}$$

The point is that the denominator is a power of 2, thus a simple shift.

No idea on how to apply it on the 15C, however, as the conversion of the numerator  $[\text{Comb}(2n,n)^3 \cdot (42n+5)]$  into binary would be quite a feat IMHO.

### Re: HP-15C Mini-Challenge: Bits o'Pi

Message #8 Posted by **GE** on 20 Mar 2007, 5:14 a.m.,  
in response to message #7 by GE

No takers ? I typed that formula and it doesn't work well.

Actually the term in that sum actually diverges !!

Thinking that this is "An infinite sum due to Ramanujan" (formula number 74), I wonder if Ramanujan was wrong, which is possible, or if Wolfram typed it wrong.

An uneasy feeling in any case, first time I find an error on the Mathematica Web site.

**Re: HP-15C Mini-Challenge: Bits o'Pi**

Message #9 Posted by [Rodger Rosenbaum](#) on 20 Mar 2007, 6:07 a.m.,  
in response to message #8 by GE

I don't get the result that you do.

I find that the first 7 terms give 12 accurate digits of 1/PI.

They are: {.3125,.0057373,.000071615,9.5315E-7,1.31759E-8,1.86518E-10,2.6833E-12}

**Re: HP-15C Mini-Challenge: Bits o'Pi**

Message #10 Posted by [Valentin Albillo](#) on 20 Mar 2007, 7:15 a.m.,  
in response to message #8 by GE

Hi, GE:

GE posted:

*"I typed that formula and it doesn't work well."*

You don't work well ! :- ) Try this straightforward HP-71B implementation:

```
10 DEF FNC(M,N)=FACT(M)/FACT(N)/FACT(M-N)

20 DESTROY ALL @ S=0 @ FOR N=0 TO 10 @ S=S+FNC(2*N,N)^3*(42*N+5)/2^(12*N+4)
30 NEXT N @ DISP S,1/S

>RUN

.318309886185      3.14159265358
```

You should really double-check your work before publicly labeling other people's as wrong :-)

Best regards from V.

**Re: HP-15C Mini-Challenge: Bits o'Pi**

Message #11 Posted by [GE](#) on 21 Mar 2007, 9:27 a.m.,  
in response to message #10 by Valentin Albillo

Sorry for some unwarranted criticism, I looked again at the convergence of terms and searched for the limit of the term for  $n \rightarrow \infty$ . After more research I found it to be equivalent to  $2^{(-6n)}$  which DOESN'T diverge...

So you're right this series has a limit.

I'll try to program this in BASIC.

**Re: HP-15C Mini-Challenge: Bits o'Pi**

Message #12 Posted by [Valentin Albillo](#) on 8 Mar 2007, 8:37 p.m.,  
in response to message #6 by Bill (Smithville, NJ)

Hi, Bill:

Your 50 bits are correct and there you are, 50 more:

```
1-10   0101000101
11-20  1111001100
21-30  0001101101
31-40  1100100111
41-50  0010001000

51-60  0010101001
61-70  0100111111
71-80  1000010011
81-90  1010101111
91-100 1010001111
```

These were produced by my program running in a multiprecision environment. The 11-step HP-15C version can produce the first 34 bits (*in bold face above*) correctly.

Best regards from V.

### Re: HP-15C Mini-Challenge: Bits o'Pi

Message #13 Posted by **Karl Schneider** on 9 Mar 2007, 12:30 a.m.,  
in response to message #12 by Valentin Albillo

One way to get the 11th and 12th significant digits of pi from an HP-15C (or HP-41, HP-10C, HP-11C, or Spice-series scientific) is to take the sine of pi radians. The second digit is rounded to 9.

Now, how to incorporate that without adding steps is not clear to me, so there might be another way.

-- KS

### Re: HP-15C Mini-Challenge: Bits o'Pi

Message #14 Posted by **Bill (Smithville, NJ)** on 8 Mar 2007, 11:45 a.m.,  
in response to message #1 by Valentin Albillo

Hi Valentin,

For Goal 2 & 3, I have a 12 step solution that gives 33 bits without use of PI.

RAD MODE

```
LBL A
1
ASIN
1/X
LBL B
ENTER
INT
R/S
-
2
*
GTO B
```

Now how do I get rid of that 12th step :)

And how do I do it without 1/X.

Something to mull over during lunch hour.

Bill

### Re: HP-15C Mini-Challenge: Bits o'Pi

Message #15 Posted by **Gerson W. Barbosa** on 9 Mar 2007, 7:42 a.m.,  
in response to message #14 by Bill (Smithville, NJ)

Hi Bill,

Congratulations for you nice routines!

Quote:

Now how do I get rid of that 12th step :)

I wish I knew! Anyway, another 12-step solution, in case it might be helpful:

RAD MODE

```
LBL A
CLEAR SIGMA
ACOS
1/x
LBL 0
STO+ 2
RCL 2
INT
R/S
STO- 2
```

RCL 2  
GTO 0

Regards,

Gerson.

### Re: HP-15C Mini-Challenge: Bits o'Pi

Message #16 Posted by [Les Wright](#) on 9 Mar 2007, 8:09 a.m.,  
in response to message #14 by Bill (Smithville, NJ)

Quote:

Now how do I get rid of that 12th step :)

Isn't that the most important one of all, the spiritual awakening and passing on the message to others?

### Re: HP-15C Mini-Challenge: Bits o'Pi

Message #17 Posted by [Valentin Albillo](#) on 9 Mar 2007, 8:40 a.m.,  
in response to message #16 by Les Wright

Les wrote:

*"Isn't that the most important one of all, the spiritual awakening and passing on the message to others?"*

Now, Les, you should go see a psychiatrist (preferably one who has taken time away from full-time practice to study music) :-)

Best regards from V.

### Re: HP-15C Mini-Challenge: Bits o'Pi

Message #18 Posted by [Karl Schneider](#) on 10 Mar 2007, 7:31 p.m.,  
in response to message #1 by Valentin Albillo

There are quite a number of ways to calculate pi or its inverse without using the "pi" or "1/x" functions. Some of these can even utilize the complex-number mode, such as

```
(flag 8 clear)
```

```
2
ENTER
Re<->Im
COS-1
CF 8
*
```

gives pi in any angular mode.

Since not to use those functions would add steps, obtaining solutions to the additional goals would lengthen the programs. If there is a super-simple way to calculate the specific digits of a number, I don't know what it is.

Instead, I will utilize some of the HP-15C's built-in programming that can minimize the total amount of code for three of the objectives. The driver program in each is less than 11 steps, not counting the modified "Bill" program that is run as a subroutine labeled in his honor as "B". :-)

```
(in radians mode)
```

```
LBL B
2
*
ENTER
INT
R/S
-
x=0?
RTN
GTO B
```

| Goal 1                             | Goal 2               | Goal 3  | Goal 4  |
|------------------------------------|----------------------|---|---|
| LBL A<br>PI<br>1/x<br>GSB B<br>RTN | LBL C<br>????<br>RTN | LBL D<br>1<br>CHS<br>COS <sup>-1</sup><br>1/x<br>GSB B<br>RTN | LBL E<br>1<br>CHS<br>ENTER<br>COS <sup>-1</sup><br>x<>y<br>y <sup>x</sup><br>GSB B<br>RTN |

Granted, these may not be admissible solutions, but do show some thought...

*Edited: 10 Mar 2007, 7:55 p.m.*

## Re: HP-15C Mini-Challenge: Bits o'Pi

Message #19 Posted by [Gerson W. Barbosa](#) on 10 Mar 2007, 8:49 p.m.,  
in response to message #18 by Karl Schneider

Hello, Karl!

Quote:

There are quite a number of ways to calculate pi or its inverse without using the "pi" or "1/x" functions.

```

.          .          1
5          5          8
x!        CHS        0
x^2       x!        ->RAD
4
*         x^2

```

Also give pi, regardless of the angular mode and flag settings. With so many extra steps, none of these is likely to be part of Valentin's solution though.

Best regards,

Gerson.

*Edited: 11 Mar 2007, 9:37 p.m.*

## Re: HP-15C Mini-Challenge: Bits o'Pi

Message #20 Posted by [Bill \(Smithville, NJ\)](#) on 10 Mar 2007, 11:28 p.m.,  
in response to message #18 by Karl Schneider

Hi Karl,

Quote:

not counting the modified "Bill" program that is run as a subroutine labeled in his honor as "B". :-)

Thank you. I am honored :)

I've come up with a 13 step program that meets Goal 4 and is good to 33 bits:

```

RAD MODE

LBL A
CLEAR SIGMA
ACOS
SIGMA+
RCL / 3
LBL B
ENTER
INT
R/S
-
2
*
GTO B

```

Still too many steps. I just can't see how to reduce them.

Bill

### Re: HP-15C Mini-Challenge: Bits o'Pi

Message #21 Posted by [Arnaud Amiel](#) on 11 Mar 2007, 4:27 a.m.,  
in response to message #1 by Valentin Albillo

I am a bit late on this one and would not like to look stupid but I have absolutely no idea as to how to get the bits of a non integer. Any pointer as to how these are defined would be welcome.

Arnaud

### Re: HP-15C Mini-Challenge: Bits o'Pi

Message #22 Posted by [Egan Ford](#) on 11 Mar 2007, 10:19 a.m.,  
in response to message #21 by Arnaud Amiel

Quote:

I am a bit late on this one and would not like to look stupid but I have absolutely no idea as to how to get the bits of a non integer. Any pointer as to how these are defined would be welcome.

<http://mathforum.org/library/drmath/view/55744.html>

### Re: HP-15C Mini-Challenge: Bits o'Pi

Message #23 Posted by [Gerson W. Barbosa](#) on 11 Mar 2007, 12:02 p.m.,  
in response to message #22 by Egan Ford

Quote:

<http://mathforum.org/library/drmath/view/55744.html>

Very good link, thanks!

A straightforward implementation of the algorithm therein yields yet another 11-step solution for the first 31 bits:

```
LBL A
pi
1/x
LBL 0
ENTER
+
INT
R/S
LSTx
FRAC
GTO 0
```

Regards,

Gerson.

### Re: HP-15C Mini-Challenge: Bits o'Pi

Message #24 Posted by [Bill \(Smithville, NJ\)](#) on 11 Mar 2007, 12:58 p.m.,  
in response to message #22 by Egan Ford

Here's another good link:

[Converting Decimal Fractions to Binary](#)

Bill

### Re: HP-15C Mini-Challenge: Bits o'Pi

Message #25 Posted by [Gerson W. Barbosa](#) on 11 Mar 2007, 6:27 p.m.,

*in response to message #1 by Valentin Albillo*

Hello Valentin,

Quote:

I'll also post a *27-character command-line expression* for the HP-71B

This is not so short as yours, but works:

```
X=1/PI@KEY"A", 'X=2*X@DISPMOD(IP(X),2)':
```

After pressing ENDLINE each successive press of the "A" key on the user keyboard (f USER), will display the following correct bits, one at a time:

```
0101000101111110011000001101101110010011
```

39 bits, the same length of the command-line expression! Wouldn't it be better just hard-coding the bit string? :-)

Best regards,

Gerson.

*Edited: 11 Mar 2007, 6:28 p.m.*

### Re: HP-15C Mini-Challenge: Bits o'Pi

Message #26 Posted by [Valentin Albillo](#) on 11 Mar 2007, 7:00 p.m.,  
in response to message #25 by Gerson W. Barbosa

Hi, Gerson:

Gerson posted:

*"39 bits, the same length of the command-line expression! Wouldn't it be better just hard-coding the bit string? :-)"*

Possibly, but the 27-character solution is shorter than the equivalent string formed by the concatenation of the "0"s and "1"s it outputs.

BTW, the 27-char HP-71B version, being just my HP-15C's 11-step RPN program translated to HP-71B's BASIC native language, it also lacks both division ("1/X") and PI. It includes a conditional, though :-)

Thanks for your interesting idea, see if the above gives you any usable hints and

Best regards from V.

### Re: HP-15C Mini-Challenge: Bits o'Pi

Message #27 Posted by [Gerson W. Barbosa](#) on 11 Mar 2007, 8:43 p.m.,  
in response to message #26 by Valentin Albillo

Hello again Valentin,

Quote:

the 27-character solution is shorter than the equivalent string formed by the concatenation of the "0"s and "1"s it outputs.

When I talked about hard-coding the binary string I was referring to my *lengthy* solution.

Quote:

Thanks for your interesting idea

Actually, rather than an idea that was the result of an experimentation. I took 1/pi and observed what happened to the integer part each time it was doubled. It was easy to notice that when the integer part was odd then the corresponding binary digit was



"1"; when it was even the binary digit was "0":

```
0.318309886 * 2 -> 0.636619772 -> 0
                -> 1.273239544 -> 1
                -> 2.546479088 -> 0
                -> 5.092958176 -> 1
                -> 10.18591635 -> 0
                -> 20.37183270 -> 0
                -> 40.74366540 -> 0
                -> 81.48733080 -> 1
```

and so on...

Hence,

0.318309886 (base 10) = 0.01010001 (base 2).

So, the first  $m$  binary digits of a fractional base 10 number  $n$  can be obtained with this simple algorithm:

```
k := 0;
repeat
  k := k + 1;
  n := n * 2;
  dk := mod(int(n),2)
until k = m
```

Unfortunately, it may not be so efficient on the HP-15C, due to the lack of MOD function. I don't think an 11-step solution is possible even on the HP-33S, which has the RMDR function. Anyway, it appears to be simpler than other algorithms. Of course, this has yet to be proven, but I'll leave that as an exercise for the interested reader :-)

Best regards,

Gerson.

P.S.:

I've just tested the algorithm on Turbo Pascal 3 (does anyone still remember it? :-)

Here is the result:

```
program dec2bin;
var k,m: integer;
    n: real;
begin
  k:=0;
  m:=16;
  n:=0.3183098861;
  ClrScr;
  WriteLn(n:11:10);
  WriteLn;
  repeat
    k:=k+1;
    n:=n*2;
    Write(trunc(n) mod 2:1)
  until k=m
end.
```

-----  
0.3183098861

0101000101111100

-----  
*Edited: 11 Mar 2007, 9:46 p.m.*

## Re: HP-15C Mini-Challenge: Bits o'Pi

Message #28 Posted by **Bill (Smithville, NJ)** on 12 Mar 2007, 7:14 a.m.,  
in response to message #27 by Gerson W. Barbosa

Hi Gerson,

Quote:

\_\_\_\_\_

I've just tested the algorithm on Turbo Pascal 3 (does anyone still remember it? :-)

Sure do - I still use it on a regular basis and is one of the programs I keep on a USB flash drive along with several other useful utilities. I used Turbo Pascal 6 with Extended Real to calculate the first 50 bits of this challenge.

But Turbo Pascal 3 is my favorite for developing quick and dirty one-off type programs. Also use it a lot to create quick data filtering programs. Glad to see someone else still uses it.

Bill

### Re: HP-15C Mini-Challenge: Bits o'Pi

Message #29 Posted by [Valentin Albillo](#) on 12 Mar 2007, 8:27 a.m.,  
in response to message #28 by Bill (Smithville, NJ)

Hi, Bill & Gerson:

I also do, and exactly for the very same reasons: it's about the smallest, simplest way of quickly developing and running a "console" executable anywhere, with no installation and minimum size, in any Windows system. It's ideal for small utilities to do the kind of tasks you would do with awk in Unix systems, for instance.

The one and only problem is it doesn't deal with long filenames, which is kind of a nuisance. But apart from that, it's really useful, capable and fast.

I usually begin all such created routines by first checking paramcount and, if no parameters are supplied, I immediately print its description and the correct syntax to call the routine. I also allow for input and output piping to enhance the usefulness if the routine is to be used more than once, thus allowing the routine to work like a filter. For instance:

```
C:>trimfile

          SYNTAX: trimfile <ascii file to trim> <# of columns>

C:\trimfile somedata.log 40 > trimdata.log

          Ok, done.
```

Best regards from V.

### Re: HP-15C Mini-Challenge: Bits o'Pi

Message #30 Posted by [Gerson W. Barbosa](#) on 12 Mar 2007, 8:48 a.m.,  
in response to message #28 by Bill (Smithville, NJ)

7718.07734 (\*)

Quote:

Glad to see someone else still uses it.

Pascal was practically the first programming language I was introduced to in 1984, in the DEC-10 environment. Unfortunately, I don't use it so often as I should (I had to check the MOD syntax in the book). Unlike many here, my job is not related to information technology. But it's nice remembering things and learning from you and many other people here.

Best regards,

Gerson.

(\*) You won't have trouble decyphering this one too :-)

*Edited: 12 Mar 2007, 9:04 a.m.*

**Re: HP-15C Mini-Challenge: Bits o'Pi**

Message #31 Posted by **Bill (Smithville, NJ)** on 13 Mar 2007, 7:41 a.m.,  
in response to message #30 by Gerson W. Barbosa

Hi Gerson,

Quote:

7718.07734 (\*)

(\*) You won't have trouble decyphering this one too :-)

Took me a second or two and then it hit me :)

Also broght back a lot of memories. Years ago, several of my co-workers and I wasted a whole afternoon. Someone had brought in a small book - may have been called "Fun with your Calculator" or "Calculator Fun" - something like that. It had a whole bunch of joke type problems where you'd do the calculations in the joke and then turn the calculator over to read the punch line in the display.

Great fun.

Bill

**Re: HP-15C Mini-Challenge: Bits o'Pi**

Message #32 Posted by **Egan Ford** on 12 Mar 2007, 10:05 p.m.,  
in response to message #1 by Valentin Albillo

Here is my 12 step solution for all goals:

```

1 LSTx
2 FRAC
3 ENTER
4 +
5 INT
6 RTN
7 LBL A
8 1
9 ENTER
10 ASIN
11 /
12 INT

```

Just need to lose a step.

**Re: HP-15C Mini-Challenge: Bits o'Pi**

Message #33 Posted by **Valentin Albillo** on 13 Mar 2007, 8:02 a.m.,  
in response to message #32 by Egan Ford

Hi, Egan:

Congratulations for your extremely ingenious near-solution ! The idea of placing the entry point (LBL A) mid-program is really neat, and works perfectly, up to 33 correct bits, while meeting all four goals save for the fact that it's 12 steps long, not 11 as requested.

That's where the real challenge is, of course ! :-) Some comments, which might perhaps give some usable hints (or not):

- *None* of the solutions or near-solutions already posted have stumbled upon my original challenge-solving algorithm.
- Your solution in particular isn't HP-15C-specific (it could perfectly run on other models), while the challenge-solving solution actually *is*. That's no fault of your solution, I just want to point out the fact that making use of HP-15C-specific functionalities might help decrease the number of steps.
- It may come as a surprise but not only does my challenge-solving solution make no use of either [Pi] or [1/X] instructions, as stated in goals 3 and 4, but also uses none of the *ersatz* methods to get Pi already posted, such as ASIN, GAMMA, or even DEG-RAD conversions ! Come to that, no division instructions of any kind are present at all either.

Thanks again for your excellent idea and

Best regards from V.

### Ersatz pi? [HP-15C Mini-Challenge: Bits o'Pi]

Message #34 Posted by [Karl Schneider](#) on 14 Mar 2007, 1:24 a.m.,  
in response to message #33 by [Valentin Albillo](#)

Quote:

...but also uses none of the *ersatz* methods to get Pi already posted, such as ASIN, GAMMA, or even DEG-RAD conversions...

"Ersatz"? Hey, what about ACOS? :-)

They all give answers identical to that of the pi function, although the tenth decimal digit is incorrect in all cases. Of course, it's 1/pi that matters.

Here's one that requires only the input value 1/2 and the square root function:

$$1/\pi = 0.5 * \text{sqrt}(0.5) * \text{sqrt}(0.5 + 0.5*\text{sqrt}(0.5)) * \text{sqrt}[0.5 + 0.5*\text{sqrt}(0.5 + 0.5*\text{sqrt}(0.5))] * \dots$$

But, I doubt that this is on the right track...

-- KS

### The last hint (was Re: Ersatz pi? [...])

Message #35 Posted by [Valentin Albillo](#) on 14 Mar 2007, 10:34 a.m.,  
in response to message #34 by [Karl Schneider](#)

Hi, Karl:

Karl posted:

"Ersatz"? Hey, what about ACOS? :-)"

ASIN, ACOS, ATAN, ..., none of them is relevant in this case.

The heart of the matter is (and this is the last 'hint' I'll give before finally posting my original solution), that most people trying this mini-challenge out *automatically assume* that they must *first* generate the decimal value of 1/Pi in order to *then, and only then*, proceed to convert it to its binary form and output its bits, and of course, in the case of Goals 3 and 4, they do their best to try and generate 1/Pi using as few steps as possible and do likewise with the conversion loop, only to discover that they can't lower the step count to the 11-step requisite.

The key is: *there's no need to generate a decimal version of 1/Pi first*, a way must be sought to actually generate its binary form *directly*, without ever having a decimal Pi or 1/Pi to work with in the first place.

Once you realize this you discover you can save all steps to get Pi or 1/Pi and this is what ultimately allows you to achieve the 11-step goals, with the nice side effect of getting 34 correct bits in the bargain.

*Here's one that requires only the input value 1/2 and the square root function: [...] But, I doubt that this is on the right track..."*

Pretty, indeed; it's the well-known, old Vieta formula. And if "*on the right track*" means re this mini-challenge, certainly it's got nothing to do whatsoever. :-)

I hope the above 'last hint' sheds some really new light on the subject, and I'll await a couple of days to see if interested people like yourself take it for good and produce the ultimate solution. :-)

Thanks a lot for your comments and always interesting postings in each and every thread you post in.

Best regards from V.

**Re: The last hint (was Re: Ersatz pi? [...])**

Message #36 Posted by **Egan Ford** on 14 Mar 2007, 12:33 p.m.,  
in response to message #35 by Valentin Albillo

Quote:

The key is: *there's no need to generate a decimal version of 1/Pi first*, a way must be sought to actually generate its binary form *directly*, without ever having a decimal Pi or 1/Pi to work with in the first place.

This had occurred to me and I am able to generate the same sequence of bits, but it is not close to 11 lines.

**Post it, nevertheless ...**

Message #37 Posted by **Valentin Albillo** on 14 Mar 2007, 1:07 p.m.,  
in response to message #36 by Egan Ford

It will be interesting and perhaps someone can improve upon it after being aware of your basic idea. That's synergy !

Best regards from V.

**Re: Post it, nevertheless ...**

Message #38 Posted by **Egan Ford** on 14 Mar 2007, 1:19 p.m.,  
in response to message #37 by Valentin Albillo

IANS convert this number:

3984801418

to base 2 starting with least significant. The challenge is getting 3984801418. That number alone is 10 steps.

I dumped the code shortly after writing it.

**Re: HP-15C MC Bits o'Pi - My Original Solution & Comments**

Message #39 Posted by **Valentin Albillo** on 16 Mar 2007, 7:15 a.m.,  
in response to message #1 by Valentin Albillo

Hi, all

Thanks for your interest in this HP-15C Mini-Challenge to both posters & lurkers, we've seen a very good early solution to the initial goal by **Bill (Smithville, NJ)** and some truly ingenious attempts to try and achieve the remaining three goals, which came pretty close to solve them all but for a single step, as well as worthy food-for-thought comments by **Gerson** and **Karl**.

As I told in a number of 'hints', the key lies in *avoiding* the seemingly obvious strategy of first computing the *decimal* value of **1/Pi** in order to then convert it to binary. This leads to very good solutions but not in 11 steps, there's simply not margin enough for that.

What must be done then is to use some algorithm that can compute the binary bits of *1/Pi directly*, without ever needing its decimal form in the first place. Such a convenient algorithm does exist and, most awesomely, Pi never explicitly appears at any stage but, implicitly, at the final output.

My original 11-step solution for all 4 goals is thus the following HP-15C-specific routine:

```
01  LBL A
02  MATRIX 1
03  LBL 0
04  RCL 0
05  STO+ 0
06  TAN
07  0
08  TEST 7 (X>Y?)
09  1
10  PSE (or R/S)
11  GTO 0
```

which, upon running, produces the *first 34 correct bits* of 1/Pi:

```
RAD, FIX 0 { set radians and FIX 0 display mode }
```

```

GSB A -> 0 1 0 1 0 0 0 1 0 1
         1 1 1 1 0 0 1 1 0 0
         0 0 0 1 1 0 1 1 0 1
         1 1 0 0

```

Notice that it doesn't explicitly use Pi and inverse trigonometric functions are also notably absent. The maximum precision obtainable depends on both the HP-15C being a 10-decimal digit calculator (13-digit internally) and the maximum accuracy of the TAN function for large arguments, but it suffices to correctly compute up to 34 base-2 digits which is roughly equivalent to 10 base-10 digits, as expected. Also, the only thing that makes it HP-15C-specific is the **MATRIX 1** instruction, so by replacing it by **1, STO 0** you'll have a 12-step solution for many RPN models.

This RPN routine can be trivially converted to a 27-character command line for the HP-71B, namely (in RADIANS and STD modes):

```
FORI=0TO40@TAN(2^I)<0@NEXTI
```

which upon running produces the first 41 correct bits of 1/Pi.

Can the RPN routine be improved further ? Yes ! By using the *mid-program entry point* technique posted by **Egan Ford** with my algorithm, *two additional steps can be saved* while keeping the algorithm and maximum achievable number of correct bits intact, thus resulting in an ultimate *9-step, 34-correct-bit RPN solution* for the HP-15C (10-step for many other RPN models) ! How's that for maximum results with a minimum of steps ? :-)

```

01 RCL 0
02 ST0+ 0
03 TAN
04 0
05 TEST 7
06 1
07 RTN
08 LBL A
09 MATRIX 1

```

The output sequence is now (after RAD, FIX 0, as always):

```

GSB A, R/S -> 0
        R/S -> 1
        R/S -> 0
        . . .

```

the only difference being the additional R/S necessary after GSB A to output the first bit.

Next April, 1st I'll post my **S&SMC Spring 2007 Special**, I hope to 'see' you there (if you think this Mini-Challenge is pretty unusual math, wait till you see the S&SMC ! :-) ).

Thanks for your continued interest and

Best regards from V.

*Edited for minor grammatical corrections*

*Edited: 16 Mar 2007, 10:01 a.m.*

## Re: HP-15C MC Bits o'Pi - My Original Solution & Comments

Message #40 Posted by **Gerson W. Barbosa** on 16 Mar 2007, 3:33 p.m.,  
in response to message #39 by Valentin Albillo

Hi Valentin,

Very nice original solution, as always. Thanks for taking the time to think of interesting problems and presenting them here. It's nice to see what team work, or synergy, can do: the resulting 9-step program is just amazing!

Now, a small variation in your challenge: imagine someone has asked for a binary expansion of, say, **Plouffe's b-constant**, and it has to be achieved in only 9 steps on an HP-15C. Impossible? Not at all! Just replace TAN with COS in Albillo-Ford's wonderful routine. At least the first 36 bits appears to be correct!

Now, what is **Plouffe's b-constant** anyway? I don't know, but thanks to your original solution, I can compute it on the HP-71B :-)

```

10 S=0
20 FOR I = 0 TO 40
30 IF COS(2^I)<0 THEN S=S+1/2^(I+1)
40 NEXT I
50 DISP S

```

This gives

.475626076737

The first 11 decimal digits are correct. Of course, there's a slight chance this is just a coincidence... Could someone compute 50 or more bits? On QBASIC I can compute only 32 bits (a little more on the HP-71B) :

```
'Binary expansion of Plouffe's b-constant
CLS
DEFDBL A-Z
S = 0
FOR I = 0 TO 31
  PRINT ABS((COS(2 ^ I)) < 0);
  IF COS(2 ^ I) < 0 THEN S = S + 1 / 2 ^ (I + 1)
NEXT I
PRINT
PRINT S
```

0 1 1 1 1 0 0 1 1 1 0 0 0 0 1 0 1 0 1 0 0 0 0 1 0 1 1 0 1 1 0 0

Best regards,

Gerson.

P. S.: Replacing TAN with SIN gives  $1/(2 * \pi)$ , also interesting.

*Edited: 16 Mar 2007, 3:43 p.m.*

### Re: HP-15C MC Bits o'Pi - My Original Solution & Comments

Message #41 Posted by [Valentin Albillo](#) on 16 Mar 2007, 6:48 p.m.,  
in response to message #40 by Gerson W. Barbosa

Hi, Gerson:

Thanks for your interest & kind comments, much appreciated.

Gerson posted:

*"Now, what is Plouffe's b-constant anyway? I don't know"*

Well, it is the XOR (Exclusive-OR) of the binary expansions of  $1/\pi$  and  $1/(2*\pi)$ , i.e:

$$\text{Plouffe's b-constant} = .475626\dots = 1/\pi (+) 1/(2*\pi)$$

where the (+) denotes a XOR operation applied to their binary expansions. As you correctly pointed out, it can be computed with the 11- or 9-step solutions by merely changing the TAN to COS.

By the way, these direct binary expansions aren't uncommon, every function which satisfies some addition formula has an inverse amenable to this treatment.

Best regards from V.

### Re: HP-15C MC Bits o'Pi - My Original Solution & Comments

Message #42 Posted by [Rodger Rosenbaum](#) on 17 Mar 2007, 1:21 a.m.,  
in response to message #40 by Gerson W. Barbosa

Quote:

P. S.: Replacing TAN with SIN gives  $1/(2 * \pi)$ , also interesting.

Notice that the algorithm extracts the period of the function used (its reciprocal, actually).

A short program to do this on the HP50 is shown below. I have created a list of powers of 2 and saved it in a variable so I can play around from the keyboard. Create it like this:

2 {0, 1, 2, 3, ..., 37, 38} ^ 'pow2' sto

To carry out the algorithm, I then created the following little program:

```
{ 1, 2, 4, 8, ... , 274877906944 } TAN 0 <
```

or,

```
pow2 TAN 0 <
```

This will return a list of the binary digits of  $1/\pi$

If you set the calculator to degrees mode and run the program again, you will get the binary digits of  $1/180$ .

Now, show how to use this technique to compute the base 3 representation of  $1/\pi$ .

On the HP50 I get 26 accurate trits.

For a hint, notice that this program:

```
{ 1, 2, 4, 8, ... , 274877906944 } TAN ATAN 0 <
```

gives the same result as:

```
{ 1, 2, 4, 8, ... , 274877906944 } TAN 0 <
```

*Edited: 17 Mar 2007, 4:28 a.m.*

### Re: HP-15C MC Bits o'Pi - My Original Solution & Comments

Message #43 Posted by [Gerson W. Barbosa](#) on 17 Mar 2007, 12:24 p.m.,  
in response to message #42 by Rodger Rosenbaum

Quote:

Now, show how to use this technique to compute the base 3 representation of  $1/\pi$ .

Assuming 26 is on the stack, the following returns

```
{ 0. 2. 2. 1. 2. 1. 0. 0. 1. 0. 2. 1. 2. 2. 0. 2. 2. 1. 2. 0. 2. 1. 1. 1. 0. 1. }
```

```
< -> n
  < 3. 1. n
    FOR n n 1. -
      NEXT n ->LIST ^
TAN ATAN DUP ABS 1. >
SWAP DUP 0. < SWAP
-1. > AND 2. * 2.
  < +
  > DOLIST
>
```

Is there an easier way I missed?

Thanks for the interesting post.

Regards,

Gerson.

### Re: HP-15C MC Bits o'Pi - My Original Solution & Comments

Message #44 Posted by [Rodger Rosenbaum](#) on 17 Mar 2007, 6:46 p.m.,  
in response to message #43 by Gerson W. Barbosa

Your program does indeed return the correct ternary representation of  $1/\pi$ , but I think it may be because of fortuitous circumstances.

The program I gave for finding the binary result:

```
{ 1, 2, 4, 8, ... , 274877906944 } TAN 0 <
```



also gives the correct result if the calculator is in degrees mode (1/180), or grads mode (1/200).

Do you know why your program doesn't give the correct result for the other two modes?

Can you modify it so it works properly for all modes?

**Re: HP-15C MC Bits o'Pi - My Original Solution & Comments**

Message #45 Posted by **Gerson W. Barbosa** on 17 Mar 2007, 10:33 p.m.,  
in response to message #44 by Rodger Rosenbaum

Quote:

Can you modify it so it works properly for all modes?

Certainly, but don't expect for an elegant solution:

```
< 100. SIN ASIN 100.
+ DUP 100. <
< DUP
> pi IFTE / -> n k      ; pi = 3.14159...
< 3. 1. n
  FOR n n 1. -
  NEXT n ->LIST ^
TAN ATAN k / DUP ABS
1. > SWAP DUP 0. <
SWAP -1. > AND 2. *
2.
  < +
  > DOLIST
>
```

Using pi explicitly in the fourth line spoils a bit the fun though.

Very *fortuitously* the program computes correctly the first 32 digits of 1/180 when in degrees mode:-)

{ 0. 0. 0. 0. 1. 1. 0. 0. 1. 1. 0. 0. 1. 1. 0. 0. 1. 1. 0. 0. 1. 1. 0. 0. 1. 1. 0. 0. 1. 1. 0. 0. 1. 1. 0. 1. 1. 0. 1. }

And the first 28 digits of 1/200 when in grads mode:

{ 0. 0. 0. 0. 1. 0. 1. 2. 2. 1. 0. 2. 0. 1. 2. 1. 1. 2. 1. 1. 0. 0. 0. 0. 1. 0. 1. 2. }

And, of course, the first 26 digits of 1/pi when in radians mode:

{ 0. 2. 2. 1. 2. 1. 0. 0. 1. 0. 2. 1. 2. 2. 0. 2. 2. 1. 2. 0. 2. 1. 1. 1. 0. 1. }

The program will give always the base-three digits of 1/π, regardless of the angle mode, if the eighth line is replaced with this one:

```
k * TAN ATAN k / DUP ABS
```

Regards,

Gerson.

P.S.: cygwin and bc have been very useful when checking the results. Thanks again, Egan! :-)

**Re: HP-15C MC Bits o'Pi - My Original Solution & Comments**

Message #46 Posted by **Gerson W. Barbosa** on 19 Mar 2007, 1:32 p.m.,  
in response to message #45 by Gerson W. Barbosa

Quote:

the program computes correctly the first 32 digits of 1/180 when in degrees mode

Actually, the first 31 digits.

Fixed version:

```
%HP: T(3)A(D)F(.);
```

```
\<< 100 SIN ASIN 100 + DUP 100 <
\<< DUP
\>> \pi IFTE / \pi 3 / \-> n k k1
\<< 3 1 n
FOR n n 1 -
NEXT n \->LIST ^ TAN ATAN k / DUP ABS k1 > SWAP DUP 0 < SWAP k1 NEG > AND 2 * 2
\<< +
\>> DOLIST
\>>
\>>
```

This fixed version shouldn't fail for n=115, 138, etc. as pointed by Rodger Rosenbaum.

*Edited: 19 Mar 2007, 7:14 p.m.*

**Re: HP-15C MC Bits o'Pi - My Original Solution & Comments**

Message #47 Posted by [Gerson W. Barbosa](#) on 18 Mar 2007, 8:53 a.m.,

in response to message #44 by Rodger Rosenbaum

Quote:

Do you know why your program doesn't give the correct result for the other two modes?

No, I don't. Actually, I don't know why the program works in radians mode either... :-)

It took me about twenty minutes to come up with the first version of the program. I just computed atan(tan(x)) in radians mode for the first seven integer powers of three, as you had suggested. My first criterion was placing the results in three regions, according to the table below, which gave four correct digits. By dividing the table into six regions instead of three I obtained six correct digits (the sixth digit was wrong). This would lead to nowhere though. Then, a closer look to the numbers revealed a working criterion. I expanded the table to ten digits. Since the additional digits met the new criterion, I assumed the sixteen remaining possible correct digits on the HP-50G would meet the criterion as well.

When I lack the math background to solve an unusual problem, I try some unorthodox methods. Sometimes they work, but most of times they don't... By the way, I had tried sin(x) and cos(x) for x=1, 2, 4... on Valentin's original problem. I didn't try tan(x) because of the large results I would get. Anyway, I wouldn't think of the MATRIX 1 trick, even though it shows on the back of the calculator :-)

```

x: 1 3 9 27 81 243 729
pi/2 0 | * | | | | | | * | |
pi/6 2 | | | * | * | | | | * | |
-pi/6 1 | | | | | * | * | | | |
-pi/2 -+-----+-----+-----+-----+-----+-----+-----+
base-3 digits: 0 2 2 1 *1 *0 *2 (*) wrong digits

y=atan(tan(x)): 1 -0 -0 -1 -0 1 0
                . . . . .
                0 1 4 2 6 1 1
                0 4 2 7 8 0 5

abs(y) > 1 => 1 1
-1 < y < 0 => 2 2
0 > y =< 1 => 0 0
-----
base-3 digits: 0 2 2 1 2 1 0 all of them correct!
```

I'm looking forward to your orthodox solution.

Best regards,

Gerson

P. S.: Here is the second version of the program, in a more usable form:

```
%HP: T(3)A(D)F(.);
\<< 100 SIN ASIN 100 + DUP 100 <
\<< DUP
\>> \pi IFTE / \-> n k
\<< 3 1 n
```

```

FOR n n 1 -
NEXT n \->LIST ^ TAN ATAN k / DUP ABS 1 > SWAP DUP 0 < SWAP -1 > AND 2 * 2
\<< +
\>> DOLIST
\>>
\>>

```

Edited: 18 Mar 2007, 4:52 p.m.

## What about base 4?

Message #48 Posted by [Gerson W. Barbosa](#) on 18 Mar 2007, 8:51 p.m.,  
in response to message #44 by [Rodger Rosenbaum](#)

The program below returns the digits of 1/pi, 1/180 and 1/200 in base 4, depending on the angle mode (20, 22 and 21 correct digits, respectively):

```

%%HP: T(3)A(G)F(.);
\<< 100 SIN ASIN 100 + DUP 100 <
\<< DUP
\>> \pi IFTE / \pi 4 / \-> n k k1
\<< 4 1 n
FOR n n 1 -
NEXT n \->LIST ^ TAN ATAN k / DUP k1 > SWAP DUP 0 < SWAP k1 NEG < SWAP OVER XOR 3 * SWAP 2
* 3
\<< + +
\>> DOLIST
\>>
\>>

```

1/pi: { 1. 1. 0. 1. 1. 3. 3. 0. 3. 0. 0. 1. 2. 3. 1. 3. 0. 2. 1. 3. }

Regards,

Gerson.

```

-----
]pi/2..pi/4[ -> 1
]pi/4..0[ -> 0
]-pi/4..0[ -> 3
]-pi/2..-pi/4[ -> 2

```

Edited: 19 Mar 2007, 7:41 p.m.

## Re: HP-15C MC Bits o'Pi - My Original Solution & Comments

Message #49 Posted by [Rodger Rosenbaum](#) on 19 Mar 2007, 6:44 a.m.,  
in response to message #43 by [Gerson W. Barbosa](#)

Quote:

Assuming 26 is on the stack, the following returns

{ 0. 2. 2. 1. 2. 1. 0. 0. 1. 0. 2. 1. 2. 2. 0. 2. 2. 1. 2. 0. 2. 1. 1. 1. 0. 1. }

```

« -> n
  « 3. 1. n
    FOR n n 1. -
      NEXT n ->LIST ^
TAN ATAN DUP ABS 1. >
SWAP DUP 0. < SWAP
-1. > AND 2. * 2.
  « +
  » DOLIST
»
»

```

Is there an easier way I missed?

Thanks for the interesting post.

Regards,



I am sorry I cannot take a closer look to this interesting matter now. Among other things, I have to finish studying a thick Portuguese grammar for an examination due next April 1st (still deciding whether I will attend it or not). Did you know verb *ser* (to be) appears in at least 53 forms (if I haven't miscounted them), some completely different from each other? And that's the easy part, as I don't have problem with verbs (Portuguese verbs, I mean). :-)

Regards,

Gerson.

-----

Update:

This appears to work, although I don't know why:

```
%HP: T(3)A(D)F(.);
\<< 100 SIN ASIN 100 + DUP 100 <
  \<< DUP
  \>> \pi IFTE / \-> n k
  \<< 3 1 n
    FOR n n 1 -
      NEXT n \->LIST ^ TAN ATAN k / FLOOR 3 MOD
  \>>
\>>
```

Forget about this one. It's essentially the same. Looks like I've found it. Take a look at the next reply.

*Edited: 19 Mar 2007, 7:08 p.m.*

## Re: HP-15C MC Bits o'Pi - My Original Solution & Comments

Message #51 Posted by [Gerson W. Barbosa](#) on 19 Mar 2007, 7:07 p.m.,  
in response to message #49 by Rodger Rosenbaum

Quote:

Can you figure out why?

I think I can. The correct limits should be  $\pi/3$  and  $-\pi/3$  instead of  $1$  and  $-1$ . The odds of computing wrong digits because of this mistake are even greater than what you have observed. Perhaps your sample is not large enough.

Quote:

This shows how simply using numerical results can lead one astray. Just because a formula gives the correct result for the first  $n$  digits doesn't mean that it's correct for all  $n$ .

You're right! An example is this "algorithm" for finding the square root of four-digit numbers:

Separate the number into two halves and add them together. Let's try it with three random examples, say, 2025, 3025 and 9801:

```
sqrt(2025) = 20 + 25 = 45;   45 * 45 = 2025  ok!
sqrt(3025) = 30 + 25 = 55;   55 * 55 = 3025  ok!
sqrt(9801) = 98 + 01 = 99;   99 * 99 = 9801  ok!
```

The program below may pass your quality-control test, although I think you have a better algorithm:

```
%HP: T(3)A(D)F(.);
\<< 100 SIN ASIN 100 + DUP 100 <
  \<< DUP
  \>> \pi IFTE / \pi 3 / \-> n k k1
  \<< 3 1 n
    FOR n n 1 -
      NEXT n \->LIST ^ TAN ATAN k / DUP ABS k1 > SWAP DUP 0 < SWAP k1 NEG > AND 2 * 2
  \<< +
  \>> DOLIST
  \>>
\>>
```

Regards,

Gerson.

-----  
P.S.:

From Cygwin & bc:

scale=70

a(s(3^114)/c(3^114))  
1.03068168

a(s(3^137)/c(3^137))  
1.01053215

I should have examined the remaining five errors, but I think these are enough. Thanks for the lists!

*Edited: 19 Mar 2007, 8:23 p.m.*

## Re: HP-15C MC Bits o'Pi - My Original Solution & Comments

Message #52 Posted by [Rodger Rosenbaum](#) on 20 Mar 2007, 1:50 a.m.,  
in response to message #51 by Gerson W. Barbosa

Quote:

I think I can. The correct limits should be  $\pi/3$  and  $-\pi/3$  instead of 1 and -1.

This is exactly the correct reason. The TAN ATAN sequence is in effect the same as a PI MOD sequence applied to the input argument, the only difference being that the ATAN may return a negative result. In that case, adding PI will give the same result as PI MOD.

In the HP50, the range reduction process uses a PI of effectively 31 decimal digits. Try 1E20 PI MOD and compare to the correct result obtained from an arbitrary precision math package. The HP50 gets a wrong result. But now try 1E20 TAN ATAN PI + (in radians mode) and you will see the correct result (+- possibly a couple of LSD for some input arguments).

This might lead one to think that you could get  $31 * \text{LN}(10)/\text{LN}(2) = 102.979$ , or about 102 correct binary digits for  $1/\text{PI}$  with the algorithm we've been using. Unfortunately, the highest power of 2 that can be accurately represented with 12 decimal digits is 39, and that limits us to 39 correct binary bits.

Thus, it doesn't gain us anything on the HP50 to use the trig functions.

Quote:

The odds of computing wrong digits because of this mistake are even greater than what you have observed. Perhaps your sample is not large enough.

How do you know what the odds of computing wrong digits are?

I looked at a sample of 5000 digits, and there were 142 digit errors in that sample. In looking at the difference list, I didn't see any appreciable increase in the density of errors toward the end of the list, but of course I would have to look all the way to infinity to make a definitive statement about the density of errors.

Edited addition: Further edited to correct typo:

Your original program makes an error when the arctangent of the tangent of some power of 3 lies between 1 and  $1.047+ (\text{PI}/3)$ , and between  $-1.047+$  and -1. These two tiny zones are  $.047+$  wide. So out of a total range of PI, if the arctangent of the tangent falls in one of these two zones, an error will occur. The ratio of these zones to the total range is  $(2*(\text{PI}/3-1))/\text{PI} = .03004689+$ , so in my sample of 5000 digits, I would expect to find  $.03 * 5000 = 150$  errors. I actually found 142. This supports the notion that approximately 3% of the digits will be in error.

Using the trig functions on the HP50 can't get us any more significant digits because of the limitation I mentioned above in representing powers of 2 (or 3, or 4, etc.), so we might as well use the MOD function directly. Here is a little program to do the job. Just put the number whose reciprocal is to be converted to another base, the the number of digits desired, and the base, on the stack and execute. It doesn't test for errors, and, of course, if you ask it to give you too many digits, it will return garbage after a certain number of correct digits.

Also, it can't output alphabetic characters to represent digits in bases greater than 10.

The idea is to apply NUM MOD to the list of powers of BASE, and then realize that the result is a list of numbers, each of which can range from 0 to NUM. We need to transform them so that they range from 0 to BASE. We do this by dividing the list by NUM and then multiplying by BASE. Then a simple IP will give us the digits we want.

```

< -> NUM DIGITS BASE
< BASE 0 DIGITS 1 -
  FOR i i
  NEXT
  DIGITS ->LIST ^ NUM MOD
  NUM / BASE * IP
  »
»

```

The program only gives the digits of the fractional part of the reciprocal of the input number, so putting 1/PI on the stack and executing it only gives the fractional part of PI in the other BASE.

If you want to see the digits of PI (or some number whose reciprocal is less than 1) in another BASE, shift PI right by dividing by the BASE enough times so that the reciprocal of that number is greater than 1.

For example, to see the digits of PI in base 9, do this: PI 9 / 1/x 12 9 then execute the program. You will see: {3,1,2,4,1,8,8,1,2,4,0,7}

To see the digits of PI in base 2, do this: PI 2 / 2 / 1/x 39 2 then execute the program.

The last two digits are in error, in this case.

*Edited: 25 Mar 2007, 8:18 a.m. after one or more responses were posted*

## Re: HP-15C MC Bits o'Pi - My Original Solution & Comments

Message #53 Posted by [Gerson W. Barbosa](#) on 20 Mar 2007, 10:48 a.m.,  
in response to message #52 by Rodger Rosenbaum

Quote:

The ratio of these zones to the total range is  $(2*(PI/3-1)/PI = .003004689+$ , so in my sample of 5000 digits, I would expect to find  $.003 * 5000 = 150$  errors. I actually found 142.

Your calculation is right, despite the typo (.003 instead of .03). I went wrong by a factor of 2.75: I did  $(PI/3-1)/(PI/2-1) = 0.0826872$ . That's the ratio between the sum of the "0" and "2" digits wrongly converted to "1" and the total of "1" digits in the first list. This would have made me expect 10 wrong "1" digits out of the total 122 "1" digits ( $0.0827 * 122 = 10$ ), which compared to the actual seven errors wouldn't have called my attention as my wrong assumption did ( $0.0827 * 301 = 25$ ).

Quote:

```

< -> NUM DIGITS BASE
< BASE 0 DIGITS 1 -
  FOR i i
  NEXT
  DIGITS ->LIST ^ NUM MOD
  NUM / BASE * IP
  »
»

```

This is a very nice tiny program! I will keep it.

Just out of curiosity, how far can you go beyond the 5000 digits you have already gone? I remember Carl Sagan in *Contact*, about computing *pi* to zillions of places: "*they don't do it because they need to, but because they like to*". I am not sure this is his exact phrase, as my book is a translation and I cannot find it to check this.

Best regards,

Gerson.

*Edited: 20 Mar 2007, 12:48 p.m.*

**Re: HP-15C MC Bits o'Pi - My Original Solution & Comments**

Message #54 Posted by [Rodger Rosenbaum](#) on 20 Mar 2007, 1:28 p.m.,  
in response to message #53 by Gerson W. Barbosa

Quote:

Your calculation is right, despite the typo (.003 instead of .03).

I was doing the calculations on the HP50. The ratio was in scientific format on the HP50 (3.00468943012E-2). I made the typo when I first typed it in my message, and propagated it subsequently. But, I did the multiplication by 5000 on the HP50 with the correct 3.00468943012E-2 and got the correct 150 in fixed format, which I then copied to the message.

I've noticed that on this forum, dealing with a lot of numbers, it's easy to make typos. I always proofread a couple of times, but they slip by anyway. I was up too late! Mea culpa.

Quote:

Just out of curiosity, how far can you go beyond the 5000 digits you have already gone?

I only let it go to 5000 which took a couple of minutes. If I remember correctly, it takes about 2400 decimal digits to represent  $3^{5000}$ , so I used 3000 digits in all the calculations, which leads to slowness. I suppose I could let it run all night!

**Re: HP-15C MC Bits o'Pi - My Original Solution & Comments**

Message #55 Posted by [Rodger Rosenbaum](#) on 20 Mar 2007, 6:06 p.m.,  
in response to message #52 by Rodger Rosenbaum

Quote:

In the HP50, the range reduction process uses a PI of effectively 31 decimal digits. Try 1E20 PI MOD and compare to the correct result obtained from an arbitrary precision math package. The HP50 gets a wrong result. But now try 1E20 TAN ATAN PI + (in radians mode) and you will see the correct result (+- possibly a couple of LSD for some input arguments).

This might lead one to think that you could get  $31 * \text{LN}(10)/\text{LN}(2) = 102.979$ , or about 102 correct binary digits for  $1/\text{PI}$  with the algorithm we've been using. Unfortunately, the highest power of 2 that can be accurately represented with 12 decimal digits is 39, and that limits us to 39 correct binary bits.

Thus, it doesn't gain us anything on the HP50 to use the trig functions.

It occurred to me that this isn't strictly true. In the one case where the BASE we want for our output is 10, the list of powers of the BASE can contain numbers that \*exactly\* represent those powers, because the mantissa parts of powers of 10 only contain the single digit 1. Thus, the HP50 can exactly represent powers of 10 up to the exponent limit of 499.

So, change the little program like this to do the TAN ATAN sequence, and then add PI to each element of the list to compensate for the fact that ATAN sometimes returns a negative result:

```
« -> NUM DIGITS BASE
  « BASE 0 DIGITS 1 -
    FOR i i
      NEXT
    DIGITS ->LIST ^ TAN ATAN
    NUM ADD NUM MOD
    NUM / BASE * IP
  »
»
```

We are now effectively doing a MOD with a 31 digit PI.

Now type PI 31 10 and execute the program.

See 31 correct decimal digits of  $1/\text{PI}$ .



**Re: HP-15C MC Bits o'Pi - My Original Solution & Comments**

Message #56 Posted by [Gerson W. Barbosa](#) on 21 Mar 2007, 8:50 a.m.,  
in response to message #55 by Rodger Rosenbaum

Quote:

In the one case where the BASE we want for our output is 10, the list of powers of the BASE can contain numbers that *exactly* represent those powers, because the mantissa parts of powers of 10 only contain the single digit 1. Thus, the HP50 can exactly represent powers of 10 up to the exponent limit of 499.

Keen observation! And producing the first 31 decimals of  $1/\pi$  on the HP-50G without explicitly using it is really nice! By what I remember, it's possible to display  $\pi$  to 24 places on the HP-50G this way:

RAD mode

```
< pi 1E-11 - DUP SIN>
```

A made a plot, not on the computer but by hand, of  $\arctan(\tan(x))$ . I turned the saw-tooth graph into a straight line ( $y=x$ ) by adding successive multiples of  $\pi$  to each discontinuous section. This way, it was easy to see why the algorithm I presented on March 11th works (<http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/forum.cgi?read=110018#110018>). The algorithm can be generalized to any base, as we can see in the following 91-byte program:

```
< -> n d b
< " " 1 d
  FOR i b i ^ n * IP b MOD ->STR HEAD +
  NEXT
>
>
```

It returns the first  $d$  digits in base  $b$  of the fractional part of  $n$ . For instance, running the program after entering  $\pi 1/x 17 3$  produces a string with the first 17 ternary digits of  $1/\pi$ :

```
"02212100102122022"
```

If I had thought a bit rather than "blindly going where no one had gone before" I would have saved some time - and I might be now at page 500 of my Grammar book instead of page 300 :-)

Anyway, learning something from the mistakes is not bad. I have learned that analyzing a graph rather than a few numbers produces a better result. (Not to mention *ADD* is better than  $2 \llcorner + \gg$  *DOLIST* :-)

Thanks!

Gerson.

P.S.: Although I said the algorithm is valid to any base, the program will handle bases up to 10, unless some changes are made to allow it to work for greater bases up to the limitations of the calculator.

Edited: 21 Mar 2007, 9:12 a.m.

**Re: HP-15C MC Bits o'Pi - My Original Solution & Comments**

Message #57 Posted by [Rodger Rosenbaum](#) on 21 Mar 2007, 4:51 p.m.,  
in response to message #56 by Gerson W. Barbosa

Quote:

```
< -> n d b
< " " 1 d
  FOR i b i ^ n * IP b MOD ->STR HEAD +
  NEXT
>
>
```

It returns the first  $d$  digits in base  $b$  of the fractional part of  $n$ . For instance, running the program after entering  $\pi 1/x 17 3$  produces a string with the first 17 ternary digits of  $1/\pi$ :

"02212100102122022"

P.S.: Although I said the algorithm is valid to any base, the program will handle bases up to 10, unless some changes are made to allow it to work for greater bases up to the limitations of the calculator.

That last characteristic is why my program created a list rather than a string. Even though the alphabetic characters aren't created for hexadecimal based output, for instance, you can still see the digits with value over 9 in the list.

e.g., modifying your program like this will do it:

```
« -> n d b
« {} 1 d
  FOR i b i ^ n * IP b MOD +
  NEXT
»
»
```

Quote:

If I had thought a bit rather than "blindly going where no one had gone before" I would have saved some time - and I might be now at page 500 of my Grammar book instead of page 300 :-)

To be at page 500 of a grammar book! Is that not a fate worse than death? Or, almost worse, anyway!

What better way to take a break from the tedium of a grammar book, than to play with your calculator?

## Re: HP-15C MC Bits o'Pi - My Original Solution & Comments

Message #58 Posted by [Egan Ford](#) on 17 Mar 2007, 2:24 a.m.,  
in response to message #40 by [Gerson W. Barbosa](#)

Quote:

Could someone compute 50 or more bits?

```
0111100111
0000101010
0001011011
0010110100
1011001100
```

```
0011111101
1110100000
0100011010
0111111000
0111001000
```

If you have a Linux box or Cygwin on Windows run `bc -l` then enter this to generate the above bits.

```
scale=30
for(i=0;i<100;i++) {
  if(c(2^i) < 0) print 1 else print 0;
  scale=0
  if((i+1) % 10 == 0) print "\n";
  if((i+1) % 50 == 0) print "\n";
  scale=30
}
```

## Re: HP-15C MC Bits o'Pi - My Original Solution & Comments

Message #59 Posted by [Gerson W. Barbosa](#) on 17 Mar 2007, 1:18 p.m.,  
in response to message #58 by [Egan Ford](#)

Thanks! Perhaps it's time for me to finally starting to read those two books on C and C++ that are lying forever on my shelf :-)

Since we're still on the topic, does anyone know how to extract the binary digits of expressions like this one for  $\ln(2)$ :

$$\sum_{k=1, \text{ inf}} 1/k * 2^{-k}$$

This should be easy because of the  $2^{-k}$  factor, but I couldn't figure it out.

Regards,

Gerson.

*Edited: 17 Mar 2007, 1:21 p.m.*

### Re: HP-15C MC Bits o'Pi - My Original Solution & Comments

Message #60 Posted by [Egan Ford](#) on 17 Mar 2007, 1:28 p.m.,  
in response to message #59 by Gerson W. Barbosa

bc is an arbitrary precision calculator language, no need to learn C/C++, just type "man bc". Cygwin is a free Linux environment for Windows, just install that and you will have a nice tool set--the bash shell, bc, perl, vi editor, etc...

Cygwin includes all the nice Perl math packages too, e.g. Math::Complex, Math::BigFloat, etc...

Perl is interpreted and very portable and easier to learn than C/C++. I only use C if I need speed. I try to approach any problem with "try smarter" instead of "try harder", and Perl always does the job.

If you want an easy way to get the LN(2) bits you are looking for just run bc -l and type:

```
ibase=10
obase=2
scale=30
l(2)
```

Output:

```
.101100010111001000010111111011111010001110011110111100110101011110010011110001110110011100110000000
```

### Re: HP-15C MC Bits o'Pi - My Original Solution & Comments

Message #61 Posted by [Gerson W. Barbosa](#) on 17 Mar 2007, 4:12 p.m.,  
in response to message #60 by Egan Ford

Thanks for the explanation. I've just used bc to check the digits of  $1/\pi$  in base 3:

```
ibase=10
obase=3
scale=30
1/(4*a(1))
```

Output:

```
.022121001021220221202111012121112102011101212112211011211221010
```

Great tool!

Gerson.

### Re: HP-15C MC Bits o'Pi - My Original Solution & Comments

Message #62 Posted by [Bill \(Smithville, NJ\)](#) on 16 Mar 2007, 8:55 p.m.,  
in response to message #39 by Valentin Albillo

Hi Valentin,

Very Very Nice!

Quote:

the only thing that makes it HP-15C-specific is the MATRIX 1 instruction

When I read your earlier hint about it being HP-15C specific, I did spend some time with the HP-15C manual but just didn't see how Matrix, Complex, etc could be used. Thanks for pointing out another method of initialing a register to 1. Very neat.

Quote:

Next April, 1st I'll post my S&SMC Spring 2007 Special, I hope to 'see' you there (if you think this Mini-Challenge is pretty unusual math, wait till you see the S&SMC ! :-) ).

Uh-Oh I just realized what day that is :) Looking forward to it.

Bill

### Re: HP-15C MC Bits o'Pi (proof of theorem?)

Message #63 Posted by [Karl Schneider](#) on 18 Mar 2007, 2:50 p.m.,  
in response to message #39 by [Valentin Albillo](#)

Hi, Valentin --

Well, I "never woulda think it" in a thousand years -- "tangent of  $2^{k-1}$  radians gives the k-th binary digit of  $1/\pi$ " as follows:

$\tan(2^{k-1}) > 0 \Rightarrow$  digit is 0

$\tan(2^{k-1}) < 0 \Rightarrow$  digit is 1

$\tan(2^{k-1}) = 0 \Rightarrow$  (can't happen)"

This just can't be a coincidence -- it must be a theorem. However, my cursory Google search yielded nothing about this. Could you point to a proof?

This exqmples ties in with a recent archived thread, "[Trigonometrics for really big input](#)". The calculations in your example are possible because the trig functions can be calculated accurately for inputs up to the limit of 10 or 12 significant digits. These, in turn, are possible because internal extended precision permits accurate calculation of, e.g.,  $\text{MOD}(8589934592, 2*\pi)$  for reduction of the input argument.

P.S.: Now, aren't you glad that "MATRIX 1" sets R0 and R1 instead of creating an identity matrix? (*Just kidding!*)

-- KS

*(Edited to correct an erroneous-word mental lapse that was identified below...)*

*Edited: 19 Mar 2007, 1:22 a.m. after one or more responses were posted*

### Re: HP-15C MC Bits o'Pi (proof of theorem?)

Message #64 Posted by [Egan Ford](#) on 18 Mar 2007, 4:09 p.m.,  
in response to message #63 by [Karl Schneider](#)

If you have not already start here: <http://mathworld.wolfram.com/PlouffesConstants.html>

HP-35 is mentioned. A happy coincident?

### Re: HP-15C MC Bits o'Pi (proof of theorem?)

Message #65 Posted by [Valentin Albillo](#) on 18 Mar 2007, 7:45 p.m.,  
in response to message #63 by [Karl Schneider](#)

Hi, Karl:

Karl posted:

*"Well, I "never woulda think it" in a thousand years -- "tangent of  $2k-1$  radians gives the k-th decimal digit of  $1/\pi$ "*

*That's because, actually, it's unthinkable indeed: the Tan algorithm merely gives binary digits, not decimal ... ;-)*

*"This just can't be a coincidence -- it must be a theorem. However, my cursory Google search yielded nothing about this. Could you point to a proof?"*

Yes. I don't know about Google, I actually took the idea from my extensive math-related printed materials, in this case an article which can be located using this reference:

"Addition Theorems and Binary Expansions"  
Canadian Journal of Mathematics, 47:262-273, 1995.

*"P.S.: Now, aren't you glad that "MATRIX 1" sets R0 and R1 instead of creating an identity matrix? (Just kidding!)"*

*Touché, \*very\* good memory ! :-) :-) However, I rest my case and still wish that MATRIX 1 were an identity matrix creation statement instead of merely setting R0 and R1 to 1.*

Thanks for your interest and

Best regards from V.

**Re: HP-15C MC Bits o'Pi (proof of theorem?)**

Message #66 Posted by [Karl Schneider](#) on 19 Mar 2007, 1:44 a.m.,  
in response to message #65 by Valentin Albillo

Hi again, Valentin --

Thank you for the reference. I just might take time to look it up online or see if I can access the article in a collegiate library.

I corrected the silly mental lapse in my earlier post. Of course I meant, "*binary* digit"; I'm just not accustomed to writing it.

Best regards,

-- KS

**Re: HP-15C MC Bits o'Pi (proof of theorem?)**

Message #67 Posted by [Egan Ford](#) on 22 Mar 2007, 8:12 p.m.,  
in response to message #66 by Karl Schneider

<http://www.lacim.uqam.ca/~plouffe/articles/additiontheorems.pdf>

**Re: HP-15C MC Bits o'Pi (proof of theorem?)**

Message #68 Posted by [Karl Schneider](#) on 24 Mar 2007, 3:57 p.m.,  
in response to message #67 by Egan Ford

Hi, Egan --

Thanks; the answer seems to be in the "Introduction" section of the paper.

-- KS

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## HP Forum Archive 17

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**HP-19C charger...**

Message #1 Posted by [Geir Isene](#) on 7 Mar 2007, 7:07 a.m.

... I could use the same as... which charger?

**Re: HP-19C charger...**

Message #2 Posted by [Ignazio Cara \(Italy\)](#) on 7 Mar 2007, 11:30 a.m.,  
in response to message #1 by Geir Isene

Hello Geir Isene,

you can use the HP-97 charger like HP 82066A, without any kinds of problem.

Regards from Italy

Ignazio

*Edited: 7 Mar 2007, 11:34 a.m.*

**Re: HP-19C charger...**

Message #3 Posted by [Eric Smith](#) on 7 Mar 2007, 6:37 p.m.,  
in response to message #1 by Geir Isene

For standard US power receptacles (90-120V, NEMA 5-15R), you would want an 82059 (any suffix A through D). These are very common, as the B suffix and later used with the HP-91/92/97/97S, 41C with 82120A rechargeable pack, 82143A and 82162A printers, 82161A tape drive, HP-71B, HP-75C/D, etc.

Note that the 82059A is not suitable for some of the newer devices; I think that is due to a change to the shape of the plug; the newer devices require a full slot in the plug.

For 90-120V Europe (where?) the charger is the 82069B.

For 210-250V, the choices are 82066A/B/D (Europe), 82067B (United Kingdom), 82067B Option 001 (South Africa), and 82068B (Australia).

Although none of these chargers are universal voltage, you should be able to use any charger that is suitable for your local voltage with a plug adapter. If you need to use a 90-120V adapter on 210-250V power, or vice versa, you can do that with a voltage converter.

**Re: HP-19C charger...**

Message #4 Posted by [Tony Duell](#) on 8 Mar 2007, 1:22 p.m.,  
in response to message #3 by Eric Smith

Some of these chargers have a pair of inverse-series zener diodes inside the connector moulding, I think

they're rated at 27V each. This is mentioned-in-passing in the PortablePlus Technical Reference Manual, and I actually did electrical tests on a spare cable to confirm this.

I don't know if all 'Topcat series' chargers have these zeners, I suspect they may have been fitted to the new type of plug only.

FWIW, the difference between the -A and -B Woodstock and Spice chargers (you're supposed to only use -B versions on machines with continuous memory) is a similar pair of zeners. Personally, therefore, I'd only charge a 19C, a 95C, or any other machine with continuous memory from a charger fitted with the zeners.

**Re: HP-19C charger...**

*Message #5 Posted by [Eric Smith](#) on 8 Mar 2007, 8:19 p.m.,  
in response to message #4 by Tony Duell*

Thanks, I always wondered what the difference between the -A and -B chargers for the Woodstock and Spice series.

Why would they mold the zener diodes into the connector, rather than putting them in the transformer housing? And I wonder why they didn't use even lower voltage zeners, since 27V is well above the level likely to cause damage.

It still seems unconscionable that the calculators themselves don't have sufficient overvoltage protection to survive the expected input voltage peaks with no battery present. They saved at most around \$0.25 per calculator, on models with retail prices of \$120 and up. It's hard to believe that anyone involved really believed this was a good idea.

**Re: HP-19C charger...**

*Message #6 Posted by [Walter B](#) on 7 Mar 2007, 6:59 p.m.,  
in response to message #1 by Geir Isene*

Remember to have good rechargeable batteries installed before plugging in the specified charger. Otherwise you may roast your 19C, and you will want to avoid this, won't you?

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## HP Forum Archive 17

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**my hp 48 runs slow**

Message #1 Posted by [david](#) on 7 Mar 2007, 4:23 a.m.

my hp 48 runs slow when using tds survey card when i enter numbers on the keys, i get a delay of 3 or 4 seconds before the nos appear on the screen. also when i hit enter to go to the next line, it will delay a few seconds also. it functions ok and calcs ok, any clues . is it the tds card getting old or the hp 48.what powers the tds card, if i pull the tds card out and put it in another 48 i own , will i lose all my job info. the co ords are stored on the 48 memory right? the tds card is read only, is that right, in 10 years of ownership i never cared or needed to figure it out. can i take the cogo card out and start another job in the newer 48. can i infa red between the one with all the survey points to load them nto the other 48. will one receive via infa red, can that be so easy cheers david

**Re: my hp 48 runs slow**

Message #2 Posted by [Raymond Del Tondo](#) on 7 Mar 2007, 5:51 a.m.,  
in response to message #1 by david

Hi,

your calc may be low on memory,  
or the data stack may have many objects.  
Type MEM to check if you have at least 2K bytes free.

In the latter case (many stack obs) you could  
press the DEL key to clear the stack.

Another option is to initiate a warm start,  
which also clears the stack.

Deactivating USER mode will speed up key response, too.

HTH

Raymond

---

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## HP Forum Archive 17

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### **Hey - Steve (Australia)**

Message #1 Posted by [db](#) on 6 Mar 2007, 9:22 p.m.

I need to ask you for some "special ed" on your battery zapper article. Could you use the blue db and email me?  
thanks

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## HP Forum Archive 17

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### Utah teapot rotating on the hp50g

Message #1 Posted by [hugh steers](#) on 6 Mar 2007, 6:29 p.m.

ok, try this guys, get <http://www.voidware.com/tmp/v3.zip>

and unzip it. inside there are files. V3, teapot, torus and dumbell.

put all these on your SD card and navigate to the SD card and Eval the V3 program. it should run standalone without the ArmToolbox.

you should be presented with a menu. make your choice and off you go. you might like to fiddle with the contrast too.

Warning: if you don't have enough free memory, it will crash the calculator (badly!). try torus first it's a lot smaller.

### Re: Utah teapot rotating on the hp50g

Message #2 Posted by [Marcus von Cube, Germany](#) on 12 Mar 2007, 1:28 p.m.,  
in response to message #1 by [hugh steers](#)

Torus works fine on mine but teapot crashes my calc. Do you know the memory requirements? How much memory needs to be free in IRAM?

Marcus

### Re: Utah teapot rotating on the hp50g

Message #3 Posted by [hugh steers](#) on 12 Mar 2007, 4:34 p.m.,  
in response to message #2 by [Marcus von Cube, Germany](#)

when i go into Files/SD it reports 236476. then it's ok.

i have found the amount of free memory varies wildly depending on what's just been happening. i think it could be undo info.

i know teapot is close, but i don't know how close. i shall have to improve the memory handling. the teapot is 3783 polygons!

good luck!

---

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## HP Forum Archive 17

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**Using Solver on The PC**

Message #1 Posted by **Bill (Smithville, NJ)** on 6 Mar 2007, 10:15 a.m.

There's seems to be a lot of interest in the Solver on the HP-17BII, 19BII and 17Bii+. Gerson has created some great Trig routines and there's been some other solver equations by various other members.

Even though I've been wanting to play around with some of these equations, especially the Trig ones, I'm just a little bit too lazy to type them into my 17BII or 19BII. So I've been looking for an easy way.

I first tried the HPCALC.EXE program that came with the old HP Omnibook computers. While it runs in Windows and does have a Solver Application, it's not a complete implemetation of the caculator solver. It doesn't seem to have L(), G() or SIGMA functions, and it has a lot of quirks on how it handles a lot of the solver functions.

Then I remembered the HP-200LX. It has a great calculator in it which also has a solver. Better yet, it does implement L(), G() and SIGMA.

The HP-200LX makes a great development platform for developing solver equations - the memo pad can be used to edit the equations - and results can be fully tested and debugged on the HP-200LX.

It's also very easy to copy equations, such as Gerson's TRIG ones, and then paste them into the SOLVER.EQN file on the PC, copy the file to a PCCard and insert into the HP-200LX for running.

The 200LX solver is 100% compatible with the 17BII solver with two exceptions:

You need to place a left Brace and Right Brace around the equation, and all Colons must be changed into Commas. Other than that, the equations work as-is with no modification.

**EDITED - As Gerson points out next message, there is no need to change the Colons into Commas. Just copy and paste into the SOLVE.EQN file. (Bill)**

Now for the really good part - You can emulate the HP-200LX (or 100LX) on the PC using CPACK100 or CPACK200. Doing this allows for using the Windows Notepad (or other editor) to edit the Equations, then run and debug on the emulator. Once the equation is perfect, you can print it out and enter it into the calculator.

For a test, I scanned the TRIANGLE equation pages from the Technical Applications Book, OCR'ed it, converted the Colons to Commas, and then copied it to the SOLVE.EQN file. Just had to correct a few mistakes due to the OCR, but the result worked great. A lot easier than typing it directly in.

The CPACK100 can be downloaded from:

[CPACK100](#)

Put all the files in a directly called CPACK100 and run the APP100.BAT file.

You now have a great development platform to let your Solver imagination run wild.

Bill

*Edited: 6 Mar 2007, 12:15 p.m. after one or more responses were posted*

## **Re: Using Solver on The PC**

*Message #2 Posted by [Gerson W. Barbosa](#) on 6 Mar 2007, 11:54 a.m.,  
in response to message #1 by Bill (Smithville, NJ)*

Hello Bill,

Thanks for the link. CPAK200 would be great, but CPAK100 works.

Quote:

\_\_\_\_\_  
You need to place a left Brace and Right Brace around the equation, and all Colons must be changed into Commas. Other than that, the equations work as-is with no modification.  
\_\_\_\_\_

I had to enter a simple equation into the solver, so the file Solve.eqn was created. Once the file exists, it's just a matter of copying and pasting. There was no need to change colons into commas, though. Have you tried it?

This is a better development tool than the HP-200LX and a CF card I used when working on the equations. Thanks again!

Best regards,

Gerson.

*Edited: 6 Mar 2007, 11:56 a.m.*

## **Re: Using Solver on The PC**

*Message #3 Posted by [Bill \(Smithville, NJ\)](#) on 6 Mar 2007, 12:09 p.m.,  
in response to message #2 by Gerson W. Barbosa*

Hi Gerson,

Quote:

\_\_\_\_\_  
There was no need to change colons into commas, though. Have you tried it?  
\_\_\_\_\_

You're right - colons work fine. I was going by the list of functions which show commas in lieu of colons, so thought they had to be commas. I'll correct my original post. Thanks.

Sure is a lot easier to edit equations on the PC than in the calculator. I've used both CPACK100 and CPACK200. Both work fine.

Bill

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## HP Forum Archive 17

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### HP-65 Display Glare Shield?

Message #1 Posted by [John Garza](#) on 5 Mar 2007, 7:36 p.m.

I recently bought a used HP-65 Survey Pac that included a little plastic clip-on glare shield for the HP-65's display. It's relatively sturdy and looks to be made out of the same stuff as the 65's case. I guess it's useful if you're a surveyor out in the bright sunlight all day. I don't know surveying, but I've been around HP's for a few years and have never come across one before. I thought the only accessories for the 65 were the battery holder/charger, the hard field case, and the security cradle. Does anyone know anything about it, or if other unusual accessories were made?

-John

### Re: HP-65 Display Glare Shield?

Message #2 Posted by [Spacedog](#) on 5 Mar 2007, 9:37 p.m.,  
in response to message #1 by John Garza

If it is the same product that I used with my HP 67, then it is third-party. Mine was flat black and looked like the thing Mr. Spock looked into at his science station. It worked, too - as a glare shield, mean. :-)

Perhaps, this is the reason the Woodstocks' LED's were tunnelled in there pretty deep.

### Re: HP-65 Display Glare Shield?

Message #3 Posted by [John Garza](#) on 5 Mar 2007, 10:14 p.m.,  
in response to message #2 by Spacedog

Yep, that's it. It's exactly like a Spock sensor viewer. (For the TREK illiterate out there, think of the conical rubber hoods over old radar crt displays.) It just clips around the edge of the case. I figured it was 3rd party as I couldn't find an HP emblem on it. I honestly didn't think there were any 3rd party HP calc accessories until the 41C arrived on the scene - other than maybe a fancy stand or case.

-J

### Re: HP-65 Display Glare Shield?

Message #4 Posted by [Eric Smith](#) on 6 Mar 2007, 2:46 p.m.,  
in response to message #3 by John Garza

Quote:

I honestly didn't think there were any 3rd party HP calc accessories until the 41C arrived on the scene - other than maybe a fancy stand or case.

Has everyone forgotten the origin of (the) [EduCALC](#)?

*Edited: 6 Mar 2007, 2:57 p.m.*

---

**Re: HP-65 Display Glare Shield?**

*Message #5 Posted by [Paul](#) on 7 Mar 2007, 3:12 a.m.,  
in response to message #2 by Spacedog*

Hello Spacedog, could you please post a photo of this accessory, I'm a big fan of the HP 67, accessories and programs.

Cheers, Paul

---

**Re: HP-65 Display Glare Shield?**

*Message #6 Posted by [Spacedog](#) on 7 Mar 2007, 9:51 a.m.,  
in response to message #5 by Paul*

Hi,

I am sorry to say that I no longer have my HP 67, nor any of the paraphernalia that I had for it. Perhaps, John G. would be kind enough to post a photograph of his HP 65/67 glare shield? Thank you. :-)

Actually, my main work calculator is now an HP 17BII. I also use powerOne Finance (HP-12C, 17BII, 19BII, TI-BAII+) and Thomas Okken's Free42 on my Fossil and Abacus Palm OS watches (I have both).

I still replace the battery in my HP 48GX RAM card annually and really like my HP 33S. Also, I must say, not having any of my HP 67, 41CV or 48SX stuff anymore, that I really appreciate this museum's DVD's, both from a practical standpoint and nostalgically!

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## HP Forum Archive 17

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### Irrational HP 50g Lust

Message #1 Posted by [Don](#) on 5 Mar 2007, 2:08 p.m.

I flunked out of physics/math in college, not from lack of interest but, rather, discipline. Now I'm a happy attorney who still remembers the good old days of programming on a TI-59. I do my taxes on an HP 15c (greatest calculator ever) and keep an HP 10B on my desk at work. I want to buy an HP 10BII but have even less justification than for getting a 50G

My question: I want to get a 50G, only about \$123 from a certain retailer named after a rain forest/large women, is it sacrilege to get such an incredible tool to essentially just play and explore with?

For the same price I could get MapleSoft or something else that makes more sense a thousand different way, but I have this insatiable lust for the 50G...the uber-calculator. As I was growing up in the 70s and 80s, every year or two, a more amazing calculator would come out and it was so exciting. I think I want to re-live some of the wonder of my youth playing around with a 50G.

Am I crazy?

### Re: Irrational HP 50g Lust

Message #2 Posted by [Ron Ross](#) on 5 Mar 2007, 2:41 p.m.,  
in response to message #1 by Don

"For the same price I could get MapleSoft or something else that makes more sense a thousand different way, but I have this insatiable lust for the 50G...the uber-calculator"

Does it make more sense to have MapleSoft? I just so happen to purchase an older copy and you know what? I don't (willingly) carry a laptop or pc around. But I often travel with an Hp to hack away at simple math problems. And what better tool than an Uber-Calculator for such recreation!

I will admit, if I am writing a report or something formal, the calculator is not the best tool for finishing the job, but it is a great starting tool to flesh out the math.

Do you do formal reports that require advance MapleSoft software? If so, then yes, Maple is your better buy. But if you are a recreational user (like I am 90% of the time), the Hp calculator is far more useful (as I have both, but I admit, I need a math package for reports, and I could make a laptop work, but a PC ISN'T a real substitute for a calculator for me anyway).

### Re: Irrational HP 50g Lust

Message #3 Posted by [Don](#) on 5 Mar 2007, 3:58 p.m.,  
in response to message #2 by Ron Ross

Quote:

Do you do formal reports that require advance MapleSoft software?

I have absolutely no need or use for MapleSoft or an HP 50G. However, I very much WANT and HP 50G. Usually, I can rationalize some need or use for stuff I buy...not so for the 50G. Only that I'll enjoy fiddling around with it.

I should be working right now, but I'm surfing calculator porn (pictures of calculators), reading user manuals and trying out emulators to get my fix.

**Re: Irrational HP 50g Lust**

*Message #4 Posted by **Ron** on 6 Mar 2007, 1:00 a.m.,  
in response to message #3 by Don*

Calculator porn - That's funny!

**Re: Irrational HP 50g Lust**

*Message #5 Posted by **Tim Wessman** on 6 Mar 2007, 3:48 p.m.,  
in response to message #4 by Ron*

What do you think the userRPL command ANIMATE was intended for. . . ?

TW

**Re: Irrational HP 50g Lust**

*Message #6 Posted by **Don** on 6 Mar 2007, 4:19 p.m.,  
in response to message #5 by Tim Wessman*

55378008

71077345

I miss the good old days of red LED displays.

**Re: Irrational HP 50g Lust**

*Message #7 Posted by **Ron** on 6 Mar 2007, 4:32 p.m.,  
in response to message #6 by Don*

The good old days... When the "red light district" was the electronics counter at Service Merchandise.

And 07734 to you.

*Edited: 6 Mar 2007, 4:33 p.m.*

**Re: Irrational HP 50g Lust**

*Message #8 Posted by **Don** on 6 Mar 2007, 4:41 p.m.,  
in response to message #7 by Ron*

Oh, how I used to look forward to the Service Merchandise catalog and spend hours pouring over it.

I remember when I saw my first LCD calculator thinking how flat and unreliable the display looked, like the wrong number could just flicker up at anytime.



## Re: Irrational HP 50g Lust

Message #9 Posted by [Dave Hayden](#) on 5 Mar 2007, 3:13 p.m.,  
in response to message #1 by Don

Go for it! That's what I did.

I was in high school from 77-81, right when programmable calculators became accessible. When I started high school, text books had tables in the back for  $\sin(x)$ ,  $\tan(x)$ ,  $\ln(x)$  and you had to learn on a slide rule. Then the TI-30 came out. It cost about \$30 as I recall and it did scientific calculations with great speed and accuracy.

Anyway, I got hooked on programming with an HP 29C. Graduated to a 41C when it came out, and got a 41CV in 1981 in college. I've used it steadily ever since.

Fast forward 26 years and my daughter needed a good calculator for math. I got her a TI 84+ (they recommended the TI83, which is compatible). "Hmm. I wonder what HP has done with calculators over the past 26 years?"

Within 3 weeks I bought an HP50g and I've been playing with it ever since. It's quite a fun machine!

A couple words of warning though:

1. When you aren't editing a value, the right arrow key executes  $x \leftrightarrow y$  (which is now called SWAP). This highly useful fact is buried deep DEEP in the documentation.
2. Don't even bother opening the "user's manual" that comes with the calculator. Download the "Users Guide" from the website. It's an expanded version of the manual. The manual will be good as a "quick reference guide" after you learn the thing.
3. Even the User's Guide is pretty awful. Just stick with it. You'll probably find yourself reading and re-reading the first 3 chapters before you can figure the thing out. Some of the big changes are: - the stack size is limited only by memory - it does symbolic math - the programming language is completely different
4. When you get to the chapter on programming, put down the User's Guide and download the HP 49 Advanced User's Manual (AUM) instead. This describes programming the calculator in far more detail, which is to say that it's more-or-less adequate.

The bottom line is that calculators have made gigantic advances since you and I used them heavily. I've been playing with mine almost every evening for a couple of weeks. Great entertainment (okay, I've a serious nerd). The downside is that the documentation is truly atrocious.

## Re: Irrational HP 50g Lust

Message #10 Posted by [Don](#) on 5 Mar 2007, 4:02 p.m.,  
in response to message #9 by Dave Hayden

Excellent advice on the manuals/guides. I would likely print them out and get them comb/spiral bound or put them in a binder. Prefer to have them open on a table rather than on a screen.

## Re: Irrational HP 50g Lust

Message #11 Posted by [Dave Boyd](#) on 5 Mar 2007, 4:43 p.m.,  
in response to message #10 by Don

Quote:

---

Excellent advice on the manuals/guides. I would likely print them out and get them comb/spiral bound or put them in a binder. Prefer to have them open on a table rather than on a screen.

---

Be warned: I did exactly that, printing them double-sided in booklet-style, so they'd be hand-book sized. They each ended up requiring a two-inch comb, the User's Guide barely fitting that. These manuals are very thick especially in relation to the information density.

I suppose I won't be scaring an attorney by talking about thick books, though.

## Re: Irrational HP 50g Lust

Message #12 Posted by [Dave Boyd](#) on 5 Mar 2007, 3:41 p.m.,  
in response to message #1 by Don

Quote:

---

My question: I want to get a 50G, only about \$123 from a certain retailer named after a rain forest/large women, is it sacrilege to get such an incredible tool to essentially just play and explore with?

---

Are you looking for permission? I, a fellow human being, who does not especially need any of his many, many calculators in the practice of his chosen profession, hereby grant it.

Visualize this: you are holding a slim black object in your hand, and it is displaying a custom menu of your own making, containing a few collected functions. On the display is a beautiful equation -- say,  $e^{\pi^i} - 1 = 0$ . You manipulate it using a few keystrokes, rearranging the terms. You press a newly assigned key and the equation library pops up, ready for you to explore. Another few keystrokes, and you derive the required payment for a new car given the rate advertised in the newspaper. You enter and multiply two matrices. You murmur to yourself, "I am holding the most advanced, most powerful handheld calculator in the world."

Now ask yourself: are you happy in this visualization?

Either way, your course is clear. It's OK to be happy.

I am...

## Re: Irrational HP 50g Lust

Message #13 Posted by [Don](#) on 5 Mar 2007, 3:54 p.m.,  
in response to message #12 by Dave Boyd

Quote:

---

Are you looking for permission? I, a fellow human being, who does not especially need any of his many, many calculators in the practice of his chosen profession, hereby grant it.

---

Yeah, I guess I did kinda go to the corner bar and ask the guy drooped over his Xth beer whether I should have a cold one myself. Kind of telling since I didn't pose the question in a money management or how-to-get-along-with-your-spouse forum.

### **Re: Irrational HP 50g Lust**

*Message #14 Posted by [Dave Boyd](#) on 5 Mar 2007, 4:37 p.m.,  
in response to message #13 by Don*

Quote:

Yeah, I guess I did kinda go to the corner bar and ask the guy drooped over his Xth beer whether I should have a cold one myself. Kind of telling since I didn't pose the question in a money management or how-to-get-along-with-your-spouse forum.

<grins> It does provide a hint for your introspective purposes, doesn't it?

Calculator lust is a powerful thing. This "explains" my several dozen calcs. Heck, I've got several dozen calculator programs for my Palm.

Maybe you were spared the similar "watch lust", which occasionally prompts me to go spend some money on a new (or old) watch. Like this one: [The Cathode Corner Nixie Tube Watch](#)

### **Re: Irrational HP 50g Lust**

*Message #15 Posted by [Don](#) on 5 Mar 2007, 4:54 p.m.,  
in response to message #14 by Dave Boyd*

Quote:

Heck, I've got several dozen calculator programs for my Palm.

Oh yeah, played around A LOT with the [48SX](#), [48GX](#), and [49G](#) for Palm.

I only have a minor digital/triathlon type watch fixation, I'm better able to keep it under control now that I don't have time to work out much.

### **Re: Irrational HP 50g Lust**

*Message #16 Posted by [Norris](#) on 5 Mar 2007, 4:14 p.m.,  
in response to message #1 by Don*

Quote:

For the same price I could get MapleSoft or something else that makes more sense a thousand different way,

Can you? I just checked current pricing on Maple, Mathematica, and MatLab at their respective websites. The standard retail cost for each is in the \$1,800 to \$1,900 range. You can't get such software for a price comparable to the ~ \$125 cost of an HP-50G, unless you can qualify for an academic discount.

If you want to play around and explore mathematics and programming, clearly the 50G is a much better deal than the software.

### **Re: Irrational HP 50g Lust**

*Message #17 Posted by [Dia C. Tran](#) on 5 Mar 2007, 4:46 p.m.,  
in response to message #16 by Norris*

Get both the software and the 50G. You can afford them.

### **Re: Irrational HP 50g Lust**

*Message #18 Posted by [Don](#) on 5 Mar 2007, 5:13 p.m.,  
in response to message #16 by Norris*

You are correct, I was counting on a student version. At those prices, it would be cheaper to enroll somewhere and get the student discount.

So is there a general consumer, approximately \$100, semi-ultimate math program for PCs?

### **Re: Irrational HP 50g Lust**

*Message #19 Posted by [Jonathan Eisch](#) on 5 Mar 2007, 11:21 p.m.,  
in response to message #18 by Don*

You could go through the trouble to enroll in a class, etc. but whatever software you'd buy will still depend on the operating system and computer you load it on. With Mathematica, if you upgrade your computer or operating system, you'll have to call them up to get a new pass (and they'll want your latest transcripts or schedule to confirm that you're still a student)....

On the other hand, whatever you learn about the HP-50g will be valid and useful as long as you have it.

-Jonathan

### **Re: Irrational HP 50g Lust**

*Message #20 Posted by [Eduardo](#) on 7 Mar 2007, 9:27 p.m.,  
in response to message #18 by Don*

Don,

If you enjoy "playing" with high-powered PC software for scientific computing there are a more than a few programs available. Many are even 100% free.

Numerical linear algebra: Matlab, and its free clones octave, scilab, and Rlab.

Statistics: Stata, S, and its free variant R.

Symbolic math: Mathematica, Maple, the less well known semi-commercial MuPad, plus the free Axiom and Maxima.

The newest "Kid on the Block" of rather powerful free software for math applications is SAGE (Software for Algebra and Geometry Exploration) which is a meta-program that serves as interface to many free and commercial libraries. It caters to serious mathematicians working in number theory, algebra and algebraic geometry.

If you want to play but only have access to a Windows computer, I recommend that you burn a Quantian DVD. It contains quite a few scientific applications and will probably keep you busy (playing) for a while. Or you can download SAGE for Windows.

Eduardo

### **Re: Irrational HP 50g Lust**

*Message #21 Posted by **Don** on 8 Mar 2007, 2:46 a.m.,  
in response to message #20 by Eduardo*

Wow, great suggestions. I'll definitely do some exploring.

Thanks!

### **Re: Irrational HP 50g Lust**

*Message #22 Posted by **LouP** on 18 Mar 2007, 5:53 p.m.,  
in response to message #20 by Eduardo*

Don't forget one of the most powerful programming environments, that most people don't know they own--MS Excel. With VBA and solver, plus the analysis toolpack, it does it all except some plots and symbolic math. With precision every bit as good as most applications (except for esoteric issues that are more suitable for Matlab or Mathematica. Mathcad is no more accurate I've found for most functions.)

The symbolic capability on the 50g is quite nice. I purchased one on a whim after spending oodles on a palm device with lots of calculators. I like pushing buttons more than using the pens, although there are some very cool applications like Powergraph and PDACalc (which is like Matlab.) Problem with PDAs is battery power.

Cheers,

LouP

### **Re: Irrational HP 50g Lust**

*Message #23 Posted by **Les Wright** on 5 Mar 2007, 5:40 p.m.,  
in response to message #1 by Don*

Quote:

Am I crazy?

Funny you should ask.

I am a psychiatrist who has taken time away from full-time practice to study music. HP calculators could not be more useless in my day-to-day professional and academic life.

But I own twenty of them, 18 of those acquired over the last year, as well as various peripherals and modules for the HP41. I have spent piles of money and lots of time. I also play around with Maple, Mathematica, and Matlab. This monkeying around, with no practical, professional, or academic motivation at all, consumes several hours of my life on most days.

The funny thing about math is that folks often feel very strange about enjoying it for its own sake--it has to be so practical and utilitarian lest you risk being accused of hopeless nerdiness. No one ever seems to struggle like this over enjoying art, music, or literature. This is a shame. I think there was a time in recent history when being well-read, artistically adept, and numerate were all seen as part and parcel of the well-educated package.

If you are crazy for wanting to splurge a hundred bucks on a 50G just to have some fun, then I am so far gone that it is unlikely I will ever be shocked back into coherence :)

Buy the 50G, and a nice financial too while you are at it. Have fun. You have my personal and professional

blessing.

Les

*Edited: 6 Mar 2007, 9:14 a.m. after one or more responses were posted*

### **Re: Irrational HP 50g Lust**

*Message #24 Posted by [Rodger Rosenbaum](#) on 5 Mar 2007, 8:43 p.m.,  
in response to message #23 by Les Wright*

Quote:

\_\_\_\_\_

The funny thing about math is that folks often feel very strange about enjoying it for its own sake.

\_\_\_\_\_

Euclid alone has looked on Beauty bare.  
Fortunate they who, though once only and then but far away,  
Have heard her massive sandal set on stone.

----Edna St. Vincent Millay

### **Re: Irrational HP 50g Lust**

*Message #25 Posted by [Les Wright](#) on 5 Mar 2007, 9:39 p.m.,  
in response to message #24 by Rodger Rosenbaum*

Ah, a mathematical reference from a melancholic and likely alcoholic poet (she was probably intoxicated during the fall that killed her far too young at 58).

What more could a math- and literature-loving psychiatrist possibly want?

Les

### **Re: Irrational HP 50g Lust**

*Message #26 Posted by [Rodger Rosenbaum](#) on 6 Mar 2007, 4:13 a.m.,  
in response to message #25 by Les Wright*

Les,

Check your uwo.ca mailbox.

### **Re: Irrational HP 50g Lust**

*Message #27 Posted by [BruceH](#) on 5 Mar 2007, 6:08 p.m.,  
in response to message #1 by Don*

Quote:

\_\_\_\_\_

I want to buy an HP 10BII but have even less justification than for getting a 50G

\_\_\_\_\_

That's the perfect justification: buy both and then write an article for [Datafile](#) illustrating the differences (or similarities) between the financial functions on the 10bii and those on the 50G. Simple. :-)

## **Re: Irrational HP 50g Lust**

*Message #28 Posted by [Jim Creybohm](#) on 5 Mar 2007, 6:41 p.m.,  
in response to message #1 by Don*

Just for some absurdity, let's ride the metaphor train for just a moment...

You walk into a bar, ask all the people having/enjoying a drink (some of whom are alcoholics) if you should have a drink? What do you think the response would be?

It comes off snarky, but it is not meant to be. You absolutely should purchase one of these little gems. Why?

Because you are utilizing an intellectual pursuit as a hobby. Many people indulge in gratuitous, or destructive hobbies. 123 dollars is a small entry fee for a tool that can do so much.

Suffering from calculator lust is not a serious disease. If this is your 300th calculator, and you steal them out of Walmarts just to possess them, then I would say you have a problem. Unlike Les, IANAP. I don't know you, but from your post I would say that you are most likely a responsible adult with a reasonable degree of humanity and do not have the dreaded "Narcissitic Personality Syndrome" which affects more and more people each year. (If your post said "I deserve it", that would be different).

Don't analyze it. Do it.

## **Re: Irrational HP 50g Lust**

*Message #29 Posted by [S. Easterling](#) on 5 Mar 2007, 7:03 p.m.,  
in response to message #1 by Don*

Get the 50g! It would be far less expensive than trying to get a mint 41CX, 15C, or other immensely popular HP scientific from 20+ years ago. But beware, once I got bitten by the bug, about \$4k just jumped out of my pocket over a short period of time due to lust. I've since sold off 2/3 of my collection to another collector (but retain some favorites) to recoup of my losses, only to spend it on table tennis gear. So if you have an obsessive personality like the rest of us, try to set some limits early on so you don't go overboard. What's going to happen is that you start craving the build quality of the older calcs, then you want one, or two, then three and four, and so on. So enjoy that 50g, but try to stick to your predetermined limits.

## **Re: Irrational HP 50g Lust**

*Message #30 Posted by [Matt Kernal \(US\)](#) on 5 Mar 2007, 8:09 p.m.,  
in response to message #1 by Don*

Don> only about \$123 from a certain retailer..

Check again, that same retailer is selling the 50G for \$114.85.

I don't have one yet (since my 49G+ is working so nicely), but I've built a serial cable that is electrically and connector compatible with the 50G, so I'm dying to try it out (HP doesn't make/sell one). So at this price, I may have to bite-the-bullet and get one anyway.

Matt

## **Re: Irrational HP 50g Lust**

*Message #31 Posted by [Don](#) on 5 Mar 2007, 9:32 p.m.,  
in response to message #30 by [Matt Kernal \(US\)](#)*

Quote:

Check again, that same retailer is selling the 50G for \$114.85.

That's the price I saw too, but I was adding in s&h, \$123 to my doorstep!

### **Re: Irrational HP 50g Lust**

*Message #32 Posted by **Thomas Okken** on 5 Mar 2007, 9:49 p.m.,  
in response to message #1 by Don*

Go for it and enjoy!

Even if you get bored with it after a couple of weeks, wasting \$123 is nothing compared to buying the wrong car, booking the wrong vacation, moving to the wrong neighborhood, etc...

The HP RPL calculators are a lot of fun to explore and play with, even if you don't actually need them. I don't have a 50g myself, but if you enjoy yours as much as I enjoy my 48G, then trust me, it'll be money well spent. (And I don't **need** my 48G either! I'm a computer programmer and I never take a calculator to work, unless you count my HP-42S simulator...)

- Thomas

*Edited: 5 Mar 2007, 10:03 p.m.*

### **Re: Irrational HP 50g Lust**

*Message #33 Posted by **Ron** on 5 Mar 2007, 10:18 p.m.,  
in response to message #1 by Don*

Don, buy yourself the 50g and look into Mathcad version 13 or 14 for around \$300 for your desktop or laptop. Mathcad is built on the engine for Maple which is in the \$1700 range. I can speak personally for release 13 which was a serious improvement over release 11. Forget 12.

The 50g is an amazing piece of equipment. You are correct in thinking to create copies of the user guide and advanced reference manuals for the 50g. Use Adobe reader to get your copies at Staples or office depot. My bound manuals cost about \$30 each. By the way, the advanced user manual is still called the 49, but about 99% useful for the 50. I am retired from corporate employment, where I reached the level of Director of Product Assurance for a competitor of IBM. I spent my early years at IBM in general systems involving main frames and peripherals (as opposed to special purpose computers for satellites, for example.) I hope you aren't crazy because that would make me raving. I can lose a half day or more if I take my 50g to the breakfast table. I just enjoy the old challenges with the ability to solve some differential equations or integrals and show me the methods used if I want. One can choose between algebraic or RPN, symbolic and numerical, etc.

I am programming the 50g to solve a cash manager's approach to Internal Rate of Return removing the fallacy of traditional methods. You might be interested in the simplicity of the solution to allow irregular periods if you do this kind of investment modeling. I turned 76 last week, so I might be a little slow finishing the project, but I have to say that my "irrational" relationship with this device gives me a great sense of achievement, which I need in the after life.

One of the subjects you should master early on is the difference between local and global variables. Locals get an additional dimension over RPN use when compiled. Worth a couple of hours study to avoid confusion, especially when programming interactively.

*Edited: 5 Mar 2007, 10:27 p.m.*



**Re: Irrational HP 50g Lust**

*Message #34 Posted by **Don** on 5 Mar 2007, 11:45 p.m.,  
in response to message #1 by Don*

**Subtotal of Items: \$117.99**

**Shipping & Handling: \$6.17**

**Super Saver Discount: -\$6.17**

-----

**Total for this Order: \$117.99**

**Shipping estimate for these items: March 12, 2007**

**Delivery estimate: March 19, 2007 - March 23, 2007**

**1 "HP 50G Graphing Calculator"**

**Sold by: Amazon.com**

How could I argue with all the logic that everyone shared. Thanks for making me feel good about my wanna-be hobby.

**Re: Irrational HP 50g Lust**

*Message #35 Posted by **James M. Prange (Michigan)** on 6 Mar 2007, 2:55 a.m.,  
in response to message #34 by Don*

Regarding the manuals, get the *hp 49g+/ hp 48gII graphing calculator advanced user's reference manual* instead of (or in addition to) the 49G manual.

If your 50g comes with ROM revision 2.08 (check this with the VERSION command), upgrade it to **2.09** or Bernard Parisse's **2.10-7**. Optionally, install libraries 226 and 227 for the equation library and 229 for the periodic table. Use the libraries that come with 2.10-7, also available at **Hydrix**.

This forum is good, but for RPL models, you'd probably be better off with the usenet group comp.sys.hp48. In case you don't already use a newsreader, you can also access it (including the archive) through <http://groups.google.com/group/comp.sys.hp48>.

Regards,  
James

**Re: Irrational HP 50g Lust**

*Message #36 Posted by **Alex L** on 8 Mar 2007, 3:57 p.m.,  
in response to message #34 by Don*

Congratulations!

After all, what price joy?

---

**Re: Irrational HP 50g Lust**

Message #37 Posted by [Eddie Shore](#) on 6 Mar 2007, 9:29 a.m.,  
in response to message #1 by Don

No it is NOT saclidge to get the 50g. It is money well spent. So go for it.

Glad to know that I am not the only one that has a desire to obtain calculators.

---

**Re: Irrational HP 50g Lust**

Message #38 Posted by [John D](#) on 6 Mar 2007, 10:03 p.m.,  
in response to message #1 by Don

Regarding the 10B11, I think you would be very dissatisfied with it if you believe it is actually a 10B upgrade. I bought a 10B11 and found it very unsatisfactory. It was finally relegated to the glove compartment of a pickup and thankfully it died a mysterious death. The 50g, now that's a different story. Go for it.

jd

---

**Re: Irrational HP 50g Lust**

Message #39 Posted by [Don](#) on 6 Mar 2007, 10:13 p.m.,  
in response to message #38 by John D

I don't think the 10BII is an "upgrade" as much as it is a "refinement" according to the [HP-10B/10BII Comparison](#).

Plus, the 10BII just looks more HP-Old-School.

---

**Re: Irrational HP 50g Lust**

Message #40 Posted by [Gilles Collas](#) on 7 Mar 2007, 3:00 a.m.,  
in response to message #1 by Don

Quote:

\_\_\_\_\_

Am I crazy?

\_\_\_\_\_

We all are ....

---

**Re: Irrational HP 50g Lust**

Message #41 Posted by [cfh](#) on 8 Mar 2007, 12:04 p.m.,  
in response to message #1 by Don

DO IT!

---

**Re: Irrational HP 50g Lust**

Message #42 Posted by [Don](#) on 13 Mar 2007, 3:10 p.m.,  
in response to message #1 by Don

It arrived today and it is BEAUTIFUL! At work, so no time to play right now. Actually pulled out an old calc

---

book over the weekend to bone up on some math I haven't looked at for twenty years. It really felt good to get away from the keyboard and work problems again with a mechanical pencil and notebook paper on a clipboard.

I feel like a person who doesn't know how to drive who owns a Ferrari.

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## HP Forum Archive 17

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### MAJOR RESULT DISCREPANCY; 50g vs. 41CX

Message #1 Posted by [Edward J Pec](#) on 5 Mar 2007, 1:27 p.m.

I recently found this site and there is a result discrepancy between the HP-41CX (I own 2 of them; same thing for both) and the new HP-50g, namely, the numerical result for the following (done in full floating point, maximum decimals in all attempted evaluations):

{ [3 x (5-(1/9))] / 23 ^3 } + e ^2.5 then sq. root of result

In the 50g, using RPN, the result is 3.49.... In the 41CX, the result is 3.83...

Independent evaluations indicate 3.49... is correct... as in the 50g User Guide, so what's going on ??

This can not be a rounding error, and the answer can not be a matter of calculator opinion, so please help my insomnia and tell me what's going on !

Edward (anyone with some info on this can also email me at: [epec@nj.rr.com](mailto:epec@nj.rr.com))

### Re: MAJOR RESULT DISCREPANCY; 50g vs. 41CX

Message #2 Posted by [Dave Hicks](#) on 5 Mar 2007, 1:48 p.m.,  
in response to message #1 by Edward J Pec

On the 41Cs and 41CXs that I happen to have handy, I'm getting 3.49.

I noticed that if I take just the first bit  $3x(5-(1/9))$  and take the sq root of that - then I get 3.83. Coincidence?

Edited: 5 Mar 2007, 1:51 p.m.

### Re: MAJOR RESULT DISCREPANCY; 50g vs. 41CX

Message #3 Posted by [Massimo Gnerucci \(Italy\)](#) on 5 Mar 2007, 2:00 p.m.,  
in response to message #2 by Dave Hicks

Ditto: 3,490515637 on V41

Massimo

### Re: MAJOR RESULT DISCREPANCY; 50g vs. 41CX

Message #4 Posted by [Nelson M. Sicuro \(Brazil\)](#) on 5 Mar 2007, 1:56 p.m.,  
in response to message #1 by Edward J Pec

My 41CV gives 3.490515637 as result, same as my 32S (3.49051563628), TI-52 (3.490515636), Sharp PC1260 (3.4905156362).

Best regards,

Nelson Sicuro

**Re: MAJOR RESULT DISCREPANCY; 50g vs. 41CX**

Message #5 Posted by [Hal Bitton](#) on 5 Mar 2007, 6:40 p.m.,  
in response to message #1 by Edward J Pec

Hi Edward,

You may want to check your keystrokes on your 41CX('s)...I own 2 of them as well, and both of mine give me 3.490515637. This result is also achieved using my 29C, 34C, 67, 97 and 15C as well, so I think there is no question that it's the correct result. Bear in mind that the stack logic on your 50G (in RPN mode) is a little different than that of a vintage 4 level machine...I know some functions won't work on a 50G unless you bump the command line into level 1 of the stack (by pressing the enter key), where as there is no need to enter on an a pure RPN/four stack level machine. One such function that comes to mind is  $X \leftrightarrow Y$ . I was unable to duplicate your 3.83 result even by purposely miss-keying the equation (in several different ways), so if you wanted to post the exact keystroke sequence you are using (on your 41CX), we could take a look at that. Best regards, Hal

**Getting Edward's result**

Message #6 Posted by [Palmer O. Hanson, Jr.](#) on 6 Mar 2007, 10:09 a.m.,  
in response to message #5 by Hal Bitton

We begin by finding that the square of Edward's HP-41 result is 14.6689... which is very close to the result obtained from the  $[3 \times (5 - (1/9))]$  part of the proposed problem which is 14.6666... . Then we note that square of 3.49051... is 12.183699... which is close but not quite equal to  $e^{2.5}$  which equals 12.182439... Then we evaluate the  $\{ [3 \times (5 - (1/9))] / 23^3 \}$  part of the problem and find that it is equal to 0.0012054.... If we add that value to  $e^{2.5}$  and take the square root we get the correct answer. If we add that value to 14.66666...and take the square root we get 3.8298..., which is the incorrect answer.

Thinking about those results a little will reveal that somehow Edward's RPN sequence doesn't use the  $e^{2.5}$  value of 12.182439... but instead uses the value of 14.66666... . By working from the back of the problem to the front and inside out and adding a couple of unfortunate ENTER's the following RPN sequence will get the incorrect answer:

```
2.5
e^x
9
1/x
CHS
5
+
3
x
ENTER
ENTER
23
ENTER
3
y^x
/
+
SQRT
```

where the two ENTER's before the entry of 23, which aren't needed, push the  $e^{2.5}$  value out of the stack and leave a  $[3 \times (5 - (1/9))]$  value where it should have been.

I don't say this is necessarily the way Edward did it. I only say it is one way he could have done it. The RPN language can yield some strange results if one isn't careful about pushing values up and out of the stack. When an RPN solution goes bad it is reminiscent of the book I used to read to my children -- "Inside, Outside, Upside Down"



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## HP Forum Archive 17

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### Looking for RPN similar to 42s

Message #1 Posted by [Scott](#) on 5 Mar 2007, 12:56 p.m.

Hi. I have an HP 42s which sits in a drawer and is used about four times a year. I recently discovered that the calculator is somewhat collectable. I am contemplating putting it on eBay and let the collectors have it. My only hesitation is that I do really like the build of the calculator (quality, form factor, tactile feel of the buttons). I don't have any sentimental attachment, not do I use any of the advanced features. I would like suggesting inexpensive RPN replacement HP calculator. Either new or used is fine.

Thanks.

Scott

### Re: Looking for RPN similar to 42s

Message #2 Posted by [Norris](#) on 5 Mar 2007, 1:49 p.m.,  
in response to message #1 by Scott

The reason that old RPN calculators like the 42S are collectible is precisely because current RPN calculators are considered inferior in terms of quality and form factor.

You could sell your 42S for a few hundred dollars, and replace it with a brand new HP-33S -- the least expensive current RPN model -- for about \$50. But one glance at the 33S should help you to understand why the 42S is now highly collectible.

*Edited: 5 Mar 2007, 2:02 p.m.*

### Re: Looking for RPN similar to 42s

Message #3 Posted by [Antonio Maschio \(Italy\)](#) on 7 Mar 2007, 3:10 a.m.,  
in response to message #2 by Norris

Quote:

\_\_\_\_\_

The reason that old RPN calculators like the 42S are collectible is precisely because current RPN calculators are considered inferior in terms of quality and form factor.

\_\_\_\_\_

I strongly agree.

-- Antonio

### Re: Looking for RPN similar to 42s

Message #4 Posted by [Ron Ross](#) on 5 Mar 2007, 2:02 p.m.,  
in response to message #1 by Scott

You could buy a new old stock Hp17Bii for a bit less than \$100. It is the EXACT same hardware and is also

RPN. It is not a scientific, but has a better stats package, timer and an extremely easy to use solver for input custom equations. And put \$100-200 in your pocket.

If you don't use the 42s all that often and not for trig, the Hp17Bii may even be more useful to you.

## Re: Looking for RPN similar to 42s

Message #5 Posted by [Giancarlo \(Italy\)](#) on 5 Mar 2007, 4:06 p.m.,  
in response to message #1 by Scott

Hi Scott.

Quote:

I don't have any sentimental attachment

Hey, how can you be so rock-hearted :`-(

Quote:

not do I use any of the advanced features

I can assure you that even using *\*only\** the basic functions is enough for keeping it :)

In case, advise when opening your auction :)

Best regards,  
Giancarlo

## Re: Looking for RPN similar to 42s

Message #6 Posted by [Raymond Del Tondo](#) on 5 Mar 2007, 6:41 p.m.,  
in response to message #1 by Scott

Hi,

as Ron wrote, a 17BII (NOT 17bII+) could be an adequate RPN machine for daily use. But I'd also suggest to take a look at the 32S or 32SII, whereas the latter (32SII) could be a bit high-priced, for similar reasons as those for the 42S prices;-)

The 32S (w/o the II) should be somewhat cheaper, somewhere between \$50 and \$100.

The 12C, although very common, is a completely different thing. It has a landscape layout, and the classic 12C doesn't have a backspace key, only a CLx key. Aside from that, the 12C is a very nice machine.

Raymond



## Re: Looking for RPN similar to 42s

Message #7 Posted by [Scott](#) on 6 Mar 2007, 12:54 a.m.,  
in response to message #1 by Scott

As it happens, I do have a 48gx as well as the 42s. I tend to use the 48gx instead of the 42s due to the larger visible stack size. Reading the above thread on "50g love" got me to wondering: how does the 50g compare with the 48gx?

## Re: Looking for RPN similar to 42s

Message #8 Posted by [Norris](#) on 6 Mar 2007, 11:44 a.m.,  
in response to message #7 by Scott

The HP49 and 50 series are successors to the HP48 series (as the model numbers might suggest).

The 50G is based on the 48G-series, but has an improved operating system, a larger display, is much faster, has far more memory, and has far better symbolic math capabilities ("computer algebra system"). The "build" of the 50G (e.g. appearance, form factor, durability) is generally considered acceptable, but not quite up to the standards of historical HP calculators like the 48GX.

The operating system and computer algebra system of the 50G are based on software that was originally developed for the 48G (e.g. MetaKernel, Erable, Alg48). If you get a pair of HP-48GX memory cards, then in theory you can upgrade your 48GX, add this software, and gain many of the capabilities of the 50G. This is not necessarily a great idea in practice, however, because a pair of 48GX memory cards may cost as much as a whole 50G. Furthermore, an upgraded 48GX is still much slower and clumsier to use than a 50G.

*Edited: 6 Mar 2007, 11:53 a.m.*

## Re: Looking for RPN similar to 42s

Message #9 Posted by [Raymond Del Tondo](#) on 7 Mar 2007, 12:57 a.m.,  
in response to message #8 by Norris

Quote:

\_\_\_\_\_

Furthermore, an upgraded 48GX is still much slower and clumsier to use than a 50G.

\_\_\_\_\_

Not necessarily.

I recently made a new version of my user interface replacement libraries, the new version is a major improvement over the older versions, and is called 'SpeedUI 7.03 Extreme Edition'.

It accelerates the complete user interface of an HP-48G/G+/GX, including \*all\* input forms and choose boxes.

Furthermore, the new 6-level stack display is \*much\* faster than before, and the command line and full screen editing facility is the fastest one I ever saw on an HP-48.

It includes a real COPY/PASTE feature with a multiple object clipboard, as well as an interactive online command catalog with fast search capability and parameter help.

For example, loading the complete 'TEACH' subdirectory

from the stack into the editor takes only 2 (two) seconds,  
and scrolling down in the editor now really makes fun.

And my MatrixWriter replacement with switchable fonts  
is the fastest one available for the HP-48.

The new SpeedUI 7.03 EE isn't on hpcalc.org yet,  
but if anyone interested, I could send the archive as email.

(The SpeedUI version on hpcalc.org is outdated, and should not be used anymore)

Unlike 'MetaKernel', the SpeedUI components can be stored in any port,  
although port 0 or 1 are recommended for speed.  
Installation and deinstallation works as with any other libraries.

SpeedUI was made for users, not for hackers;-)

Raymond

*Edited: 7 Mar 2007, 1:14 a.m.*

### **Re: Looking for RPN similar to 42s**

*Message #10 Posted by [Les Wright](#) on 7 Mar 2007, 1:48 a.m.,  
in response to message #9 by Raymond Del Tondo*

I am interested, but have just a humble 48G, which frankly I never use because it seems so slow.

Is the new version of SpeedUI usable on the 48G?

Les

### **Re: Looking for RPN similar to 42s**

*Message #11 Posted by [Raymond Del Tondo](#) on 7 Mar 2007, 4:00 a.m.,  
in response to message #10 by Les Wright*

Hi Les,

unfortunately the new version doesn't fit into an 48G with 32K RAM,  
since the base library alone is about 15K,  
and the optional UI library (which makes the new & fast stack and editor),  
is about 20.5K , totalling to about 35K .  
So a G+ or GX, or an expanded G will be needed.

The older (now obsolete) version of SpeedUI,  
which is available on [www.hpcalc.org](http://www.hpcalc.org) ,  
has a very small footprint compared to the new version,  
so it will be usable in a normal 48G.  
The old version is nice, too,  
but lacks many features, like the fast editor.

However the system integration and stability  
of the new version is much better...

Nonetheless I could send you the new version,

so you could try it on Emu48.

Just drop me a mail to:

M a g i c 4 8 g e s [at] g m x [dot] d e

(Remove the obvious spaces and placeholders;-)

Raymond

### **Re: Looking for RPN similar to 42s**

*Message #12 Posted by [Norris](#) on 7 Mar 2007, 1:52 p.m.,*

*in response to message #11 by Raymond Del Tondo*

Quote:

Furthermore, an upgraded 48GX is still much slower and clumsier to use than a 50G.

I was thinking primarily in terms of the computer algebra system, rather than the user interface. For example, the best way to differentiate expressions on a 48GX is with the Erable library, but the best way to simplify expressions is often with the Alg48 library. And both Erable and Alg48 work slowly, as does graphing.

You can add CAS capabilities, or alternative graphing software, to the 48GX, but you wind up with a slow and clumsy "patchwork" system, whereas the CAS of the 50G is fast and streamlined.

I haven't tried SpeedUI, but I can believe that it might improve the user interface of the 48GX (the MetaKernel, which I previously suggested, also does this). But if you have to buy 48GX memory cards first, the cost savings over a 50G may not be great.

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## HP Forum Archive 17

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**HP-19BII Repair anyone ??**

Message #1 Posted by [Camabron](#) on 5 Mar 2007, 11:56 a.m.

Hi all.. does anyone know of a shop that repairs HP-19BII calculators anywhere ?? Thanks in advance.

**Re: HP-19BII Repair anyone ??**

Message #2 Posted by [Ron](#) on 5 Mar 2007, 12:48 p.m.,  
in response to message #1 by [Camabron](#)

What's wrong with it? Battery door, case coming apart, etc? They're pretty much made to throw away, as the internal posts/rivets often break off where they can't really be repaired. My experience anyway.

**Re: HP-19BII Repair anyone ??**

Message #3 Posted by [Camabron](#) on 5 Mar 2007, 1:13 p.m.,  
in response to message #2 by [Ron](#)

Water damage... I placed it near a container with tea inside and it spilled and got the calculator wet. Actually it does perform calculations, just that the first two menu lines buttons don't respond and neither does the first line of the text input on the left panel side.

**Re: HP-19BII Repair anyone ??**

Message #4 Posted by [Ron](#) on 5 Mar 2007, 2:45 p.m.,  
in response to message #3 by [Camabron](#)

Wait for someone else here to give further advice, but I would say a dunk or two in distilled water could do it some good. On advice I received here, I finally got up the courage to dunk my 32SII, and it did the trick on sticky buttons. Your mileage may vary, and you are responsible for any damage to your calculator.

Remove batteries. Place the whole calculator in a glass pan of DISTILLED (not purified, drinking, tap, or other) water. Calculator should be open. While under water, press each button, swish it around some, and do it some more. Take the calc out of the water, and shake the water out of the calc, then repeat the process with fresh distilled water. Then, let the calc dry for a couple of days in warm air - Over a heater vent worked well for me. Reinstall batteries, and give it a try.

Gudn luckn!

**Re: HP-19BII Repair anyone ??**

Message #5 Posted by [Camabron](#) on 5 Mar 2007, 7:26 p.m.,  
in response to message #4 by [Ron](#)

Gee.. thanks a lot will try that indeed !! Will let you know what happens here.

**Re: HP-19BII Repair anyone ??**

*Message #6 Posted by [Bill \(Smithville, NJ\)](#) on 5 Mar 2007, 3:12 p.m.,  
in response to message #3 by Camabron*

See the following previous message threads on the Calculator Takes A Bath:

[Ideas on fixing my 17BII that had one drink too many](#)

[Cleaning 42S](#)

Good luck,

Bill

**Re: HP-19BII Repair anyone ??**

*Message #7 Posted by [Camabron](#) on 5 Mar 2007, 7:27 p.m.,  
in response to message #6 by [Bill \(Smithville, NJ\)](#)*

Thanks a lot too !! I wonder what might work best distilled water or alcohol ?

**Re: HP-19BII Repair anyone ??**

*Message #8 Posted by [Bill \(Smithville, NJ\)](#) on 5 Mar 2007, 7:35 p.m.,  
in response to message #7 by Camabron*

I'd suggest following Randy's advise - Distilled Water.

Bill

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## HP Forum Archive 17

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### I'm new

Message #1 Posted by [Gilles Collas](#) on 5 Mar 2007, 10:12 a.m.

Hi I' m gilles from france, I' m now 42 and an old HP calculator fan... I remember I've been put on the tracks of my job and career by the use of programmable calculator TI57 & 58 I discovered at high school ... with other crazy guys like me ! Once in the ending 70's, I've been writing a letter to HP France telling them I was not rich and starting studies that would need a performing calculator that my parents could not afford to pay for... Weeks later, the postman delivered a pack containing a brand new HP31E, with all relevant stuff, charger & docs !! For free, thanks to the holy person in HP that read my letter ... After using the calculator for a few days, I noticed that it has no serial number, neither the manufacturing location printed on the back, and it was some how bugged ! Memories contents swapping or vanishing .. hum.. strange. I decided to use it only for direct calculations not memory capacities as they were unreliable. It's thirty and more years old now and the HP31E is still on my side, but no longer alive ... I would like to make it run again and I was wondering if anyone yould help me in this ... Thanks

gilles

### Re: I'm new

Message #2 Posted by [Giancarlo \(Italy\)](#) on 5 Mar 2007, 10:35 a.m.,  
in response to message #1 by Gilles Collas

Hi Gilles.

You may want to start browsing this very site pages:

> museum page about 31E:  
<http://www.hpmuseum.org/hp31.htm>

> how to disassemble a Spice (= the family the 31E belongs to):  
<http://www.hpmuseum.org/disasm.htm>

> how to self test the 31E (from <http://www.hpmuseum.org/features/31ef.htm>):  
"Self test by pressing STO and then ENTER. At the end of the test, the entire display lights to indicate success"

> service tips:  
<http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/articles.cgi?read=361>

> \*multimedia\* (great pictures indeed :) spice repair:  
<http://www.voidware.com/calcs/spicerepair.htm>

> looking for professional service:  
<http://www.fixthatcalc.com/>

Hope this helps (to start...)  
Best regards.  
Giancarlo

### Re: I'm new

*Message #3 Posted by [Gilles Collas](#) on 6 Mar 2007, 1:41 a.m.,  
in response to message #2 by Giancarlo (Italy)*

Thanks Giancarlo, I will start by the beginning and have a look at this... I will let you know about it - the return of Lazarus ...

gilles

**Re: I'm new**

*Message #4 Posted by [bill platt](#) on 18 Mar 2007, 4:51 p.m.,  
in response to message #1 by Gilles Collas*

Bonjour Gilles,

That is a great anecdote!

I think you should elaborate it a bit more and put it into the "articles" or perhaps into the "biographies" section of the Museum.

Regards,

Bill

**Re: I'm new**

*Message #5 Posted by [Gilles Collas](#) on 19 Mar 2007, 7:19 a.m.,  
in response to message #4 by bill platt*

Hi Bill

Yes, you're right but I just want to avoid boring my fellows with stupid stories .. :))) Be just patient a little more, I'm on the way to get it back to life, the best is to come ...

---

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## HP Forum Archive 17

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### 48GX Repair - Won't Beep

Message #1 Posted by [Ron](#) on 5 Mar 2007, 8:39 a.m.

I recently did a repair to a 48GX by shoring up the rubber pad which supports the contact strip connecting the keyboard to the PCB. The calc now passes the keyboard test and the self test. However, it now will not beep during testing. The spring is firmly soldered in place, and makes contact with the disc. Any ideas what else it could be? Thanks.

*Edited: 5 Mar 2007, 8:41 a.m.*

### Re: 48GX Repair - Won't Beep

Message #2 Posted by [Han](#) on 5 Mar 2007, 9:31 p.m.,  
in response to message #1 by Ron

There's improper grounding. Behind the battery holding area (upperhalf of the case) is a piece of metal that has a tab slightly bent away from the rest of the case. This metal tab needs to touch the metal from the lower half. At the moment, you're not getting the proper grounding. Either the lower section of the calculator near the 1, 2, and 3 keys is not properly closed (i.e. the four rivets there have not been reset) or the tab needs to be slightly bent (i.e. it was accidentally flattened out).

*Edited: 5 Mar 2007, 9:34 p.m.*

### Re: 48GX Repair - Won't Beep

Message #3 Posted by [Ron](#) on 6 Mar 2007, 12:58 a.m.,  
in response to message #2 by Han

Rebent the tab, and that did the trick. Thanks, Han!

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## HP Forum Archive 17

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### HP-41 CY Turbo: Ebay offer in German language

Message #1 Posted by [Richard Wilbourne](#) on 5 Mar 2007, 6:37 a.m.

Hi folks,

the HP-41 CY Turbo at Ebay: Can anyone tell me the differences between HP 41 CY and HP41 CX ? (the Ebay text is in German language). I know that it is a great machine and also extremely rare.

Item number: 180092629766

[http://cgi.ebay.com/HP-41-CY-Turbo-von-W-W\\_W0QQitemZ180092629766QQihZ008QQcategoryZ104502QQssPageNameZWVWQQrdZ1QQcmdZViewItem](http://cgi.ebay.com/HP-41-CY-Turbo-von-W-W_W0QQitemZ180092629766QQihZ008QQcategoryZ104502QQssPageNameZWVWQQrdZ1QQcmdZViewItem)

Best, Rich

*Edited: 5 Mar 2007, 6:57 a.m.*

### Re: HP-41 CY Turbo: Ebay offer in German language

Message #2 Posted by [Raymond Del Tondo](#) on 5 Mar 2007, 7:18 a.m.,  
in response to message #1 by [Richard Wilbourne](#)

Hi,

the CY has a 64K RAM box built-in, and also a 'turbo' switch, which will increase the CPU speed.

The RAM box is organized as two 32K pages, which can be switched by software, even under program control.

However, since the seller writes that the unit requires more than one press on the ON key to turn on, I assume that the backup battery on the machine up for auction is low, and so the RAMBox OS has vanished.

A new backup and my CY-INIT module would presumably restore the unit to full functionality;-)

HTH

Raymond

### Re: HP-41 CY Turbo: Ebay offer in German language

Message #3 Posted by [Rich](#) on 5 Mar 2007, 7:44 a.m.,  
in response to message #2 by [Raymond Del Tondo](#)

Hi Raymond, thanks a lot for your detailed clarification!

64K RAM is absolutely breathtaking!! It is like four DOUBLE HEPAX modules. Is the CY rambox organized like HEPAX RAM, i.e. with machine coding capability ?

Good to know that you have an INIT module available for recovering! Cheers,Rich

*Edited: 5 Mar 2007, 7:45 a.m.*

## **Re: HP-41 CY Turbo: Ebay offer in German language**

*Message #4 Posted by **Raymond Del Tondo** on 5 Mar 2007, 11:29 a.m.,  
in response to message #3 by Rich*

Hi Rich,

the principal structure of each RAM block is similar in all ROM-simulating devices, so the individual pages can be used for own ML programs, of course.

There are some differences between the HEPAX \*ROM\* and the W&W RAMBox OS regarding the bank switching schema. The HEPAX ROM uses all four banks of a single page, using the HP standard bank switching opcodes, whereas the W&W OS uses a variation (other combination) of opcodes to switch between (CY RAM) banks 1 and 2.

However the HEPAX RAM isn't bank switched.

You could use a HEPAX ROM, either a real one, or one on a Clonix, in combination with the CY, being able to use one of the two RAM banks of the CY, but you can't load the HEPAX ROM code into a CY, as the RAM banks of a CY are switched in a different way, and there are 'only' two banks, not four as the HEPAX ROM expects.

The above is an (incomplete) overview of some things to notice about HEPAX and W&W CY, but it should give you an idea;-)

About the CY INIT module:

Yes, this was a hard piece of work, I made it from scratch.

It's fully menu-driven, and safely restores a CY RAMBox with weird contents to a clean and working state, including loading RAMBox OS A and B, and optionally OS/X.

There are various articles about RAM boxes and the CY in the hpmuseum forum and articles archive.

Regards

Raymond

## **Re: HP-41 CY Turbo: Ebay offer in German language**

*Message #5 Posted by **Rich** on 6 Mar 2007, 8:50 a.m.,  
in response to message #4 by Raymond Del Tondo*

Thank you, Raymond! Very interesting issue! What is the \$price for a CY-INIT module (on Zeprom or where)? Or did you upload the code to the database of "the other hp41.-rg fan site" for loading into clonix or hepax ? Regards, Rich

*Edited: 6 Mar 2007, 11:09 a.m.*

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## HP Forum Archive 17

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### Internal server error for Achive #16

Message #1 Posted by [Antonio Maschio \(Italy\)](#) on 5 Mar 2007, 5:09 a.m.

Since yesterday, I cannot access the Last archive; here's what I get:

Quote:

---

Internal Server Error The server encountered an internal error or misconfiguration and was unable to complete your request.

Please contact the server administrator, [hpmuseum@pair.com](mailto:hpmuseum@pair.com) and inform them of the time the error occurred, and anything you might have done that may have caused the error.

More information about this error may be available in the server error log.

---

Any news?

-- Antonio

### Fixed - Thanks!

Message #2 Posted by [Dave Hicks](#) on 5 Mar 2007, 1:04 p.m.,  
in response to message #1 by Antonio Maschio (Italy)

.

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## HP Forum Archive 17

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### eBay: HP 9100A

Message #1 Posted by [Howard Owen](#) on 4 Mar 2007, 9:57 p.m.

I hope I can be forgiven for pointing at [this eBay auction](#). It's rare indeed to see one of these machines for sale anywhere.

Regards,  
Howard

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## HP Forum Archive 17

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### Copy programs from HP41CV to PC

Message #1 Posted by [Dave Hayden](#) on 4 Mar 2007, 8:25 p.m.

I have a few dozen programs for my HP41CV on magnetic cards, including over 30 from the defunct HP User's Library. I'd like love to make these available on the web but I have no way to transfer to programs from the cards to my PC.

IF any kind soul would be willing to transfer these programs, I'd be grateful.

Dave

### Re: Copy programs from HP41CV to PC

Message #2 Posted by [Vassilis Prevelakis](#) on 6 Mar 2007, 9:34 a.m.,  
in response to message #1 by Dave Hayden

What is your location?

### Re: Copy programs from HP41CV to PC

Message #3 Posted by [Dave Hayden](#) on 6 Mar 2007, 11:46 p.m.,  
in response to message #2 by Vassilis Prevelakis

I am in central New Jersey, USA.

### Re: Copy programs from HP41CV to PC

Message #4 Posted by [Vassilis Prevelakis](#) on 7 Mar 2007, 10:28 a.m.,  
in response to message #3 by Dave Hayden

and I am in Philadelphia,PA

contact me at :

<http://www.series80.org/ser80addr.gif>

\*\*vp

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## HP Forum Archive 17

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**matrices on the HP 50G**

Message #1 Posted by [Amnon](#) on 4 Mar 2007, 3:27 a.m.

Hi

How can I incorporate matrix functions in equations? Essentially, I want to define something like

$$F(x) = c - 2 \cdot x' \cdot h + x' \cdot R \cdot x$$

where  $x$  is the input,  $x'$  is the transpose of  $x$ , and  $c$ ,  $h$  and  $R$  are constants, vectors and matrices as appropriate, already set up.

I can do this manually, but I'd like to speed things up by just sending  $x$  to  $F(x)$ , and getting an answer in one step. Using other matrix functions (other than transpose), such as the determinant would be useful.

Thanks

Amnon

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## HP Forum Archive 17

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**Trigonometrics on the 17bii+**

Message #1 Posted by [Les Wright](#) on 4 Mar 2007, 12:37 a.m.

Could someone point me to the recent, but obviously now archived, thread regarding this?

I believe there was a lot of discussion, initiated by Gerson, about applying his 12C trigonometry work to the 17bii+ equation solver, but I am darned if I can find it now....

Les

Edited: 4 Mar 2007, 12:37 a.m.

**Re: Trigonometrics on the 17bii+**

Message #2 Posted by [Bruce Bergman](#) on 4 Mar 2007, 2:04 a.m.,  
in response to message #1 by Les Wright

Hi Les --

I believe it was either in "archv014" or "archv016". Take a look in each, and search for 17bii+. I was just reading them the other day, but unfortunately don't have the link with me.

thanks, bruce

**Re: Trigonometrics on the 17bii+**

Message #3 Posted by [Bill \(Smithville, NJ\)](#) on 4 Mar 2007, 5:07 a.m.,  
in response to message #1 by Les Wright

Hi Les,

There's the Article by Bruce Maquire:

[Improved TRIG. and INVERSE TRIG. functions for the HP-17BII](#)

and the Message Thread started by Gerson Barbosa:

[HP-17BII - trig equations suggestions](#)

There may be others, but I think these are the main ones.

Bill

**Re: Trigonometrics on the 17bii+**

Message #4 Posted by [Gerson W. Barbosa](#) on 4 Mar 2007, 6:41 a.m.,  
in response to message #1 by Les Wright



Hello Les,

There are five sets of equations you can use here:

<http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/articles.cgi?read=695>

I would suggest the first set, as it faster and easier to enter. This still can be improved by someone who knows the HP-17BII/II+ solver better, like placing SIN, COS and TAN into a single menu group. They have been tested on the HP-17BII. I am curious if they work on the HP-17BII+.

Best regards,

Gerson.

**Re: Trigonometrics on the 17bii+**

*Message #5 Posted by **Bill (Smithville, NJ)** on 4 Mar 2007, 7:19 a.m.,  
in response to message #4 by Gerson W. Barbosa*

Hi Gerson,

How did I pick up on your message threads but totally miss your article? :) Sorry for missing it in my previous post.

Bill

**Re: Trigonometrics on the 17bii+**

*Message #6 Posted by **Gerson W. Barbosa** on 4 Mar 2007, 7:35 a.m.,  
in response to message #5 by Bill (Smithville, NJ)*

Hi Bill,

I think it's my fault. In the last message in the thread Bill Platt suggested it went into the Articles. I should have provided a link to the article (or to the draft-article, as there is still room for improvement) while the thread was still active. Thanks for remembering it.

Regards,

Gerson.

*Edited: 4 Mar 2007, 7:37 a.m.*

**Re: Trigonometrics on the 17bii+**

*Message #7 Posted by **John Smitherman** on 4 Mar 2007, 10:40 a.m.,  
in response to message #6 by Gerson W. Barbosa*

Hi Gerson. I entered the method 1 equations into a 17bii+ and all equations verify and solve within 2 seconds. I've tried a few values for x: 0, 15, 30, 45, 60, 75, and 90 and all seem to solve correctly. I'll do some more testing and will give you feedback.

Thanks for making this available to us.

Regards,

John

**Re: Trigonometrics on the 17bii+**

Message #8 Posted by **Gerson W. Barbosa** on 4 Mar 2007, 11:54 a.m.,  
in response to message #7 by John Smitherman

Hello John,

If they verify and solve in less than two seconds, this means the 17BII+ is significantly faster than the 17BII, which is great! I was intending to group all six functions in a single menu but I quit because the verification time would be too slow.

I wasn't interested in giving a complete trigonometric solution on the HP-17BII when I suggested two simple polynomial equations for sine and arctangent functions. So it was really great when Charles presented basically the same equations I used in set one and showed that the inverse functions could be obtained iteratively, as you can see in the link provided by Bill. It was a good start.

Other values you can check:

$$\begin{aligned}\sin(18) &= (\sqrt{5} - 1)/4 \\ \cos(22.5) &= (\sqrt{2 + \sqrt{2}})/2 \\ \tan(72) &= \sqrt{5 + 2 * \sqrt{5}}\end{aligned}$$

Regards,

Gerson.

*Edited: 4 Mar 2007, 12:03 p.m.*

**Re: Trigonometrics on the 17bii+**

Message #9 Posted by **Les Wright** on 4 Mar 2007, 9:44 p.m.,  
in response to message #4 by Gerson W. Barbosa

Quote:

\_\_\_\_\_

This still can be improved by someone who knows the HP-17BII/II+ solver better, like placing SIN, COS and TAN into a single menu group

\_\_\_\_\_

I think this can be done, but it looks like it can get complicated when the equations themselves are "busy". Probably need to work it out on paper first, then enter it in.

Quote:

\_\_\_\_\_

I am curious if they work on the HP-17BII+.

\_\_\_\_\_

I have entered only the SIN equation from set 1, and it works beautifully. Very fast. Solving for arcsine iteratively takes a couple of seconds and requires an intelligent initial guess lest one get a result outside of the -90 to +90 degree range that may not be trustworthy. Of note, naively solving for arcsin(1) from initial guesses of 85 degrees converges not to 90 degrees but rather 89.9998857789, which is expected since the sine of the latter is very close indeed to 1--0.999999999998 on my HP49G+.

This is a lot of typing and I am very interested in learning more about the Solver and combining these into

one omnibus equation that reuses the repeated polynomial material with the L() and G() commands. It would be nice to have all of this stuff in one solver menu, but this means it all needs to be in one huge equation with conditionals built in. Complicated!

Les

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## HP Forum Archive 17

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### Which quadratic solution should we use?

Message #1 Posted by [Palmer O. Hanson, Jr.](#) on 3 Mar 2007, 11:07 p.m.

A "more efficient and accurate" method for the solution of quadratic equations appeared in the *HP-67 Standard Pac*. A similar method which "avoids destructive cancellation" appeared in the *HP-15C Advanced Functions Handbook*. Those "better" methods have not been consistently used in later H-P applications.

Is there a reason for not using the "more efficient and accurate" methods?

Is there an earlier reference on the "more efficient and accurate" methods than that in the *HP-67 Standard Pac*?

Avoiding Destructive Cancellation in the Solution of a Quadratic Equation

Page 31 of Maurice D. Weir's *Calculus by Calculator* (Prentice-Hall, 1982) gives the typical algebra textbook solution for a quadratic equation but then states:

"... The program QUADS calculates the real roots (if they exist) for any specified quadratic equation. The formula used is a modification of Equation 1.11 [the textbook form] to reduce roundoff error."

Analysis of the QUADS program reveals that the solution sequence is:

1. Calculate the determinant  $D = B^2 - 4AC$
2. Calculate the value  $E = (\text{sqr}(D) + \text{abs}(B))/2A$
3. Change the sign of E if  $B < 0$
4. Calculate the real roots as  $C/AE$  and E.

A more thorough treatment of the subject with a similar solution method appears in the appendix "Accuracy of Numerical Calculations" to the *HP-15C Advanced Functions Handbook* also published in 1982. The discussion on page 191 presents the textbook formula and an algebraically equivalent calculation sequence which avoids "destructive cancellation". (Readers of that reference should note that for some reason the authors chose to define the quadratic as  $c - 2bz + az^2$ . The more common definition is used here.) The discussion states

"... Such a program will be listed later (page 205) and must be used in those instances, common in engineering, when the smaller root  $y$  is needed accurately despite the fact that the quadratic's other unwanted root is relatively large."

A demonstration problem is provided. For a quadratic equation of the form  $ax^2 + bx + c$  and  $a = 1E-13$ ,  $b = -2$  and  $c = 1$  the exact solution is  $r1 = 2E13$  and  $r2 = 0.5$ . Implementation of the textbook formula on most HP and TI machines will yield  $r1 = 2E13$  and  $r2 = 0$ .

The rest of this submission presents all the gory details which led up to this submission.

Some H-P History on a Better Quadratic Solution Method

This history is limited to the hardware and documentation available from my own collection.

The method was not included in the quadratic solution in the *HP-65 Standard Pac* printed in 1974 or in the quadratic solution in the *HP-27 Owner's Handbook* printed in 1976.

Pages 198 through 203 of the *HP-67 Owner's Handbook and Programming Guide* (Revision C 12/76) presented a quadratic solver program which used the textbook formula. The end of the discussion includes the following statement "For a more efficient and accurate method of finding the roots of a quadratic equation, see the Polynomial Evaluation program in your *HP-67 Standard Pac*."

The Polynomial Evaluation program on pages 9-01 through 9-04 of the *HP-67 Standard Pac* (1976) uses a routine which addresses destructive cancellation. It solves the test case successfully.

Pages 61 through 65 of the *HP-33E/33C Owner's Handbook and Programming Guide* (April 1979) presents a quadratic solver program which uses the textbook formula. It can not be expected to and does not solve the test case successfully.

Pages 179 through 183 of my copy of the *HP-41C Owner's Handbook and Programming Guide* (Revision B 8/79) present a quadratic solver program which uses the textbook formula. The program cannot solve the test case satisfactorily. A note at the bottom of page 179 does offer the following caution "Some values of a, b, and c may result in misleading answers because their solutions require greater than twelve digits of accuracy."

The "Polynomial Solutions/Evaluation" program of the *HP-41 Math Pac* (11/79) includes a quadratic solver which uses the textbook formula. It cannot solve the test case satisfactorily.

Pages 206 through 210 of the *HP-11C Owner's Handbook and Problem Solving Guide* (Revision B 9/81) describes how to develop a quadratic solver using the textbook formula.

A thorough discussion of the method for avoiding destructive cancellation appears on pages 191 and 205-211 of the *HP-15C Advanced Functions Handbook* which was published in 1982. A program for the HP-15C is included which will solve the test case satisfactorily.

The QUAD option of the SOLVE menu of the HP-28S (1988) does not solve the test problem correctly.

Pages 172 through 174 of my copy of the *HP-42S RPN Scientific Calculator Owner's Manual* (10/88) present a demonstration of the conversion of a quadratic solver program from the *HP-41CV Owner's Manual* for use on the HP-42S. The solution uses the textbook formula and will not solve the test case satisfactorily..

Some TI History on A Better Quadratic Solution Method

The "Solution of Quadratic Equation" in the *SR-56 Application Library* (1976) and page IV-82 of *Personal Programming* (the Owner's Manual for the TI-58/59, 1977) only present quadratic solver programs using the textbook formula which will not solve the test case satisfactorily..

A program for the TI-59 by Bill Skillman which uses a method which will solve the test case satisfactorily was published in late 1978 in V3N12P2 of *52 Notes*.

My article "Improved Solution for the Quadratic" on pages 8-12 of *TI PPC Notes* (1991) provides a solution for the TI-59 which uses the technique in *Calculus by Calculator*. It will yield the correct answer to the test case.

The POLY routine in the TI-68 (1989), the QAD routine of the TI-95 (1986) and the POLY routines in the TI-85 and TI-86 all yield the correct answer to the test case but there is no discussion of the use of an improved method in the manuals. The TI-89 yields inconsistent results. The Polynomial Root Finder of the Apps Desktop returns roots of 2.E13 and 0.51. However, if the test case is entered through the home screen as either a "factor" problem or as a "solve" problem a correct answer will be returned.

## hp-33s Results

The following table presents results obtained with two different solution methods on the hp-33s. The Textbook solution is from the Polynomial Root Finder program on pages 15-20 through 15-32 of the *hp-33s User's Guide*. The Revised solution is an implementation of the technique for avoidance of destructive cancellation defined in the *HP-15C Advanced Functions Handbook*. A listing appears at the end of this submission. The coefficients are from test cases 3 through 6 on page 207 of the *HP-15C Advanced Functions Handbook* but with the first degree coefficient multiplied by minus two to change the definition of a quadratic from  $ax^2 - 2bx + c$  to  $ax^2 + bx + c$ .

| Coefficients |          | Correct        | Textbook       | Revised        |
|--------------|----------|----------------|----------------|----------------|
| a            | 1E-13    | 2E13           | 2E13           | 2E13           |
| b            | -2       | 0.5            | 0              | 0.5            |
| c            | 1        |                |                |                |
| a            | 654323   | 1              | 1.000000921    | 1.000000000    |
| b            | -1308644 | 0.9999969434   | 0.999996022    | 0.999996943    |
| c            | 654321   |                |                |                |
| a            | 11713    | 62.77179203    | 62.771792026   | 62.771792026   |
| b            | -1470492 | 8.5375E-05 i   | 62.771792026   | 8.5375E-05 i   |
| c            | 46152709 |                |                |                |
| a            | 80841    | 12.2171175     | 12.217117552   | 12.217117552   |
| b            | -1975288 | 1.374514E-03 i | 1.374045E-03 i | 1.374514E-03 i |
| c            | 12066163 |                |                |                |

## HP-41 Results

The following table presents results obtained with three different solution methods on the HP-41. The Math-Pac solution uses a version of the textbook formula but with the coefficient of the second degree term set to one. The Textbook solution uses the HP-41 program from pages 172 through 174 of the *HP-42S RPN Scientific Calculator Owner's Manual* modified to complete the solution for complex roots. The Revised solution uses a program translated from the Revised hp-33s solution in this submission.

| Correct                      | Math-Pac                      | Textbook                      | Revised                        |
|------------------------------|-------------------------------|-------------------------------|--------------------------------|
| 2E13<br>0.5                  | 2E13<br>0                     | 2E13<br>0                     | 2E13<br>0.5                    |
| 1<br>0.9999969434            | 1.000000<br>2.0000E-05 i      | 0.999998472<br>0.999998472    | 0.999998472<br>0.999998472     |
| 62.77179203<br>8.5375E-05 i  | 62.77352410<br>62.77006000    | 62.77179203<br>62.77179203    | 62.77179203<br>62.77179203     |
| 12.2171175<br>1.374514E-03 i | 12.21711755<br>1.414214E-03 i | 12.21711755<br>1.369104E-03 i | 12.21711755<br>1.377460537E-03 |

The curious result from the Math-Pac for the second problem results from the definition of the coefficient of the second degree term as unity. That means that the coefficient of the first degree term is entered as 654321/654323 and the constant term as -1308644/654323. I obtain a similar curious result if I enter those coefficients in either the textbook solution or in the revised solution.

## An hp-33s Program Which Avoids Destructive Cancellation

```
K0001 LBL K
K0002 CF 1
K0003 INPUT A
K0004 INPUT B
```

Which quadratic solution should we use?

```
K0005 INPUT C
K0006 RCL A
K0007 x ne 0 ?    not equal to
K0008 GTO L
K0009 RD          roll down
K0010 x<>y
K0011 /
K0012 +/-
K0013 0
K0014 1/x
K0015 STOP
K0016 GTO K
L0001 LBL L
L0002 x
L0003 x<>y
L0004 +/-
L0005 2
L0006 /
L0007 ENTER
L0008 RD
L0009 x^2        x squared
L0010 -
L0011 x<=0?
L0012 GTO M
L0013 SF 1
L0014 square root
L0015 x<>y
L0016 /
L0017 LASTx
L0018 R^         roll up
L0019 x<>y
L0020 /
L0021 STOP
L0022 GTO K
M0001 LBL M
M0002 +/-
M0003 square root
M0004 x<>y
M0005 RD
M0006 x<>y
M0007 SGN
M0008 x
M0009 +
M0010 ENTER
M0011 R^
M0012 /
M0013 x<>y
M0014 x=0?
M0015 STOP
M0016 x=0?
M0017 GTO K
M0018 RCL C
M0019 x<>y
M0020 /
M0021 STOP
M0022 GTO K
```

## Re: Which quadratic solution should we use?

Message #2 Posted by [allen](#) on 4 Mar 2007, 1:24 a.m.,  
in response to message #1 by Palmer O. Hanson, Jr.

I have been reading through Wickes's book "HP 48 insights" that another forum member sent. It is truly beautiful to see in practice what Karl mentioned a few days ago:

Quote:

---

...use equation-based programming when the formula is simple and straightforward, and use keystroke programming when the formula or calculation is lengthy...

---

Is not the quadratic equation a worthy example? I did not appreciate the simplicity of the equation until I saw it in this form:

[http://www.enterhp.com/images/quadratic\\_eq-512.jpg](http://www.enterhp.com/images/quadratic_eq-512.jpg)

There are really only two terms here:  $c/a$  and  $b/2a$ , the second of which comes up twice! So, a very straightforward RPN-equation would be a two-fold process:

`[a b c] -> [c/a b/2a] -> [root1 root2]`

I can't find my original program from 1993, so here is a rough hack for one at 52.5 bytes. I know someone can get one below 50 bytes.

```
<<
  SWAP -2 / ->V2 SWAP / V->      'sets up [c/a,-b/2a] using vector
  DUP SQ ROT - (SQRROOT)         'finds SQRROOT(b^2/4a^2 -c/a)
  DUP2 + 3 ROLL -                'gets both Y+X and Y-X on the stack.
>>
```

Then again you could just type in:

```
[pre]
<<
->V3 PROOT
>>
```

But I think that would defeat the purpose....

*Edited: 4 Mar 2007, 1:53 a.m.*

### Re: Which quadratic solution should we use?

Message #3 Posted by [Les Wright](#) on 4 Mar 2007, 2:04 a.m.,  
in response to message #2 by allen

This is very elegant but it still has destructive cancellation and gives wrong answers for all of the tough examples Palmer gives.

Les

### Re: Which quadratic solution should we use?

Message #4 Posted by [Karl Schneider](#) on 4 Mar 2007, 4:01 a.m.,  
in response to message #1 by Palmer O. Hanson, Jr.

Hi, Palmer --

Quote:

\_\_\_\_\_

A more thorough treatment of the subject with a similar solution method appears in the appendix "Accuracy of Numerical Calculations" to the HP-15C Advanced Functions Handbook also published in 1982. The discussion on page 191 presents the textbook formula and an algebraically equivalent calculation sequence which avoids "destructive cancellation". (Readers of that reference should note that *for some reason the authors chose to define the quadratic as  $c - 2bz + az^2$* . The more common definition is used here.) The discussion states

"... Such a program will be listed later (page 205) and must be used in those instances, common in engineering, when the smaller root y is needed accurately despite the fact that the quadratic's other unwanted root is relatively large."

\_\_\_\_\_



One advantage of defining the quadratic that way is that the determinant becomes  $b^2 - ac$  instead of  $b^2 - 4ac$ , and the magnitude of those terms is reduced by a factor of 4.

I haven't fully examined the program to determine exactly how it works. Both the  $b^2$  and  $a*c$  terms overflow a 10-digit register in cases 4, 5, and 6. " $b^2 - ac$ " nonetheless is calculated and tested against zero in several ways.

-- KS

Quote:

A demonstration problem is provided. For a quadratic equation of the form  $ax^2 + bx + c$  and  $a = 1E-13$ ,  $b = -2$  and  $c = 1$  the exact solution is  $r1 = 2E13$  and  $r2 = 0.5$ . Implementation of the textbook formula on most HP and TI machines will yield  $r1 = 2E13$  and  $r2 = 0$ .

I get

```
r1 = 1999999999999.499999999999875      = 2E13 - 0.5 - 1.25E-14
r2 = 0.50000000000001249999999996826535  ~=          0.5 + 1.25E-14
```

on Windows XP Calculator, with its 80-bit extended double-precision variables. These results are quite close to exact, with about  $1E-25$  calculation roundoff error when re-inserted into the original equation.

$x = 0.5$  would be the only (and exact) solution if "a" were zero.

$x = 2E13$  yields  $ax^2 + bx = \text{zero exactly}$ , so  $ax^2 + bx + c = 1$ .

In the original problem, calculating the square root of the determinant " $b^2 - 4ac$ " as

```
sqrt(abs(b + 2*sqrt(a)*sqrt(c)) * sqrt(abs(b - 2*sqrt(a)*sqrt(c)))
```

roundoff error was reduced, but 12 significant digits isn't enough without using special methods.

-- KS

*Edited: 4 Mar 2007, 3:03 p.m.*

## Re: Which quadratic solution should we use?

Message #5 Posted by **Palmer O. Hanson, Jr.** on 4 Mar 2007, 9:22 p.m.,  
in response to message #4 by Karl Schneider

Quote:

I get

```
r1 = 1999999999999.499999999999875      = 2E13 - 0.5 - 1.25E-14
r2 = 0.50000000000001249999999996826535  ~=          0.5 + 1.25E-14
```

on Windows XP Calculator, with its 80-bit extended double-precision variables. These results are quite close to exact, with about  $1E-25$  calculation roundoff error when re-inserted into the original equation.

You can, of course, simply do the arithmetic with pencil and paper and find that  $r1$  will be a little less than

2E13 and r2 will be a little more than 0.5. Furthermore, for  $a = 1E-nn$ ,  $b = -2$  and  $c = 1$  the pencil and paper answers will be r1 a little less than 2Enn and r2 a little more than 0.5. Some tests with a number of machines show that if nn is less than the number of digits carried by the machine (but in some cases only if nn is two less than the number of digits carried by the machine) then the machine will get the 0.5 answer using the textbook solution. This means that getting the 0.5 answer for r2 from unknown routines on fifteen digit machines like the TI graphic calculators, for example, does not mean that the unknown routines use the more accurate formulation. I have tested the routines in the TI-85, TI-86 and TI-89 to verify that they will get the 0.5 answer when nn is greater than 15.

### Re: Which quadratic solution should we use?

Message #6 Posted by **John Keith** on 4 Mar 2007, 1:42 p.m.,  
in response to message #1 by Palmer O. Hanson, Jr.

Thank you, Palmer, for this thorough and enlightening post. To answer your original question, I am guessing HP's logic goes something like this:

Professional engineers etc. who are paying big \$\$ for the higher-end calcs and reading the advanced-function manuals are likely to run into unusual problems for which they need accurate solutions. Purchasers of simpler, less expensive machines are likely to be students for whom learning to use and program the calculator to solve textbook problems is more useful. HP may have thought that the more accurate but less obvious program would confuse and intimidate beginners and students but be worth the consideration (and extra keystrokes) of more advanced users

John

(Post edited for additional note)

Though it may be defeating some purposes, the PROOT function on the 50g returns the correct result for all 4 of Allen's examples, and does so in less than half a second. Presumably it uses the better algorithms that Palmer describes.

*Edited: 4 Mar 2007, 5:48 p.m. after one or more responses were posted*

### Re: Which quadratic solution should we use?

Message #7 Posted by **Palmer O. Hanson, Jr.** on 4 Mar 2007, 9:35 p.m.,  
in response to message #6 by John Keith

Quote:

I am guessing HP's logic goes something like this:

Professional engineers etc. who are paying big \$\$ for the higher-end calcs and reading the advanced-function manuals are likely to run into unusual problems for which they need accurate solutions. Purchasers of simpler, less expensive machines are likely to be students for whom learning to use and program the calculator to solve textbook problems is more useful. HP may have thought that the more accurate but less obvious program would confuse and intimidate beginners and students but be worth the consideration (and extra keystrokes) of more advanced users

You may be correct. I find it interesting that H-P chose to give the more accurate formulation for the HP-67 and the HP-15C, albeit not in the baseline documentation but in extended documentation. This may be consistent with the opinion expressed with some frequency in this forum that H-P isn't providing documentation as carefully as they used to.

One concern about the "more accurate" method arises from my background in aerospace and weapons systems where we always worried a little (maybe a lot) when we changed software to fix one problem for fear that we may have inadvertently caused another problem.

---

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## HP Forum Archive 17

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### HP-200LX died sudenly

Message #1 Posted by [jbssm](#) on 3 Mar 2007, 6:16 p.m.

Hi all,

well, I know the 200LX is not really a calculator, but I wonder if someone can be of some help.

I stored my 200LX for about 2 months (without batteries), now it simply doesn't turn on, does anybody have some procedure I can try?

Thanks in advance.

### Re: HP-200LX died sudenly

Message #2 Posted by [Peter A. Gebhardt](#) on 3 Mar 2007, 6:28 p.m.,  
in response to message #1 by [jbssm](#)

Take a look here

<http://www.hplx.net/faq.power.html>

Hope this helps.

Peter A. Gebhardt

### Re: HP-200LX died sudenly

Message #3 Posted by [jbssm](#) on 3 Mar 2007, 7:19 p.m.,  
in response to message #2 by [Peter A. Gebhardt](#)

Thank you Peter,

I've read trough the page, but it actually doesn't say how to solve the situation.

In section 2.2, it should tell how to exit backup mode ... but it actually doesn't.

I've tried new batteries and plugging the unit to current with my AC power adapter ... but to no luck :(

### Re: HP-200LX died sudenly

Message #4 Posted by [Bill \(Smithville, NJ\)](#) on 3 Mar 2007, 8:31 p.m.,  
in response to message #1 by [jbssm](#)

You could try the following:

1. Remove the backup coin size battery and leave it out.
2. Make sure that there are no cards in the card slot.
3. Buy a new set of AA batteries. Check their voltage to make sure they are above 1.5V.

4. Insert the new AA batteries only. Leave backup battery out.
5. Unit should come on at battery insertion.
6. Wait 8-10 seconds. You should hear a beep indicating that you have low backup battery.
7. Press ESC, then ON Key, then on key again. Unit should beep again indicating low backup battery.
8. Of course, you should be seeing something on the screen.
9. If screen remains blank, BUT you do hear the beeps, then unit is operating but something is wrong with the screen.

You could try ON with PLUS or MINUS key to see if contrast of screen is set too low or high. I once had a HP-200LX that was very temperature sensitive and I always had to play with the Contrast each time I turned it on and as I used it.

10. If you don't hear any beeps, then it's more than just the screen or contrast.

Good Luck,

Bill

---

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## HP Forum Archive 17

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### **Charging time for repaired HP 82120**

Message #1 Posted by [Matthias Wehrli](#) on 3 Mar 2007, 5:31 p.m.

Hi

Just forgot how long I should charge my replaced HP 82120A cells (NiCd, 50mA).. Anyone knows?

---

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## HP Forum Archive 17

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### RPN vs ALGEBRA programming

Message #1 Posted by [E Samuel Levy](#) on 3 Mar 2007, 10:12 a.m.

I can see RPN when you have constraints of program size and processor speed. When given a formula you don't understand and none of the constraints apply I can see it is simply easier to slavishly insert it as written.

### Re: RPN vs ALGEBRA programming

Message #2 Posted by [Eddie Shore](#) on 3 Mar 2007, 10:35 a.m.,  
in response to message #1 by E Samuel Levy

For the 48/49/50 series, I tend to do simple tasks in RPN, but if I have a really complicated formula, I will use the ' delimiters.

### Re: RPN vs ALGEBRA programming

Message #3 Posted by [bill platt](#) on 3 Mar 2007, 10:51 a.m.,  
in response to message #1 by E Samuel Levy

"When given a formula you don't understand "

This is a problem regardless of the input-action logic paradigm.

### Re: RPN vs ALGEBRA programming

Message #4 Posted by [Walter B](#) on 3 Mar 2007, 10:55 a.m.,  
in response to message #3 by bill platt

Couldn't agree more d:-)

### Re: RPN vs ALGEBRA programming

Message #5 Posted by [Maximilian Hohmann](#) on 3 Mar 2007, 12:41 p.m.,  
in response to message #4 by Walter B

Hello!

Quote:

\_\_\_\_\_  
Couldn't agree more d:-)  
\_\_\_\_\_

I wouldn't say that. I don't understand Maxwell's equations or Hilbert transforms (or even Einsteins  $e=mc^2$  as simple as it may look), but I could easily program them on any computer...

Greetings, Max

**Re: RPN vs ALGEBRA programming**

Message #6 Posted by [Karl Schneider](#) on 3 Mar 2007, 1:57 p.m.,  
in response to message #1 by E Samuel Levy

Hi, "Sam" --

Quote:

---

I can see RPN when you have constraints of program size and processor speed. When given a formula you don't understand and none of the constraints apply I can see it is simply easier to slavishly insert it as written.

---

I'm not quite sure what your "thesis statement" is, but my take on the matter is to use equation-based programming when the formula is simple and straightforward, and use keystroke programming when the formula or calculation is lengthy, intricate, or more difficult to implement.

Keystroke programming allows conditional tests, flags, branching, and debugging by single-step execution. Keystroke programs also run faster than equations.

The calculator models in which the user has a choice between equation-based and keystroke-entry programs are the HP-32SII, HP-33S, and the RPL-based HP-28/48/49/50. RPL programs, however, are completely different in form and lack single-step execution.

Now, about RPN versus AOS keystroke programs: The AOS program may not show each and every intermediate result, and is generally not different in sequence of entry from the algebraic expression. As a program, wouldn't a user rather see

$$X * ( Y + ( Z / T ) ) - W$$

instead of the following?

```
RCL X
*
(
RCL Y
+
(
RCL Z
/
RCL T
)
)
-
RCL W
=
```

The keystrokes are almost identical, but the only advantage of the keystroke program is the availability of intermediate results by single-step execution.

-- KS

---

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## HP Forum Archive 17

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**cardboard foldup HP-45**

Message #1 Posted by [E Samuel Levy](#) on 2 Mar 2007, 8:55 p.m.

The first ad for the HP 35 was a page that made into a mock HP35. I spent 2 days trying keystrokes on the mockup before I decided to but it. One of the peddlars had one, and he said get your own, so I did. My boss borrowed it for a negotiating session with a customer who started throwing numbers at him, he threw them right back and won the day. One fellow bought one for show and walked around with it on his belt. He came to me in tears, his battery would only last 5 minutes. I referred him to the manual. My battery lasted longer and longer as it was really used.

**Re: cardboard foldup HP-45**

Message #2 Posted by [Bruce Bergman](#) on 2 Mar 2007, 8:57 p.m.,  
in response to message #1 by [E Samuel Levy](#)

Goodness. I don't quite know what to say about this.

**Re: cardboard foldup HP-45**

Message #3 Posted by [Steve Borowsky](#) on 6 Mar 2007, 9:35 p.m.,  
in response to message #1 by [E Samuel Levy](#)

I guess that's one advantage of the cardboard model: very good on batteries!

---

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## HP Forum Archive 17

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### hp17bii+ formula problem, HP response

Message #1 Posted by [Don Shepherd](#) on 2 Mar 2007, 6:53 p.m.

I recently bought a 17bii+ and had problems entering a formula that the solver would accept. I wrote HP, and this is their reply. I'm not sure I understand exactly what they are saying, but they seem to reflect the discussion on this forum recently about this problem. Their recommended solution DOES work, but I heard it first from Bruce, another member of this forum.

Their reply:

Hello Mr. Shepherd

Thank you for your support of HP Calculators.

My name is Rainer Boelzle and I am the HP Calculator WW TCE & Support Manager. Thank you for your letter dated 2/24/2007. I forwarded your email to our technical expert and he provided the following feedback:

-----  
The user is entering the following formula:

```
0*L(A: LOG(N)+1)+
sigma(I :1:A:1:
  MOD(N:10)+
  0*L(N:IP(N/10)))
```

Which is semantically correct, but meaningless.

The reason for this is that: The variable A is a 'place holder', not a real variable as it's value is changed all the time (by the L(A: LOG(N)+1). The variable N, the input is also changed all the time by the L(N:IP(N/10))

The solver will try to make the whole equation equal to 0, ie: Sum, LOG(N)+1 times of ( N mod 10, with a division of N by 10 each time). Ie, this equation calculates the sum of the digits in the integer part of N.

However, as the solver is iterative (ie it will execute the equation multiple times), after the first calculation, N will be equal to 0 and the solver will stop with whatever value in A and 0 in N...

If the user really wants to calculate the sum of the digits of a number he should do like this:

```
DIGITS=0*L(M:N)+sigma(I:1:LOG(N)+1:1:MOD(G(M):10)+0*L(M:IP(G(M)/10)))
```

And he will be able to enter a number in N and solve for digits and get the sum of the digits of the number.

Note that he will not be able to do the reverse, ie: enter a value for digits and find a number as this is not a continuous function and the solver can not solve for that...

-----  
I hope this helps. Please let me know if I can be of any further assistance.

Thank you.

Rainer

Hewlett-Packard Company  
16399 West Bernardo Drive, MS 8-600  
San Diego, CA 92127  
858-655-6737

### Re: hp17bii+ formula problem, HP response

Message #2 Posted by [Bill \(Smithville, NJ\)](#) on 2 Mar 2007, 8:16 p.m.,  
in response to message #1 by Don Shepherd

Hi Don,

Very interesting. I just entered

$$S = 0 * L(A: LOG(N)+1) +$$
$$\text{sigma}(I : 1:A:1:$$
$$\text{MOD}(N:10)+$$
$$0 * L(N:IP(N/10)))$$

into my HP-19BII and it works great. I'm not sure I understand why the variable A would be changed since the SIMGA is the only area that should be calculated multiple times. It would appear that the re-arranging of the equation is done differently between the 19BII and the 17BII+.

I've just started playing around with the solver on the 19BII, so I may not really know what I'm talking about :)

Bill

### Re: hp17bii+ formula problem, HP response

Message #3 Posted by [Gene](#) on 2 Mar 2007, 10:18 p.m.,  
in response to message #2 by Bill (Smithville, NJ)

Yes, the solver doesn't work the same on the 17b2+ as it did on the 19bII (and original 17bII). That's the reason some things have to be done differently.

I AM glad their solution worked.

The 19BII solver also had the ability to use the financial functions INSIDE the solver. VERY nice. Unfortunately, they aren't in the 17b2+. Rats!

### Re: hp17bii+ formula problem, HP response

*Message #4 Posted by **Peter A. Gebhardt** on 3 Mar 2007, 6:37 a.m.,  
in response to message #1 by Don Shepherd*

Besides the known differences of the HP17bii solver -

Isn't it good news, that HP apparently is having at least one person able & willing to support questions in a NON "marketing way" like : "It is not mentioned in the manual - so why do you dumb a\*\* user use it?"

I welcome Rainer Boelzle and others from HP coming back to the community in a highly appreciated, supportive way!

Thanks a lot HP Calculator Division.

Best regards

Peter A. Gebhardt

*Edited: 3 Mar 2007, 6:38 a.m.*

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## HP Forum Archive 17

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### Misleading ebay auction using HP Museum photos

Message #1 Posted by [Mike](#) on 2 Mar 2007, 5:03 p.m.

Two problems with the auction. He describes it as **near perfect like new** and shows such a 71B. But the 71B is an HP Museum photo, with card reader.

No card reader is included AND the actual 71B is dented and scratched. **Be careful!**

[Not Near Perfect 71B](#)

Edited: 2 Mar 2007, 5:04 p.m.

### Re: Misleading ebay auction using HP Museum photos

Message #2 Posted by [opotente](#) on 2 Mar 2007, 7:20 p.m.,  
in response to message #1 by Mike

Thanks a lot Mike! Is it possible to report this to Ebay?

### Re: Misleading ebay auction using HP Museum photos

Message #3 Posted by [Mike](#) on 2 Mar 2007, 10:55 p.m.,  
in response to message #2 by opotente

Misleading auctions are hard to report. EBay likely wouldn't even understand. However, using someone else's photos is a violation and easy to prove.

However, again, he has fixed the auction and stated there is no card reader and included a note about the dent. But some will still miss these points, I suspect.

### Interesting Response from seller

Message #4 Posted by [allen](#) on 4 Mar 2007, 12:02 a.m.,  
in response to message #3 by Mike

FWIW. I wrote him about the copyrighted pictures he lifted from Dave's website and recommended that he relist the item with the same price he had, but with the newly added (actual) pictures and description, and without the "borrowed" MoHP picture.

After a discussion where he accused me of jealousy, fear, etc.. he insisted that I was the one who posted the original link for this thread, and proceeded to ammend his NEW listing with the following accusatory note (mistaking me for mike):

Quote:

\_\_\_\_\_

This item was up for auction earlier but due to another Ebay member who has the same calculator for sale and complained (probably Feared mine selling and his would not) about



Musty Electronics Takes In Collector's Heart Eagerly  
Massive Emotional Tantrum In Childish Haunt: eBay  
Mendacious Entrepreneur/TI Collector Has Embolism  
Misleading Electronic Tale Is Called Home Eventually  
Museum's Ephemera Taken. Is Caught Handily: Eruption

Regards,  
Howard

**Re: Interesting Response from seller - metiche def'n**

*Message #8 Posted by **Jim Creybohm** on 5 Mar 2007, 6:54 p.m.,  
in response to message #7 by Howard Owen*

From on line dictionary:

metiche:

Definici&#243;n | Sin&#243;nimos | Conjugator En Franc&#233;s | En Portugu&#233;s in  
context | images

meterete, metete, metiche LAm fam I adjetivo nosy

II m,f busybody

- Diccionario Espasa Concise: Espa&#241;ol-Ingl&#233;s English-Spanish &#169; Espasa-  
Calpe, S.A., Madrid 2000

**Re: Interesting Response from seller**

*Message #9 Posted by **Ron** on 5 Mar 2007, 8:48 a.m.,  
in response to message #4 by allen*

Sold it for \$220.

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## HP Forum Archive 17

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**HP-67 Question**

Message #1 Posted by [Trent Moseley](#) on 2 Mar 2007, 2:09 p.m.

Do any of the other HP calcs that use magnetic cards have a 'MERGE' function to extend program length?

tm

**Re: HP-67 Question**

Message #2 Posted by [John](#) on 2 Mar 2007, 2:19 p.m.,  
in response to message #1 by Trent Moseley

The HP65 did not.

The HP41 card reader had an HP67 compatible function that did the same thing and also had several HP41 instructions to do something similar.

The HP71 and HP75 did not, I think.

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## HP Forum Archive 17

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**HP-11C blinking asterisk**

Message #1 Posted by [Al Guim](#) on 2 Mar 2007, 12:03 p.m.

Hi there, my 11C is working normally, but lately an asterisk blinks constantly in the lower left corner of the display. No other ill effects that I can see; still calculates as expected. Should I be concerned?? Any way to disable it? Thanks!!

**Re: HP-11C blinking asterisk**

Message #2 Posted by [Chris Roccati](#) on 2 Mar 2007, 12:06 p.m.,  
in response to message #1 by [Al Guim](#)

The blinking asterisk is the low battery indicator. Sooner or later you'll have to replace the batteries. After that you won't have to bother with the asterisk for atleast ten years.

(My 11C worked with its original batteries for 18 years, now I am waiting to see how long the new ones will fare)

---

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## HP Forum Archive 17

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### **dv6258SE base hot when using**

Message #1 Posted by [Scooby Doo](#) on 1 Mar 2007, 7:46 p.m.

I need some help =- has anyone else had problems with the dv6258se notebook getting extremely hot on the base ( ram and hard drive areas ) when using on a lap pad or board on lap??

### **Re: dv6258SE base hot when using**

Message #2 Posted by [Eric Smith](#) on 1 Mar 2007, 8:01 p.m.,  
in response to message #1 by Scooby Doo

This isn't really the right forum, and I don't have that model (I've got a dv5210us), but basically all laptops/notebooks do that. A laptop typically uses 30-40W, and converts more than 95% of it to heat. By comparison, a heating pad uses about 8W and reaches 170-180 degrees Farenheit. So naturally the laptop will get very hot, and won't be too comfortable on one's lap.

If the laptop has a fan, make sure the vents are not obstructed, as the forced air cooling will exhaust some of that heat into the room rather than your lap.

### **Kahan's Integral for Laptops**

Message #3 Posted by [allen](#) on 1 Mar 2007, 10:45 p.m.,  
in response to message #1 by Scooby Doo

The probability that a laptop will get hot if insulated while running can be expressed as the integral:

$$P = \int_{x=0}^{x=1} \sqrt{1^{(s!!!)}} dx$$

Where s= the Processor speed in hertz. (undefined at s=0)

Richard P. Feynman spoke about this very issue in one of his later books. In brief, entropy is the way of the future.

*Edited: 2 Mar 2007, 12:40 a.m. after one or more responses were posted*

### **Re: dv6258SE base hot when using**

Message #4 Posted by [PeterP](#) on 2 Mar 2007, 12:01 a.m.,  
in response to message #3 by allen

very cute...

### **Re: Kahan's Integral for Laptops**

Message #5 Posted by [Les Wright](#) on 2 Mar 2007, 7:49 a.m.,  
in response to message #3 by allen

Be careful of overusing those exclamation points in this Forum. Some folks don't seem to like that sort of thing.

Les

### **Re: Kahan's Integral for Laptops**

*Message #6 Posted by [cfh](#) on 2 Mar 2007, 11:47 a.m.,  
in response to message #5 by Les Wright*

! = faculty in this case(?)

/cfh

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## HP Forum Archive 17

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### Thank you. Point not !

Message #1 Posted by [gileno](#) on 1 Mar 2007, 4:18 p.m.

Excuses my English.

I would like to ask to all that concluded the subject on Valentin and me.

I thank the whole support and the sensibility.

And I am sure that Valentin is a very intelligent person and he didn't want to speak anything on me.

I ask for excuses the whole for my topic on the value of the HP-46.

I wanted a lot to contribute to the alone forum that I have a barrier the language.

Sincerely I apologize to all.

It is again excuse my English

HP For Always (HPFA) :-)

*Edited: 1 Mar 2007, 4:19 p.m.*

### Re: Thank you. Point not !

Message #2 Posted by [Jean-Michel](#) on 1 Mar 2007, 4:37 p.m.,  
in response to message #1 by [gileno](#)

You're welcome, Gileno !

Don't worry about your english speaking, mine isn't much better :-)

The most essential thing is friendship and respect between us, (there are enough worries out of there) and our common interest for vintage HP calculators, each person with his own capabilities... and his own sensibility !

Continue to look for particular HPs on eBay, I often have a look to your links.

A rivederci, Gileno. (Is that correct ?)

### Re: Thank you. Point not !

Message #3 Posted by [gileno](#) on 1 Mar 2007, 5:56 p.m.,  
in response to message #2 by [Jean-Michel](#)

Thank's. Até mais :-)

### Re: Thank you. Point not !

Message #4 Posted by [Ron Allen](#) on 1 Mar 2007, 6:20 p.m.,  
in response to message #1 by [gileno](#)

Well-said, Gileno. Whatever your ability is in English, it is far superior to mine in yours. Thank you for doing us the honor of trying so valiantly to communicate in my native language.

Chao,

Ron

**Re: Thank you. Point not !**

*Message #5 Posted by **Howard Owen** on 1 Mar 2007, 9:40 p.m.,  
in response to message #1 by gileno*

Glad you're staying, Gileno.

It would be pointless of me to make the pun I was thinking of ..

Regards,  
Howard

**"Point not"? How about this one...**

*Message #6 Posted by **Karl Schneider** on 2 Mar 2007, 12:37 a.m.,  
in response to message #5 by Howard Owen*

"Point not, using an *integer-valued* pointer to address the second character in a HP-41 Extended Memory text-file record.

Point rather, using a value of the form rrr.001 with SEEKPT or SEEKPTA to address the character."

(Reference: HP-41CX Owner's Manual, pp. 213-216)

Hmm, I'd say that John F. Kennedy's famous quote will remain more memorable, although we really ought to be asking what our calculators can do for us, rather than what we can do for our calculators...

-- KS

*Edited: 2 Mar 2007, 1:05 a.m.*

**Re: "Point nought"?**

*Message #7 Posted by **Paul Brogger** on 2 Mar 2007, 10:33 a.m.,  
in response to message #6 by Karl Schneider*

... as in, "n.0" -- or "precisely".

(But that's a bit of a stretch.)

*Edited: 2 Mar 2007, 10:34 a.m.*

**Re: "Point not"? How about this one...**

*Message #8 Posted by **Gerson W. Barbosa** on 2 Mar 2007, 1:53 p.m.,  
in response to message #6 by Karl Schneider*

Quote:

\_\_\_\_\_  
"Point not"?  
\_\_\_\_\_

Only now I have figured out what Gileno meant by that:

**Point not ! = Period [is] not exclamation mark**

(I used to be smarter :-)

That's because in Portuguese "period" is called "ponto". That's one of the many *false friends* we have to beware of. Yet another example:

*Idioma inglês* = English language, not "English idiom".

Gerson.

**Re: "Point not"? How about this one...**

Message #9 Posted by **Paul Brogger** on 2 Mar 2007, 3:32 p.m.,  
in response to message #8 by Gerson W. Barbosa

In 1984 I'd been away for a month in South Africa on business, and in anticipation of my return, I contracted to have a bouquet of flowers delivered to my wife. She'd been taking care of our "tribe" all alone, and was anxious for my arrival. So, on the little message card, I quoted a CSN&Y song, with,

And you know, the darkest hour . . .

thinking she'd mentally complete the sentiment with " ... is always just before the dawn".

After handing the note card to the clerk, he called the tele-florist company to convey that message to someone at a computer terminal somewhere, so it could be transmitted quickly to the local florist in Washington state who would actually create the bouquet. I clearly remember him carefully reading the message: "He wants it to say, 'And you know the darkest hour', followed by point, point, point."

As in, decimal points, right? (Those quaint other-worlders and their curious names for things!)

Well, what she got was

And you know the darkest hour!!!

Not exactly a momentous mis-communication, but neither did it *quite* convey the sentiment intended.

*Edited: 2 Mar 2007, 4:14 p.m.*

**Re: "Point not"? How about this one...**

Message #10 Posted by **Gerson W. Barbosa** on 2 Mar 2007, 8:44 p.m.,  
in response to message #9 by Paul Brogger

Fortunately the consequence in this case was just a small perplexity when the card was read, but some linguistic misunderstandings are said to have started wars. I don't know any true example, though.

Gerson.

P.S.: The florist company was not run by Mr. Flores, was it? Probably not, that other song is even older :-)

**Re: "Point not"? So \*that's\* it...**

Message #11 Posted by **Karl Schneider** on 3 Mar 2007, 12:40 a.m.,  
in response to message #8 by Gerson W. Barbosa

Quote:

---

*"Point not"?*

Only now I have figured out what Gileno meant by that:

Point not ! = Period [is] not exclamation mark

---

Oh! I thought the meaning was this: "Point not thy finger at me; point thy finger at the other gentleman for this unpleasantness!"

As for my, um, *paraphrased* JFK reference in my earlier post in this thread, it was this from his 1961 Inaugural Address:

*"Ask not what your country can do for you — ask what you can do for your country."*

-- KS

**Re: "Point not"? So \*that's\* it...**

Message #12 Posted by **Gerson W. Barbosa** on 3 Mar 2007, 10:57 a.m.,  
in response to message #11 by Karl Schneider

Quote:

---

As for my, um, *paraphrased* JFK reference in my earlier post in this thread, it was this from his 1961 Inaugural Address:

*"Ask not what your country can do for you — ask what you can do for your country."*

---

Hello Karl,

Yes, I know this part of John F. Kennedy's famous speech since I was 15. In the first page of an English book we had at home there was a picture of JFK and the phrase, accompanied by a Portuguese translation. This unusual negative imperative form sounds really very emphatic. It was quite a good surprise when my first multimedia encyclopedia (The New Grolier Multimedia Encyclopedia Release 6 - 1993) presented, under *Sounds/Famous Speeches/Kennedy, John F. (First Inaugural)*, this part of the speech in Kennedy's voice:

*"...and so my fellow Americans, ask not what your country can do for you — ask what you can do for your country. My fellow citizens of the world, ask not what America will do for you, but what together we can do for the freedom of man!"*

It would be amazing if there was a recording of Cicero's famous speech, in his own voice:

*"Quo usque tandem, Catilina, abutere patientia nostra?"*. The recording in this link is not bad, but has a bit of American accent :-)

<http://www.rhapsodes.fl.vt.edu/cicero.htm>

Regards,

Gerson.

**Re: "Point not"? So \*that's\* it...**

Message #13 Posted by **Massimo Gnerucci (Italy)** on 3 Mar 2007, 11:34 a.m.,  
in response to message #12 by Gerson W. Barbosa

Quote:

"Quo usque tandem, Catilina, abutere patientia nostra?"

Oh my gosh, Gerson!

I still remember what reaction this very quote (albeit a little paraphrased (sp?) ) had when I used it a couple of years back...

I wish you a better luck! ;)

Massimo

**Re: "Point not"? So \*that's\* it...**

Message #14 Posted by **Gerson W. Barbosa** on 3 Mar 2007, 11:50 a.m.,  
in response to message #13 by Massimo Gnerucci (Italy)

Ciao, Massimo!

Quote:

I still remember what reaction this very quote (albeit a little paraphrased (sp?) ) had when I used it a couple of years back...

I wish you a better luck! ;)

I was thinking of providing a translation, but I couldn't think of anything close to the original. Anyway, the link shows the whole text and an English translation.

Best regards,

Gerson.

P.S.:

It seems I made a mistake when quoting from memory. That's the correct phrase, as quoted by you on 25 Oct 2005:

*"Quo usque tandem abutere, Catilina, patientia nostra?"*

Perhaps because the usual Portuguese translation is



*"Até quando, Catilina, abusarás de nossa paciência?"*

*Edited: 3 Mar 2007, 12:00 p.m.*

**Re: "Point not"? Aha! Thanks for the hint!**

*Message #15 Posted by **Walter B** on 3 Mar 2007, 3:13 a.m.,  
in response to message #8 by Gerson W. Barbosa*

Quote:

Only now I have figured out what Gileno meant by that:

Point not ! = Period [is] not exclamation mark

Muito obrigado, Gerson! Thanks a lot - I was guessing, but couldn't find a clue. So what Gileno wanted to express was IMO:

**Thank you. Period (not exclamation mark).**

... showing he has learned exclamation marks are not welcome here. Well, special characters seem to be used differently in different languages. Their meaning may even vary in the same. For me, it's always fun to see e.g. baker's ads reading

**"Frische" Brezeln**

(literally translated: "fresh" bretzels). Because, to me, the quotation (sic!) marks indicate a doubt, meaning the bretzels are \*called\* freshly baken, but may \*be not\*. The baker used the marks for emphasizing instead (incorrectly, but widespread, saving the ink for underlining d;-)

Lots of traps even without crossing a language barrier!

*Edited: 3 Mar 2007, 7:37 a.m.*

**Re: "Point not"? Aha! Thanks for the hint!**

*Message #16 Posted by **gileno** on 3 Mar 2007, 7:39 a.m.,  
in response to message #15 by Walter B*

Point = END, Closing ...  
Simple :-)

*Edited: 3 Mar 2007, 7:40 a.m.*

**Re: "Point not"? Solution**

*Message #17 Posted by **Walter B** on 3 Mar 2007, 10:50 a.m.,  
in response to message #16 by gileno*

Exactamente! Solo debe saver que ha pensato il scrittore (hope that's halfway correct).

Exactly - the reader just has to find out what the poster meant when he was writing. As you said, it is simple d;-) Thinking in the same language strongly supports understanding. See Gerson's post.

Cordialmente de Germania a Italia!

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**Re: "Point not"? Solution**

*Message #18 Posted by **Massimo Gnerucci (Italy)** on 3 Mar 2007, 11:37 a.m.,  
in response to message #17 by Walter B*

Quote:

\_\_\_\_\_

Cordialmente de Germania a Italia!

\_\_\_\_\_

I know for sure that Gerson was studying italian but he actually is from Brazil... :)

Massimo

---

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**Re: "Point not"? Solution**

*Message #19 Posted by **Gerson W. Barbosa** on 3 Mar 2007, 11:42 a.m.,  
in response to message #17 by Walter B*

Quote:

\_\_\_\_\_

Solo debe saver que ha pensato il scrittore (hope that's halfway correct).

\_\_\_\_\_

Hello, Walter!

The first half of your phrase is Spanish, the second part is Italian. There is a light mistake in each half:

The correct Spanish word is saber, though it sounds approximately, but not exactly, "saver", in European Spanish. And the article before "scrittore" should be "lo", for euphony reasons.

But I have understood what you meant: only the one who writes can understand what he's written. I don't know if I have made myself clear, but I can understand everything I've just written :-)

By the way, Gileno, a nice guy, is from Brazil, where Portuguese is spoken (Spanish can be understood, though).

Best regards,

Gerson.

*Edited: 3 Mar 2007, 11:44 a.m.*

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**Re: "Point not"? Solution thanks.**

*Message #20 Posted by **Walter B** on 4 Mar 2007, 4:33 a.m.,  
in response to message #19 by Gerson W. Barbosa*

Thank you both for your comments. You are right, I got it mixed up. Its a nice feature of Roman languages you can understand a large fraction of them if you know one (or at least some Latin), but making it difficult not to run into a mess as I obviously did. Desculpe por favor. Obrigado. Ponto.

**Re: "Point not"? Solution thanks.**

*Message #21 Posted by [Gerson W. Barbosa](#) on 4 Mar 2007, 7:14 a.m.,  
in response to message #20 by Walter B*

Quote:

\_\_\_\_\_  
Desculpe por favor. Obrigado. Ponto.  
\_\_\_\_\_

Hello Walter,

That's perfect Portuguese, although there is no need to apologize. About Romance languages, the ones that are most mutually understandable are Portuguese and Spanish. As of Latin, even Italian has become distant from it. It is helpful though. Too bad they don't teach it here anymore at public schools.

I appreciate your knowledge of these languages, considering your native language is German, it appears. To someone willing to learn a Latin language I would advise studying Spanish first, as there are only five vowels. In Portuguese there are 17 vowels, some of them nasal vowels. Once Spanish is mastered Portuguese will be a bonus :-)

Best regards,

Gerson.

*Edited: 4 Mar 2007, 7:14 a.m.*

**Re: Thank you. Point not !**

*Message #22 Posted by [Xerxes](#) on 2 Mar 2007, 6:15 a.m.,  
in response to message #1 by gileno*

Hi gileno,

you are really not alone with it. I guess sometimes my English seems to be a direct translation from German like "Babel Fish". ;-)

Off topic: I will send you a mail the next days.

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## HP Forum Archive 17

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### MultiFactorial using 19BII Solver

Message #1 Posted by [Bill \(Smithville, NJ\)](#) on 1 Mar 2007, 3:23 p.m.

Yesterday, Egan posted how to calculate multiFactorials, which I had never even heard of before his post. See following link

[MF Link](#)

Egan had posted a HP-15C program that would calculate it.

I've been playing around with the solver on the HP-19BII and thought I'd give a try at translating his 15C program to a solver equation.

I came up with the following:

```
MF = SIGMA(K:1:
      IF(X=N OR N=1:1:(X/N)+1):1:
      IF(K=1:0*L(M:X):0*L(X:X-N)+0*L(M:G(M)*X)))
  + IF(N=1:FACT(X):G(M))
```

Just enter X and N and press MF to solve.

I'm still trying to learn how to use the solver, and this is my first try with the SIGMA function. So would appreciate any suggestions, comments, etc on how to do it better.

Thanks,

Bill

*Edited: 2 Mar 2007, 8:40 a.m.*

### Re: MultiFactorial using 19BII Solver

Message #2 Posted by [Bill \(Smithville, NJ\)](#) on 2 Mar 2007, 8:48 a.m.,  
in response to message #1 by [Bill \(Smithville, NJ\)](#)

After a little more thinking and reading, I have come up with the following solver equation:

```
MF = IF (N=1:FACT(X):
      IF (X<=N:X:
          SIGMA(K:1:(X/N)+1):1:
              IF(K=1:0*L(M:X):0*L(X:X-N)+0*L(M:G(M)*X)))
          + G(M)))
```

It now checks for the simple cases of N=1 or where X <= N outside the SIGMA function.

Is there anyway to get rid of the Temporary Variable M?

Thanks,

Bill

*Edited: 2 Mar 2007, 1:50 p.m. after one or more responses were posted*

### **Re: MultiFactorial using 19BII Solver**

*Message #3 Posted by **Bill (Smithville, NJ)** on 2 Mar 2007, 10:22 a.m.,  
in response to message #2 by Bill (Smithville, NJ)*

Ooops...

Just noticed that if N is a multiple of X, then the solver always returns zero for MF, since the the final pass through the SIGMA loop would have  $X=0$ .

I could change the final index from  $(X/N)+1$  to  $(X/N)+0.99$  which would be correct for most cases, but would still fail under certain conditions. If the 19BII had the MOD fuction, then I could do

IF (MOD(X/N)=0:X/N:(X/N)+1

which would then add one more pass ONLY if N wasn't a multiple of X.

I could also add an IF statement to check for when  $X=0$  inside the SIGMA function and ignore multiplication. Not very elegant.

Anybody have any other suggestions?

Thanks,

Bill

### **Re: MultiFactorial using 19BII Solver**

*Message #4 Posted by **Bob Wang** on 2 Mar 2007, 12:14 p.m.,  
in response to message #3 by Bill (Smithville, NJ)*

Bill:

The 19BII does have a modulo function, MOD(X:Y)

Bob

### **Re: MultiFactorial using 19BII Solver**

*Message #5 Posted by **Bill (Smithville, NJ)** on 2 Mar 2007, 12:32 p.m.,  
in response to message #4 by Bob Wang*

Hi Bob,

Quote:

\_\_\_\_\_

The 19BII does have a modulo function, MOD(X:Y)

\_\_\_\_\_

Boy do I feel stupid - that's what I get for not checking the manual first. Thanks.

I just made the correction and it now works great. Corrected version follows:

MF = IF (N=1:FACT(X):

```
IF (X<=N:X:  
  SIGMA(K:1:IF (MOD(X:N):X/N:(X/N)+1):1:  
    IF(K=1:0*L(M:X):0*L(X:X-N)+0*L(M:G(M)*X))  
    + G(M))
```

Thanks,

Bill

*Edited: 2 Mar 2007, 2:47 p.m.*

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## HP Forum Archive 17

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**HP-65 Leather Case Tab**

Message #1 Posted by [John Garza](#) on 1 Mar 2007, 1:17 a.m.

Everyone may already know this - but I've never actually seen it in print anywhere. For the first few days of owning my HP-65, I wondered what that funny little tab was at the bottom of the case. First I thought it was a pencil holder. A Pentel mechanical pencil fits quite nicely. I remembered how I always had to "dig" the HP-65 out of it's case when I needed to use it. Then the LED went off over my head. Now when I want to remove the calculator, I open the velcro flap, lay the case down on it's back, pinch the little tab between my forefinger and thumb, then push the calculator up and out of the case with my middle finger. I thought "that's typical HP". A simple solution to a tricky problem.

**Re: HP-65 Leather Case Tab**

Message #2 Posted by [Palmer O. Hanson, Jr.](#) on 1 Mar 2007, 8:49 p.m.,  
in response to message #1 by John Garza

Quote:

\_\_\_\_\_

I thought "that's typical HP". A simple solution to a tricky problem.

\_\_\_\_\_

But, then they designed the battery compartment cover for the HP-28 and managed to accomplish a tricky solution to a simple problem.

**Re: HP-65 Leather Case Tab**

Message #3 Posted by [John Garza](#) on 2 Mar 2007, 1:47 p.m.,  
in response to message #2 by Palmer O. Hanson, Jr.

Yep, mine's broken too.

There is definitely a drop in quality between the LED machines and the LCDs. Some may say they're more rugged, but that's only because they're lighter. I wouldn't pay more than \$100 for ANY HP LCD machine. On the other hand, I'd pay \$1000+ for a state of the art machine that's built like a 67. But then, most people wouldn't, so that's why they don't exist. Most of the ones out there I classify as "kids toys" - and that includes the ones used for college & professional exams - kids need portable power to throw in a backpack & take to class. In the real world, it's all too easy to use a laptop, or if you want that handheld feel, run MathuPro on your cellphone. Let's face it - the only major market left for calculators IS "kids toys"!

-J

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## HP Forum Archive 17

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**New Addiction**

Message #1 Posted by [dbatiz](#) on 28 Feb 2007, 5:11 p.m.

Sirs,

Has the forum ever considered a page for younger users? I envision a FAQ section with examples that would supplement the information in the manuals. And maybe a collection of programming challenges targeted at grade specific skills.

I've introduced two 8th graders to HP calcs (11c and 50g) and they both have sworn off algebraic devices for ever. A forum for middle school and high school students with tips, tricks and techniques may help firm up the next generation of HP users.

I say this is a new addiction because acquiring my 11c is nowhere as satisfying as seeing it used for homework. Same for my 50g, having mine is OK, but putting a one into a young persons hands as simply awesome! Even my wife supports this addiction...

Any thoughts?

Very Respectfully,

David

**Re: New Addiction**

Message #2 Posted by [Reuben](#) on 28 Feb 2007, 10:32 p.m.,  
in response to message #1 by [dbatiz](#)

I think this is a great idea! I started using my 28s that my brother found, and gave me, in 7th grade. I had no manual, and nobody to help me with it. Needless to say, I didn't get very far until I bought the manuals 2 years later.

And getting the youngsters hooked on HP RPN calcs will help ensure that they (the calcs) have a rich future!

--Reuben

**Re: New Addiction**

Message #3 Posted by [John Garza](#) on 1 Mar 2007, 1:04 a.m.,  
in response to message #1 by [dbatiz](#)

Excellent idea. Most new information is for the college student, PE exam taker, etc. There is definitely a gap.

In addition to traditional programming assignments, I think it would be a good idea to give small groups of students larger tasks, even at an early age. That way they can divide up the work, and integrate it into a cohesive whole. This gives them a taste of project management and working with others - something that is done in the real world but frequently omitted from academic assignments. Of course, this is done with some



prior instruction in solving problems with groups of people. And those skills are more valuable than learning programming.

I've found that once a young person sees what they can accomplish as a group - even if they are only moderately successful - it's very hard to douse the flame that follows.

## **Re: New Addiction**

*Message #4 Posted by [Bruce Bergman](#) on 3 Mar 2007, 1:10 a.m.,  
in response to message #1 by dbatiz*

David, I love the idea!

I have been trying to wage my own personal fight against the TI calcs with my nieces and nephews, but I figured the battle was solely mine. It appears I'm not alone. My family knows of my love of HP calcs, and I have offered to buy HP calcs for any of my nieces and nephews if they wanted to experience "the other side" of things. So far a couple of them have taken me up on it, which I am very happy about.

However, I had not thought there were many other youngsters into HP calcs, and I love your idea. In fact, I love it so much that I'd be willing to put up a complementary site for the purpose of giving kids a place to talk about their calcs, share tips, etc -- all the things you've mentioned. I'd be willing to get the domain name, host it and handle the administrative side of everything, but I would seriously need to rely on other experts from here or other places to contribute content. If there are others interested in helping, I think we can really get something going.

BTW, I don't envision this as a competitor at all to the awesome resource we have here, but rather a sister site -- something for the kids to use and which could leverage resources, including this one.

So, I've thrown down the gauntlet. :- ) I'll set it all up and get it going if there are folks willing to contribute. Anyone?

thanks, bruce

## **Re: New Addiction**

*Message #5 Posted by [Eddie Shore](#) on 3 Mar 2007, 10:39 a.m.,  
in response to message #4 by Bruce Bergman*

The two big calculators to target are the 50g and the 12c (for business).

I am willing to contribute tricks and programs.

## **Re: New Addiction (i.e., starting a site for kids)**

*Message #6 Posted by [Bruce Bergman](#) on 6 Mar 2007, 10:41 a.m.,  
in response to message #4 by Bruce Bergman*

Well, the response was...underwhelming. I guess we're not yet at the point where folks are ready to contribute their knowledge of HP and RPN to the younger generation. At least not outside the confines of this hallowed hall.

My offer will remain open indefinitely: if I can get a small cadre of dedicated helpers, I'll take it from there.

thanks, bruce

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## HP Forum Archive 17

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**11C enter-key question**

Message #1 Posted by [Lalo](#) on 28 Feb 2007, 2:55 p.m.

I bought a 11C recently and i noticed that the ENTER-key is a bit stiffer than the other keys. It doesn't move downward as far as the other keys, but it does work properly though. Can anyone tell me if this is a normal/common thing ? (I haven't handled a 1XC before

**Re: 11C enter-key question**

Message #2 Posted by [Egan Ford](#) on 28 Feb 2007, 3:15 p.m.,  
in response to message #1 by Lalo

Press the top of the key.

**Re: 11C enter-key question**

Message #3 Posted by [Lalo](#) on 28 Feb 2007, 3:24 p.m.,  
in response to message #2 by Egan Ford

I didn't mention it, but what i described before is what happens when i press the top of the key.

**Re: 11C enter-key question**

Message #4 Posted by [Raymond Del Tondo](#) on 28 Feb 2007, 4:56 p.m.,  
in response to message #3 by Lalo

This is normal on many Voyager series machines,  
and IMHO the only annoyance on the Voyager series.  
Most of my Voyager units require the ENTER key to be pressed  
with more force than the other keys.  
Also the key feedback (click) is different.

However on some of my units the ENTER key works as expected,  
with nearly the same feedback as the other keys.  
You can imagine that those are my favourite units;-)

Raymond

**Re: 11C enter-key question**

Message #5 Posted by [Lalo](#) on 28 Feb 2007, 4:58 p.m.,  
in response to message #4 by Raymond Del Tondo

Good to hear it's not a real defect. Thanks for the info!

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## HP Forum Archive 17

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### Hi Luiz

Message #1 Posted by [Michel Beaulieu](#) on 28 Feb 2007, 1:12 p.m.

Can you email me please; i have problem with your email :-)

Thanks Michel

### (deleted post)

Message #2 Posted by [deleted](#) on 28 Feb 2007, 6:43 p.m.,  
in response to message #1 by Michel Beaulieu

This Message was deleted. This empty message preserves the threading when a post with followup(s) is deleted. If all followups have been removed, the original poster may delete this post again to make this placeholder disappear.

### Re: Hi Luiz

Message #3 Posted by [Michel Beaulieu](#) on 2 Mar 2007, 8:08 a.m.,  
in response to message #2 by deleted

I try this new email, i got no bounce but no answer too!

Michel

### (deleted post)

Message #4 Posted by [deleted](#) on 2 Mar 2007, 9:00 p.m.,  
in response to message #3 by Michel Beaulieu

This Message was deleted. This empty message preserves the threading when a post with followup(s) is deleted. If all followups have been removed, the original poster may delete this post again to make this placeholder disappear.

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## HP Forum Archive 17

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### **A funny thing happened to my 29C...**

Message #1 Posted by [John Garza](#) on 28 Feb 2007, 3:38 a.m.

I have an HP-29C that has been in storage for a few years. It seems to have absorbed some of the "black" from the inside of it's case into the tan/yellow outer shell. Warm water, kitchen cleaner, and a toothbrush didn't budge it. Looks like it's stained for good. It's faint, but bothersome as this was my mint-in-the-box 29C. The inside of the case was padded black fabric, whereas most of my other woodstocks have a tan fur lining. So, if you have a woodstock with a case with a black interior - beware.

### **Re: A funny thing happened to my 29C...**

Message #2 Posted by [David Smith](#) on 28 Feb 2007, 10:47 a.m.,  
in response to message #1 by John Garza

Try white gas (Coleman camping fuel). Removes most sticky stuff. Will not affect plastic cases. Also, toss that zip case into the washig machine. Your shedding goo problems will go down the drain,

### **Re: A funny thing happened to my 29C...**

Message #3 Posted by [Ron](#) on 28 Feb 2007, 12:00 p.m.,  
in response to message #2 by David Smith

I know I have read somewhere, that the white gas will surface damage the plastic. However, I assume you have used it with good results.

### **Re: A funny thing happened to my 29C...**

Message #4 Posted by [Ron](#) on 1 Mar 2007, 12:58 p.m.,  
in response to message #3 by Ron

I was mistaken. I had read on a Curta site not to use the Coleman fuel on the outside of a Curta.

### **Re: A funny thing happened to my 29C...**

Message #5 Posted by [John Garza](#) on 28 Feb 2007, 8:20 p.m.,  
in response to message #2 by David Smith

Well, it's not really gooey, and the case isn't shedding. I used to test E series cases by tapping the unzipped case over a sheet of white paper. Almost all would leave a black dust residue. I'm not getting that from this case. Maybe it's just getting ready to go. It has been stored in a low pressure environment for the past few years - perhaps there was some outgassing. Maybe I'll switch to dry nitrogen... Dammed oxygen. Can't live with it, can't live without it.

### **Re: A funny thing happened to my 29C...**

Message #6 Posted by [David Smith](#) on 1 Mar 2007, 10:44 a.m.,  
in response to message #5 by John Garza

Actually the residue is gooey and the case is shedding... it's a dry goo. You just can't feel it. I have seen the problem numerous times.

Coleman fuel does not affect most plastics. It is the best thing for removing sticker residue, etc. Also works fairly well for markers and ink. Keep it off the keyboard. My standard way of fixing badly scratched display windows is red jewelers rouge dampened with Coleman fuel. As with all commercial products, Coleman may get a wild hair up their alien probe hole and change their formula without notice. Test in an inconspicuous place if you are worried.

**Re: A funny thing happened to my 29C...**

*Message #7 Posted by [John Garza](#) on 1 Mar 2007, 10:58 a.m.,  
in response to message #6 by David Smith*

Ahhh... interesting. I suppose very tiny particles of goo would behave differently than a larger blob of goo. Like the way a very fine powder behaves as a liquid - a lot depends on the particle size. I'll try the Coleman fuel. I also noticed the rough texture of the case is much more evident than a typical woodstock - presumably from close to zero handling since manufacture. I have a 25C that's almost slick compared to it. I suppose that rough surface would provide better nooks and crannies for the goo particles to take up residence and avoid being washed away without using a solvent (like Coleman fuel) to actually dissolve them.

thanks,

-John

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## HP Forum Archive 17

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### HP 33S interactive site

Message #1 Posted by [E Samuel Levy](#) on 28 Feb 2007, 1:08 a.m.

Look at this site under product tour, it takes you through each button function. Good graphics.  
<http://h20331.www2.hp.com/hpsub/cache/301034-0-0-225-121.html>

### Re: HP 33S interactive site

Message #2 Posted by [Les Wright](#) on 1 Mar 2007, 12:46 a.m.,  
 in response to message #1 by [E Samuel Levy](#)

I think all of the present HP calcs have similar sites. Very helpful indeed!

I like the wide collection of pdf downloads available, even if some of them do duplicate what is already in the manual.

FWIW, I actually have a 33S routine for the normal and inverse normal distribution that is faster and more accurate since it works with the upper tail and doesn't depend on having to do an integration. I can share the listing if anyone wishes.

I have also just acquired a 17bii+, and I must confess I rather like it, though I have yet to bash heads with any of its bugs. The solver, cashflow, and TVM applications are very neat to use.

Les

### Re: HP 33S interactive site

Message #3 Posted by [Bruce Bergman](#) on 1 Mar 2007, 1:45 a.m.,  
 in response to message #2 by [Les Wright](#)

Hi Les --

Would *\*definitely\** be interested in your routines for the 33s. It's a great calc. Glad you're liking the 17bii+ -- Don and I have been having a blast with it -- admittedly sometimes frustrating -- and learning its nuances.

thanks! bruce

### Re: HP 33S interactive site

Message #4 Posted by [Les Wright](#) on 1 Mar 2007, 8:08 p.m.,  
 in response to message #3 by [Bruce Bergman](#)

Sure--basically, I have ported Baillard's HP41 routine for the error function, and added on another routine to compute the upper-tail normal distribution using it via the formula  $Q(x) = 0.5 \operatorname{erfc}(x/\sqrt{2})$ . Given this, you can set up a routine for the solver that finds  $x$  for a given upper-tail probability.



Let me work out some of the inefficiencies and get the code to you in the next few days. I have made a preliminary submission to Dave but have asked him not to post it until I revise it. In the 33S memory saving isn't as important as efficient use of labels, and I am trying to find ways of reducing label usage even if it means repeating similar steps at various points in the program.

Les

## Normal Distribution Stuff for 33S (LONG)

Message #5 Posted by [Les Wright](#) on 2 Mar 2007, 2:31 a.m.,  
in response to message #4 by Les Wright

Here are those listings.

Please note that the original routines for the HP41 are due to J-M Baillard and come from [here](#), though I have necessarily had to retool things to work with the limitations of the 33S.

Routine E computes erf and erfc for any real input using the alternating series expansion (<http://mathworld.wolfram.com/Erf.html> equation (6)) for  $x < 1.8$  and the continued fraction expansion (a version of equation (33) on the same page, computed out to 35 terms) for larger values.

Routine Q computes the upper tail and cumulative normal distribution using routine E and the relationship  $1 - P(z) = Q(z) = 0.5 \operatorname{erfc}(z/\sqrt{2})$ , where  $Q(z)$  is the upper tail and  $P(z)$  is the cumulative probability associated with  $z$  from a standard normal distribution (mean 0, variance 1).

Routine I is basically a programmed equation to compute the inverse distribution using Solve.

Thanks to the speed of the 33S, E and Q are surprisingly fast, returning a result in no more than a couple of seconds or so.

Computing the inverse probabilities takes longer since it uses the solver and requires repeat evaluations of Q, but with decent initial guesses will return a result in under a minute, I find. Note in routine I I take the difference of logarithms. This is especially helpful when the probabilities get really tiny and it helps the Solver avoid converging prematurely since the difference between two tinies is a tiny and may signal convergence before it is desired. Taking logarithms lets the solver work with numbers of more normal magnitude.

```

E0001 LBL E
E0002 STO A
E0003 ABS
E0004 1.8
E0005 x<=y?
E0006 GTO C
E0007 CLx
E0008 STO i
E0009 Rv
E0010 STO R
E0011 STO S
E0012 x^2
E0013 STO X
E0014 LASTx
L0001 LBL L
L0002 STO T
L0003 ISG i
L0004 SGN
L0005 2
L0006 RCL* i
L0007 1
L0008 +
L0009 1/x
L0010 ENTER
L0011 +

```

```
L0012 1
L0013 -
L0014 RCL/ i
L0015 RCL* X
L0016 STO* R
L0017 RCL R
L0018 STO+ S
L0019 RCL T
L0020 RCL S
L0021 x#y?
L0022 GTO L
L0023 ENTER
L0024 +
L0025 PI
L0026 SQRT
L0027 /
L0028 ENTER
L0029 +/-
L0030 1
L0031 +
L0032 x<>y
L0033 RCL A
L0034 x<0?
L0035 GTO N
L0036 Rv
L0037 RTN
C0001 LBL C
C0002 CLx
C0003 35
C0004 STO i
C0005 Rv
C0006 STO X
C0007 CLx
M0001 LBL M
M0002 RCL+ X
M0003 1/x
M0004 0.5
M0005 RCL* i
M0006 *
M0007 DSE i
M0008 GTO M
M0009 RCL+ X
M0010 1/x
M0011 RCL X
M0012 x^2
M0013 +/-
M0014 e^x
M0015 *
M0016 PI
M0017 SQRT
M0018 /
M0019 ENTER
M0020 +/-
M0021 1
M0022 +
M0023 RCL A
M0024 x<0?
M0025 GTO N
M0026 Rv
M0027 RTN
N0001 LBL N
N0002 Rv
N0003 ENTER
N0004 ENTER
N0005 1
N0006 +
N0007 x<>y
N0008 +/-
N0009 RTN

Q0001 LBL Q
Q0002 2
Q0003 SQRT
Q0004 /
Q0005 XEQ E
Q0006 Rv
Q0007 2
Q0008 /
Q0009 ENTER
```

```

Q0010 +/-
Q0011 1
Q0012 +
Q0013 x<>y
Q0014 RTN

```

```

I0001 LBL I
I0002 INPUT Q
I0003 INPUT Z
I0004 RCL Z
I0005 XEQ Q
I0006 LOG
I0007 RCL Q
I0008 LOG
I0009 -
I0010 RTN

```

Given any real  $x$  for input, XEQ E will return  $\text{erf}(x)$  in the X register and  $\text{erfc}(x)$  in the Y register.

Given any real  $z$  for input, XEQ Q will return the upper tail normal probability associated with  $z$  in register X, and the complement lower tail cumulative probability in Y.

For example 2 XEQ E returns  $\text{erf}(2) = 9.99532223502e-1$  in register X and  $\text{erfc}(2) = 4.677734981e-3$  in register Y.

Similarly 2 XEQ Q returns  $Q(2) = 2.2750131948e-2$  in register X (the upper tail probability associated with  $z = 2$ ), and  $P(2) = 1 - Q(2) = 9.7724986805e-1$  in register Y.

To compute the inverse normal distribution, use the routine I with the Solver.

For example, to compute the  $z$  associated with an upper tail probability of 0.0001: 1. Set FN = I. 2. Place guesses for Z on the stack--I just use 3 ENTER 3 here. 3. Execute SOLVE Z. 4 At the prompt Q?, enter  $1e-4$  R/S. This takes a few seconds but will return  $Z = 3.71901648545$ . Checking it with XEQ Q returns 0.0001 in register X, 0.9999 in register Y.

Hope you get some use out of this.

Les

### Re: Normal Distribution Stuff for 33S (LONG)

Message #6 Posted by [Bruce Bergman](#) on 3 Mar 2007, 1:13 p.m.,  
in response to message #5 by Les Wright

Hi Les --

Looks great! Thank you. I'm out of town at the moment and didn't bring my 33s with me, but I'll take a gander at this next week. I appreciate the work.

thanks! bruce

### Re: Normal Distribution Stuff for 33S (LONG)

Message #7 Posted by [Les Wright](#) on 3 Mar 2007, 7:05 p.m.,  
in response to message #6 by Bruce Bergman

I have also produced a routine for the 42S that computes the cumulative normal and upper tail probabilities directly using formula 26.2.11 and 26.2.14 in Abramowitz and Stegun. I have discovered that with the 33S code above the scaling of the input by  $1/\sqrt{2}$  introduces rounding error that gets propagated throughout the calculations and leads to digit loss, so

usually you can trust at most 10 digits and occasionally 11. Computing the cumulative normal distribution directly by its own series and continued fraction expansions tends to produce better results than routing the computation through erf and erfc. Of course, in Free42 with its 25 digits of precision, all of this is moot since there are so many guard digits internally that the 12 digits that get displayed, and then some (usually up to 20 or 21) are usually right.

Of course, if you are interested in doing a lot better than, say, the SigmaNORMD routine in the HP41 Stat Pac, which uses an antiquated rational approximation that is prone to subtraction digit loss in the upper tail, then this routine will give great results as it is.

I haven't ported the "normal distribution directly" routine to the 33S yet. It shouldn't be too hard, since there is nothing I did in the 42S routine that doesn't have a direct equivalent on the 33S. If you have any interest in this I will get to it when I can. The problem is I am running out of labels in my 33S!

Looking at the relevant formulae in Abramowitz and Stegun, which can be found free online, is very informative. I think my point in all this is that I think it is more sensible and quicker to compute these things directly than by the numerical integration scheme in the 33S manual that takes at least a few seconds each time to give modest accuracy. Thanks to JM Baillard, I have also learned that it is feasible to write simple code that computes continued fractions from right to left that is fairly quick, and it takes just a little experimenting to discern how many iterations you should take for maximum accuracy.

Les

### **Bruce you have mail (NT)**

*Message #8 Posted by [Les Wright](#) on 2 Mar 2007, 2:09 a.m.,  
in response to message #3 by Bruce Bergman*

*Edited: 2 Mar 2007, 2:09 a.m.*

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## HP Forum Archive 17

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### **Re: HP 33s screen shot**

Message #1 Posted by [E Samuel Levy](#) on 28 Feb 2007, 1:05 a.m.

<http://h20331.www2.hp.com/hpsub/cache/301034-0-0-225-121.html> This is a remarkable interactive of the 33s. There has been nothing like it before.

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## HP Forum Archive 17

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### Wisdom of the old ages and new ages

Message #1 Posted by [Namir](#) on 28 Feb 2007, 1:00 a.m.

"eBay snipers are like thieves in the night!" -- Confucius

"I know for a fact that HP will soon reintroduce the HP-15C any day now" -- Plato

"Your eBay bid is like a contract" -- Attila the Hun

"Don't bid unless you are serious" -- Dr Jekyll

"RPN will never die. It's here to stay!" -- Elvis

"eBay is another sad illusion" -- the Buddha

"The TI-59 suffers from dual personality ... split between true algebraic and RPN mode of operations" -- letter of Sigmund Freud to Carl Jung

"I am aware that some of you have joined our Russian campaign mainly to lute Russian RPN calculators!" -- Napoleon in a speech to the invading troops

"Cobubba! I am your father!!!" -- Ali Babba (of the Ali Babba and the forty thieves fame)

"I feel like cheating ... jumping in the future and grabbing one of them HP calculators with the SOLVE feature" -- personal note of Sir Isaac Newton right before he announced his root solving algorithm

And now for wisdom of the current age!!!

#### HP Collector's Twelve Steps

=====

1. We admitted we were powerless over collecting calculators that our lives had become unmanageable.
2. Came to believe that an RPL algorithm greater than ourselves could restore our code to sanity.
3. Made a decision to turn our will and our lives over to the care of HP as we understood HP.
4. Made a Google searching and fearless moral inventory of pi-calculating algorithms.
5. Admitted to HP, to ourselves, and to another collector the exact nature of our excessive spending.
6. Were entirely ready to have HP remove all these algebraic defects of our code.

7. Humbly asked HP to remove all of our EVAL statements and replace them with pure RPL code.
8. Made a list of all programs we had harmed, and became willing to make rewrites to them all.
9. Made direct edits to such code wherever possible, except when to do so would crash the system.
10. Continued to take personal inventory of algorithms and when we found the code was buggy, to promptly admitted it.
11. Sought through collection sales on eBay and reading through HP Museum threads to improve our conscious contact with HP as we understood HP,
12. Having had a mathematical awakening as the result of these steps, we tried to carry these algorithms to others, and to practice these principles of RPL in all our coding.

*Edited: 28 Feb 2007, 1:00 a.m.*

### **"Old" wisdom and "new" wisdom...**

*Message #2 Posted by [Karl Schneider](#) on 1 Mar 2007, 2:23 a.m.,  
in response to message #1 by Namir*

Hi, Namir --

Hmm, food for thought.

I'm not sure what to add to that. It's more creative or imaginative than I tend to be...

-- KS

### **Re: "Old" wisdom and "new" wisdom...**

*Message #3 Posted by [Namir](#) on 1 Mar 2007, 10:57 a.m.,  
in response to message #2 by Karl Schneider*

It's good that we make fun of our hobbies. We get a sense of empowerment from a hobby that sometimes turns into an addiction.

I also wrote it for fun!!!

Namir

### **Re: "Old" wisdom and "new" wisdom...**

*Message #4 Posted by [Ron Allen](#) on 1 Mar 2007, 11:46 p.m.,  
in response to message #3 by Namir*

Good work! Maybe you would like to furnish some thoughts on theory like:

Einstein - "Buy a place with 2 or more bedrooms on a Florida beach and you will see a lot of RELATIVES."

Heisenberg - "Hmmm, I'm not so sure of the UNCERTAINTY PRINCIPAL."

Wolfram - "My kind of movie, flying fractals and snakes in space. Limit as function approaches infinity, CHAOS

Allen - "Tertiary logic bound by the CONSTRAINTS OF CONVENTIONAL WISDOM."

And,

the Other Side of humor A beginning,

Ron

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## HP Forum Archive 17

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### Cool Item on TAS

Message #1 Posted by [Howard Owen](#) on 27 Feb 2007, 10:34 p.m.

At the risk of bringing wrath down on my head, and eschewing exclamation marks for now, [this eBay auction](#) really is pretty cool.

Regards,  
Howard (NOT the seller)

### Re: Cool Item on TAS

Message #2 Posted by [Ron](#) on 27 Feb 2007, 11:28 p.m.,  
in response to message #1 by Howard Owen

See [this](#) discussion.

### Re: Cool Item on TAS

Message #3 Posted by [Howard Owen](#) on 27 Feb 2007, 11:42 p.m.,  
in response to message #2 by Ron

That's what I get for not reading every thread. LOL!

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## HP Forum Archive 17

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**82143 adventures**

Message #1 Posted by [Les Wright](#) on 27 Feb 2007, 8:11 p.m.

The printer head was sticking in its transit so I decided to open it up for a cleaning.

This simple little task took me nearly 8 hours. I got very good at soldering since I must have broken 25 year old connections inside on several occasions as I manipulated the innards to get at things.

Plus, I had no clue how to properly reassemble it so the printer head could move freely. So it came apart a few more times. And there was more soldering as I broke off more wires. Etc.

But I got to clean what shouldn't be greasy are regrease what should be. And I did sort out how to tuck things out of the way so the print head slides swiftly back and for.

At the end of the day, it works better than before.

But I won't be doing that again soon, sheesh.

Good thing I am not a surgeon....

Les

**Re: 82143 adventures**

Message #2 Posted by [Eric Smith](#) on 27 Feb 2007, 11:21 p.m.,  
in response to message #1 by Les Wright

Quote:

Good thing I am not a surgeon....

Hey, at least you didn't leave a sponge or hemostat inside it.

(Technically it is the responsibility of the scrub nurse to count everything to make sure nothing is left inside the patient.)

**Re: 82143 adventures**

Message #3 Posted by [Les Wright](#) on 27 Feb 2007, 11:51 p.m.,  
in response to message #1 by Les Wright

Cancel my enthusiasm.

The thing is basically good for parts now.

I think my repeated resoldering of the yellow wires onto the printer mechanism (there is a pair coming off the mainboard) has done some damage by virtue of the heat. Now the motor simply spins briefly when I power up,

twists the rubber drive ring around its cam (if it doesn't get thrown off altogether) and the thing doesn't advance, the printer head doesn't move, and it just makes a whining sound. Does this when the yellow wires aren't connected either, so I surmise that when the yellow wires are connected they are not directing the behaviour of the print mechanism in any way.

I think I have damaged the printer mechanism proper and that can't be repaired.

I have done a real number on this thing....

Les

*Edited: 27 Feb 2007, 11:52 p.m.*

### **Re: 82143 adventures**

*Message #4 Posted by **Tony Duell** on 28 Feb 2007, 6:27 a.m.,  
in response to message #3 by Les Wright*

Don't give up so easily...

You can download 'my' schematic for the 82143 from The Australian Site. That'll give you a start, I hope.

The 2 yellow wires go to a switch contact in the mechanism that detects when the printhead is in the 'home' (right hand?) position. IIRC, part of the power-on initialisation is to run the printhead to the home position, detected by that switch. So if there's a problem with it, the motor will run the printhead into the side of the printer.

Take the printer mechanism out and connect an ohmmeter to the 2 yellow wires (unplugged from the logic PCB). See if the switch opens and closes when you turn the leadscrew by hand to move the head back and forth. I think the switch is closed at the home position, but I can't be sure.

Alas if that all seems OK, then the most likely problem is the microcontroller, which is custom-programmed for the 82143. But most 82143s seem to die from printhead problems, so finding a parts unit with a good microcontroller might not be too hard.

### **Re: 82143 adventures**

*Message #5 Posted by **Les Wright** on 28 Feb 2007, 2:44 p.m.,  
in response to message #4 by Tony Duell*

Frankly, Tony, I have learned I have no facility with microelectronics repair and really should've left well enough alone.

I have sunk many frustrated hours into this mess and I do not have the engineer's tenacity when it comes to fixing things.

I did pay just \$50 for the printer (plus shipping which in retrospect was a bit excessive), and did get a few months pleasure out of it, so I would like to chalk this up to a learning experience and pass it on to someone who can get some good out of it. I have already had inquiries from folks who will take it for parts. Frankly, I just want to get rid of it and if I need to print something I always have the 82240 which works beautifully (I also have the IR module for the 41C). Looking at it as a testimony to my ineptitude is a little painful.

many thanks,

Les

---

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**Re: 82143 adventures**

*Message #6 Posted by [Les Wright](#) on 28 Feb 2007, 9:44 p.m.,  
in response to message #5 by Les Wright*

Actually, I can really get to like the IR printer.

It is a bit slower, but I like the font a lot better.

It also works with 6 of my calculators (41CV, 41CX, 42S, 48G, 49G+, 17bii+).

Maybe one day I will replace the murdered 82143. But I need time. Sort of like that feeling one has after a beloved pet has died.

If I don't firm up any arrangements for this thing for parts in the next couple of days I will place an ad in our Classifieds.

Les

**Re: 82143 adventures**

*Message #7 Posted by [David Smith](#) on 1 Mar 2007, 10:47 a.m.,  
in response to message #3 by Les Wright*

Try turning the drive wheel by hand. If the head is moving freely your problem is just an old drive band. Projector Recorder Belt Company model SCX2.4 (or is it 2.3?) works well. It is a square profile belt, but works fine. Standard .062" round o-rings are too fat.

**Re: 82143 adventures**

*Message #8 Posted by [Les Wright](#) on 13 Mar 2007, 12:36 a.m.,  
in response to message #1 by Les Wright*

Just wanted to report that our inimitable friend Randy was able to repair my mess very quickly and inexpensively.

Looks like previous repair attempts had led to a wrong size o-ring replacement, among other things. I would've spent eternity trying to reverse the problems with the tools and parts I had on hand.

Three cheers for the near-saintly FixThatCalc.com!!!

Les

*Edited: 13 Mar 2007, 9:26 a.m.*

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## HP Forum Archive 17

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### Newbie Stack/Memory Management (33s)

Message #1 Posted by [Adam Price](#) on 27 Feb 2007, 6:24 p.m.

I posted last week about the sample vector operations that come in the 33s manual. It turned out my trouble wasnot being in ALG mode. I didn't like the idea of switching modes every time I wanted to do vector products, so I am rewriting in RPN. This also gives me the opportunity to restructure to match my workflow a little closer. I am beginning to get a handle on how the programming language works, and I would appreciate some feedback on two methods for performing a simple task in one of my subroutines.

TASK: Display or Input U,V,W coordinates. (May be called independently or from another routine) Calculate and display magnitude of vector.

#### METHOD A:

```
INPUT U
X^2
INPUT V
X^2
+
INPUT W
X^2
+
SQRT
STO M
VIEW M
```

#### METHOD B

```
INPUT U
INPUT V
--> THETA, r
INPUT W
--> THETA, r
STO M
VIEW M
```

Advantages I see: B: Shorter code. Easier to retype (slightly less resource usage, though both are tiny) A: Only uses two lines of stack (I think) vs. 3 for B

I used **STO M / VIEW M** because I wanted to not have the time restriction of PSE. Is there a better way? I doubt I will ever need the variable to actually be stored.

Is there anything else that folks would think about when forming a little snippet like this? One wants to begin a new language with good habits.

Thanks

Adam

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### Keystroke recording on 50G (quite long...)

Message #1 Posted by [Giancarlo \(Italy\)](#) on 27 Feb 2007, 9:53 a.m.

Hi all.

As often happens to me, reading one of the most recent Forum post (guess which one...) reminded me to share a little experience of mine with you.

Even if this Forum is devoted mainly to vintage HP calc, my story is about the 50G - sorry :) Frankly speaking, it has already been posted on comp.sys.hp48, but I hoped it might be interesting here as well....

#### FOREWORD

As a contributor to the HP calculators forum

(<http://forums1.itrc.hp.com/service/forums/bizsupport/categoryhome.do?categoryId=408>), I thought it would be fine to get ("automatically" and straight away from the emulator) the list of keystrokes on the 50G when trying to reproduce an issue or suggesting a solution...

So, I needed a keystroke recording program for the 50G and found this one on [hpcalc.org](http://hpcalc.org):

<http://www.hpcalc.org/hp49/utils/misc/krec11.zip>

The program, unfortunately, does not "run in the background" (as macro recording on Excel does...) - I mean: it records the keystrokes but in the meanwhile does not let the calc do what the keystrokes are intended to.

Ideally, I liked to:

1. start the keylogging program - running in background
2. do whatever I like on the calc
3. stop the keylogging program
4. get a log file with the keystrokes

Then, on comp.sys.hp48, John Gustaf Stebbins pointed me to his own program on [hpcalc.org](http://hpcalc.org):

<http://www.hpcalc.org/details.php?id=6493>

but, in the meanwhile, as I had not been able to retrieve Stebbins' software by myself, I had gone the "dumb" way, by doing the following:

>>> on the 50G emulator bundled into Debug4x package (by William G. Graves - [www.debug4x.com](http://www.debug4x.com)), I used the

```
Tools---->Macro----> Record
```

feature;

>>> this left me with a .MAC file, which I was able to convert to plain text by using the Mac2txt.exe utility which comes with the above emulator;

>>> afterwards, on Christoph Giesselink's homepage, I downloaded the latest version of KML (Keyboard Mapping Language) documentation:

<http://privat.swol.de/ChristophGiesselink/Emu48/kml20r13.zip>

where I could find the "OutIn codes" for the HP49G keyboard.  
They were helpful to understand how to translate entries on the text files like

```
"P 3 1"
```

into

```
"press [0]"
```

```
>>> I arranged an Excel file with one column filled by all the OutIn codes, and aside each  
single substitution to be made, written in a "comprehensible and descriptive" language  
(like the "press [0]" above);  
>>> I got a shareware (RQ Search and Replace v. 1.72-2 by Andrew Shelkovenko) to  
make multiple search-and-replace operations on a file (I couldn't imagine it was so difficult  
to find a suitable one - or I was not so smart in the quest :/ ) - I needed one that could  
"learn" the search-and-replace pairs from a file (the .xls file I had already set up)  
>>> eventually, the steps I could perform were:
```

1. record a macro on the 50G emulator
2. convert the .mac file to a .txt file
3. feed the RQ Search and Replace program with the .txt file
4. get a file with all the keypresses translated into "descriptive" language.

I just liked to share this with the Forum - maybe some of you were not too bored by my story :-)  
And maybe somebody could point me to a "friendlier" program to perform multiple search-and-replace, or to a brand new and more efficient method to achieve my goal...

Any feedback will be appreciated.  
Best regards.  
Giancarlo

---

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Gene posted:

*"Are you going to post any and every ebay deal you think is good here? "*

I fully concur with Gene, and I'll further add the following:

Are you, Gileno, going to post *anything* other than your continual exclamation-mark-ridden one-liner pleads for help about most anything under the HP-calc sun, or other than each and every eBay link that takes your fancy ?

Judging from your help pleas, you're up into a lot of topics such as LEX files for the HP-75C, MLDLs for the 41C, etc., etc., etc.

Are you ever going to *share* something valuable with the MoHP Forum community ? Seems to me that as you seem to only eat, swallow, and breathe all things HP-calc related, it should be actually the case that something of that could hold some interest to the community, right ?

Why don't you start to *give* a little, instead of *continually* and *desperately* asking for *help* (or even for *gifts* !), or *spamming* us with each and every eBay link you happen to find ?

Do you think we're so *dumb* that we can't find them ourselves, if interested ? Are you going to eventually *give* something worthwhile to the community ? It's all very well for continually *asking* but what about giving *something, sometimes*, in return ?

All of the above, respectfully of course, but somewhat *bored* of your attitude. You don't seem to *grow* or *learn*, you're like a spoiled brat, always asking for this and that, always striving to get the attention of everyone around. You're not the age for that.

It saddens me to say this, but if your attitude continues like that, your posts will only be fit for the trash bin.

Best regards from V.

### **Re: This attitude of yours**

Message #5 Posted by **Ren Tescher** on 27 Feb 2007, 12:01 p.m.,  
in response to message #4 by Valentin Albillo

Valentin, I've read and posted to MoHPC for years. But other than lame attempts at humor or a few gloats, I haven't contributed much either, I'm lousy at Math(s) so I'm awed by the expertise of the contributors of this forum and hope by "hanging around" some of the wisdom will "rub off on me". Do you want me to go away too?

Ren

dona nobis pacem

### **Re: This attitude of yours**

Message #6 Posted by **Valentin Albillo** on 27 Feb 2007, 1:57 p.m.,  
in response to message #5 by Ren Tescher

Hi, Ren:

Ren posted:

*"Do you want me to go away too?"*

First of all, thanks for your comment. Now, I take that final "too" in your above quoted sentence to mean that I said in my post that I want Gileno to go away.

Would you please point or quote the specific sentence in my post where I say such a thing ? Because I've read it carefully, just in case, and I can't find anything like that.

Thanks.

Best regard from V.

*Edited to correct "Ron" for "Ren". My mistake*

*Edited: 27 Feb 2007, 3:24 p.m. after one or more responses were posted*

### **Re: That's Ren, not Ron**

*Message #7 Posted by **Ron** on 27 Feb 2007, 3:18 p.m.,  
in response to message #6 by Valentin Albillo*

I'm Ron, and I generally sit these personality things out. Ren made the posting above. Easy mistake. Thanks.

*Edited: 27 Feb 2007, 3:19 p.m.*

### **Re: That's Ren, not Ron**

*Message #8 Posted by **Valentin Albillo** on 27 Feb 2007, 3:23 p.m.,  
in response to message #7 by Ron*

Thanks, Ron. Duly corrected above.

Best regards from V.

### **Re: This attitude of yours**

*Message #9 Posted by **Thor Lansen** on 27 Feb 2007, 2:16 p.m.,  
in response to message #4 by Valentin Albillo*

Whose attitude are you talking about, yours and Gene? The forum says: "This forum is for discussion of HP calculators including usage, repairs, sources of replacement parts, general information etc. furthermore there is a section for "Collectors" and how to collect. Like it or not eBay is the main source for vintage HP calculators and therefore Gileno's eBay postings are relevant and he has the same right as you and the rest of those that feel intellectually superiors and want to ban all eBay topics. I for one care less about your "challenges" and I see them as a worthless use of bandwidth, should I ask the moderator to ban them? no, I just do not read them. If you or those who feel eBay topics are not relevant then do not read them and stop whinnying about it.

Thor

Oh, yes, to the questions you sure have in mind: who is this guy, a troll? has he contributed to the forum? does he have the right to post here? to answer them, nope I am not a troll, as a matter of fact I am an Engineer (you can figure out my age, my favorite calculator is the HP 25C) and I can't stand those that feel they have the right to ban everything they do not like or like to put down others so they can show their

superiority, nope, I have not contributed (or very little) and yes I have the same privilege to post as you and Gileno and anybody else has.

**Re: This attitude of yours**

Message #10 Posted by **Valentin Albillo** on 27 Feb 2007, 3:16 p.m.,  
in response to message #9 by Thor Larsen

Hi, Thor:

Thanks for your comments. In no part of my post does it say that I intend or would like to ban anyone, less of all Gileno, nor do I feel superior to anyone or say so.

What you may interpret while reading my post is up to you but please don't put in my mouth/pen words that I haven't said/written.

And *nobody* has the *right* to post here, not Gileno, not you, not me, but only Mr. Hicks.

Best regards from V., a 48-year old fellow engineer. :-)

**Re: This attitude of yours**

Message #11 Posted by **Thor Larsen** on 27 Feb 2007, 5:11 p.m.,  
in response to message #10 by Valentin Albillo

Quote:

\_\_\_\_\_

And nobody has the right to post here ....

\_\_\_\_\_

Well, who is putting words on others mouth, I wrote "privilege" and not "right".

Thor

**Re: This attitude of yours**

Message #12 Posted by **Valentin Albillo** on 27 Feb 2007, 5:47 p.m.,  
in response to message #11 by Thor Larsen

Hi again, Thor:

Thor just posted:

*"Well, who is putting words on others mouth, I wrote "privilege" and not "right".["*

*Well, in your first reply you literally wrote:*

*"[...] contributed to the forum? **does he have the right to post here ? [...]"***

Best regards from V.

**Re: This attitude of yours**

Message #13 Posted by **Thor Larsen** on 28 Feb 2007, 4:45 p.m.,  
in response to message #12 by Valentin Albillo

Well Valentin since you insist I will elaborate: true, you did not say directly you wanted to ban Gileno but lets rewind a few months when you and others wanted to ban eBay postings. There was a vote and your side lost. No, that was not good enough for you. I remember you made a convoluted and nonsense argument about symmetry and blah blah blah and smoking mirrors (well, only tobacco smoking) and why your losing side still should win. So, yes you do want to ban eBay topics, Gileno's postings are 99.99% eBay stuff that he finds so, in essence, you want him out.

I do not know if you feel superior or not, but your posting came out that way.

Finally, if you look at the end of my first posting, I said: "I have not contributed (or very little) and yes I have the same *privilege* to post as you and Gileno and anybody else has." So, there it is.

Regards, Thor

PS: What I said about your "challenges" was to make a point and not true, I hope you continue posting them.

### **Re: This attitude of yours**

Message #14 Posted by [Valentin Albillo](#) on 28 Feb 2007, 6:58 p.m.,  
in response to message #13 by Thor Larsen

Hi again, Thor:

Thor posted:

*"There was a vote and your side lost. No, that was not good enough for you. I remember you made a convoluted and nonsense argument about symmetry and blah blah blah"*

I honestly don't actually think that it is a problem of "sides" and of winning or losing. I saw it more as a politeness thing, were we are all together in this forum politely sharing a hobby and something is done by some people that upsets others. It is thus not a problem of number, because in a polite environment if an 80% majority, say, are doing something that annoys a 20% minority, if there's something that can reasonably be done to avoid this it should be attempted, out of politeness if nothing else. In many countries there are laws to protect minorities, else they would always be subject to majorities no matter how just their claims could be.

In this case of eBay postings, the problem was an excessive amount at the time, mostly of very temporary things or centered in very specific sellers that, as Karl Schneider has said in a number of occasions, are not of lasting value whatsoever, because of their intrinsic in-built obsolescence, yet they were cluttering the forum to the point where it was actually difficult to find other threads thinly interspersed inbetween, and worse, these obsolete and/or inconsequential eBay threads do actually end up in the Archives, from whence they get eventually burned in the DVDs which Mr. Hicks kindly provides, and then it is simply a tremendous waste of space and potential.

If some solution could be found to avoid annoying the minority while preventing these threads to clutter the forum and end in the DVDs, it seemed reasonable to attempt to find it and see if it worked. That's my point

of view, and I stand by it, even if it is never actually realized. I don't think it is a nonsensical point of view, it makes perfect sense to me from a polite and practical stand.

*"So, yes you do want to ban eBay topics, Gileno's postings are 99.99% eBay stuff that he finds so, in essence, you want him out."*

That doesn't follow, and I want noone out because, just to begin with, I'm not the one to decide who stays and who goes, that's Mr. Hicks prerogative. I certainly found somewhat tiring Gileno's continual one-line desperate requests for help, without ever even introducing himself or his problem, or telling whether he had made any attempts at finding the information by himself, etc, just the one-line, exclamation-ridden plea.

Can you actually imagine that you attend some HP-fan meeting (like the HPCC ones, for instance), and there's some fellow there which continually gets to you (and everyone else for that matter) yelling "HELP, PLEASE!!!", right out, without saying much more, then the next time he yells again at you "I NEED THIS MANUAL!!!", etc. etc ? I hope you get the point. How long do you think you would stand this situation without asking him to behave in a more polite manner, to address you properly, and to explain a little more about his problem and his attempts ? Either that, or else you'd rather avoid him.

Same here. The mere fact that this is a written medium doesn't mean we should disregard all social politeness, rather we can and do engage in polite conversation, like you and me right now. If someone is desperately (so it seems) asking for help, the very least you would expect is for him to do so politely, not having him pester everyone continuously with his unpolite help requests.

I think that if someone doesn't behave, it's actually proper to let him know, respectfully, that he should change his attitude and warn him of the consequences if he doesn't. If said person is mature enough, he will think about it and might eventually take the hint. Or else, he can go wild, enter childish mode, make a pitiable ruckus, feel deeply offended, and leave. I think this isn't what you would expect of an articulate, mature person.

*"I do not know if you feel superior or not, but your posting came out that way."*

I'm sorry if it seemed that way, but let me assure you that this is not the case. I do have a strong attitude towards life and must confess that I don't suffer fools gladly, but I've always been the kind of person who loves giving and sharing whatever I feel seems worthy of it and which can be useful to others. Else, do you think I would spend so much time doing challenges, articles, posts, when I'm busy 24 hours around the clock and have wife and daughter to educate ? But I am as I am, some people do like me, some people do hate me, but that's everyone's experience in this world.

*"Finally, if you look at the end of my first posting, I said: "I have not contributed (or very little) and yes I have the same privilege to post as you and Gileno and anybody else has." So, there it is."*

Yes, I noticed. My sentence was addressed to your other rhetorical question, the one with the "right" in it.

*"PS: What I said about your "challenges" was to make a point and not true, I hope you continue posting them."*

Thank you very much. I'll do my best to try and keep them interesting and as little obnoxious as possible for those people that don't appreciate them. I sincerely do try to make them didactic in nature, and the many solutions for a great variety of HP models provided by forum contributors might actually be useful for other people trying to learn and understand programming techniques. A good, working example is usually much more useful and enlightening than several dense pages in a Reference Manual.

Thanks again for your comments and

Best regards from V.

**Re: This attitude of yours !!!! -)**

*Message #15 Posted by [gileo](#) on 27 Feb 2007, 4:12 p.m.,  
in response to message #4 by Valentin Albillo*

Valentim "God of the calculators and of the reason"

I thank the comments. :>(
But I don't concern what you think. END.
For you not to be interesting for other yes.
And I don't need you to do observations.
She don't like doesn't read.

"And nobody has the right to post here, not Gileno, not you, not me, but only Mr. Hicks." Valentin

HA! HA! HA! HA! HA!

!!!

Best regard from G
A nobody with 82 1/2 years !!!

[trimmed by moderator to a merely excessive number of !s]

*Edited: 28 Feb 2007, 1:09 a.m. after one or more responses were posted*

**Oh please...**

*Message #16 Posted by [Massimo Gnerucci \(Italy\)](#) on 27 Feb 2007, 4:37 p.m.,  
in response to message #15 by gileo*

G. could you please, just once in a Blue Moon, stop your nonsense?

M.

**Re: Oh please...**

*Message #17 Posted by [gileo](#) on 27 Feb 2007, 4:39 p.m.,  
in response to message #16 by Massimo Gnerucci (Italy)*

G or V ?

**Re: Oh please...**

Message #18 Posted by [HrastProgrammer](#) on 28 Feb 2007, 12:45 a.m.,  
in response to message #17 by gileno

G

**"!!!" and topics of posts**

Message #19 Posted by [Karl Schneider](#) on 28 Feb 2007, 12:10 a.m.,  
in response to message #4 by Valentin Albillo

I generally concur with Valentin's sentiments. Subject lines that include multiple exclamation points (and even more added out of spite) are something I find particularly annoying. Exclamation points are absolutely unnecessary unless immediate attention by the reader is critical. Requests for assistance should also be stated specifically and politely, and then only after the requestor has made good-faith efforts to research.

Regarding posts that provide links to routine eBay auctions without making any specific point: One must remember that the links have only fleeting value. When the post and all the ensuing discussion goes to the MoHPC Forum Archives that are included in the CD/DVD sets, those threads are essentially useless.

In fact, the particular linked auction has already closed, and this entire thread now has no value other than "entertainment".

Let's try to keep the Forum a forum, not a bulletin board or "chat room".

-- KS

**Re: "!!!" and topics of posts**

Message #20 Posted by [Tony Duell](#) on 28 Feb 2007, 6:29 a.m.,  
in response to message #19 by Karl Schneider

Quote:

Exclamation points are absolutely unnecessary

Unless we're discussing the factorial function :-)

(Yes, I know it's taken out of context, but I couldn't resist)

**Multifactorial, was Re: "!!!" and topics of posts**

Message #21 Posted by [Egan Ford](#) on 28 Feb 2007, 1:30 p.m.,  
in response to message #20 by Tony Duell

Quote:

Unless we're discussing the factorial function :-)

(Yes, I know it's taken out of context, but I couldn't resist)

Excellent. I knew someone would find some math in this thread.

$n!$ ,  $n!!$ ,  $n!!!$ , etc... is legit. But what  $n!!$ ,  $n!!!$  is exactly, is not obvious. When I first encountered  $n!!$  years ago I incorrectly assumed  $(n!)!$  -- a very large number. But it is the opposite that is true.

For integers:

$$\begin{aligned} n! &= n(n-1)(n-2)\dots \\ n!! &= n(n-2)(n-4)\dots \\ n!!! &= n(n-3)(n-6)\dots \end{aligned}$$

Below is a plot that illustrate that the more ! you have the smaller your result is:

<http://sense.net/~egan/mf.jpg>

IOW, when it comes to !, less is more. You can draw your own parallels to ! abuse outside of mathematics.

Below is a Q&D 15C program for multifactorials. Put n, then the number of ! on the stack.

```

1 LBL A
2 1
3 -
4 TEST 1 x>0
5 GTO 0
6 X<>Y
7 x!
8 RTN
9 LBL 0
10 1
11 +
12 STO I
13 X<>Y
14 STO 0
15 1
16 STO 1
17 LBL 1
18 RCL 0
19 TEST 4 x<=0
20 GTO 2
21 STO* 1
22 RCL I
23 STO- 0
24 GTO 1
25 LBL 2
26 RCL 1
27 RTN

```

As I read the first post in this thread  $n!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!$  is the proposed problem.

Using the above on my 15C for various values I get:

```

mf(10,30) = 10
mf(20,30) = 20
mf(30,30) = 30
mf(40,30) = 400
mf(50,30) = 1000
mf(55,30) = 1375
mf(77,30) = 61523

```

### **Re: Multifactorial, was Re: "!!!" and topics of posts**

*Message #22 Posted by **Ren** on 28 Feb 2007, 2:07 p.m.,  
in response to message #21 by Egan Ford*

Wow!!!!



(number of exclamation points above is facetious)

I NEVER knew n!! and n!!! even existed! (see my earlier post in regard to my Math(s) ignorance).

Thank you for turning this thread into a Math(s) lesson for me! The plot of the outputs was especially nice for visualizing the concepts.

Ren dona nobis pacem

**Re: Multifactorial, was Re: "!!!" and topics of posts**

Message #23 Posted by **Egan Ford** on 28 Feb 2007, 2:11 p.m.,  
in response to message #22 by Ren

Quote:

I NEVER knew n!! and n!!! even existed! (see my earlier post in regard to my Math(s) ignorance).

More info:

<http://mathworld.wolfram.com/Multifactorial.html>

**Re: Multifactorial, was Re: "!!!" and topics of posts**

Message #24 Posted by **Giancarlo (Italy)** on 28 Feb 2007, 4:03 p.m.,  
in response to message #21 by Egan Ford

Hi Egan.

I'm really grateful to you 'cause you succeeded to turn an increasingly unpleasant thread suddenly into an interesting one, by means of a "math lightning" :)

Thanks again.

Warmest regards.

Giancarlo

**Re: "!!!" and the Internet**

Message #25 Posted by **Paul Brogger** on 28 Feb 2007, 3:38 p.m.,  
in response to message #19 by Karl Schneider

I've long wished for a Google function that would post an exclamation point quotient (EPQ -- ratio of the number of exclamation points on the page divided by the total characters on the page) for each web site in the results list. The same would be nice in an email package.

Generally speaking, the value of any page (or email) is inversely related to (and bound by) its EPQ.

*Edited: 28 Feb 2007, 3:55 p.m.*

**Re: HP 46 Calculator w/case and manual !!!!!**

Message #26 Posted by **BOYS Boys Boys!** on 27 Feb 2007, 6:56 p.m.,  
in response to message #1 by gileno

Please! Be nice to each other! You really don't hate each other! You've got a lot (of calculators) in common!

Now eat your supper and go to bed.

-bill

*Edited: 27 Feb 2007, 8:41 p.m.*

**Re: HP 46 Calculator w/case and manual !!!!!**

*Message #27 Posted by [Trent Moseley](#) on 27 Feb 2007, 11:24 p.m.,  
in response to message #26 by BOYS Boys Boys!*

I agree. I thought this Forum was about Hewlett-Packard calculators and not about ad hominem attacks.

tm

**This looks like a classifieds post to me**

*Message #28 Posted by [Dave Hicks](#) on 28 Feb 2007, 1:18 a.m.,  
in response to message #1 by gileno*

Discussions about auction practices and issues are fine for this forum but posts which contain nothing more than a link to an item for sale really belong in the classifieds.

**Re: This looks like a classifieds post to me**

*Message #29 Posted by [gileno](#) on 28 Feb 2007, 6:59 a.m.,  
in response to message #28 by Dave Hicks*

I apologize. I won't write anything else :-(  
Good-bye community HP

From G !

**Please, cool down!**

*Message #30 Posted by [Juergen \(CH\)](#) on 28 Feb 2007, 12:30 p.m.,  
in response to message #29 by gileno*

This sounds so familiar to me: if I criticize my kids they often are offended and won't speak to me for an hour or so. Eventually, they reason that they over-reacted ...

I met many nice people in this forum and in the HP community in general. So it makes me a bit sad to see such a discussion and over-reaction here. Common, we are all grown-ups and can stand fair comments!

Or, as the hippies would say: Make love not war ;-)

Best Regards, Juergen

**Re: This looks like a classifieds post to me**

*Message #31 Posted by [Thor Lansen](#) on 28 Feb 2007, 5:01 p.m.,  
in response to message #29 by gileno*

Hey Gileno, come back!!! just take it easy with the factorial stuff :)

Take care, Thor.

**Re: This looks like a classifieds post to me**

*Message #32 Posted by [gileno](#) on 28 Feb 2007, 5:08 p.m.,  
in response to message #31 by Thor Larsen*

Thank you for the support. I thank a lot.

**Re: This looks like a classifieds post to me**

*Message #33 Posted by [Les Wright](#) on 28 Feb 2007, 8:57 p.m.,  
in response to message #32 by gileno*

Gileno, I must confess that I usually just bypass your eBay link posts. The one reason is personal--I am trying to cut back on my eBay addiction so I don't want to give in to the temptation....

But the second reason is that, frankly, you usually don't provide any information as to why the link should be of interest. Something like "boy! an HP97 for four bucks and only 10 minutes in the auction! Too bad I already have three NIB...." gives us a sense of specific interest of the sale instead of leaping exclamation points.

You have been asked to share out of your wide range of expertise and interest. I do so and a lot of the time no one seems to care or I simply regurgitate a long-settled question. But I feel like I am contributing something to the dialogue.

Les

**Re: This looks like a classifieds post to me**

*Message #34 Posted by [Bernard](#) on 28 Feb 2007, 9:00 a.m.,  
in response to message #28 by Dave Hicks*

One reason I rarely post into this forum. I did post a technical help previously but its discouraging finding so much swill with the good stuff.

I hoped that the Ebay drivel be moved into a sub-forum but I understand a vote was taken and most are happy with keeping the Ebay posts in the main forum.

But then I guess its in the eye of the beholder. Some I'm sure are most fascinated with the lastest Ebay machinations and sales.

**Re: This looks like a classifieds post to me**

*Message #35 Posted by [Steve Borowsky](#) on 1 Mar 2007, 3:20 a.m.,  
in response to message #34 by Bernard*

If I may say a few words.It seems to me that what we're dealing with here is primarily a language barrier. We all communicate here in English (for the most part), but for some English is not the primary language, and the degree of mastery varies greatly. In addition, the forum fills different roles for different individuals; the degree of emotional investment in the forum varies.

I think the root cause of Gileno's abbreviated posts is his inability to express his full emotions via the English language. Instead of eloquent prose, we get exclamation points! But we should never take language at its face value. Language exists only to express what's behind it. If we would attempt to perceive that directly, we could bypass much of the limitations of language, and realize that as beings in this world we have far, far, far, more in common with each other than we have differences.

It's never the words that really matter, it's what's behind them. Yet, in argument after argument, it's always the words that are picked apart and analyzed, in attempts to use them as weapons against their author, when if the energy were used to try to understand what's behind the symbols, even the simplest ones, misunderstandings would evaporate.

### **Re: This looks like a classified post to me**

Message #36 Posted by [Valentin Albillo](#) on 1 Mar 2007, 5:25 a.m.,  
in response to message #35 by Steve Borowsky

Hi, Steve:

Steve posted:

*"It seems to me that what we're dealing with here is primarily a language barrier [...] I think the root cause of Gileno's abbreviated posts is his inability to express his full emotions via the English language. Instead of eloquent prose, we get exclamation points"*

While I fully agree with you in general, this person's case is not only a language barrier problem. Within his language limitations, he can be pretty 'eloquent' (or at least he tries) when he feels like it, for example in his reply to my post, where he uses no less than 11 lines of 'eloquent' prose to try and retaliate against me, which are more or less equivalent to 10 of his usual postings.

This pretty much shows that, when he feels like it, he can write a lot more to try and make himself more or less understood. But he only does so in spite, when motivated. For his usual pleas for help and such, he apparently doesn't feel any need to state his problem in a polite way, or try and explain the steps he took before asking for help, or try to establish some kind of nice approach.

He just utters his request, in capital letters (akin to shouting), and duly laced with exclamation marks to try and give an urgency to his plea, as if it should be considered the most urgent matter in the forum, for all to see and take immediate notice and quickly do something about it. Yet, no 11 lines of 'eloquent' text to be seen there, to at least attempt to justify this implied urgency or make a convincing case of why one should be specially interested in it. He's been doing this for many months now, never evolving to more socially acceptable standards and better netiquette conformity, and I felt it was about time someone would give him some advice on this, even for his own good. But you can see above how he took the advice.

Thus, language is not the only problem here. It's attitude. I merely pointed that out to him, and instead of considering the matter and ponder the merit in my advice, he entered spoiled-brat mode, edited his original message to include 200+ exclamation marks in an extremely childish attempt to annoy me, did the same in other posts (which the moderator duly edited to sane lengths), took the trouble to write an 11-line retaliatory message to let me know that he didn't care at all for my advice, did include assorted would-be near-insults or despective statements, then got a reply by Mr. Hicks expressing an opinion on his original message, so he went into deeply-offended mode and announced his intention to not write anything else here, with a sad goodbye to top

it all. To just return a post or so later.

This is all *so childish, so blatantly childish and immature behavior* that I would never expect such from a supposedly grown-up, adult person, least of all an HP calc fan. It absolutely beats me how a normal, adult person (not a retarded or a moron) can behave like that when dealing with another adult person. Go figure.

As far as I'm concerned, this issue is over for me. This person has been duly included in my filtering script and he can do or act as brilliantly or childish as he cares from now on, I won't see it.

Thanks for your comments and

Best regards from V.

**Re: This looks like a classifieds post to me**

*Message #37 Posted by [Geir Isene](#) on 1 Mar 2007, 11:55 a.m.,  
in response to message #36 by Valentin Albillo*

Quote:

\_\_\_\_\_

This is all *so childish, so blatantly childish and immature behavior* that I would never expect such from a supposedly grown-up, adult person, least of all an HP calc fan. It absolutely beats me how a normal, adult person (not a retarded or a moron) can behave like that when dealing with another adult person. Go figure.

\_\_\_\_\_

Not that I have a habit of commenting on people's behaviour in this forum, but the above was a bit to much.

It would seem sensible not to attack others personally and to treat others with the respect that you demand from them in their dealings with you.

**Re: This looks like a classifieds post to me**

*Message #38 Posted by [e.young](#) on 1 Mar 2007, 12:30 p.m.,  
in response to message #36 by Valentin Albillo*

Valentin,

The tone of your posts to this thread has been mean spirited and inappropriate, and I think you have seriously over reacted. If Gileno's posts bother you so much, then don't read them. Before you accuse Gileno of brat like behavior you would do well to review your own behavior.

**Steve Borowsky - I Thank the sensibility and attention**

*Message #39 Posted by [gileno](#) on 1 Mar 2007, 9:47 a.m.,  
in response to message #35 by Steve Borowsky*

At last, you discovered because I don't get myself to express well. Thank you

Best regards from G. :-)

*Edited: 1 Mar 2007, 9:51 a.m.*

**Re: Steve Borowsky - I Thank the sensibility and attention**

*Message #40 Posted by [Geir Isene](#) on 1 Mar 2007, 12:05 p.m.,  
in response to message #39 by gileno*

Gileno; You have been blasted the last few days. To my opinion, you have been beaten way to much. But, there is truth in what has been said. Please exclude the emotions in peoples postings and try to see what is real and useful in what they write.

In short:

- Giving is more important than taking.
- Exclamation marks or CAPITAL letters should be avoided!
- You will be forgiven for not writing fluently English.
- You will not be forgiven for not trying.
- Try to keep eBay postings to a minimum. They have near to zero archive value.
- Don't leave. Instead, take the past days as a learning exercise.

Just my 2 øre.

**Geir Isene**

*Message #41 Posted by [gileno](#) on 1 Mar 2007, 12:18 p.m.,  
in response to message #40 by Geir Isene*

Thanks for your comments and

Best regards from G.

**Re: Geir Isene**

*Message #42 Posted by [Bernard](#) on 1 Mar 2007, 5:47 p.m.,  
in response to message #41 by gileno*

Didn't you previously state that you weren't going to post any more?

**Re: Geir Isene**

*Message #43 Posted by [gileno](#) on 1 Mar 2007, 6:02 p.m.,  
in response to message #42 by Bernard*

My friends asked me that I didn't make that.  
Some problem or you don't also want me in the forum?

**Eating Crow**

*Message #44 Posted by [bill platt](#) on 1 Mar 2007, 7:31 p.m.,  
in response to message #43 by gileno*

Don't worry Gileno,

We are simply having a bit of fun at your expense.

P.S. this is a good example of an English-language idiom. I wonder if it translates?

**Re: Geir Isene**

*Message #45 Posted by [Bernard](#) on 2 Mar 2007, 12:27 p.m.,  
in response to message #43 by gileno*

Not to worry. I was having fun. That will teach you to say things in the heat of the moment.

You shouldn't even ask me about staying since that's not up to me and even if it were I'd still let you stay although I find e-bay postings boring.

---

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## HP Forum Archive 17

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### HP50G - where did that function go?

Message #1 Posted by [Randy](#) on 27 Feb 2007, 6:25 a.m.

Where is SWAP (also known to some as X<>Y) hidden on the keyboard?

### Re: HP50G - where did that function go?

Message #2 Posted by [Giancarlo \(Italy\)](#) on 27 Feb 2007, 6:55 a.m.,  
in response to message #1 by Randy

Hi Randy.

The SWAP function is made by pressing the RIGHT ARROW key...

Easy, huh? And well hidden, as well :)

Best regards.

Giancarlo

### Re: HP50G - where did that function go?

Message #3 Posted by [Randy](#) on 27 Feb 2007, 8:40 a.m.,  
in response to message #2 by Giancarlo (Italy)

Thank you, that was anything but intuitive...

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## HP Forum Archive 17

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### Your favorite calculator?

Message #1 Posted by [Ruben](#) on 26 Feb 2007, 11:17 p.m.

Just curious what everyone's favorite HP is. Or if their favorite is even an HP (say it isn't so....). Lots of reasons to pick different models. Rarity, your first, just technically neat, the prize of your collection (if you have one). Could be tough.

I think my favorite is the HP-16C. It doesn't have the visual appeal of the HP-67 (or 34C, which IMHO may be the most attractive ever), but it's been a workhorse for many, many years. Amazingly, I think I'm on the second or third set of batteries since new. Small enough to always have around, and I never worry about it not working.

I'm actually a bit surprised that I decided on this one as my favorite, only because I consider the classics to be the ultimate representatives. I guess the functionality edges some others out.

### Re: Your favorite calculator?

Message #2 Posted by [Bruce Bergman](#) on 26 Feb 2007, 11:42 p.m.,  
in response to message #1 by Ruben

My favorite is, and I think always will be, the 19c. Love that calc, with its printer and coolness factor. Followed second probably by the 25c, which was my first HP.

### a new spin on an OLD question

Message #3 Posted by [allen](#) on 27 Feb 2007, 12:30 a.m.,  
in response to message #1 by Ruben

For just about any age group, you can guess their age or college graduation year based on their favorite calculator. For example here is a real conversation I had with a man I met last month:

"HP calculators are great!! I have both a HP 48S and a 28S at home!"

"I'll bet you graduated college in 1993."

"How did you know!!?"

If he had graduated 3 years earlier or later, he likely would have said "41cx" or "48gx" respectively. Was that a fluke? No, Both the 41cx and the 48gx are better calculators than the 48s in every way. He liked that because that is what he was exposed to when he 'converted'. The same holds true for many of us.

So really I think the "what is your favorite calculator?" question is just a disguised way of the AGE check they used to do in chat rooms and forums.

Try this: Take 2007 minus 1942 minus the date code from the favorite calculator and you can get an approximate age of the person. (+/- 2 years)

e.g. "I looooooove the Hp-34C!! (1981)  
2007-1942-21=44

Therefore I guess the person to be 42 to 46 years old.

e.e.g. Many of the low-level managers at large companies are carrying around 11c's or 15c's so 2007-1942-25= age 38 to 42

This will hold true until the 48gx owners retire. All of the models after that will be dead within a few years of purchase because of the tragedy that befell the RPN calculator industry with the millennial HP CEO, the merger with COMPAQ, spinoff of Agilent... etc.

*Edited: 27 Feb 2007, 12:37 a.m.*

### **Re: a new spin on an OLD question**

*Message #4 Posted by [Karl Schneider](#) on 27 Feb 2007, 1:56 a.m.,  
in response to message #3 by allen*

Hi, Allen --

Quote:

---

Try this: Take 2007 minus 1942 minus the date code from the favorite calculator and you can get an approximate age of the person. (+/- 2 years)

---

Hmm, within a span of four years (1979-83), I became infatuated by the new HP-41C, several years later saw a more-attainable HP-34C, subsequently set out to buy one, but bought an HP-15C instead. All of these have the same date-code format. That makes me how old? :-)

Okay, I'm in my forties, like many of us here.

-- KS

### **Re: a new spin on an OLD question**

*Message #5 Posted by [Ruben](#) on 27 Feb 2007, 2:13 a.m.,  
in response to message #3 by allen*

Funny! Yeah, I guess that makes sense. I'm definitely on the outside of that curve though. 2007-1942-27 = 38. I recently turned 44.

My first was a 41C though, back in junior high it was. Mowed a LOT of lawns and washed a LOT of cars for it. It's not easy being the UberGeek in school. I went to college late though, at 26, and not long afterwards, I was tempted by the new and sexy 48SX because I used to be a gadget nut. It got me through my civil engineering degree though, and I still have it. I guess in reality, I owe a lot to that calculator.

I put myself through college though, as a code jockey in a research lab, hence the love of the 16C. Stuck with the software after school, and still use it, but not daily like I used to.... meetings... grumble...

### **Re: a new spin on an OLD question**

*Message #6 Posted by [Tony Duell](#) on 27 Feb 2007, 5:02 a.m.,  
in response to message #3 by allen*

Quote:

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Try this: Take 2007 minus 1942 minus the date code from the favorite calculator and you can get an approximate age of the person. (+/- 2 years)

---

It doesn't work for me. I'm nearly 40, my favourite calculator(s) are the 98x0 series (1972-ish).

### **Re: a new spin on an OLD question**

Message #7 Posted by **Geir Isene** on 27 Feb 2007, 7:01 a.m.,  
in response to message #3 by allen

Thank you. You made me feel so young.

I am either 24 or -33 years old :)

### **Re: a new spin on an OLD question**

Message #8 Posted by **Wayne Brown** on 28 Feb 2007, 10:44 a.m.,  
in response to message #3 by allen

Quote:

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Try this: Take 2007 minus 1942 minus the date code from the favorite calculator and you can get an approximate age of the person. (+/- 2 years)

---

Hmmm... That would make me 43. But actually, I'm 52 (as of today, in fact). I guess that's a pretty good birthday present; you've just made me 9 years younger. Thanks! :-)

It's hard to pick a favorite. I use my 48GX every day, for lots of things; but in some ways I like my 41CX better. However, if I could keep only one, it would be my 16C. That was my first HP, and it has such elegant and unique features that I'd be hard-pressed to give it up. So that's the one whose date code I used for the age calculation.

### **Re: a new spin on an OLD question**

Message #9 Posted by **Dave Shaffer** on 28 Feb 2007, 4:22 p.m.,  
in response to message #3 by allen

Your formula shaves a decade or two off my age:

First HP - a '35, suggests I'm 52.

Favorite HP - a '41CX, suggests I'm about 41.

Actual age: 61 (as of less than two weeks ago) I guess more recent geeks get their hands on their first/favorite HP in their teens.

### **Re: a new spin on an OLD question**

Message #10 Posted by **Trent Moseley** on 28 Feb 2007, 8:46 p.m.,  
in response to message #9 by Dave Shaffer

I agree. In my instance even more time off. I'm 80.

tm

P.S. I was 51 when I bought my first, my HP-25C in 1978, and we just keep going.

### **Re: a new spin on an OLD question**

Message #11 Posted by [allen](#) on 28 Feb 2007, 9:03 p.m.,  
in response to message #10 by Trent Moseley

Yes, I should expect the exceptional attendees of this forum to be exceptional outlayers (speaking normally of course). I have done a poll of non-collecting enthusiasts I can find offline and found nearly all fall within 2 years of the "2007-42-SN" model. It is an interesting spin, is it not? GRIN.

### **Re: Your favorite calculator?**

Message #12 Posted by [Howard Owen](#) on 27 Feb 2007, 12:31 a.m.,  
in response to message #1 by Ruben

The 41C was my first, and still rates as my number one pick. It stays forever young with new hardware and software from a dedicated cadre of fanatics around the world. It just *feels* right in my hand, and I could program it in my sleep.

The 71B is a close second. Its expandability is similar to the 41's, and it has lots of cool toys you can plug in to it. It is also as open a system, with the commented internal source code available for inspection.

Third for me comes the 97. That is *such* a nice form factor. The large red LEDs are a knockout, too.

Fourth are the RPL machines. RPL has grown on me as a language. I now get a perverse (reverse?) pleasure out of expressing myself in cryptic stack imperatives, with nary an alphanumeric symbol in sight.

Regards,  
Howard

### **Re: Your favorite calculator?**

Message #13 Posted by [Richard Garner](#) on 27 Feb 2007, 12:33 a.m.,  
in response to message #1 by Ruben

My first experience with HP calculators goes back to when I was about 10 years old. My sister was about to go off to college and her then boyfriend, now husband bought her an HP-35 to use in math and science classes. I was not to see another HP until my junior year in high school where an exchange student from Sweden had an HP-41CV. About 4 years after that I was able to scrape up enough to get my own 41CX. Now over the years I have had several different HP's 41CX, 42S, 48SX/GX, 28S, 15C, 20S and a 33S. The one I always seem to grab the most when I want to do something fast is the 42S. The 41CX being my first actual purchase is a very very close 2nd, but the 42S is small, easy to program, has a great keyboard and display. I consider the 41CX the best calculator HP ever designed, but the 42S has almost everything I want in the perfect size.

### **Re: Your favorite calculator?**

Message #14 Posted by [Alan Firth](#) on 27 Feb 2007, 1:07 a.m.,  
in response to message #1 by Ruben

My favourite is the 25, because it was my first. ( $2007 - 1942 - 15 = 65 - 15 = 50$ ; actually I just turned 48 Not bad.)

Call the 25 the cusp of a normal curve - I've been collecting models from the 35 up to the 41. (So, a 35 would interest a 52 year old, and a 41, a 45 year old... The median, 48.5, is pretty close to my age)

Not coincidentally, the 41C was my second and last HP (bought new, that is)

So I'm saying that a collector's interest tends to vary around the midpoint defined by their two favorites... maybe. Any takers?

*Edited: 27 Feb 2007, 1:08 a.m.*

### **Re: Your favorite calculator?**

*Message #15 Posted by [Antonio Maschio \(Italy\)](#) on 27 Feb 2007, 2:28 a.m.,  
in response to message #1 by Ruben*

My favorite is the HP-15C. Yes, I know, it's not graphic. Yes, I know, it's got few memory for programming OR for registers. Yes, I know, it's not that fast.

But I like it much more than every other calculator in sight. Probably many models (even not HP) may be more useful than the HP-15C nowadays for several jobs, but when I use my HP-15C I feel fine.

-- Antonio

NOTE: This feeling is subject to change. I am not always the same man year after year ;-)

-- Ain't Ono

### **Re: Your favorite calculator?**

*Message #16 Posted by [Eric Smith](#) on 27 Feb 2007, 4:28 a.m.,  
in response to message #1 by Ruben*

My favorite is the HP-67, HP-19C, HP-01, HP-34C, HP-41CX, HP-15C, HP-16C, HP-71B, HP-28S, and HP-48SX.

What, you thought I'd be able to choose just one?

If I really had to pick just one that I was actually going to use, I suppose it would have to be the 48SX, because it does everything the others do, except fit on my wrist or have a built-in printer.

Other than that, I actually use the 16C and 28S more than the others. The 16C is most convenient for simple tasks when I'm programming. The 28S is better for more sophisticated tasks. Although the 28S is not as powerful as the 48SX, I prefer the clamshell design. Though unfortunately it appears that the MTTF of the 28S is lower than that of the 48SX due to the flex circuit through the hinge. It's a very clever design but not as robust.

### **Re: Your favorite calculator?**

*Message #17 Posted by [Tony Duell](#) on 27 Feb 2007, 5:10 a.m.,  
in response to message #1 by Ruben*

You mean I have to pick \_one\_???

OK, it has to be the HP9830. A totally amazing machine for the time (it has a good claim to being the first personal computer), very well made, repairable, expandable. As an electronics person I like CPUs made from lots of small chips (as this is), and it's one of the few bit-serial processors made from SSI and MSI chips you're likely to find.

But I really don't want to pick just one machine...

The 9100 is probably the most elegant piece of electronics it's ever been my pleasure to work on. There must

be way under 1000 transistors in there. Really simple...

If I have to pick a handheld, then it's the HP41CX (as a hacker's toy), but the HP48SX as a calculator. The former because of the I/O and expandability, the latter because unlike many people here I do like the arbitrarily-large stack. The 48 wins over the 28 because of the serial port, I don't like programmable calculators that I can't back up.

For a pocket computer (i.e. something programmable other than in a keystroke language), I like the HP71B. The BASIC on that is very complete, and there's the Forth/Assembler ROM. But for hardware hacking the Sharp (!) PC1500 has a much simpler expansion bus.

Of course on my electronics workbench I have a 16C (what else ;-))

You know it'd be quicker to list the machines I don't like....

### **Re: Your favorite calculator?**

*Message #18 Posted by [HrastProgrammer](#) on 27 Feb 2007, 6:56 a.m.,  
in response to message #1 by Ruben*

HP-48GX ... followed by HP-71B, HP-41C, HP-42S and HP-15C.

### **Re: Your favorite calculator?**

*Message #19 Posted by [gileno](#) on 27 Feb 2007, 7:07 a.m.,  
in response to message #1 by Ruben*

My girls: 41CY and TI-95 :-)

### **Re: Your favorite calculator?**

*Message #20 Posted by [David Smith](#) on 27 Feb 2007, 8:04 a.m.,  
in response to message #1 by Ruben*

HP9100A/B. Clip one of those puppies to your belt and you will be the envy of geeks everywhere. Not to mention a vice squad or two.

### **Geeks & Vice Squad**

*Message #21 Posted by [John Garza](#) on 3 Mar 2007, 12:26 p.m.,  
in response to message #20 by David Smith*

Quote:

HP9100A/B. Clip one of those puppies to your belt and you will be the envy of geeks everywhere. Not to mention a vice squad or two.

Oh God, I can see it now.... Geek with pocket protector, horn rim glasses, short sleeve dress shirt, not quite long enough polyester pants, black shoes, white socks, and a hulking mass attached to his waist....

"Hey baby, wanna see my huge calculator?"

"Ever do it Reverse Polish style?"

Ugh. It makes me cringe so much, it 's almost worth making an amateur video for utube. -J

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**Re: Your favorite calculator?**

Message #22 Posted by [Maximilian Hohmann](#) on 27 Feb 2007, 9:24 a.m.,  
in response to message #1 by Ruben

Hello!

Today, my favorite calculator is the hp-71B, because I happen to have taken it with me. Tomorrow, it might as well be the hp-19 or hp-25 (which probably is my real favorite...).

In the days when I really needed a calculator, I couldn't afford HPs and had to stick with a Ti-59, which therefore will always remain my own personal number one. Forever :-)

Anyway, I get more and more pleasure from other non-hp calculators lately, like from the Sinclair Scientific that I got last week (for a ridiculous price compared to what such a rare calculator from hp would have cost me): A very cleverly made, minimalistic RPN scientific thingy that takes half a minute to compute trigonometric functions - you really get a feeling what "calculating" once meant even for a machine.

Greetings, Max

*Edited: 27 Feb 2007, 9:24 a.m.*

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**Re: Your favorite calculator? (HP-97)**

Message #23 Posted by [Vassilis Prevelakis](#) on 27 Feb 2007, 10:35 a.m.,  
in response to message #1 by Ruben

I will go for the HP-97. With its beautiful keyboard and huge display, its great.

I have three and one of them is next to me on my desk.

\*\*vp

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**Re: Your favorite calculator?**

Message #24 Posted by [DougT](#) on 27 Feb 2007, 11:35 a.m.,  
in response to message #1 by Ruben

I'd have to say a somewhat haggard 11C is my favorite since I use it daily. My first HP was a 15C I bought new in 1982, but it's in great shape and too valuable to bang around in my duffle bag!

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**Re: Your favorite calculator?**

Message #25 Posted by [Ren Tescher](#) on 27 Feb 2007, 12:12 p.m.,  
in response to message #24 by DougT

There is a Vulcan proverb. "Wanting is better than having. It is illogical, but often true."

My favorite HP calculator is one I don't have...

Ren dona nobis pacem

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**Re: Your favorite calculator?**

Message #26 Posted by [Dia C. Tran](#) on 27 Feb 2007, 12:54 p.m.,

*in response to message #25 by Ren Tescher*

I am 52 years old. I did not graduated from college. My first calculator was the 25 which I bought in 1976. My favorite calculator is the 41. I did own the 34C for a week. I bought the 48sx and 48gx shortly after their introduction. I currently also own the 97, 20s and 32SII. So what can you tell about me?

### **Vulcan proverb from Star Trek**

*Message #27 Posted by **Karl Schneider** on 3 Mar 2007, 12:06 a.m.,  
in response to message #25 by Ren Tescher*

Quote:

There is a Vulcan proverb. "Wanting is better than having. It is illogical, but often true."

I'm not a *Star Trek* enthusiast, but I just happened to catch most of one of the original 1960's episodes on TV several nights ago, in which Spock repeated this statement. It was the one in which Spock is somewhat compelled to duel to the death against Captain Kirk to "win" his pre-arranged Vulcan bride. Although quite winsome, the young lady is rather conniving, and Spock declines his prize even after he has "killed" Kirk. Spock offers the proverb to the bride's true suitor as words of wisdom.

I also noticed for the first time the communication devices that resembled today's slim flip-open cell phones. Remarkable prescience!

In total, I've probably seen no more than ten *Star Trek* episodes in all three(?) incarnations of the series, and have never seen a *Star Trek* movie. So, these comments might be "old hat" to some.

-- KS

### **Re: Vulcan proverb from Star Trek**

*Message #28 Posted by **John Garza** on 3 Mar 2007, 11:48 a.m.,  
in response to message #27 by Karl Schneider*

Quote:

I also noticed for the first time the communication devices that resembled today's slim flip-open cell phones. Remarkable prescience!

It's funny what you can notice. I watched an episode recently where Kirk & Spock walked into a crew recreation room on the ship. In addition to the cool 3D chess sets, I noticed something in the background. It was a large black tv/monitor stuck up on a wall. Looked just like my Sony!

### **Re: Vulcan proverb from Star Trek**

*Message #29 Posted by **Howard Owen** on 3 Mar 2007, 1:08 p.m.,  
in response to message #27 by Karl Schneider*

The original flip phone (or at least, the first one I ever saw,) was the Motorola "StarTac." I think that it wasn't prescience on the part of the *Star Trek* prop designers so much as excellent design that was then copied by the cell phone makers.



The other prominent design for communications gear I can recall in popular culture is the "two way wrist radio" and later "two way wrist TV" from the American comic strip "Dick Tracy." That idea went exactly nowhere. That's partly because power requirements dictate a larger form factor than the imagined wrist phones had. But even if the electronics and power supply were small enough to fit on your wrist, I suspect you would still prefer a headset to holding your wrist up to your mouth.

Another staple of 1960's Science Fiction, two way video telephony, went a little farther, renamed as "video conferencing." But is nowhere near as ubiquitous as the prognosticators expected. In this case I think there are several factors that bar wider adoption, at least in the US. First, the bandwidth for video is expensive to provide, and is still under 50% coverage in the US. Second, letting your callers see you isn't always what you want. If video phones were the rule, denying someone video access could imply things you might not intend. Finally, the voice network is "good enough" for many communications needs. Internet video conferencing is widely available, but so is Internet telephony. The latter is a viable base for several businesses, as POTS (Plain Ol' Telephone Service) still is. The availability of video phones hasn't killed off voice communications.

What's this got to do with calculators? Well, many of us bemoan the fact that the excellent design and construction of the old HP models is nowhere to be found in the modern world. TI calculators are "good enough" to meet the demand. As long as quality and utility meet a minimum standard, people will consistently pick the product that is lower in price, even if the quality is less. The Wal Mart phenomenon proves this.

Now, if only the physics were there to let some of the other design elements from Star Trek come true. I'd love to commute by transporter. Weekly jet setting is tiring.

Regards,  
Howard (from DFW)

### **Re: Vulcan proverb from Star Trek**

*Message #30 Posted by [Eric Smith](#) on 3 Mar 2007, 4:09 p.m.,  
in response to message #29 by Howard Owen*

Quote:

Now, if only the physics were there to let some of the other design elements from Star Trek come true. I'd love to commute by transporter. Weekly jet setting is tiring.

I think I'll pass. The failure rate of the transporter as seen in the various series and films was way to high.

### **Re: Vulcan proverb from Star Trek**

*Message #31 Posted by [Dave Shaffer](#) on 3 Mar 2007, 6:54 p.m.,  
in response to message #30 by Eric Smith*

"The failure rate of the transporter as seen in the various series and films was way to high."

Well, for it to became really popular, they'd have to get ->most<- of the bugs out. I'd just wait until the first few million people had used it. By then, things should be fine!

### **Re: Vulcan proverb from Star Trek**

*Message #32 Posted by [Howard Owen](#) on 3 Mar 2007, 6:58 p.m.,*

*in response to message #30 by Eric Smith*

Quote:

I think I'll pass. The failure rate of the transporter as seen in the various series and films was way to high.

I have two reactions to this. First, no doubt the transdimensional transport carriers will claim it's a lot safer than driving. Second, as long as I'm spinning a fantasy I reserve the right to spin it my way. In my version, a trip in the transporter is always safe, and always sets your biological age one day closer to 24, assuming you are older than that. And yes, you get to keep your experience and judgment so you don't act like a complete idiot when you *do* get behind the wheel of a car. 8)

Regards,  
Howard

**Re: Vulcan proverb from Star Trek**

*Message #33 Posted by [Eric Smith](#) on 3 Mar 2007, 7:14 p.m.,  
in response to message #32 by Howard Owen*

Quote:

And yes, you get to keep your experience and judgment so you don't act like a complete idiot when you do get behind the wheel of a car. 8)

Potential transportee: Will I be able to drive well after I'm transported?

Salesman: Of course!

Potential transportee: That's great, because...

**Re: Vulcan proverb from Star Trek**

*Message #34 Posted by [Trent Moseley](#) on 3 Mar 2007, 11:00 p.m.,  
in response to message #33 by Eric Smith*

You folks have made my day!

tm

**Re: Vulcan proverb from Star Trek**

*Message #35 Posted by [Vassilis Prevelakis](#) on 6 Mar 2007, 9:18 a.m.,  
in response to message #30 by Eric Smith*

Eric Smith wrote:

> I think I'll pass. The failure rate of the transporter as seen in  
> the various series and films was way to high.

Doctor Crusher (?) in TNG was also afraid of the transporter and always tried to use a shuttle instead.

\*\*vp

## **Re: Vulcan proverb from Star Trek**

*Message #36 Posted by [Howard Owen](#) on 6 Mar 2007, 5:46 p.m.,  
in response to message #35 by Vassilis Prevelakis*

Dr McCoy on the original series had the same phobia.

Is it a physician thing?

In my fantasy, the transporter is implemented by transmitting quantum states of fundamental particles, within uncertainty, from here to there. And a hitherto unknown principle, sort of like a super Pauli exclusion principle, results in the spontaneous dissolution of the "from" particle at the instant the "to" particle is imprinted with the remote states. This would get around the messy need to destroy the from particles, and the philosophical problems of creating duplicates. Due to uncertainty, the worst side effect of "beaming" around might be some nausea and disorientation as your atoms snapped back into place from the random but small relative positional dispersion the beaming created. A balance between knowledge of complementary quantum states would have to be achieved. In my fantasy, this is possible.

The reversion one day closer to 24 for each beaming can't be mocked up in pseudo physics. So I'll just attribute that feature to ancient tribal magic instead. 8)

Regards,  
Howard

## **Re: Vulcan proverb from Star Trek**

*Message #37 Posted by [db](#) on 7 Mar 2007, 1:51 a.m.,  
in response to message #36 by Howard Owen*

Howard:

Supposedly; transporters have "Heisenberg Compensators" which allow "quantum resolution" of objects.

They put the right *spin* on things ;-)

And the writers are not *uncertain* ;-)

Any race that can toss around matter like they do in those transporters can probably pop in and out of regular old spacetime when and where they want to just like in Star Trek too. None are on my Christmas card list though.

What do you want to bet *they'd* use RPN.

## **Re: Vulcan proverb from Star Trek**

*Message #38 Posted by [Howard Owen](#) on 7 Mar 2007, 7:20 p.m.,  
in response to message #37 by db*

Nice job, "compensating" for a principle of nature!

I think I'll just engage my time compensator to implement the "revert to 24" feature mentioned above. Yeah, that's it. Time compensator, that's the ticket .. 8)

Regards,  
Howard

**Re: Vulcan proverb from Star Trek**

Message #39 Posted by **Steve Borowsky** on 6 Mar 2007, 9:54 p.m.,  
in response to message #30 by Eric Smith

Quote:

I think I'll pass. The failure rate of the transporter as seen in the various series and films was way to high.

Oh C'mon guys, there's no free lunch! Being able to instantly materialize anywhere is worth something, isn't it? So you have to put up with occasionally being split into two identical yet opposite persons, one good and one evil, with the evil one immediately setting about planning your death; or materializing in some silly mirror image universe, where everyone is brutally hostile. Just think of the time you'll save!!

**Re: Vulcan proverb from Star Trek (further off topic)**

Message #40 Posted by **Jeff O.** on 3 Mar 2007, 11:08 p.m.,  
in response to message #27 by Karl Schneider

Quote:

So, these comments might be "old hat" to some.

Probably showing my age, and a bit about my personality, but I did not even have to check any references to know that quote came from the episode titled "Amok Time". As far as the prescience of the show goes, the argument has been made that impressionable future scientists and engineers that grew up watching the shows are now making the technology come true.

I agree with the other posters about travel by transporter, it would take a lot of convincing for me to travel that way. I really don't like the method I have heard proposed where instead of actually transporting you from one place to another, you are scanned and an exact copy is made at the remote site from local matter - then the "original" is destroyed!

**Re: Vulcan proverb from Star Trek (further off topic)**

Message #41 Posted by **Walter B** on 4 Mar 2007, 6:28 p.m.,  
in response to message #40 by Jeff O.

Don't worry. Scanning some E27 atoms you consist of plus their states of excitation necessary to "cut and paste" you at another place will take enough time. So the original will be destroyed by mother nature well before the end of scan. Sorry ;-)

**Re: Vulcan proverb from Star Trek (further off topic)**

Message #42 Posted by **Eric Smith** on 5 Mar 2007, 1:38 a.m.,  
in response to message #40 by Jeff O.

Quote:

I really don't like the method I have heard proposed where instead of actually transporting you from one place to another, you are scanned and an exact copy is made at the remote site from local matter - then the "original" is destroyed!

I suggest you see the film "The Prestige", which is now out on DVD.

If you ever get the chance, watch the short film "To Be" (1990), written and animated by John Weldon. Unfortunately it is not currently available on video.

**Re: Vulcan proverb from Star Trek (further off topic)**

*Message #43 Posted by [Eric Smith](#) on 5 Mar 2007, 1:46 a.m.,  
in response to message #42 by Eric Smith*

I just found out that "To Be" is available with some of John Weldon's other animated work on VHS as [John Weldon's Lighter Lunacy](#).

**Re: Vulcan proverb from Star Trek**

*Message #44 Posted by [Ren Tescher](#) on 6 Mar 2007, 12:44 p.m.,  
in response to message #27 by Karl Schneider*

Quote:

\_\_\_\_\_

I also noticed for the first time the communication devices that resembled today's slim flip-open cell phones. Remarkable prescience!

-- KS

\_\_\_\_\_

A year or so ago The History Channel (a cable television channel in the US) aired the two hour Mockumentary "How William Shatner changed the world". It was hosted by none other than William Shatner.

I don't think I watched the entire program, but I think it was a "response" to a college course titled "How Star Trek changed the World" Both the program and the course pointed to the similarities between today's and Star Trek's technologies as well as the social implications.

Personally, I think the cell phone is great, but I see another convergence occuring between the beds in "Sick Bay" and enhanced patient monitoring and diagnostics (MRI, CAT, PET scans)

Ren

dona nobis pacem

**Re: Vulcan proverb from Star Trek**

*Message #45 Posted by [Howard Owen](#) on 6 Mar 2007, 5:55 p.m.,  
in response to message #44 by Ren Tescher*

The tricorder would be awfully handy as a portable diagnostic tool also.

The technology of Star Trek was elaborate and well thought out. That feature more than any other distinguished the series from any TV project that had gone before. Real hardcore Science Fiction fans, who had been starved for good stuff since Twilight Zone had left the air, seized on Star Trek as a genuine Science Fiction series. It wasn't really "hard" Science Fiction, since the transporter and warp drive had dubious scientific underpinnings. But compared to "Lost in Space," "My Favorite Martian" and "Time Tunnel" it was the real thing.

Regards,  
Howard

### **Re: Your favorite calculator?**

*Message #46 Posted by [Ed Look](#) on 27 Feb 2007, 1:19 p.m.,  
in response to message #1 by Ruben*

Mine is the 34C... and not for its visual design either, though I agree it is very attractive. In the many years it did work, I loved how it worked.

I loved its capabilities and power; I loved how the keys felt; I loved the red glowing display (playing Moon Lander in bed was a gas) ; I loved its programmability and related, it's continuous memory; I loved how solidly it felt in my hands; of course, I absolutely loved the RPN entry.

I even loved the depth of its manual! It had nice illustrations. A non-math major could learn some math and stat just from learning to use the calculator!

(I didn't like how fast the Ni-Cd batteries discharged however.)

The HP-34C; a great calculator.

*Edited: 27 Feb 2007, 1:20 p.m.*

### **Re: Your favorite calculator?**

*Message #47 Posted by [Giancarlo \(Italy\)](#) on 27 Feb 2007, 1:35 p.m.,  
in response to message #1 by Ruben*

Hi.

My favourite one is the 42S: so "harmless" in its appearance (might even seem a four-banger :), so powerful in its internals |-).

Best regards.

Giancarlo

### **Re: Your favorite calculator?**

*Message #48 Posted by [Ed Look](#) on 27 Feb 2007, 5:50 p.m.,  
in response to message #47 by Giancarlo (Italy)*

I have never had the pleasure of even touching a 42S, but I have seen pictures.

And from what I see, you may be very right! It IS inoffensive looking, rather pleasing, I'd say, with an unassuming form factor... well, really its flatness... and a soft(er) brown instead of the hardness of black.

Very nice looking machine. I hope someday to get one, just to play with it if not really do work on it.

### **Re: Your favorite calculator?**

*Message #49 Posted by [Gerson W. Barbosa](#) on 27 Feb 2007, 8:26 p.m.,  
in response to message #47 by Giancarlo (Italy)*

Ciao Giancarlo,

I would add the HP-42S has the most computing power per cubic inch among all HP RPN calculators. If it

only had a two-way interface for storing and loading programs... Well, this has been resolved with Thomas Okken's Free42, to whom I am grateful forever :-)

On my side, my favorite calculator has always been HP's latest top of the line calculator, starting with the HP-28S, then the HP-48G, then the HP-48GX, then the HP-50G! I skipped the 49G and the HP-49G+, because of the keyboard issue - I eventually got a 49G as a test before buying a 49G+. It turns out it was not a bad calculator as I had been led to believe.

But the elegance and comprehensiveness of the HP-15C, my first HP calculator (2343B) is unmatched. That's the only one that goes to work with me everyday, together with the Free42/Power48(HP-49G) combination on my PalmTX. So, I'd say my next favorite calculator is being designed (I hope), but the HP-15C and the HP-42S will always have a place in my heart.

Regards,

Gerson.

P.S.: Allen's clever formula works nicely in my case, if I add a three-year interruption between my last high-school year and my first college year:

$$2007 - 1942 - 23 + 3 = 45$$

### **Re: Your favorite calculator?**

*Message #50 Posted by [Patrick R](#) on 27 Feb 2007, 2:35 p.m.,  
in response to message #1 by Ruben*

Here is my favourite list:

1. HP48GX with Meta Kernel and 1Mb card. The "I can do it all calculator".
2. HP32sii (my first college calculator, the 48 was the 2nd), the number cruncher used almost daily while teaching.
3. HP97, I got it from a very good friend in exchange of a 32sii. Students say that I am crazy when I use it at the blackboard (but I calculate faster than they do). And best of all, it's older than I am!

So how old am I?

### **Re: Your favorite calculator?**

*Message #51 Posted by [JimC](#) on 27 Feb 2007, 6:22 p.m.,  
in response to message #1 by Ruben*

Good question! One which is guaranteed to draw a response from every HP nut. My favourites: the 21 (I first went to college using the 21), the 41 (I bought this after a rich summer job) and the 42 - because it is powerful, and it is 41 compatible.

I also like the 67, because it brings back the glory days of the space race, but it tends to chew batteries a little more than I would like.

FWIW, I graduated in engineering in 85.

### **Re: Your favorite calculator?**

*Message #52 Posted by [Les Bell](#) on 27 Feb 2007, 7:41 p.m.,*

*in response to message #1 by Ruben*

It's important to love all your children equally. ;)

My favourite calculator isn't my first, which was a 45, although I confess a certain sentimentality about it. Nor is it the 65 and 67 which followed it. They're all long gone, incidentally.

No, it's the 41. I've owned several over the years, but still use my original 41CX on an almost daily basis. But hang on - I carry a 16C around with me, and I *do* like the Voyager form factor.

And I'm sure that, one day, I will learn to love the 48GX which is resting in my desk drawer.

They're all good.

Best,

--- Les

[<http://www.lesbell.com.au>]

### **Re: Your favorite calculator?**

*Message #53 Posted by [Maximilian Hohmann](#) on 28 Feb 2007, 4:04 a.m.,  
in response to message #52 by Les Bell*

Hello!

Quote:

It's important to love all your children equally. ;)

I'm afraid that for me it is completely impossible to develop deeper feelings for any of the ugly ducklings with their grey LCDs, no matter what their intellectual capabilities may be ;-)

Believe me, I have spent a lot of money trying, and even if there is a fair amount of admiration for some of them, they remain cold and dead objects for me. I need a machine to send photons towards me in order to grow affection for it :-)

Greetings, Max

### **Re: Your favorite calculator?**

*Message #54 Posted by [Les Wright](#) on 27 Feb 2007, 8:03 p.m.,  
in response to message #1 by Ruben*

My first, and happily recently refurbished, HP41CV, plus all manner of fun peripheral goodies. I actually prefer it over my 41CX--that wimpy halfnut display just leaves me a little cold.

The 42S with 82240 printer is a close second. If there were some way to quickly get programs into it, like with the 41 series, it would be my first.

Les

### **Re: Your favorite calculator?**

*Message #55 Posted by [S. Easterling](#) on 27 Feb 2007, 10:12 p.m.,*



*in response to message #1 by Ruben*

Tied between 32S & 12C, and I'm 35 years old! RPL lover at heart, though.

### **Re: Your favorite calculator?**

*Message #56 Posted by [Miki Mihajlovic](#) on 27 Feb 2007, 10:59 p.m.,  
in response to message #1 by Ruben*

Tie between HP-15 and HP-41. Equally great (but different class) is Curta Type I.

### **Re: Your favorite calculator?**

*Message #57 Posted by [John Keith](#) on 27 Feb 2007, 11:23 p.m.,  
in response to message #1 by Ruben*

I have to agree with Gerson, my favorite is my (less than 2 week old) 50g. According to Allen's formula, that makes me 19 years old, though my driver's license says I'm 48;-)  
My second favorite has to be the 11C, the perfect blend of size and features.  
Others I have: 49g+ (crummy keyboard); 16C (geekiest); 71B (Sherman tank).  
Used to have: 28S, 48SX, 48GX (all broken displays/keyboards, so much for the "good old days"); 15C (lost).  
No LED-era classics, too young/poor when they were out, too outraged by Flea-bay prices now!

Regards,

John

### **Re: Your favorite calculator**

*Message #58 Posted by [lary](#) on 28 Feb 2007, 5:20 a.m.,  
in response to message #1 by Ruben*

My favorite (the one i use the most) : HP49G (perhaps the last real HP)

Why ? : RPL, Flash, CAS, not (very) expensive, not 'emulated' and seems more robust than my 49G+

### **Re: Your favorite calculator**

*Message #59 Posted by [DaveK](#) on 1 Mar 2007, 1:20 a.m.,  
in response to message #58 by lary*

Yes, and more programs/apps/games are compatible with the 49G, but C programming on the new ARM based calculators opens up new possibilities.

### **Re: Your favorite calculator?**

*Message #60 Posted by [SteveH](#) on 28 Feb 2007, 7:35 a.m.,  
in response to message #1 by Ruben*

HP15C without a doubt. I actually sold mine in the 1990's to get and HP42S to perform base conversions but always missed the 15C. It just is the perfect size and layout.

In the end I got my 15C back from the person I sold it to and still use it most days.

### **Re: Your favorite calculator?**

*Message #61 Posted by [Dia C. Tran](#) on 28 Feb 2007, 9:33 a.m.,  
in response to message #60 by SteveH*

As in my previous post my favorite is the 41 but my most often used calculator is the 48GX emulator.

### **Re: Your favorite calculator?**

*Message #62 Posted by [Ivan Nejgebauer](#) on 28 Feb 2007, 10:01 a.m.,  
in response to message #1 by Ruben*

Probably the 48SX, as I have used it extensively throughout college. The 15C is a close second -- it may be a pinnacle of non-alphanumeric calculators.

i.

### **Re: Your favorite calculator?**

*Message #63 Posted by [Antoine M. Couët](#) on 28 Feb 2007, 10:49 a.m.,  
in response to message #1 by Ruben*

From Osaka Kansai, Japan, or from anywhere ... actually

My favorite is a mix of both "HP41" and "HP48GX" .

I mean the wonderful HP41X/Y/Z Software HrastProgrammer developed on HP48GX which fully emulates HP41CY on a HP48GX, and does much more, all of this at 3 times the speed of a conventional HP41 ! ( may I for one quite deserved exclamation mark ? ) I find this combination a winning one for most of my applications which absolutely require handheld format.

And - slightly off topic since it is not a "calculator" per se - for time consuming calculations and when handheld is not required, I also use Jean-François Garnier's HP41CY " Emu41 " Emulator. My applications run about 600 times faster on my laptop than on a standard HP41.

Again thank you to all of you, extremely talented and quite unique people, including but not limited to HrastProgrammer and Jean-François, who have made HP41 and Other Calculators ( HP71, HP48 and more ) Emulators available under various forms/supports to the Users Community.

### **Re: Your favorite calculator?**

*Message #64 Posted by [Chris Roccati](#) on 28 Feb 2007, 12:56 p.m.,  
in response to message #1 by Ruben*

My favorite is the 11C. I still use it almost every day: it has everything you need for "instant" calculations. Anything needing more than that you'll probably best served with a computer...

### **Re: Your favorite calculator?**

*Message #65 Posted by [Thomas Okken](#) on 28 Feb 2007, 4:13 p.m.,  
in response to message #1 by Ruben*

In terms of usefulness, the HP-42S.

In terms of power and the WOW factor, the entire RPL series (I have a 48G which I like a lot).

In terms of misty-eyed nostalgia, the HP-67. Extremely well made, a true killer calc in its day and still very capable even now, and one of the best-looking ever.

- Thomas

---

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**Re: Your favorite calculator?**

Message #66 Posted by [Mike Hicks](#) on 28 Feb 2007, 9:33 p.m.,  
in response to message #1 by Ruben

My favorite is the HP41-CX. Synthetic Programming and all that.

I really like the looks of the HP-65. It is my desktop background.

---

**Re: Your favorite calculator?**

Message #67 Posted by [Trent Moseley](#) on 28 Feb 2007, 11:40 p.m.,  
in response to message #66 by Mike Hicks

That's great. In my case it would be my HP-67 which still works thanks, to the dedicated people on this Forum, and looks almost like the day I bought it in 1980.

tm

---

**Re: Your favorite calculator?**

Message #68 Posted by [Raymond Del Tondo](#) on 3 Mar 2007, 12:54 a.m.,  
in response to message #1 by Ruben

My favourites are easily counted: HP-48GX, HP-41, HP-42S, HP-11C, HP-33E;-)

I'm still developing for the HP-48 (SpeedUI,..)  
and HP-41 (INIT module for CY, CCD OS/X, other specialized ROM modules)

The HP that convinced me to enter the 'RPN side of life' was the 33E of a friend,  
which he gave me for a few days, and of which I worked through the whole manual.  
After that, I was kinda hypnotized by the RPN entry principle!

The HP-41C and the HP-11C were my first two real calcs, the 11C being small,  
robust and relatively modern compared to the LED calcs like the 30 or 60 series,  
but too limited regarding programming features.

So the 41 was my favourite for many years.

There also was a great user community for the HP-41,  
partly organized in clubs like the CCD and PPC.

I was introduced to Saturn assembly with the HP-71B and the Forth/Assembler ROM.  
Very powerful machine, but IMHO not very practicable due to the one-line display.

And then the HP-48 came out:-)

Still my favourite programming platform, and the last \*real\* HP Corvallis RPN/RPL calculator,  
with an ENTER bar where it belongs, and rock-solid hardware and OS software.

---

**Re: Your favorite calculator?**

Message #69 Posted by [Eddie Shore](#) on 3 Mar 2007, 10:41 a.m.,  
in response to message #1 by Ruben

My favorite is the HP 50g. I am a fan of the 48/49/50 series.

My favorite financial calculator, surprisingly, is the 12c. The 12c is more user friendly than the 17bII

### **Re: Your favorite calculator?**

Message #70 Posted by [Howard Owen](#) on 3 Mar 2007, 1:11 p.m.,  
in response to message #69 by Eddie Shore

Quote:

My favorite financial calculator, surprisingly, is the 12c. The 12c is more user friendly than the 17bII

That's not suprising, given that the 12C is still a top seller, all these years later. Remarkable.

Regards  
Howard

### **Re: Your favorite calculator?**

Message #71 Posted by [Don Shepherd](#) on 3 Mar 2007, 3:28 p.m.,  
in response to message #70 by Howard Owen

I think user-friendliness is in the eye of the beholder, like most things. Both the 12c (and its successors) and the 17bii+ are designed for the business guy, not the scientists and HP fanatics like us. It's difficult for me to put on the hat of a "businessman," but if I did, I would imagine that the 17bii+ would be more appealing, especially since I will never program the thing anyhow. Both fit in my pocket easily (without the case), and both can easily do the standard TVM stuff.

Since HP is still selling 'em, both must have enough appeal to make it worth marketing them.

### **HP-12C vs. HP-17BII "friendliness"**

Message #72 Posted by [Karl Schneider](#) on 3 Mar 2007, 2:46 p.m.,  
in response to message #69 by Eddie Shore

Hi, Eddie --

Quote:

My favorite financial calculator, surprisingly, is the 12c. The 12c is more user friendly than the 17bII

Much of the enduring popularity of the venerable HP-12C is due to its classy, unobtrusive look. You do have a good point about user-friendliness, however.

HP's apparent design objective with the HP-32S and HP-17B/BII was a "tidy" face with functions accessed through menus. The face of the HP-17B/BII was particularly sparse. One might wonder, "Where is everything?"

This approach wasn't entirely popular with users, and I share those sentiments. To find a function, one first has to think what the name of its parent menu is, then enter it using extra keystrokes. On the HP-12C, "what you see is what you get" -- *directly*.

One egregious example of this "over-compartmentalization" is DSE and ISG on the HP-32S. On the predecessor HP-15C and HP-11C (to name several) DSE and ISG are printed on the keyboard face. On the HP-32S, one must access these through the "LOOP" menu.

Thus, the HP-32SII was created, making more functions visible and directly accessible via a second shift key. New and previously-missing functionality was added, too. The HP-32SII looks a bit cluttered because it represented a design that "evolved" from a different concept, but it's a much better product, IMO.

-- KS

*Edited: 3 Mar 2007, 2:48 p.m.*

### **Re: HP-12C vs. HP-17BII "friendliness"**

*Message #73 Posted by [Eddie Shore](#) on 4 Mar 2007, 10:08 a.m.,  
in response to message #72 by Karl Schneider*

The HP 17BII could use more shift functions. This may be the one calculator where the keyboard isn't "cluttered" enough.

### **Re: Your favorite calculator?**

*Message #74 Posted by [Walter B](#) on 3 Mar 2007, 11:14 a.m.,  
in response to message #1 by Ruben*

My favourites vintage calcs (as posted earlier):

25C for its form factor, its keys, its performance and its compactness of design at its time;

42S for its powerful features while keeping RPN.

25C was my first HP.  $2007 - 1942 - 16 = 49$ . Ummh, let's say the truth is well within the standard error of +/- 10% d;-)

### **Re: Your favorite calculator?**

*Message #75 Posted by [Tizedes Csaba \[Hungary\]](#) on 5 Mar 2007, 6:04 a.m.,  
in response to message #1 by Ruben*

It's not a question: HP15C (and sometimes HP48SX (no popup windows-that's great) and my first HP: an HP32SII)

Csaba

### **Re: Your favorite calculator?**

*Message #76 Posted by [Ed Look](#) on 5 Mar 2007, 11:27 a.m.,  
in response to message #75 by Tizedes Csaba [Hungary]*

Your first HP calc was the 32SII?

What an excellent starting point! I bought one after owning and using the 34C for many years, until it started to show signs of wearing out.

I posted earlier in this thread that the 34C is my absolute favorite one; the 32SII made me feel very good using it as it seemed to be so much like the 34C... and yet seemed also to be an improvement in things like

memory capacity and a few other things.

I'll confess that the 34C keeps it place in my heart because i) it was my first one; ii) it has that wonderful crisp-feeling set of keys iii) I love the way ALL Spice series calcs look; and iv) the look of red LEDs. What can I say?

### **Re: Your favorite calculator?**

*Message #77 Posted by [buygm](#) on 9 Mar 2007, 8:57 p.m.,  
in response to message #76 by Ed Look*

HP42s was fantastic.

Believe or not...I do really like the new HP33S also. It really is a bargain. Good menus. The programming is so very quick and easy. What is not all that fun is the single letter variable names...and program names...but as a 32s replacement for about \$30...it is indeed great. Also, light weight and comfortable to carry in your shirt pocket.

### **Re: Your favorite calculator?**

*Message #78 Posted by [Antonio Maschio \(Italy\)](#) on 10 Mar 2007, 4:13 a.m.,  
in response to message #77 by buygm*

buygm wrote:

Quote:

I do really like the new HP33S also. It really is a bargain. Good menus. The programming is so very quick and easy. What is not all that fun is the single letter variable names...and program names...but as a 32s replacement for about \$30...it is indeed great. Also, light weight and comfortable to carry in your shirt pocket.

I do agree, in lines of principle, but what can you do with tons of bytes and only 26 labels? It's like having a whole planet to explore and a short life to do it.

-- Antonio

### **Re: Your favorite calculator?**

*Message #79 Posted by [buygm](#) on 12 Mar 2007, 11:29 p.m.,  
in response to message #78 by Antonio Maschio (Italy)*

Re note from Antonio about 33s:

Quote:

I do agree, in lines of principle, but what can you do with tons of bytes and only 26 labels? It's like having a whole planet to explore and a short life to do it.

How true. I entered a couple minor programs with a few subroutines and can't add much else for lack of labels. Anyway...the 50G right now is such a good price, that I'm going to buy it and test it out.

Regarding note from last person about the HP 19bii. Yes. I liked that calculator very much, too.

---

**Re: Your favorite calculator?**

*Message #80 Posted by [Antonio Maschio \(Italy\)](#) on 10 Mar 2007, 4:11 a.m.,  
in response to message #76 by Ed Look*

My first HP was also an HP-32SII, and I agree it's an excellent starting point.

-- Antonio

**Re: Your favorite calculator?**

*Message #81 Posted by [Don](#) on 10 Mar 2007, 11:18 p.m.,  
in response to message #80 by Antonio Maschio (Italy)*

My calcs are nearly all financial....the 19B11 is my favorite. The 41C was my first and I still enjoy using it....the way it feels in my hand. The calc I carry in my shirt pocket every day though is the Aurora FN1000, the schlubby little cheapo made in China. If you are into finance, get one of these 12C emulators for about \$25 plus shipping, as they have been discontinued and will soon be history.

Don

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## HP Forum Archive 17

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### **MCLEX for HP75 Help !!!!!!!**

Message #1 Posted by [gileo](#) on 26 Feb 2007, 4:38 p.m.

I wanted to know how to use the MCLEX lex file. Thank's

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## HP Forum Archive 17

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### AC Transformer for HP-33C

Message #1 Posted by [Jean-Michel](#) on 26 Feb 2007, 4:28 p.m.

Hi,

I received recently one HP-33C with it's battery charger ( :- ) , but for 90-120V AC input. I live in France where the voltage is 220-240V AC, and the plugs different from the ones on the original charger. As anyone here solved this problem ? Is it possible to adapt another european charger with 10V AC output ? If so, which kind of charger ? I'm not expert in this and don't want to burn my "new" old HP !

Thanks in advance.

Regards.

### Re: AC Transformer for HP-33C

Message #2 Posted by [Gerson W. Barbosa](#) on 26 Feb 2007, 5:51 p.m.,  
in response to message #1 by [Jean-Michel](#)

Hello Jean-Michel,

I guess you have an HP-82087B adapter, input 90-120 V AC, output 10V AC, 1.8 VA (this is the output power in VA). You'll need a 220 to 110 V AC transformer. This 50VA transformer below is a bit exaggerated and rather expensive. Perhaps you'll find a cheaper one (3 to 5 VA is all the power you will need).

[http://www.solded.com/boutique/product\\_info.php?products\\_id=499&language=fr](http://www.solded.com/boutique/product_info.php?products_id=499&language=fr)

Specifications from the linked site:

-----  
Entrée: 220-230v 50 Hz équipée d'un cordon secteur avec une fiche Européenne 2 pôles + Terre.  
Sortie :110-120-130 V 50 Hz équipée d'une prise femelle Type US 2 pôles + Terre

Autotransfo. U.S 220/110 50-60 Hz 50W  
Puissance en VA ou W :50 VA  
Longueur (mm) :76 mm  
Largeur (mm) : 90 mm  
Hauteur (mm) : 57 mm  
Poids en Kg : 0.73 Kg

-----  
Regards,

Gerson.

*Edited: 26 Feb 2007, 5:57 p.m.*

## **Re: AC Transformer for HP-33C**

*Message #3 Posted by **Walter B** on 26 Feb 2007, 6:17 p.m.,  
in response to message #1 by Jean-Michel*

Bonjour Jean-Michel,

you can split the problem in 2 parts: get a small 230V/110V transformer and look for a simple travel adaptor to let you connect your US charger with this transformer. I bought my transformer on eBay some years ago for a very reasonable price (postage was far more expensive, because this model is oversized by far), so this may be an alternative source for you, too. As Gerson mentioned, some 5VA will be sufficient. More power means more iron and will only increase the weight.

Regards, Walter

## **Re: AC Transformer for HP-33C**

*Message #4 Posted by **DBAX** on 26 Feb 2007, 6:23 p.m.,  
in response to message #1 by Jean-Michel*

Well, I wish you had one of the Classic hp calculators, then we could just trade. I just bought a European AC Transformer for my hp 45 and I'm in the U.S. Here's what I've found: There are "step-up/step-down" transformers that will take care of the voltage change needed. Many (most) of these are designed to work in both directions, i.e., convert from 110VAC to 220VAC and also convert from 220VAC to 110VAC. For small wattage devices they are fairly cheap. See for example the VT 100 model at <http://www.voltage-converter-transformers.com/step-up-transformer.html> for US\$17. Most of these have a switch that determines whether you are "stepping up" the voltage or "stepping down" as in your case. Your AC Adapter should plug right into the 110VAC side of this device.

## **Re: AC Transformer for HP-33C**

*Message #5 Posted by **Les Wright** on 26 Feb 2007, 6:47 p.m.,  
in response to message #1 by Jean-Michel*

North Americans frequently purchase travel adapters so they can use their shavers and hair dryers while travelling in Europe. I actually think I have one around here. Wouldn't they be safe to use as an interface between your North American Spice adapter and your French receptacles? They should be easy to get.

Les

## **Re: AC Transformer for HP-33C**

*Message #6 Posted by **Dave Shaffer** on 26 Feb 2007, 10:11 p.m.,  
in response to message #1 by Jean-Michel*

It might be simpler to just get an adapter transformer, as some have suggested.

However, if you are handy with a soldering gun, and/or eager to try something different, then consider this solution.

Since I am perhaps the ultimate cheapskate (a possible challenge to the calculator/geek crowd here - I get a feeling that these characteristics tend to run together!), I once conjured up the following circuit for a trip to Europe so I would not have to buy a transformer and adapter for my electric shaver. The idea is to drop the voltage from 220 to 110 with a series resistor.

The circuit should look something like this

```
<pre> R o-----^v^v^v^v-----o 220 VAC 110 VAC (European plug) (American socket) o-----
-----o </pre>
```

where the value of R depends on the current to be delivered to the 110 VAC output side.

By Ohm's law, you want the voltage drop to be 110 V across R so that the remaining 110V appears at the output. If you know the current to be delivered to the charger (let's call it I), then you can calculate R from

```
<pre> V 110 V R = ---- = ----- = 5.5 kOhm (as calculated with my trusty 41CV) I 20 mA </pre>
```

I'm not sure what the actual current is. Perhaps Randy can tell us. And, it shouldn't be too critical.

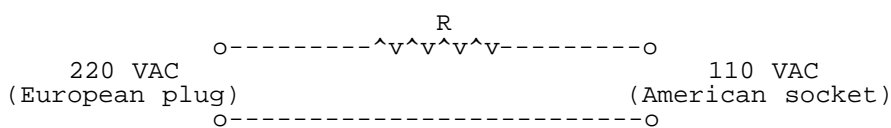
In cases like this, you also need to be a bit concerned about the power that will be dissipated in the resistor. That can be calculated as (I^2 R) or VI, where V is the voltage drop across the resistor. The power here will be 2.2 watts, so you need a modest sized resistor (which will be both heating your house and spinning the electric meter while you are charging your calculator!).

**Re: AC Transformer for HP-33C - OOPS**

Message #7 Posted by *Dave Shaffer* on 26 Feb 2007, 10:17 p.m.,  
in response to message #6 by *Dave Shaffer*

Well, I though I had the <pre> and </pre> OK, but I guess not! I have just been doing some HTML listing, where <> are necessary. But not here, I guess, where [] seem to be needed. So, how about this for the guts of my presentation:

The circuit should look something like this



where the value of R depends on the current to be delivered to the 110 VAC output side.

By Ohm's law, you want the voltage drop to be 110 V across R so that the remaining 110V appears at the output. If you know the current to be delivered to the charger (let's call it I), then you can calculate R from

```
[pre] V 110 V R = ---- = ----- = 5.5 kOhm (as calculated with my trusty 41CV) I 20 mA [/pre]
```

I'm not sure what the actual current is. Perhaps Randy can tell us. And, it shouldn't be too critical.

In cases like this, you also need to be a bit concerned about the power that will be dissipated in the resistor. That can be calculated as (I^2 R) or VI, where V is the voltage drop across the resistor. The power here will be 2.2 watts, so you need a modest sized resistor (which will be both heating your house and spinning the electric meter while you are charging your calculator!).

**Re: AC Transformer for HP-33C - OOPS, again**

Message #8 Posted by *Dave Shaffer* on 26 Feb 2007, 10:19 p.m.,  
in response to message #7 by *Dave Shaffer*

Getting closer!

Here's the second formula:

$$R = \frac{V}{I} = \frac{110 \text{ V}}{20 \text{ mA}} = 5.5 \text{ kOhm (as calculated with my trusty 41CV)}$$

### Re: AC Transformer for HP-33C - OOPS, again

Message #9 Posted by [Paul Beijer](#) on 27 Feb 2007, 4:13 a.m.,  
in response to message #8 by Dave Shaffer

Quote:

Getting closer!

Here's the second formula:

$$R = \frac{V}{I} = \frac{110 \text{ V}}{20 \text{ mA}} = 5.5 \text{ kOhm (as calculated with my trusty 41CV)}$$

If you use this method you're risking destroying the calc. The voltage drop accros the resistor is current dependent. If the charge circuit inside the calculator does not draw a constant current the voltage will fluctuate. In the worst case when the charge circuit stops drawing current when the battery is full, the voltage will double. What you need is just a simple 230V to 10VAC transformer of say 3 to 5VA, which should be readily available in any electronics store.

### Re: AC Transformer for HP-33C

Message #10 Posted by [Tony Duell](#) on 27 Feb 2007, 5:15 a.m.,  
in response to message #1 by Jean-Michel

The internal charging circuit of the Spice (HP3xE, HP3xC) and Woodstock (HP2x) is much the same, and the charger units have the same characteristics, other than the output connector.

My first Spice series also came with the US charger. I cut the output cable and fitted a 2 pin connector to it (the polarity doesn't matter, the output of these chargers is AC). I did the same to a spare Woodstock charger (240V input). I could then plug the Spice cable into the Woodstock transformer unit and charge my Spice that way.

Looking at the other replies, it should be OK to run the US charger off a step-down transformer (either a double-wound transformer or an autotransformer), but I'd not use a series resistor. The primary current of the charger is no way constant, you run a serious risk of applying far too much voltage to the transformer primary, damaging it and also damaging the calculator, possibly.

Also watch out for 'travel converters' for heating appliances. They are not transformers, they are effectively lamp dimmer circuits (triac, etc) set to give the same power in a resistive load as you'd get if you connected said load to 110V mains. They do NOT work with transformers or electronic equipment, they will do a lot of damage.

### Re: AC Transformer for HP-33C

Message #11 Posted by [JLS](#) on 2 Mar 2007, 8:34 a.m.,  
in response to message #10 by Tony Duell

Hi Jean-Michel,

just go to an electronic parts supplier (like electronique diffusion in France) and buy a 10V/230V 1.8VA

transformer and a small plastic box, the only thing you have to do is solder 2 or 4 wires.

I did it for my HP-34C and it costs less than 5€!

*Edited: 2 Mar 2007, 8:38 a.m.*

---

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## HP Forum Archive 17

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### AC Adapters/chargers for vintage hp calculators

Message #1 Posted by [DBAX](#) on 26 Feb 2007, 2:31 p.m.

I have a hp 45 calculator, but have lost my AC Adapter. It appears this is one of the hardest items to locate for vintage hp calculators. Can anyone help with suggestions? Lacking the charger, I'd like to find where I can locate just the connector that plugs into the calculator. With this I'm hoping I could modify another 5VDC charger. Unfortunately, without an AC Adapter, my little beauty is virtually worthless. Help!

### Re: AC Adapters/chargers for vintage hp calculators

Message #2 Posted by [Hal Bitton](#) on 26 Feb 2007, 3:40 p.m.,  
in response to message #1 by DBAX

Well, the AC adapter from any of the classic series will work, and this would include the HP 67, of which there are usually a few up for auction (with AC adapters) on e-bay at any given time. I occasionally see just an AC adapter being offered also (but I admit not very often). If cashflow allows, you could buy one the 67's off of e-bay, keep the adapter, and re-sell the calculator. Or better yet, keep the 67 and enjoy it too! (that's what I'd do).

Best regards, Hal

### Re: AC Adapters/chargers for vintage hp calculators

Message #3 Posted by [Randy](#) on 26 Feb 2007, 4:02 p.m.,  
in response to message #1 by DBAX

The plug on your 45 is custom HP for which there is no substitute. 82002 chargers alone can be had on eBay on a fairly regular basis, \$30-\$40 is the average for a known good unit. All LED classics (35/45/55/65/67/70/80) use the same charger.

Buying an untested unit is a iffy proposition, 30% or more may have broken wires rendering them DOA. They can usually be fixed but it's a pain in the butt.

The 82002 contains two supplies, one current controlled 50 ma source to charge the batteries and a 4.5 volt supply to run the calculator.

You can run the calculator with a 5vdc supply alone and forgo the batteries if you're not a purist ;^)

### Re: AC Adapters/chargers for vintage hp calculators

Message #4 Posted by [Les Wright](#) on 4 Mar 2007, 3:26 a.m.,  
in response to message #3 by Randy

boy, I am an easy mark!

I have 4 classics and figure I need only two chargers (one to use, one spare), so I sold my third one to a fellow Forum peruser for 15 Canadian dollars plus shipping.

Maybe I should've held out for more, but it did gratify me to pass on a little of my bounty to another user.  
Call me the Anti-Coburlin ;)

Les

## **Re: AC Adapters/chargers for vintage hp calculators**

*Message #5 Posted by [JLS](#) on 1 Mar 2007, 12:07 p.m.,  
in response to message #1 by DBAX*

I had the same problem with my HP-67. I just bought a standard 3xAA plastic battery holder, made a little work with Xacto blade to fit it in battery compartment, solder 2 wires and now i can use up-to-date 2300 NiMh cells filled with a high speed charger :)

---

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## HP Forum Archive 17

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### 10 B Calculator-Help!

Message #1 Posted by [Randy Jones](#) on 26 Feb 2007, 12:57 p.m.

How can you reset the number of payment periods from 12/yr. to 1,2,3,4/yr. etc... and then change back to 12/yr.?

Edited: 26 Feb 2007, 1:14 p.m.

### Re: 10 B Calculator

Message #2 Posted by [Miguel Toro](#) on 26 Feb 2007, 1:22 p.m.,  
in response to message #1 by Randy Jones

It is just:

number [SHIFT] [P/YR]

example: 3 [SHIFT] [P/YR] for 3 p/yr

In order to go back to 12 periods per year, it is just the same: 12 [SHIFT] [P/YR].

To validate the value inside this variable you do: [RCL] [SHIFT] [P/YR].

Regards,

Miguel

### Re: 10 B Calculator

Message #3 Posted by [Randy Jones](#) on 26 Feb 2007, 1:58 p.m.,  
in response to message #2 by Miguel Toro

Many thanks for your help.

---

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## HP Forum Archive 17

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### 17bii+ bug update and Sum-Of-Digits

Message #1 Posted by [Bruce Bergman](#) on 26 Feb 2007, 12:03 a.m.

Don and I have been poking around the 17bii+, trying to determine if any of the bugs listed in older versions still exist, and well, trying to get used to the solver. ;-)

First, there are a couple threads in Forum Archive 14...

[part a here](#)

[part b here](#)

...which talk about bugs in the early 17bii+ units. I've tried a few of these and they all work correctly, as expected, on my version. For the record, my S/N is CNA 63401403.

Also, Don and I have been trading implementations for summing up the digits of a number (i.e.,  $123 = 1+2+3 = 6$ ). Here is the version that ultimately worked:

```
SOD:SUM=0xL(B:A)+sigma(I:1:LOG(A)+1:1:MOD(B:10)+0xL(B:IP(B/10)))
```

Don also has a version which uses the statistical lists to get the sum, assuming each digit is in a list (L1) item:

```
sod:sum=sigma(i:1:sizes(L1):1:Item(L1,i))
```

As we work through more, I may post some follow-ups. It's good to see that some of the ugly bugs have been fixed. Hopefully they're all good!

thanks, bruce

### Re: 17bii+ bug update and Sum-Of-Digits

Message #2 Posted by [Bruce Bergman](#) on 26 Feb 2007, 12:22 a.m.,  
in response to message #1 by [Bruce Bergman](#)

From Forum Archive 16, this bug:

Go into the FIN TVM menu and CLR DATA. Enter N=1; PV=1500; FV=-1750 Press OTHER and set P/YR=1 Press EXIT and I% YR

Appears to still be an issue on my 17bii+. That is, if I have more variables than appear on one menu, it requires two presses to get it to solve for that variable. HmMMM.

In the same thread, Chris Dean says:

Quote:

I have used the initialisation with the summation. I did use a separate equation for the initialisation

though. For example run the equation  $Y=AA+BB$  to initiate the variables. Press CALC and do not enter any variables then use  $L(AA:expr)$ ,  $L(BB:expr)$  and  $G(AA)$ ,  $G(BB)$  in your summation where ever you require them.

Try this for Fibonacci Numbers

$Y=A+B$  press CALC

$S=L(C:A+B)+ 0*(L(A:G(B)) + L(B:G(C)))$

Set  $A=1$  and  $B=1$  and successive pressing of S should show the next Fibonacci Number. series should be 1,1,2,3,5,8,13 .....

Good luck!!!

Chris

---

I'm not sure what Chris is saying here. Am I to enter TWO equations? One for  $Y=A+B$  to init, and then one for S to execute? Does anyone know more about what the point is here?

thanks, bruce

---

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## HP Forum Archive 17

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### Handheld Calculator Helps Solving Kahan's Integral Symbolically

Message #1 Posted by [Gerson W. Barbosa](#) on 25 Feb 2007, 1:12 p.m.

The Kahan's integral has appeared in some recent threads, like this one, started by Les Wright:

<http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv016.cgi?read=104550>

Perhaps it should be more appropriately named Kahan/Woodyard Integral, as did Warren Anderson in a recent thread, since it was presented to Prof. Kahan for analysis by his electrical engineering colleague, Prof. J. R. Woodyard, as reported in Kahan's article [Handheld Calculator Evaluates Integrals](#), Hewlett-Packard Journal, Aug/1980, pages 23-32.

This is the famous integral:

$$I = \int_0^1 (\sqrt{x}/(x-1) - 1/\ln(x)) dx$$

The function is steep near 0: it is 0 when  $x=0$ , rises suddenly to 0.1177 when  $x=4.738E-3$  then decreases more smoothly to 0 as  $x$  approaches 1. This was troublesome for the HP Solver on the HP-34C, then on the HP-15C and even on the HP-32SII, at FIX 5 display mode. Those calculators give  $I = 0.03662 \pm 0.00001$ , instead of the correct result at this accuracy, 0.03649, an "error too small to be obvious and too large to ignore", in Kahan's words. However, at FIX 7 the problem disappears, but the HP-34 takes 23 minutes to display the right answer. Prof. Kahan then presents a technique to tame what he calls "wild integrals", which is detailed in his article. Even the newest HP-50G takes 37 minutes and 30 seconds to compute the integral in its original form to maximum accuracy. It places the result between 0.0364899739827 and 0.0364899739835, the lower limit being slightly above the exact answer as we will verify later.

Kahan's integran can be solved exactly with help of the EulerGamma or [Euler-Mascheroni constant](#). According to some references, its the third most important constant in Mathematics, after pi and e. It's represented by the greek letter gamma. Because the lack of this letter here, we'll represent it as simply E, for short.

It is defined as:

$$E = \lim_{n \rightarrow \infty} (1 + 1/2 + \dots + 1/n - \ln n)$$

$E = 0.577215664901533$ , to fifteen places. More about E at

[http://en.wikipedia.org/wiki/Euler-Mascheroni\\_constant](http://en.wikipedia.org/wiki/Euler-Mascheroni_constant)

That said, let's try to find an exact result for Kahan's integral. As mentioned in the references, E appears in various integrals. One of them is the classical form for Euler's constant, as shown in this paper (Formula 9, page 4):

[http://arxiv.org/PS\\_cache/math/pdf/0306/0306008.pdf](http://arxiv.org/PS_cache/math/pdf/0306/0306008.pdf)

$$E = \int_0^1 (1/\ln(x) + 1/(1-x)) dx$$

/0

Hence we can compute the second term in Kahan's integral, the one we cannot normally compute symbolically:

$$\int_0^1 (1/\ln(x)) dx = E - \int_0^1 (1/(1-x)) dx$$

Replacing this in Kahan's integral:

$$I = \int_0^1 (\sqrt{x}/(x-1) + 1/(1-x)) dx - E$$

This should be easy to integrate, but let's the HP-49G/G+/50G do it:

'\v/X/(X-1)+1/(1-X)' INTVX → '2\*\v/X+(-LN(\v/X+1)+LN(ABS(\v/X-1)))-LN(ABS(X-1))'

where \v/ is the square root symbol.

$$I = \left| 2 \sqrt{x} - \ln(|\sqrt{x} + 1|) + \ln(|\sqrt{x} - 1|) - \ln(|x - 1|) \right|_{x=0}^{x=1} - E$$

We should take care not to cancel the last two terms when replacing x by the integration limit 1. Instead, we should replace them by  $\ln[(\sqrt{x} - 1)/(x - 1)]$  and find that the limit when x tends to 1 is 1/2, by applying l'Hopital's rule, for instance.

Finally, we obtain:

$$I = 2 - \ln(2) + \ln(1/2) - E$$

or

$$I = 2 - \ln(4) - E$$

We are now ready to compute the numeric result of Kahan's integral. There is no EulerGamma in the HP-49G/G+/50G keyboard. But there is a special function under MTH menu, [digamma function](#), Psi. In this reference, we notice that

$$E = -\text{Psi}(1) \quad (\text{formula 16})$$

Thus,

$$I = \text{Psi}(1) + 2 - \ln(4)$$

On the HP-50G, we get

0.03648997398

On the HP-200LX we can compute

$$I = 2 - \ln(4) - 0.577215664901533 = 0.036489973978576$$

An approximation good to 12 digits for E is

$$E \sim 1/\sqrt{3} - 1/\sqrt{55192773}$$

We can check it on the HP-33S:

$$2 - 1/\sqrt{3} + 1/\sqrt{55192773} - \text{LN}(4) = 0.03648997398$$

Gerson.

P.S.: I am no expert in these topics to fully understand the references I have mentioned. My goal here was just to provide an exact answer to Kahan's integral.

*Edited: 25 Feb 2007, 2:12 p.m.*

## Re: Handheld Calculator Helps Solving Kahan's Integral Symbolically

Message #2 Posted by [Karl Schneider](#) on 25 Feb 2007, 3:48 p.m.,  
in response to message #1 by Gerson W. Barbosa

Hi, Gerson --

That's very good work. I, too, had attempted to derive the exact answer, but didn't know of an "insightful" way to integrate  $1/\ln(x)$ . I'd certainly seen the Euler-Mascheroni Constant before, but didn't know its applications.

It should be an MoHPC article, or part thereof.

-- KS

## Re: Handheld Calculator Helps Solving Kahan's Integral Symbolically

Message #3 Posted by [Valentin Albillo](#) on 26 Feb 2007, 5:24 a.m.,  
in response to message #1 by Gerson W. Barbosa

Hi, Gerson:

First of all, excellent work ! And a truly didactic presentation, I'd say. Just a comment:

Gerson posted:

*"E appears in various integrals. One of them is the classical form for Euler's constant [...]"*

$$E = \int_0^1 (1/\ln(x) + 1/(1-x)) dx$$

Personally, I find this other integral form simpler and more aesthetically pleasing:

$$E = \int_0^1 -\ln(-\ln(x)) \cdot dx$$

where you have the curiosity of an iterated logarithm (the log of a log) and further, not only two logs but also two minus signs (and nothing else!), one of them applied to the argument of the outer log, which at first glance can trick you into thinking about logs of negative arguments, thus complex numbers, which isn't the case of course.

Best regards from V.

## Re: Handheld Calculator Helps Solving Kahan's Integral Symbolically

Message #4 Posted by [Gerson W. Barbosa](#) on 26 Feb 2007, 11:28 a.m.,  
in response to message #3 by Valentin Albillo

Hello Valentin,

Quote:

---

Personally, I find this other integral form simpler and more aesthetically pleasing:

$$E = \int_0^1 -\ln(-\ln(x)) \cdot dx$$

---

This is really an elegant form, and easier to remember. On the 48G/GX and the 71B, I think, it can be evaluated numerically to give the first nine digits of E (For plain ASCII text  $y$  might be a better notation).

Special functions and constants are interesting as they can provide closed form solutions to problems previously only being able to be solved numerically, as the HP-67 Math Pac I example in your excellent [HP-71B Math ROM Baker's Dozen](#) (Vols. 1 & 2) articles. Perhaps the next version of the HP-50G CAS should include Lambert's W-function.

Best regards,

Gerson.

---

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## HP Forum Archive 17

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### Stat Pac--how do I run SigmaBSTAT?

Message #1 Posted by [Scott](#) on 25 Feb 2007, 5:04 a.m.

In Alpha mode the instructions say to key in SigmaBSTAT but I can't find a key for the Sigma sign....how do I run the program?

Scott

### Re: Stat Pac--how do I run SigmaBSTAT?

Message #2 Posted by [Poul \(Denmark\)](#) on 25 Feb 2007, 8:10 a.m.,  
in response to message #1 by Scott

You get the Sigma by pressing YELLOW (shift) and then F in ALPHA mode.

/Poul

### Re: Stat Pac--how do I run SigmaBSTAT?

Message #3 Posted by [Antonio Maschio \(Italy\)](#) on 26 Feb 2007, 5:19 a.m.,  
in response to message #1 by Scott

I beg your pardon, but... what calculator are you talking about?

-- Antonio

### Re: Stat Pac--how do I run SigmaBSTAT?

Message #4 Posted by [Les Wright](#) on 26 Feb 2007, 3:59 p.m.,  
in response to message #3 by Antonio Maschio (Italy)

I inferred he was talking about the HP41C series with StatPac module.

Is the back label on the HP41 intact? That would quickly show where the shifted alpha symbols are.

Les

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## HP Forum Archive 17

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### Were original HP-12Cs gold?

Message #1 Posted by [Ruben](#) on 24 Feb 2007, 10:24 p.m.

I was curious whether or not the original 12Cs that were produced looked like the rest of the Voyager series with silver metal at the top, or if they were always gold in color. I know most of those I've seen are gold, but I didn't know if it was always the case.

### Re: Were original HP-12Cs gold?

Message #2 Posted by [Gene](#) on 24 Feb 2007, 10:46 p.m.,  
in response to message #1 by Ruben

They were always gold.

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## HP Forum Archive 17

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### Need Graphics Programming Help (50G)

Message #1 Posted by **Chuck** on 24 Feb 2007, 7:56 p.m.

Fifteen years ago I was pretty adept at programming the 48SX. My, how time robs the memory. And it seems there are a few different commands with th 50G.

I am trying to create a program the clears the PICT (ERASE, I presume, or creating a blank 131x80 GROB and stored in PICT) then displays the graphic screen and runs through a loop displaying points (plotting a dynamical system using a 2x2 stochastic matrix).

Everything I try displays the graph AFTER it gets done plotting the points (or displays a blank graph and does nothing), but I want to see them plotted in real time. I know this is a simple matter and I did it 15 years ago, but it escapes me right now.

Thanks!!

CHUCK

### Re: Need Graphics Programming Help (50G)

Message #2 Posted by **Tim Wessman** on 25 Feb 2007, 12:22 a.m.,  
in response to message #1 by Chuck

You mean like this?

```
<< ERASE DRAW PICTURE >>
```

Grab the advanced users reference for complete command listing and more detailed programming info.

TW

### Re: Need Graphics Programming Help (50G)

Message #3 Posted by **Chuck** on 25 Feb 2007, 1:47 a.m.,  
in response to message #2 by Tim Wessman

Nope. That doesn't do it because I'm not graphing an equation, and without something stored in 'eq' it gives an error. All I need to do is activate the graphing window, and have my program provide the points to plot. I'll dig up my olde 48 manuals. Even the 800 page advanced manual for the 50G leaves out a lot of functions. I'll keep trying.

### Re: Need Graphics Programming Help (50G)

Message #4 Posted by **Chuck** on 25 Feb 2007, 2:11 a.m.,  
in response to message #3 by Chuck

Nevermind. I figured it out. Instead of

ERASE { } PVIEW

which centers the PICT variable, but doesn't interactively show you PICT, one needs to use

ERASE { # 0d # 0d} PVIEW

which places PICT in the upper left corner (equivalent to centering it) but, more importantly, actually shows the points being plotted instead of waiting until the end. Strange quirk if you ask me.

CHUCK

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## HP Forum Archive 17

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### Trigonometrics for Really Big Input

Message #1 Posted by [Les Wright](#) on 24 Feb 2007, 6:12 p.m.

In learning about the sine and cosine integrals, I learned that for really big  $x$  the cosine integral is very near to  $\sin(x)/x$ .

This led to my discovery that for really big  $x$ ,  $\sin(x)$  is wrong on all of my calculators.

$x = 1e50$  is a good example. On the 48G, 49G+, 33S, and 28S, in radians mode  $\sin(1e50)$  returns 8.68392787928e-2.

On the 10 digit calcs (HP41CV and CX, 15C, 11C, 33C, 34C), I get -0.132816215.

The venerable 45 returns 0.653432214.

The actual 12-digit value, according to Mathematica and Free42 Decimal (with 25 digits BCD precision) is -7.89672493429e-1.

I find this fascinating, since the "wrongness" is consistent depending on whether the machine has 10 or 12 digits.

Any ideas? I am sure it is a rounding thing and the limitations of reducing such a big angle to the desired range.

Les

### Re: Trigonometrics for Really Big Input

Message #2 Posted by [Valentin Albillo](#) on 24 Feb 2007, 9:02 p.m.,  
in response to message #1 by Les Wright

Hi, Les:

Les posted:

*"On the 10 digit calcs (HP41CV and CX, 15C, 11C, 33C, 34C), I get -0.132816215 [...] I am sure it is a rounding thing and the limitations of reducing such a big angle to the desired range."*

That's correct. I'll discuss the 10-digit case (HP-15C, etc).

Big enough angles are internally reduced mod "Pi" to bring them to proper (small) size, in the proper quadrant. The internal value of "Pi" used to perform this reduction determines the result's accuracy and thus that of the final sine value.

In the 10-digit case, the internal value of "Pi" used for the reduction is 3.141592653590, which is the correctly rounded 13-digit value of Pi, i.e., three additional "guard" digits.

When this 13-digit internal value of Pi is used to reduce  $10^{50}$  to the proper quadrant, you get:

$$10^{50} - \text{INT}(10^{50} / 3.141592653590 + 1) * 3.141592653590 = -0.13320983018, \text{ exactly}$$



## Re: Trigonometrics for Really Big Input

Message #5 Posted by [Andrés C. Rodríguez](#) on 25 Feb 2007, 12:09 p.m.,  
in response to message #4 by Eric Smith

Eric:

You found an excellent and graphic way to present this idea. I was just starting to wonder about the appropriateness of talking about a  $1e50$  angle, but your explanation closes the issue. Congratulations!

## Re: Trigonometrics for Really Big Input

Message #6 Posted by [Les Wright](#) on 25 Feb 2007, 4:50 p.m.,  
in response to message #4 by Eric Smith

I agree wholeheartedly.

I take note that in the Numerical Recipes treatment of the sine, cosine, and related Fresnel integrals, the accuracy of the routines for these special functions when the argument is large is limited by accuracy of the trigonometric library routines when the argument is really big.

I also note that in Stephen Moshier's double precision routine in the Cephes library, `sin.c` will return an ERROR when the argument is greater than  $2^{30}$  (about  $1e9$ ), at which point the relative error drops suddenly from around  $1e-17$  to  $1e-7$ . The code also warns that when the argument reaches about  $2^{49}$  (about  $5.6e14$ ) the results returned are "meaningless".

Since even the 12 digit calculators operate internally at a little less than 64 bit double precision, asking for a correct value of  $\sin(1e50)$  is a little unfair.

That said, I am impressed that `Free42`, with only 25 digits of internal precision, gets it right--at least the 12 digits that are returned in the display.

Thanks for the insight.

Les

## Re: Trigonometrics for Really Big Input

Message #7 Posted by [Thomas Okken](#) on 25 Feb 2007, 7:52 p.m.,  
in response to message #6 by Les Wright

*That said, I am impressed that `Free42`, with only 25 digits of internal precision, gets it right--at least the 12 digits that are returned in the display.*

`Free42`, or more precisely, the `BCD20` library, uses a 1060-digit approximation of  $\pi$  to do the  $\text{mod } 2\pi$  argument reduction. So, you can get incorrect results even out of `Free42`, by using arguments  $> 10^{1060}$ .

Getting the RAD mode trigs right for *\*all\** arguments would require using a 10000-digit approximation of  $\pi$ . A lot of effort with very little practical payoff -- much like the related case of making MOD return exact results for huge arguments...

- Thomas

## Re: Trigonometrics for Really Big Input

*Message #8 Posted by **Les Wright** on 25 Feb 2007, 8:25 p.m.,  
in response to message #7 by Thomas Okken*

Quote:

Free42, or more precisely, the BCD20 library, uses a 1060-digit approximation of pi to do the mod  $2\pi$  argument reduction. So, you can get incorrect results even out of Free42, by using arguments  $> 10^{1060}$

Actually, you use the a 1060-digit approximation to  $1/(2\pi)$ , but I see the logic of this in any case.

Frankly, I thought the argument reduction was used with a 25-digit approximation to pi, so I am impressed it is so much more precise.

Les

### **Re: Trigonometrics for Really Big Input**

*Message #9 Posted by **Les Wright** on 25 Feb 2007, 8:40 p.m.,  
in response to message #7 by Thomas Okken*

Quote:

So, you can get incorrect results even out of Free42, by using arguments  $> 10^{1060}$ .

Actually, Thomas, once  $x > 9.9e1027$ ,  $\sin(x)$  returns <Not a Number>.

Up to that point, compared to Mathematica, it seems to give pretty good results, i.e  $\sin(9.9e1027) = 0.936195810146$  in both settings. It seems you have set it up so that  $\sin(x)$  returns either the right answer or none at all. Very wise!

Les

*Edited: 25 Feb 2007, 8:45 p.m.*

### **Re: Trigonometrics for Really Big Input**

*Message #10 Posted by **Thomas Okken** on 26 Feb 2007, 4:10 p.m.,  
in response to message #9 by Les Wright*

Quote:

Quote:

So, you can get incorrect results even out of Free42, by using arguments  $> 10^{1060}$ .

Actually, Thomas, once  $x > 9.9e1027$ ,  $\sin(x)$  returns <Not a Number>.

Up to that point, compared to Mathematica, it seems to give pretty good results, i.e  $\sin(9.9e1027) = 0.936195810146$  in both settings. It seems you have set it up so that  $\sin(x)$  returns either the right answer or none at all. Very wise!

Les

---

The credit should go to Hugh Steers, who wrote the BCD code used in Free42. And of course any criticism that the modtwopi() function doesn't work all the way up to 1e10000 should also be directed at him. ;-)

Has anyone tested IEEE-754 implementations to see if their trigs are accurate when given ridiculously large arguments? Just curious...

- Thomas

---

### **Re: Trigonometrics for Really Big Input**

*Message #11 Posted by [hugh steers](#) on 27 Feb 2007, 2:19 p.m.,  
in response to message #10 by Thomas Okken*

ha! i knew that 1060 digit pi constant would be useful oneday :-)

when the argument is too big for the constant to return a sensible result, bcd20 returns nan as you've noticed. this is to prevent the result from being completely wrong. i'd rather people got nan as the answer rather than think it was correct.

for those interested in precision answers, you might like to run my "exact" engine. download exact.exe from <http://www.voidware.com> (downloads section). exact is a multiprecision engine that verifies its answers and is never wrong (claim!!)

also bcd20 is now deployed as the calculation engine underneath hplua 0.2 (<http://www.sf.net/projects/hplua>)

regards,

---

### **Re: Trigonometrics for Really Big Input**

*Message #12 Posted by [Gunnar Degnbol](#) on 28 Feb 2007, 9:21 a.m.,  
in response to message #10 by Thomas Okken*

Quote:

---

Has anyone tested IEEE-754 implementations to see if their trigs are accurate when given ridiculously large arguments? Just curious...

---

James Gosling discusses why correct argument reduction makes trigonometric functions slower in Java than in C++ [here](#). He says:

Quote:

---

As far as I know, the K5 is the only x86 family CPU that did sin/cos accurately. AMD went back to being bit-for-bit compatible with the old x87 behavior, assumably because too many applications broke. Oddly enough, this is fixed in Itanium.

---

Handling this is often a matter of giving correct results to meaningless input, but it is nice to leave it to the user/programmer to decide if a computation makes sense.

How to do this correctly was first described by [Payne and Hanek](#) in 1983, after the 8087 was developed, and after HP lost interest in making their calculators more perfect (or, after they got perfect enough for all practical purposes).

## Re: Trigonometrics for Really Big Input

Message #13 Posted by [Rodger Rosenbaum](#) on 1 Mar 2007, 1:30 p.m.,  
in response to message #12 by Gunnar Degnbol

On James Gosling's blog page, he quotes extensively from Joe Darcy, his local floating point God.

Darcy says:

"The implementation challenge is that sin/cos are implemented using argument reduction whereby any input is mapped into a corresponding input in the  $[-\pi/4, \pi/4]$  range. Since the period of sin/cos is  $\pi$  and  $\pi$  is transcendental, this amounts to having to compute a remainder from the division by a transcendental number, which is non-obvious. A few years after the x87 was designed, people figured out how to do this division as if by an exact value of  $\pi$ ."

He also says:

"The fix for this problem was figured out quite a long time ago. In the excellent paper 'The K5 transcendental functions' by T. Lynch, A. Ahmed, M. Schulte, T. Callaway, and R. Tisdale a technique is described for doing argument reduction as if you had an infinitely precise value for  $\pi$ ."

It sounds to me like Darcy is suggesting that a new technique has been discovered since the x87 was designed. I was eager to learn of this new technique.

I downloaded this paper from IEEEXplore and the only place where the authors mention range reduction for the sin function is on page 264, first column, where they say:

"The trigonometric functions reduce the domain of theta in  $[-2^{63}, 2^{63}]$  to a range of  $(-\pi/4, \pi/4)$  by subtracting integer multiples of  $\pi/2$  from the input operand.  $\pi/2$  is represented with up to about 256 bits depending on how much precision is required. The multiple precision arithmetic made handling such a precise value of  $\pi$  straight forward and efficient."

I don't see anything new here. What they have done is to use an approximation to  $\pi/2$  with a large number of significant bits up to a maximum of 256 bits.

The Saturn processor based HP machines use a 31 decimal digit range reduction constant. Since these return 12 digit results, the largest input argument to the SIN function for which we ought to expect correct 12 digit results is about  $10^{(31-12)}$ . On my HP50,  $\text{SIN}(1\text{E}20)$  (in radian mode, of course) returns a result that is correct to 12 digits.

The K5 SIN function presumably can return a double precision result (53 bit significand) to the user. If a 256 bit range reduction constant is used, then the SIN function with input arguments as large as  $2^{(256-53)} = 2^{203}$  (about  $1.286\text{E}61$ ) should return full accuracy on the K5. It would be interesting to see how the K5 SIN function performs when given a substantially larger argument, say  $1\text{E}90$ .



This paper was published in 1995, so when Joe Darcy says "The fix for this problem was figured out quite a long time ago." apparently he doesn't realize that the "fix" (as described in this paper anyway) was figured out even longer before 1995. Maybe he meant to refer to some other paper describing a truly new technique.

He said "Since the period of sin/cos is pi and pi is transcendental, this amounts to having to compute a remainder from the division by a transcendental number, which is non-obvious. A few years after the x87 was designed, people figured out how to do this division as if by an exact value of pi."

Non-obvious to whom? Certain other people figured it out no later than the early 80's (actually, I'm sure it was done well before that). Maybe he should have used HP calculators. The HP71 did this sort of thing (extended precision range reduction constant) in 1983.

I haven't obtained the ACM SIGNUM paper, but the abstract doesn't suggest that anything other than "reduction by division" (with a large range reduction constant) is being done. Multiple precision division is required, of course, and maybe the mechanics of doing that is the substance of this paper.

Were Payne and Hanek really the first to describe how to do it correctly? I wonder.

### **Re: Trigonometrics for Really Big Input**

*Message #14 Posted by [Gunnar Degnbol](#) on 1 Mar 2007, 2:19 p.m.,  
in response to message #13 by Rodger Rosenbaum*

Yes, the K5 paper disappointed me too. The method described by Payne and Hanek is much more interesting, and I believe this is what Hugh Steers has implemented in the BCD20 library.

The idea is that instead of taking the remainder of division by  $2\pi$ , you multiply by  $1/2\pi$ , take the fractional part and multiply that by  $2\pi$ . Since only the fractional part is used, any of the digits in the constant  $1/2\pi$  that only contributes to the integer part can be ignored. So, to compute the remainder of  $1E500$  divided by  $2\pi$ , you can ignore the first 500 decimals of  $1/2\pi$ , and it is possible to do the calculation with only a little more precision than the required result, instead of 500+ digit precision.

So the calculation can be done in a reasonable time for even the largest values, costing only the storage space for all the needed digits of  $1/2\pi$ .

### **Re: Trigonometrics for Really Big Input**

*Message #15 Posted by [Eric Smith](#) on 2 Mar 2007, 6:04 p.m.,  
in response to message #13 by Rodger Rosenbaum*

[Elementary Functions: Algorithms and Implementation](#) by Jean-Michel Muller, 2nd edition (October 2005) gives multiple algorithms for correct argument reduction for the trigonometric functions, as well as methods for producing correctly rounded results of those functions. I've found it to be a very useful book.

### **Re: Trigonometrics for Really Big Input**

*Message #16 Posted by [Karl Schneider](#) on 25 Feb 2007, 7:32 p.m.,  
in response to message #4 by Eric Smith*

Hi, Eric --

Quote:

---

A good case can be made that any value between -1.0 and 1.0 is the correct result for  $\sin(1e50)$ .

---

*(NOTE: Edited for better phrasing, based on comments from Eric Smith)*

"Correct" using an argument based upon significant digits, but then the result returned would be absolutely meaningless.

However, calculators treat input values as exact, and then generally return the best possible result. With a modern calculator, the result returned for  $\sin(1E+50)$  degrees or grads will be exactly correct. (Radians is subject to roundoff error in the internal MOD, as pointed out previously.) Calculations for cases like these are not very practical, but precise results are possible when an input value can be represented exactly within 12 significant digits.

In a similar vein to what Les posted, it would not be unreasonable for a modern high-end calculator to restrict valid real-valued arguments for trig functions to  $\pm 999,999,999,999.00$ . This is more than adequate for practicality, and would help to ensure accurate, meaningful results in any angular mode.

If the user really wants to know what the sine of  $2.456 \times 10^{23}$  degrees is, the user can do  $\text{MOD}(2.456 \times 10^{23}, 360)$  first, then take the sine.

In fact, there is already a long-standing precedent for such a restriction on HP calculators. Since both input arguments to combination or permutation must be non-negative integers, these functions restrict the two inputs to values verifiable as such -- not exceeding 9,999,999,999 (pre-Saturn) or 999,999,999,999 (Saturn). Trigonometric arguments, of course, need not be integers, but the same principle of exactitude perhaps ought to apply.

-- KS

*Edited: 26 Feb 2007, 12:14 a.m. after one or more responses were posted*

## **Re: Trigonometrics for Really Big Input**

Message #17 Posted by **Eric Smith** on 25 Feb 2007, 9:40 p.m.,  
in response to message #16 by Karl Schneider

All calculations performed by the calculator use a finite (and small) number of significant digits. The calculator doesn't "assume" that when you enter 1E50, that it is exact. It just performs operations based on the first ten (or twelve, or whatever) digits being a one followed by zeros. The only assumption it makes is that the first truncated digit doesn't cause the last digit present to be rounded to a different value.

Anyhow, unless you can cite an example of a physical value on the order of 1E50 known to have an exact value to 51 places, I'll stand by my assertion that any value between -1.0 and 1.0 is the correct result.

Quote:

---

but then the result returned would be absolutely meaningless.

---

Yes. That's the point. That's why many IEEE floating point implementations will return a NaN rather than a numeric value.

### **Edits for phrasing (previous post)**

*Message #18 Posted by [Karl Schneider](#) on 26 Feb 2007, 12:12 a.m.,  
in response to message #17 by Eric Smith*

Eric --

You're right; there was some poor phrasing in my previous post. Calculators don't really think to "assume". I edited my previous post and added some new material.

-- KS

### **Re: Trigonometrics for Really Big Input**

*Message #19 Posted by [Massimo Gnerucci \(Italy\)](#) on 24 Feb 2007, 10:38 p.m.,  
in response to message #1 by Les Wright*

Hi Les,  
try with [LongFloat](#)!

Greetings,  
Massimo

---

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## HP Forum Archive 17

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**HP 50g Emulator**

Message #1 Posted by [cfh](#) on 24 Feb 2007, 3:29 p.m.

Dear Experts,

I would like to have an HP 50g emulator on my XP machine(s). Thought I found one on hpcalc.org, but could not get it to work. Anyone willing to guide me? Or other alternatives?

Have a nice weekend!

cheers

Carl

**Re: HP 50g Emulator**

Message #2 Posted by [cfh](#) on 24 Feb 2007, 5:14 p.m.,  
in response to message #1 by [cfh](#)

Hi again,

actually the EMU48 works now, but not the correct number of display (HP 49g) lines... Any guidance?

hugs

cfh

**Re: HP 50g Emulator**

Message #3 Posted by [Dave](#) on 26 Feb 2007, 11:14 a.m.,  
in response to message #2 by [cfh](#)

Quote:

\_\_\_\_\_

hugs

cfh

\_\_\_\_\_

Wow, you're a very friendly guy. I think you need <http://www.debug4x.com/> for full 50g emulation, and some relationships outside this forum ;-)

**Re: HP 50g Emulator**

Message #4 Posted by [cfh](#) on 26 Feb 2007, 2:03 p.m.,  
in response to message #3 by [Dave](#)

Wow, thanx, that's perfect!

kisses

cfh

**Re: HP 50g Emulator**

*Message #5 Posted by [Chan Tran](#) on 1 Mar 2007, 8:29 a.m.,  
in response to message #4 by cfh*

If you get your emulator working can you show me how to make it work?

---

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## HP Forum Archive 17

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### Unknown 32K ROM for HP-41

Message #1 Posted by [Emmanuel](#) on 24 Feb 2007, 9:10 a.m.

Any idea on what it is made for?  
Survey, military applications, from USA or Canada?  
Please advice. Thanks.

| PAGES | XROM | # of FUNCTIONS | CAT'2 on HP-41CX |
|-------|------|----------------|------------------|
| 8     | 11   | 14             | ENG1 310185      |
| 9     | 12   | 08             | CDN BEAVERS      |
| A     | 13   | 14             | MAJ R FROH       |
| B     | 14   | 40             | D SMELTZER       |
| C     | 15   | 02             | D ARMITT         |
| D     | 16   | 04             | T STEWART        |
| E     | 17   | 34             | Q SIMMONS        |
| F     | 18   | 03             | L HANSMAN        |

CAT'2 on HP-41C/CV

-----  
ENG1 310185

```

`ID
`TR
`MP
`HA
`10
`DE
`EQ
`HD
`AS
`QT
`Q2
`VP
`CO
CDN BEAVERS
`MC
`2S
`OBS/DEF
`VH
`VT
`HCURVE
`SS
MAJ R FROH
`FL
`S#
`EV
`DV
`PH
`WW
`RV
`CM
`TC
`CE
`OB
`TW
`TFUSE
D SMELTZER
`MINEFLD
`DF
`LD
`PD
`LC
`eX

```

`ED  
`PR  
`DL  
`EX  
`CS  
`PE  
`D/C  
`PT  
`CL  
`PP  
`6D  
`5D  
`4D  
`3D  
`FD  
`6B  
`5B  
`4B  
`3B  
`FB  
`2B  
`PO  
`BC  
`SF55  
`CF55  
`TD  
`SK  
`RK  
`IN  
`CP  
`S2  
`VA  
`MO  
D ARMITT  
`DML  
T STEWART  
`SHFLD  
`EC  
`MD  
Q SIMMONS  
`24  
`25  
`SB  
`27  
`44  
`36  
`CA  
`AT  
`TS  
`ST  
`AST  
`AC  
`45  
`26  
`67  
`PA  
`PS  
`39  
`49  
`BM  
`PB  
`BT  
`DW  
`NX  
`SSPL  
`CB  
`DSPL  
`2SP  
`GH  
`23  
`4R  
`3R  
`VCURVE  
L HANSMAN  
`MGBD  
`ECS

AUTOSTART  
-----

CDN ENG1 RDY

KEY ASSIGNMENT

<http://membres.lycos.fr/emmanuelcompes/32K/CDN%20ENG1%20OVERLAY.JPG>

### **Re: Unknown 32K ROM for HP-41**

*Message #2 Posted by **Matthias Wehrli** on 25 Feb 2007, 5:43 p.m.,  
in response to message #1 by Emmanuel*

Hi to all of you

Is there anybody else who bought (and paid) auctions from Emmanuel last year and didn't get the stuff from him? I wrote several mails to him (and his son) and only get answers monthly or rarer... Emmanuel, I regret this topic but it's the only way you probably will hear my claim!

Matthias

### **Re: Unknown 32K ROM for HP-41**

*Message #3 Posted by **Ronald** on 26 Feb 2007, 3:53 p.m.,  
in response to message #2 by Matthias Wehrli*

Hi,

I did bought last December an item from Emmanuel and did receive it. I can not confirm it is posted the same day the item was paid, but it did arrive in the end.

Ronald

### **Re: Unknown 32K ROM for HP-41**

*Message #4 Posted by **db** on 25 Feb 2007, 11:04 p.m.,  
in response to message #1 by Emmanuel*

Hi Emmanuel; From the labels, it well could be a military ROM. If so; the SHFLD routine **may** be for latrine location.

### **Re: Unknown 32K ROM for HP-41**

*Message #5 Posted by **Howard Owen** on 26 Feb 2007, 12:32 a.m.,  
in response to message #4 by db*

So one needs to be careful not to locate the **SHFLD** in the **MINEFLD**?

Makes sense to me. 8)

Regards,  
Howard

### **Re: Unknown 32K ROM for HP-41**



*Message #6 Posted by **Marcus von Cube, Germany** on 8 Mar 2007, 6:55 a.m.,  
in response to message #5 by Howard Owen*

Early version of "MineSweeper"?

---

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## HP Forum Archive 17

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### HP67 Black Box (NNNs, etc.)

Message #1 Posted by [John Garza](#) on 24 Feb 2007, 4:33 a.m.

Any interest in an old black box? Does anybody still tinker with NNNs on the 67/97? I found my old black box and was thinking of putting it up on ebay. But then I realized that most HP users wouldn't even know what it is! Geez, I feel old.

-J

### Re: HP67 Black Box (NNNs, etc.)

Message #2 Posted by [Geir Isene](#) on 24 Feb 2007, 5:51 a.m.,  
in response to message #1 by John Garza

Very interested. How do you work it?

### Re: HP67 Black Box (NNNs, etc.)

Message #3 Posted by [John Garza](#) on 24 Feb 2007, 12:16 p.m.,  
in response to message #2 by Geir Isene

Basically, there are sections of memory in the HP67 that cannot be accessed unless under certain conditions. You may have also noticed the calculator has limited alpha capability (Crd, Error, etc.). These characters can be assembled by the user to make strings of psuedo-alphanumerics. These are called Non-Normalized Numbers (NNNs for short). Much of the work done researching the HP67 NNNs later evolved into Synthetic Programming on the HP41C. It uses the old trick of moving the program pointer to the data area - so then you can "program" new data.

Anyone familiar with the TI-59 remembers how it can repartition program space vs. data registers. Same principle, the TI-59 just made it easier. I recall writing code on the 59 that would literally reprogram itself by storing data in registers, then repartitioning that data to be program lines and then executing them. But that's a tale for another group.

This device has 5 parts:

1. A plug that fits the power connector of the HP67
2. A black Mode Select button
3. A red Crash Recovery button
4. A coarse tuning knob (upper)
5. A fine tuning knob (lower)

To operate, you insert the plug in the HP67, switch the HP67 ON and in W/PRGM mode, and start hitting the Mode Select (black) button while tweaking the knobs. You're looking for a display of (000 84) or (99x

84). depending on which display you get, you can then proceed to entering keystrokes that you have devised to display the proper pseudo-alpha string (sometimes called a Word/Phrase/Graphic).

The box must be tuned to each HP67 and requires quite a bit of finesse and patience.

Although it's meant for use with the HP67 calculator, the NNNs produced can be written to a magnetic card and then displayed on an HP97. However, certain NNNs may burn out the HP97 print head when printed! So care must be taken.

Most of the original work in NNNs was done by Lou Cargile and others of the PPC club back in the 70's.

-John

**Re: HP67 Black Box (NNNs, etc.)**

*Message #4 Posted by [Geir Isene](#) on 24 Feb 2007, 12:44 p.m.,  
in response to message #3 by John Garza*

Interesting. How much for the box?

**Re: HP67 Black Box (NNNs, etc.)**

*Message #5 Posted by [Matthias Wehrli](#) on 24 Feb 2007, 12:58 p.m.,  
in response to message #4 by Geir Isene*

Same question for me...

Let's find it out through ebay.

Matthias

**Re: HP67 Black Box (NNNs, etc.)**

*Message #6 Posted by [Marcus von Cube, Germany](#) on 8 Mar 2007, 6:51 a.m.,  
in response to message #5 by Matthias Wehrli*

Matthias, you're a bit crazy, aren't you?

I hope you like the box and put it to some useful work. ;)

**Re: HP67 Black Box (NNNs, etc.)**

*Message #7 Posted by [John Garza](#) on 25 Feb 2007, 11:59 a.m.,  
in response to message #1 by John Garza*

Ok, guys, it's up:

<http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&item=270093654884>

-John

**Re: HP67 Black Box (NNNs, etc.)**

*Message #8 Posted by [Geir Isene](#) on 25 Feb 2007, 1:10 p.m.,  
in response to message #7 by John Garza*

Only one will get it :)

Are there any schematics on how to make one?

**Re: HP67 Black Box (NNNs, etc.)**

*Message #9 Posted by [George](#) on 26 Feb 2007, 11:29 a.m.,  
in response to message #8 by Geir Isene*

Schematics can be found in 65 Notes, Volume 4 Number 5 (June 1977). Schematics, mechanical plans, a parts list, and operating instructions can be found in PPC Journal, Volume 5 Number 9 (November 1978).

**Re: HP67 Black Box (NNNs, etc.)**

*Message #10 Posted by [Ren](#) on 26 Feb 2007, 12:58 p.m.,  
in response to message #7 by John Garza*

Wow! I just checked, and bidding was at \$103! Maybe I should start building these things with all the parts I have laying around. (Getting rid of parts and making money would provide a nice anniversary present for my wife).

Ren

dona nobis pacem

**Re: HP67 Black Box (NNNs, etc.)**

*Message #11 Posted by [John Garza](#) on 27 Feb 2007, 3:33 a.m.,  
in response to message #10 by Ren*

Yes, but the one for sale is vintage. I'd expect a recently built one to go for about \$50. Sorta reminds me of the fellow making new Altairs and selling them for 80% the cost of a genuine one. And he wondered why they didn't sell...

I was thinking of making some more Black Boxes too if my original one sells well. I'm looking no so much at the highest bid, but the number of watchers/bidders - (I broke 20 watchers the first day). That tells me people are interested in it. I wouldn't mind seeing a mini-revival in the HP tinkering that I enjoyed so much! Some helpful hints if you're going to make your own:

1) Use knobs/case with markings - it would help a great deal to know the "settings" 2) Use a case small enough that it fits your palm nicely. 3) Swap out the 10 Ohm fine tuning pot for a 20 Ohm with a 20 Ohm fixed in parallel - it's easier to tune.

If you're REALLY technically inclined and don't mind soldering your main logic board; try a phase 1 interrupt switch (V5N1P16). I have a 67 with one of these. It's a tiny glass reed switch just under the case on the right side. Just pass a magnet over the spot, and voila!

And needless to say, you DON'T keep the magnet in your card wallet.

-John



## HP Forum Archive 17

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**Books for HP 71**

Message #1 Posted by [PeterP](#) on 24 Feb 2007, 1:05 a.m.

Hi,

I recently decided to follow the advise from one of the esteemed and regular posters here and acquired an HP 71 and now I'd like to learn how to program it. (the only other HP I own and know a little bit how to use is the 41)

From searching the forum archives it seems that there are two books that would be tremendously helpful in this regard:

1) HP-71 BASIC Made Easy by Joseph K. Horn 2) The Basic HP-71 by Richard Harvey

I have posted in the 'ad' section my interested to buy those books, yet with no success so far. So now I am wondering if there might be someone in our community who would be willing to *lend* me one/both of those books for say 2 weeks(tight) or 4 weeks (generous). I'd naturally pay all shipping charges and also be open to discussing some kind of security the owner would like in case he/she feels the need.

It would be most appreciated if one of you can be so kind and help me out, I hear those two books are most informative and enjoable to read.

Thanks so much for you kind consideration

Cheers

Peter

**Re: Books for HP 71**

Message #2 Posted by [Garth Wilson](#) on 24 Feb 2007, 5:07 p.m.,  
in response to message #1 by PeterP

So your 71 didn't come with the manuals? The HP manuals are by far the best I've ever seen. You just start at the beginning, and knowledge is layered on knowledge, until you get to the end and feel like you know the machine, without ever having gotten to "the hard part." You can get them (plus the various volumes of the internal design specifications, manuals for the various modules, and a lot more) on the CDs from this website.

Garth

wilsonmineszdslextremezcom (replace the z's with @ and .)

**Re: Books for HP 71**

Message #3 Posted by [Howard Owen](#) on 24 Feb 2007, 9:58 p.m.,  
in response to message #2 by Garth Wilson

The HP manuals from that era are excellent; all hail the ancient HP.

What's missing for the 71 in the public corpus (i.e, on the Museum DVD) are nice "friendly" docs beyond the manuals. The 71 came out in an era when consumers were getting their first ever opportunities to buy computers. BASIC was supposed to be a *beginner's* language. In the US, the Apple II, Commodore 64, Tandy CoCo and others all had "Introduction to BASIC" books available. It looks like the referenced titles may have been just such books for the 71.

I don't think it's unreasonable for someone to ask for access to that on this board. We've all painstakingly garnered our knowledge over the years from lots of sources. I know I can attribute most of my knowledge to hugely generous people who encouraged and guided my efforts over the years. I've tried to pass some of that on out of gratitude to those folks.

I've also known users who wouldn't take any action on their own behalf, preferring instead to ask question after question, each revealing that the last answer hadn't been acted on in the interim. I tend to turn people like that away with advice to read the friendly manual. But I *never* assume a newbie is in that category until he or she has been around a while. There truly are no stupid questions, unless you count those that get repeated by users of the second kind above. But the first couple of times you hear them, you can't tell the two types apart.

Food for thought,  
Howard

### Re: Books for HP 71

Message #4 Posted by [Garth Wilson](#) on 25 Feb 2007, 12:37 a.m.,  
in response to message #3 by Howard Owen

Howard,

I think you took my "So your 71 didn't come with the manuals?" comment to be sarcastic. I apologize, as I didn't mean it that way. I hate it when manuals get lost or tossed instead of kept with the equipment, and then someone like the OP does not get the benefit of those good manuals that should have been sent right along with the computer. Unfortunately it's all too common. He may also have gotten just the reference manual and not the owner's manual, and not realized there *even was* an owner's manual. That's not his fault of course. Either way, I wanted him to know the manuals are available on the CDs, so he's not stuck.

Garth

### Re: Books for HP 71

Message #5 Posted by [Howard Owen](#) on 25 Feb 2007, 1:51 a.m.,  
in response to message #4 by Garth Wilson

Sorry for the misunderstanding, Garth. I guess I was primed by a recent exchange with another member to see "newbie abuse" in everything. 8)

Regards,  
Howard

### Re: Books for HP 71

Message #6 Posted by [Howard Owen](#) on 24 Feb 2007, 10:03 p.m.,  
in response to message #1 by PeterP

The books you refer to are quite rare. I have seen the Horn book on eBay a couple of times in the last two

years.

But Joe Horn is still with us. He attends the HHC meetings regularly. His [hobby page](#) has a section for the 71B, but alas, no reference to the book you seek. You may be able to contact him via that website, however.

Regards,  
Howard

(Changed "HPCC" to "HHC" above. Just got my newsletter, and the acronyms got scrambled. 8)

*Edited: 24 Feb 2007, 11:59 p.m.*

## **Re: Books for HP 71**

*Message #7 Posted by [PeterP](#) on 25 Feb 2007, 1:30 a.m.,  
in response to message #6 by Howard Owen*

Thanks a lot guys, I will get the manual and owners book from Dave's wonderful DVD and I also sent an email to Joe Horn - thanks for the link to his webpage.

When I re-bought an 41CX a couple years ago, I also went out and tried to locate and buy all the books that have been written about this wonderful machine. From Wlodek's Red Bible to the Wickes and Jarett books and down to Dodin's book on Machine coding. I also got from Dave's, TOS's and Jake's DVD and painfully printed out and sorted all PPC, HHPC, CHUU etc articles and sorted them into math, tools, games, synthetic and machine coding. I just love reading and learning about those machines as much as possible - even got myself Meinderts MLDL and a HEPAX (that was my luckiest buy ever, what a fantastic module that one is) and learned a bit of machine coding. Not that my brain will ever allow me to play in the ranks of the grandmasters here on the forum but I simply enjoy the process of learning and getting better a little bit every day.

So my interest in the those books is genuine and they will (hopefully the right tense) be read and carefully followed through page by step (I did all exercises from Wlodek in the Red Bible, although I failed on a couple).

Anyway, I will start with printing out the manuals and follow them, and maybe by the time I am through with them, somehow there might be a way for me to learn from those two books as well. I have also recovered from the HHPC Datafile most articles about the 71, either from Jake's DVD or from Valentin's webpage (thanks for that Valentin). After the manual I should be in much better shape to understand them ;-)

Thanks again and please let me know of any other advice you can offer to me in learning this new machine.

Cheers

Peter

---

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## HP Forum Archive 17

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### HP17bii+ solver question

Message #1 Posted by [Don Shepherd](#) on 24 Feb 2007, 1:02 a.m.

This is frustrating.

Can anyone tell me why I get "Solution not found" when I enter a value for N and solve for SOD (sum of digits):

```
sod=0xL(A:LOG(N)+1)+sigma(I:1:A:1:MOD(N:10)+0xL(N:IP(N/10)))
```

### Re: HP17bii+ solver question

Message #2 Posted by [Gerson W. Barbosa](#) on 24 Feb 2007, 6:36 a.m.,  
in response to message #1 by Don Shepherd

It works on both the HP-200LX and HP-17BII. It seems there is (or there was) a problem with L() and G() on the HP-17BII+ :

<http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv016.cgi?read=91896>

<http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv014.cgi?read=67528>

<http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv014.cgi?read=64409>

Gerson.

### Re: HP17bii+ solver question

Message #3 Posted by [Don Shepherd](#) on 24 Feb 2007, 10:59 a.m.,  
in response to message #2 by Gerson W. Barbosa

Thanks Gerson.

Yes, I had noticed some of those threads before, and I guess I just hoped that the problems were fixed by now. I should have known better. You know, the beauty of computers and programming is (supposed to be) that they work the same way every time, with consistency, and according to their documentation. In my 33 years of programming on IBM, Univac, and DEC mainframes, that has been true. The only two cases where it was not true was with HP calculators; the original 12cp with 400 program steps that you could use only if you had no GTO's, and now the 17bii+. When a hobby is just frustrating, it's not a hobby anymore.

I am returning to my 16c and my Martin guitar.

### Re: HP17bii+ solver question

Message #4 Posted by [bill platt](#) on 24 Feb 2007, 11:28 a.m.,  
in response to message #3 by Don Shepherd

When HP calculators become KinHPo calculators, sadly the attention to detail and quality simply

evaporated.

Buying a real 17bii is your only real option.

### Re: HP17bii+ solver question

Message #5 Posted by [Gerson W. Barbosa](#) on 24 Feb 2007, 11:56 a.m.,  
in response to message #3 by Don Shepherd

Quote:

the beauty of computers and programming is (supposed to be) that they work the same way every time, with consistency, and according to their documentation.

That's quite true!

Quote:

The only two cases where it was not true was with HP calculators; the original 12cp with 400 program steps that you could use only if you had no GTO's, and now the 17bii+.

At least that 12CP bug has been solved. If you want another example of lack of consistency between the 200LX and the HP-17BII solvers, consider this equation:

$$\text{COS} = 0 * \text{L}(X : (-1)^{\text{L}(Q : \text{IP}(\text{ABS}(\text{L}(X : \text{MOD}((90 - X) : 360))) / 90)) + \text{FACT}(\text{G}(Q)) * ((180 * (\text{G}(Q) - \text{IP}(\text{G}(Q) / 2))) - X)) + \text{L}(Y : \text{SIGMA}(N : 0 : 5 : 1 : (-1)^N * (X * \text{PI} / 540)^{(2 * N + 1)} / \text{FACT}(2 * N + 1))) * (3 - 4 * \text{SQ}(\text{G}(Y)))$$

The HP-200LX has no trouble solving for X, given COS. However, the HP-17BII returns the complement of the expected answer. It started working only when  $+0 * \text{L}(X : 90 - X)$  was appended to the equation. This kind of thing is really frustrating.

Regards,

Gerson.

*Edited: 24 Feb 2007, 11:58 a.m.*

### solve question

Message #6 Posted by [chris](#) on 6 Mar 2007, 6:48 a.m.,  
in response to message #1 by Don Shepherd

why did the framers made

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## HP Forum Archive 17

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### EE Calculations, some not obvious

Message #1 Posted by [E Samuel Levy](#) on 23 Feb 2007, 11:25 p.m.

HEWLETT PACKARD CALCULATIONS I used HP RPN pocket calculators for electronic solutions, and I wanted to find a fast way to solve common problems using as few keystrokes as possible, and getting maximum information during the process. This method uses the repeating t register. Formulas now in use were derived for pen and pencil mathematics, totally outmoded by the calculator. This is the keystroke procedure for quick solutions. Resistive Dividers; when calculating from known resistors, enter the lower resistor repeatedly. Key in the top resistor, and add, the result is the total resistance, then divide, the result is the fractional output voltage of the divider. Then multiply and subtract to see the output resistance from the divider tap. To design such a network, key in the output resistance desired, and enter repeatedly. Key in the division fraction, and divide to see the upper resistance. Divide again to restore the fraction, key 1, subtract, change sign, divide, and see the lower resistor. The relation between the upper resistor and the output resistance is the fraction of the divider. 1 minus the fraction is the relation between the output resistance and the lower resistance. Given the fraction and either resistor, the other value may be found. I have used this method to find the added end resistors for setting particular potentiometer control ranges. The difference between the two potentiometer fractions desired at the potentiometer ends, relates the potentiometer resistance to the total resistance. Thus a particular value of potentiometer may be used to obtain the desired range of fractions. EXAMPLE: It was desired to use a 1K potentiometer to adjust a power supply to vary between 24 and 16 volts. The IC regulated at 4.75 volts from the potentiometer. It is desired to calculate the end resistors needed to set the correct range.  $4.75/24 = 0.2$  store 1.  $4.75/16 = 0.3$  store 2. Recall 1, subtract, see 0.1, key 1000 swap X&Y, divide, see 10105, the total resistance. Enter several times. Recall 1, multiply, see 2000, the resistance when the pot is at the lower extreme, add 2000 ohms to the lower end of the pot. Cl X, recall 2, multiply, see 3000, this is the sum of the pot resistance and the pot lower end resistor. The upper end resistor must be 10205 minus 3000 = 7105. Some compromise values may be used. Transistor bias; I was solving for a transistor bias divider, and wondered how to account for the base current drop in the divider. I thought to divide the divider output resistance by Beta and add it to the actual emitter resistor. To do this procedure, solve the bias divider resistors, storing the divider fraction. With R0 in the register key Beta, divide, and see the emitter resistor equivalent to be added. Key the actual emitter resistor and add, see the total emitter resistor, accounting for the bias source drop. Key the source voltage; recall the fraction, multiply and see the divider voltage. Key 0.7, subtract, see the emitter voltage. Interchange X&Y and divide, to see the emitter current: check by multiplying by the collector resistor, to see the collector resistor drop.

Summing network; The resistive divider can be extended to a more general case. I needed to design a telemetry output that combined several signals, to a common output, having a 10 K output resistance. The signal of interest was a +/- 12 volt VCO control voltage. The telemetry output was to be 0-5 volts, using the range 0.5 to 4.5 volts normally. The centering voltage was 2.5 volts from a regulated 12 volts supply. A third resistor to ground gave the desired output resistance. I found a general solution. Each resistor is determined by the fraction of its input voltage contributed to the output sum, thus the telemetry signal was to output 1/6th of its signal. The resistor was then 10K times 6 or 60K. The centering voltage was 2.5 volts derived from +12, a ratio of 4.8 times, 48K. The third resistor was found by subtracting the other two fractions from 1:  $1 - 1/6 - 1/4.8$ , a fraction of 0.625 and dividing the output resistance to get a resistance of 16K. Some compromise values were used, which proved satisfactory. RC frequency corners; the process may be simplified as  $2\pi fRC=1$ . The known values are multiplied, and the product inverted to give the missing element. For constant frequency solutions enter  $2\pi f$  repeatedly. Tuned circuits; here intermediate results in the solution give other useful information. Key in L, then C, and store C in a register, divide and take the square root; this is the impedance of the resonant elements. Recall the capacitance value and multiply, then multiply by  $2\pi$  and invert to see the frequency in Hertz. This is the frequency corner formula using R0 as the R value. Q if

known may be used to compute the resonant impedance, or the Q may be found by dividing the parallel circuit damping resistance by the impedance, or the impedance by the series circuit resistance. The square root of L/C is also the output resistance of a simple LC filter, such as a power supply, and can be used to estimate transient voltages from current changes. Resonant values; When using a constant frequency, resonant values may be calculated quickly. Key in  $2\pi f$  and enter it repeatedly. Then key in either L or C , multiply twice, and invert to see the other resonant circuit element. When  $2\pi fL$  is shown, it is the reactance of the circuit values. This procedure gives quick trials of various circuit values, give impedance values for filter and by-pass elements, and value choices for a given Q. Ohms law; this may seem simple, but can be used as a rapid verification of dissipation and the voltage and current relation. Remember the little circles of voltage E divided by the IR product. Key in the voltage repeatedly, and divide by either I or R to see the other value, as in  $E=IR$ . The power in a resistor can be found by keying in the resistor and dividing to get I, then multiplying to get EI. It can be used to solve  $W=EI$ , by keying in power repeatedly, and dividing to get either E or I. These methods allow such rapid solutions; they will increase your ability to investigate possibilities in your designs. Practice will allow fast and sure answers to a wide range of problems. Familiarity will allow you to extend these methods to your particular problems. I trained one tech to calculate time payments faster than they could be found in a book. E. Samuel Levy, 754 Temple St. San Diego 92106, 619-223-6292 designnut@cox.net

**Re: EE Calculations, some not obvious**

*Message #2 Posted by [Donald](#) on 24 Feb 2007, 6:30 p.m.,  
in response to message #1 by E Samuel Levy*

That was all a bit a mouthful to swallow :-)

But it sounds like your describing the 'classic' RPN 4 level XYZT stack which allows T to pop up as X drops. The technique is discussed in HP's manuals for minimal keystroke polynomial evaluation.

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## HP Forum Archive 17

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### 33s: parentheses within program

Message #1 Posted by [Adam Price](#) on 23 Feb 2007, 11:20 p.m.

I am new to the 33s - just got it yesterday so I will be comfortable with it by the time my FE exam rolls around next year. I imagine it would be handy to be able to do both linear systems and vector math on the FE, so I set right in to keying in the routines given in the manual. Besides having to change some conflicting labels between the two routines, it went well - until the dot product loop. The program doesn't work and the checksum is wrong. I double checked everything and it looks right, so I stepped through. It gives me an "Invalid equation" error on lines D0021 and D0026 - the two parentheses. Here's what it looks like in the book:

```
D0018 RCL W
D0019 y,x -> Q,r [yes, that's a theta]
D0020 STO E
D0021 (
D0022 RCL D
D0023 RCL/ R [that's a division sign :- with the line slid left]
D0024 / [again, the division sign]
D0025 RCL E
D0026 )
D0027 ACOS
```

....etc The only way I could find to get the parentheses to appear was to enter them with purplearrow-EQN purplearrow-( That makes the eqn annunciator come up whenever I scroll past those two lines. Perhaps that is not the right way to enter parens? I tried just purplearrow-( but that didn't do anything.

Any suggestions?

### Re: 33s: parentheses within program

Message #2 Posted by [Vieira, L. C. \(Brazil\)](#) on 24 Feb 2007, 8:34 a.m.,  
in response to message #1 by Adam Price

Hi;

would that be possible to scan the book's listing and allow us to have a look at it?

I do not use the HP33S in Algebraic mode, and I do not have mine in hands right now, so I cannot tell about how does it handle parenthesis in RPN mode.

So, my suggestion is: should you try algebraic mode? At least I am considering the fact that you are using it in RPN mode, the default one.

Best regards.

Luiz (Brazil)

### Re: 33s: parentheses within program

Message #3 Posted by [Les Wright](#) on 24 Feb 2007, 8:57 a.m.,  
in response to message #2 by Vieira, L. C. (Brazil)

for those of us with the manual a page number is good too.

**Re: 33s: parentheses within program**

Message #4 Posted by [Adam Price](#) on 24 Feb 2007, 9:57 a.m.,  
in response to message #2 by Vieira, L. C. (Brazil)

Quote:

should you try algebraic mode?

Ah. Now that you ask I see that that is written at the top of the page. That seems to fix it - mostly. Now I get the same results as the sample routines given in the book. My checksum is still off, though. Hopefully that is a mistake in the given checksum?

I don't have a scanner, but this section of the program in question is on page 15-6 of the manual, which can be found online at <http://h10032.www1.hp.com/ctg/Manual/c00059731.pdf> If someone else could key in D0001-D0030 and confirm the checksum, that would be great.

Thanks for the help, everyone - This is a fun calculator - I know it can't do as much as my 48gx, but since I have the manual for this one, I am already learning to use a much higher portion of its capabilities. (to me, the 48g is like a black box, so to speak)

**Re: 33s: parentheses within program**

Message #5 Posted by [Les Wright](#) on 24 Feb 2007, 10:02 a.m.,  
in response to message #4 by Adam Price

If you had to relabel things to avoid label duplication, the checksum would change, since the program isn't an exact duplicate of the listing that generated the original checksum.

**Re: 33s: parentheses within program**

Message #6 Posted by [Adam Price](#) on 24 Feb 2007, 1:05 p.m.,  
in response to message #5 by Les Wright

Relabeling - I relabeled everything in the linearsystem routine, once I got it working, then typed in this one exactly as it reads in the book.

Thanks for the link on the other!

**Putting some light into the black box**

Message #7 Posted by [Les Wright](#) on 24 Feb 2007, 10:08 a.m.,  
in response to message #4 by Adam Price

<http://www.hpcalc.org/details.php?id=3937>

Edited: 24 Feb 2007, 10:09 a.m.

**Re: 33s: parentheses within program**

Message #8 Posted by [Adam Price](#) on 24 Feb 2007, 7:52 p.m.,  
in response to message #4 by Adam Price

Quote:

Now I get the same results as the sample routines given in the book. My checksum is still off, though. Hopefully that is a mistake in the given checksum?

I retract that claim. I thought it was working, but it wasn't. To get it to work, I had to go back into the program and re-enter the parentheses lines while in ALG mode - which was much easier than it was in rpn mode. I assume that my other entry technique must have left some invisible whitespace or something that was causing problems.

Now it is /really/ working. Just wish I didn't have to switch to ALG mode to use it.

Thanks again, everyone,

Adam

### **Re: 33s: parentheses within program (LONG, but COOL alternative)**

*Message #9 Posted by [ECL](#) on 24 Feb 2007, 8:28 p.m.,  
in response to message #8 by Adam Price*

Adam,

I definitely echo your frustrations with the lack of matrix support on the 33s.

I have successfully used the Gauss-Seidel method on my 33s. It is a numeric-iterative approach to solving linear systems. Using it does, however, require you to consider a few characteristics about the system that you wish to solve [you have to think :)]

You must consider the dominant diagonal, the initial value (usually try setting all to zero), among a few others. Don't try to "get it" the first time you read this post, just read through it, and then re-read it (perhaps after googling Gauss-Seidel).

Now, here is one insight...on systems that are appropriate (ie. diagonally dominant, etc) in other words, academic problems that are designed to be solved, you can usually expect a convergence on the correct solution vector.

Anyway, the approach is essentially like this:

1. Take a system, say 4 variables, and algebraically solve each one for one of the variables. So, you solve the first equation for X, the second one for Y, etc.
2. Now, key these in as a 33s keystroke program.

Actually, let me just give a pseudo-code to illustrate it:

say we have the following:

$$Ax + By + Cz = D$$

$$Ex + Fy + Gz = H$$

$$Ix + Jy + Kz = L$$

here's the pseudocode:

1. store your coefficients

INPUT A, INPUT B, INPUT C, etc..

2. Solve the first eqn for X:

RCL D, RCL Z, RCL \*C, -, RCL B, RCL \*y, -, RCL /A, STO X

3. Solve the second eqn for Y:

RCL H, RCL Z, RCL \*G, -, RCL E, RCL \*X, -, RCL/F, STO Y (Note that this equation uses the approximation for X that you just obtained previously...likewise, Step 4 will use both that X and also the Y that you are currently solving)

4. Solve the third eqn for Z, following the above approach.

So the idea is that each subsequent equation in the system gets the most current approximation. If you enter a good system, you can expect convergence. This may at times mean reordering your system (like Gauss-Jordan with pivoting). This essentially means that you flip columns and rows (before entering the coefficients) so that you have a diagonally-dominant system.

At this point you want to consider looping through this again, since you will get closer to the actual answer each time you iterate. How to decide when you are happy with the result? Well, consider putting in a check, like compare the new X with the previous X, and set a tolerance like  $X_0 - X < 0.01$ . This will let the calculator terminate the loop when it begins to split hairs.

As you may realize, there's remains some coding on your part for this to run on your 33s. If it had the USB support like the 50g I'd have posted a link for you. But I'm not up to typing in the whole routine (plus I assume you'd have more fun figuring it out).

The nice thing is that I believe I can run this using at MOST two labels (meaning you don't eat up the volume of registers as the HP code listing does). This leaves more labels for you to store other stuff. You can do this for as large a system as you can squeeze variables. There are tricks like freeing up variables once you've used them to permit a larger system, or even having the code prompt the user for stack entries on the fly to let you run a huge system.

This is why I love machines like the 33s...they really force you to get creative! But, alas as engineers we need problems solved, and must often resort to computers for things like finite element methods. Still, its never a crime to stretch your brains as a student (when many problems are solvable with limited resources) or simply to "pull it off".

Have fun. (To all the detractors of my earlier post regarding the 42s, hope this message warms your hearts and makes you happy that I'm a contributor)

ECL

PS. I'll now "HAVE" to type my aforementioned code out and submit it to D.H. so it can join the program listings on this site.

## Re: 33s: parentheses within program

Message #10 Posted by *bill platt* on 24 Feb 2007, 9:13 p.m.,  
in response to message #8 by Adam Price

One of the "quirks" (well, actually it is not a quirk, it is more a consistency thing) on the 33s is that



ALG features (such as the parenthesis) only function while in ALG mode (of course they also function in equation mode even if RPN is active).

When editing programs, you do need to be aware of what mode you are in while editing. Of course you also need the machine to be in the appropriate mode before running the program.

Note that setting the mode is a \*programmable\* function, and so you can design programs that first set the mode, and then operate in that mode. But you still have to be 'manually aware' of your mode setting while you are 'manually' editing a program.

I HTH.

regards,

Bill

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## HP Forum Archive 17

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### Is there a command to total all matrix elements?

Message #1 Posted by [Reuben](#) on 23 Feb 2007, 8:54 p.m.

I've got a 5x6 matrix and I need to add all the elements together. I didn't want to have to decompile the matrix and perform '+' 29 times though. I've looked in the matrix section in the user guide a few times, and can't find anything that will do this.

Thanks in advance! --Reuben

### Re: Is there a command to total all matrix elements?

Message #2 Posted by [allen](#) on 23 Feb 2007, 11:24 p.m.,  
in response to message #1 by Reuben

(Revised from earlier post)

You could just take the dot product with unity matrix:

$$\begin{bmatrix} 1 & 2 & 3 \\ 4 & 5 & 6 \\ 7 & 8 & 9 \end{bmatrix} \text{ dot } \begin{bmatrix} 1 & 1 & 1 \\ 1 & 1 & 1 \\ 1 & 1 & 1 \end{bmatrix} = 45$$

which is  $1+2+3+4+5+6+7+8+9=45$

Edited: 24 Feb 2007, 10:19 a.m.

### Re: Is there a command to total all matrix elements?

Message #3 Posted by [John Keith](#) on 25 Feb 2007, 7:49 p.m.,  
in response to message #2 by allen

A little longer but faster:

```
OBJ-> OBJ-> DROP * ->LIST \Sigma\LIST
```

John

### Re: Is there a command to total all matrix elements?

Message #4 Posted by [allen](#) on 26 Feb 2007, 8:25 p.m.,  
in response to message #3 by John Keith

John, Right you are, your method is at least twice as fast as the method I posted above. My original response was much closer to your objobj method, but I revised it because it did not address the question.

Reuben's question had "opportunities for learning" in programming (trying to sum a list by +,+,+,+,+,+,+) and in mathematics (not knowing that the DOT product already does sum the elements

in a vector/matrix). So I thought it more fitting to address only the mathematics issue, hoping that he would take some initiative and figure out the rest. (e.g. a simpler, faster, better... way)

*Edited: 26 Feb 2007, 11:49 p.m.*

## <<DUP SIZE 1 CON DOT>> AKA soup in a Vietnamese Restaurant

*Message #5 Posted by [allen](#) on 25 Feb 2007, 12:28 a.m.,  
in response to message #1 by Reuben*

```
<<
  DUP SIZE 1 CON DOT
>>
```

(If you say it out loud to yourself it sounds very much like ordering soup in a Vietnamese Restaurant!) :-)

*Edited: 25 Feb 2007, 12:32 a.m.*

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## HP Forum Archive 17

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### Modified HP-28S seen on eBay

Message #1 Posted by [Ken Shaw](#) on 23 Feb 2007, 7:00 p.m.

Here is an HP-28S that just sold on eBay.

[Item #130080704876](#)

It appears to have a 28-pin connector where the display should be and came with a matching ribbon cable!

Anybody have a clue what this might be used for?

- KDS

### Re: Modified HP-28S seen on eBay

Message #2 Posted by [Bill Wiese](#) on 23 Feb 2007, 11:59 p.m.,  
in response to message #1 by Ken Shaw

Possibly some kind of overhead display conversion?

Another (perhaps a tad larger) matrix LCD without backing and see-through could be placed on a transparency projector for classroom display...

Bill Wiese  
San Jose CA

### Re: Modified HP-28S seen on eBay

Message #3 Posted by [Namir](#) on 24 Feb 2007, 12:00 a.m.,  
in response to message #1 by Ken Shaw

I can be used as an example of people who tamper with calculators and can't put them back together!!!!

His response to queries about if the calculator works is soooooo lame!!!

Namir

### Re: Modified HP-28S seen on eBay

Message #4 Posted by [Frank Boehm](#) on 24 Feb 2007, 1:04 p.m.,  
in response to message #1 by Ken Shaw

I have one like these, mine has been made to test the keyboard during engineering (CPU-board missing). This one might have been used to test various different displays.

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## HP Forum Archive 17

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### **I need help: string as variable name on 48G? How?**

Message #1 Posted by [Reuben](#) on 23 Feb 2007, 12:57 p.m.

I'm working on calorie-counting and meal time tracking capabilities on my 48G, and I've hit a wall:

I need to store a string containing the nutritional data in a variable named by the time of day. I've figured out how to extract the time out of the TSTR cmdnd, but it returns a string, which I cannot use as a variable name. Is there any way I can turn this string into a valid variable name? Any Ideas?

I can post code if anyone is interested, but it's pretty laughable, I'd bet.

### **Re: I need help: string as variable name on 48G? How?**

Message #2 Posted by [Ivan Nejgebauer](#) on 23 Feb 2007, 3:13 p.m.,  
in response to message #1 by [Reuben](#)

Quote:

I've figured out how to extract the time out of the TSTR cmdnd, but it returns a string, which I cannot use as a variable name. Is there any way I can turn this string into a valid variable name?

With the string in level 1, the following snippet

```
"" DUP ROT + SWAP + OBJ\ ->
```

will produce the appropriately named variable (algebraic object.)

```
OBJ\ ->
```

alone would also work, but only if you don't already have such variable in the current directory -- in that case you'd get its contents.

i.

### **Re: I need help: string as variable name on 48G? How?**

Message #3 Posted by [Reuben](#) on 23 Feb 2007, 8:52 p.m.,  
in response to message #2 by [Ivan Nejgebauer](#)

Well, that is very clever. Thanks very much!

Now I have another question though... Is there a single command that can add up all the values in a matrix and return 1 result?

Thanks, --Reuben

### **Re: I need help: string as variable name on 48G? How?**

*Message #4 Posted by **James M. Prange (Michigan)** on 23 Feb 2007, 10:16 p.m.,  
in response to message #2 by Ivan Nejgebauer*

Actually, with the string in level 1, the code can be reduced to:

```
" " SWAP + OBJ\->
```

This works because the compiler treats 'string' the same as 'string'.

STR\-> could be substituted for OBJ\-> in this case, and should be very slightly faster.

There's also a SysRPL command \$>ID that converts a string object to a global name object, and this command could be invoked with a SYSEVAL command, but I don't, offhand, know the entry point address.

Regards,  
James

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## HP Forum Archive 17

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### Watch out for Alexandra Carter (eBay seller)

Message #1 Posted by [Vassilis Prevelakis](#) on 23 Feb 2007, 8:04 a.m.

Anybody done business with eBay seller Alexandra Carter (alexandracarter)?

She used a very neat trick on me.

I bought an HP 5036A Microprocessor Lab 8-Bit Computer from her (eBay 160080545681) and paid for it with a money order which was received on Feb. 3, 2006 (USPS tracking number 0103 8555 7499 5332 2386).

She then claimed to have sent the HP 5036A via USPS but has not produced a tracking number despite the fact that I specifically had asked for one.

Anyway, when I pressured her about the item, **she filled a non-payment dispute against me, to prevent me from posting negative feedback on her.**

This is despite the fact that on Feb 9, she sent me an eBay message (sitting in my eBay messages folder) confirming receipt of payment.

So **watch out for Alexandra Carter** despite her 98.3% feedback rating.

\*\*vp

### Re: Watch out for Alexandra Carter (eBay seller)

Message #2 Posted by [Ron](#) on 23 Feb 2007, 8:57 a.m.,  
in response to message #1 by [Vassilis Prevelakis](#)

My rule of thumb for people with high feedback, is to be careful if they have less than 99.5%. It seems to me that, you should be able to deal with 200 people, without offending/cheating over 1, and I think this is being lenient. Someone with low feedback can get knocked way down by one or two negs, but an established seller should have any systematic problems resolved. 98.6% tells me that this person consistently (over 7000 feedback) has trouble dealing with 1.4% of her customers.

Thanks for alerting us to the trick though. It could come in handy sometime. ;^)

*Edited: 23 Feb 2007, 8:59 a.m.*

### Feedback...

Message #3 Posted by [Gene](#) on 23 Feb 2007, 9:40 a.m.,  
in response to message #2 by [Ron](#)

Feedback is a very difficult thing to evaluate consistently.

Take me for instance. I have 2 negative feedbacks over 10 years of using ebay.



One was from an idiot who posted negative feedback when an email he sent me bounced. When I asked why he didn't at least try two emails, he said and this is a quote "I figured the negative feedback would get your attention".

The other was from a strange case involving a very nice Italian man who was buying something from me and it involved neither of us getting emails from the other. The emails were getting lost in cyberspace somehow on both our accounts. Very weird. So, after a month of not hearing from him, I hit him with a negative feedback. The NEXT DAY his payment arrived. So I certainly regretted my feedback. :( I boxed up his item, sent it off and \*emailed\* him that it was on the way. Of course, from HIS perspective, my feedback claiming to have never received payment looked like I was trying to rip HIM off. So, he posted negative feedback on me.

Hence my 99.7% positive feedback. One idiot and one bizarre circumstance.

Now I know my % is above your cut off level, but it can be difficult to know all the time.

Add to that the increasingly common practice where sellers or buyers leave retaliatory negative feedback anytime it is left on them, and it is easy to understand some of the ways people can get negative feedback.

However, I tend to look through the feedback comments and see if there is any consistent thread...Slow to ship...item not as described...not communicative, etc. before making decisions.

Just my 2 cents and worth that much. :-)

### **Re: Feedback...**

*Message #4 Posted by **Ron** on 23 Feb 2007, 10:08 a.m.,  
in response to message #3 by Gene*

I agree 100%, Gene. I just meant that I am extra careful if the % is not really high on an established seller. I get on my toes to detect tricky wording or missing information, etc... And like you, I read the negs.

I know there are people who just can't wait to say something bad about someone, and will leave a neg for some non-issue. I often check out the neg-leavers, and find out they have 10x as many negs as the seller I'm checking out (presumably because they like to leave negs, and end up getting them in return), which would lead me to discount the neg they left for my seller. And I've noticed that the people with many negs often have lots of transactions with other people with many negs. It's like a little congregation of highly negative people 8^). Oh well - I'm starting to ramble.

### **Re: Feedback...**

*Message #5 Posted by **jbssm** on 23 Feb 2007, 11:24 a.m.,  
in response to message #4 by Ron*

Yup, I completely agree.

I have 2 negatives ... one from a seller the sold me a completely broken PDA (the thing didn't power on and was severely scratched although he described it has "nice condition and working") ... after trying to return it, the guy always refuse stating that the auction said "all sales are final" ... well the auction also said nice condition and working. So I had to leave him negative feedback although I knew he would retaliate ... and he did.

The other one was from a buyer ... I completely described everything that went with the calculator I was selling ... and I sent the unit without batteries since I never said it would take batteries (I mainly

do this because of reducing shipping, batteries were cheap AA). The guy left me negative because I didn't sent the batteries stating that in my auction pictures the unit was tuned ON :S ... so much for idiots in this world.

**Re: Feedback...**

*Message #6 Posted by [bill platt](#) on 23 Feb 2007, 12:22 p.m.,  
in response to message #5 by jbssm*

I think a seller who does not immediately give positive feedback to the buyer once the money clears, is essentially being slightly less than straightforward. As far as I can see, all the buyer owes you is the money.

So I give feedback to a buyer once she pays.

And I will not give any feedback to a seller until he gives me feedback. Unless of course something goes wrong and he doesn't come clean.

**Re: Feedback...**

*Message #7 Posted by [bill platt](#) on 23 Feb 2007, 12:25 p.m.,  
in response to message #5 by jbssm*

They guy who negatived you for the batteries should have had the courtesy to contact you directly first! Jeez, I'm sure if I'd been in that situation (as the seller) I would have simply credited him \$2 for the freakin' batteries.

Some people are so combative.

And so nowadays I think it pays to review the feedback record of your winning bidder, too. Of course sometimes they have zero feedback.

**Re: Batteries**

*Message #8 Posted by [Ron](#) on 23 Feb 2007, 12:34 p.m.,  
in response to message #7 by bill platt*

I would never ship a calc with batteries! I received a very nice CX once, but it wouldn't power up. Turns out a battery had leaked in transit (best I could tell), causing significant corrosion. In fact, the post office discourages (bans?) shipping batteries, as corrosive agents.

**Re: Watch out for Alexandra Carter (eBay seller)**

*Message #9 Posted by [Anthony L. Mach](#) on 23 Feb 2007, 12:02 p.m.,  
in response to message #2 by Ron*

Well, try my quick-and-dirty trick:

Ask the seller in advance if you can come and pick up the item (regardless of where you live). If they hit you with a resounding "NO", then you have every right to be suspicious.

Tony

**Re: Watch out for Alexandra Carter (eBay seller)**

*Message #10 Posted by [Dia C. Tran](#) on 23 Feb 2007, 4:01 p.m.,  
in response to message #9 by Anthony L. Mach*

I have many ebay sellers refused local pickup and all of these are near me. At one time I bid on one and won but the seller refused to let me pick it up so I didn't pay and he posted a negative feedback on me. However, many people told me that the sellers did have legitimate reasons not to allow local pick up. Security is usually cited as the reason.

**Re: Watch out for Alexandra Carter (eBay seller)**

*Message #11 Posted by [Eric Smith](#) on 27 Feb 2007, 4:39 a.m.,  
in response to message #10 by Dia C. Tran*

I can understand sellers not wanting to give out their home address, but I'm perfectly willing to meet them at their place of employment, a local burger joint, or whatever. It irritates me when sellers insist on charging me to ship something less than twenty miles to me. Oh well.

**Re: Watch out for Alexandra Carter (eBay seller)**

*Message #12 Posted by [David Smith](#) on 23 Feb 2007, 11:34 a.m.,  
in response to message #1 by Vassilis Prevelakis*

I bought an HP logic analyzer probe from her, paid with a check. Payment cleared a few days later. After several weeks she filed non-payment. I emailed her an image of the cashed check, etc. After two more weeks of hassel, I only got my item after I emailed her copies of the federal mail fraud forms I was preparing.

**Re: Watch out for Alexandra Carter (eBay seller)**

*Message #13 Posted by [Vassilis Prevelakis](#) on 23 Feb 2007, 7:09 p.m.,  
in response to message #12 by David Smith*

Thanks David, I'll try to do the same and let everybody know.

\*\*vp

**Re: Watch out for Alexandra Carter (eBay seller)**

*Message #14 Posted by [gilen0](#) on 23 Feb 2007, 11:38 a.m.,  
in response to message #1 by Vassilis Prevelakis*

[Looks him there again :-\)](#) [Link to HP5036A of the vp :-\)](#)

*Edited: 23 Feb 2007, 11:42 a.m.*

**Re: Watch out for Alexandra Carter (eBay seller)**

*Message #15 Posted by [Patrick R](#) on 23 Feb 2007, 12:22 p.m.,  
in response to message #14 by gilen0*

Couldn't one argue, in this case, that the seller sells an item that no longer belongs to her? So she sells a "stolen" item?

My ebay experience is the following: most problems occur with power-sellers and people who sell an item they are not familiar with. I try to avoid these sellers.

**Re: Watch out for Alexandra Carter (eBay seller)**

*Message #16 Posted by [Eric Smith](#) on 23 Feb 2007, 3:26 p.m.,  
in response to message #15 by Patrick R*

She originally listed five of them at the same time, and only one sold. I doubt that she's reselling one that already sold.

I bought one item from her about four years ago, and didn't have any problem with that transaction.

**Re: Watch out for Alexandra Carter (eBay seller)**

*Message #17 Posted by [Ron](#) on 23 Feb 2007, 12:28 p.m.,  
in response to message #14 by gileno*

That's interesting.

**Re: Watch out for Alexandra Carter (eBay seller)**

*Message #18 Posted by [Ruben](#) on 23 Feb 2007, 2:57 p.m.,  
in response to message #1 by Vassilis Prevelakis*

I would begin with the Postal Service. I believe what she is doing constitutes mail fraud. I would also call the police in her area and report it as theft. She had a contract, you paid money, and can prove it, and she is not only holding your item, but trying to sell it again.

Reading feedback, this isn't the first time she's done this, and won't be the last till someone comes down on her for it.

**Re: Watch out for Alexandra Carter (eBay seller)**

*Message #19 Posted by [Gonzalo Fernandez](#) on 23 Feb 2007, 4:25 p.m.,  
in response to message #18 by Ruben*

Some time ago, (1 year) I asked alexandracarter politely about shipping to SPAIN and she refused saying that she will not ship to countries or people who didn't vote for his beloved president Bush, incredible but true!!

**Re: Watch out for Alexandra Carter (eBay seller)**

*Message #20 Posted by [bill platt](#) on 23 Feb 2007, 4:42 p.m.,  
in response to message #19 by Gonzalo Fernandez*

Not surprising.

People are lemmings. They run right off of cliffs on account of being deceived by the appearance of shrubbery.

**Re: Watch out for Alexandra Carter (eBay seller)**

*Message #21 Posted by [Les Wright](#) on 23 Feb 2007, 5:13 p.m.,  
in response to message #20 by bill platt*

A shrubbery!!!!

Get me a nice one.... Not too expensive :)

**Re: Watch out for Alexandra Carter (eBay seller)**

*Message #22 Posted by [Les Wright](#) on 23 Feb 2007, 5:12 p.m.,  
in response to message #19 by Gonzalo Fernandez*

She needs a history lesson.

Were it not for Spain (and Portugal, and France, and Italy, and England, etc.) her beloved land would not exist as she knows it.

What a dumb reason not to ship someplace.

I haven't bought anything from her and I want to leave negative feedback for her just for the hell of it.

Sheesh....

**Re: Watch out for Alexandra Carter (eBay seller)**

*Message #23 Posted by [Miki Mihajlovic](#) on 25 Feb 2007, 12:27 a.m.,  
in response to message #19 by Gonzalo Fernandez*

I had the exact same experience with her couple of yeras ago.

**Re: Watch out for Alexandra Carter (eBay seller)**

*Message #24 Posted by [David Smith](#) on 25 Feb 2007, 10:54 a.m.,  
in response to message #19 by Gonzalo Fernandez*

Try asking her about combining her (already high) shipping charges for multiple auctions...

**Re: Watch out for Alexandra Carter (eBay seller)**

*Message #25 Posted by [Ed Look](#) on 25 Feb 2007, 5:03 p.m.,  
in response to message #19 by Gonzalo Fernandez*

Quote:

Some time ago, (1 year) I asked alexandracarter politely about shipping to SPAIN and she refused saying that she will not ship to countries or people who didn't vote for his beloved president Bush, incredible but true!!

Can you really believe someone who overcharges and expects to stay around? It would be something a wiseguy teenager might say to defend something stupid he was doing...

**Re: Watch out for Alexandra Carter (resolved)**

*Message #26 Posted by [Vassilis Prevelakis](#) on 27 Feb 2007, 12:24 a.m.,  
in response to message #1 by Vassilis Prevelakis*

I feel bad for starting this thread, because the machine arrived today. The postage stamp indicated that it had been posted on February 16 (more than ten days ago -- so I was making all this fuss when the machine was already on its way).

Having said that, Ms Carter is really mad. If she had simply given me the date she posted the package instead of filing the non-payment report I wouldn't have blown my top.

Anyway, thanks to everybody for their support and helpful suggestions.

\*\*vp

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## HP Forum Archive 17

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### Re: Valentine's Day MC: A few modest insights, n! digits - part 3, anyone?

Message #1 Posted by [John Keith](#) on 22 Feb 2007, 11:54 p.m.

Alistair Borowski's FFAC

<http://www.hpcalc.org/details.php?id=6011>

does 999! in 0.38s on the 49g+.

JK

### Re: Valentine's Day MC: A few modest insights, n! digits - part 3, anyone?

Message #2 Posted by [Gerson W. Barbosa](#) on 23 Feb 2007, 4:23 p.m.,  
in response to message #1 by John Keith

Quote:

\_\_\_\_\_

does 999! in 0.38s on the 49g+.

\_\_\_\_\_

Much more acceptable running time indeed. Thanks for the link!

Regards,

Gerson.

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## HP Forum Archive 17

[ [Return to Index](#) | [Top of Index](#) ]**Re: 42S programming***Message #1 Posted by [ECL](#) on 22 Feb 2007, 11:14 p.m.*

Hmm...could that be a VT alum? Its funny how everyone who attends 'tech refers to it as 'tech', hoping people might assume it is one of the few Brand-Name techs', regardless of which one it is...could be Caltech, MITech, ...a bit ego-centric :)

Anyway, read the manual...I learned to program my calculator by hacking around in the dark. This made me a better programmer, as I was forced to get creative first, only to learn of commonplace techniques after the fact. (As opposed to someone who reads '10 steps to becoming a hacker') These types want to 'apply' commands and subroutines from their repertoire, while the rest of us get a more far-reaching capability by "enjoying the hunt."

ECL

[edited by moderator]

*Edited: 23 Feb 2007, 1:41 p.m. after one or more responses were posted***"Tech" and programming***Message #2 Posted by [Karl Schneider](#) on 23 Feb 2007, 1:14 a.m.,  
in response to message #1 by [ECL](#)*

Quote:

Hmm...could that be a VT alum? Its funny how everyone who attends 'tech refers to it as 'tech', hoping people might assume it is one of the few Brand-Name techs', regardless of which one it is...could be Caltech, MITech, ...a bit ego-centric :)

Or Georgia Tech, or maybe some other "Tech" that is not commonly known. It's true that Caltech (California Institute of Technology) and MIT (Massachusetts Institute of Technology) are more prestigious than all the the others.

Quote:

I learned to program my calculator by hacking around in the dark. This made me a better programmer, as I was forced to get creative first, only to learn of commonplace techniques after the fact.

I'm not sure that I'd have patience for that approach. I prefer to learn things the "right way" first, then to explore. This is even more important when doing car repairs -- read the manual first!

Quote:

Have fun waiting for answers... ECL

[edited by moderator]

Be sure that you're responding to the correct message... :-)

Seriously, that program can be quite tedious to input if one does things the hard way, as illustrated by my anecdote.

(For example:



[XEQ][ALPHA][JKLM][M][RSTUV][V][ABCDE][A][RSTUV][R][ALPHA][ALPHA][NOPQ][P][RSTUV][V][ALPHA])

So, I gave some pointers -- the key one being the first one. That's about all the assistance that is warranted, though.

-- KS

### Re: 42S programming

Message #3 Posted by [Howard Owen](#) on 23 Feb 2007, 11:30 a.m.,  
in response to message #1 by ECL

Quote:

Have fun waiting for answers... ECL

[edited by moderator]

Have fun talking to the same old people year in and year out. We certainly won't get new ones with welcomes like that.

### Re: 42S programming (slight apology, w/ defense)

Message #4 Posted by [ECL](#) on 23 Feb 2007, 5:48 p.m.,  
in response to message #3 by Howard Owen

It takes a bit of mettle to succeed. If someone can't take a bit of criticism or tolerate light turbulence...well, then do you really want to serve as a beacon to attract more?

I'll amend my comment on hacking around in the dark: Yes, by all means, read what you have at your fingertips...but like many programmers will tell you (I'm an aero engineer, not programmer) is that you need a 'problem' to solve in order to get going in programming. That is to say, you need to try to try/fail/retry/accomplish things rather than lounge in a tome all day.

This is by my own experience, however. I was never handheld through my education, except for during one internship. That one was BORING, because I felt that I wasn't being held accountable. So...a long OT ramble...but what I really intended was to pour the coals on a bit to get 'tech alum' sparked up and into a DIY mode, because that's how I learned (and it worked).

ecl

### Re: 42S programming (slight apology, w/ defense)

Message #5 Posted by [Charlie O.](#) on 23 Feb 2007, 7:43 p.m.,  
in response to message #4 by ECL

I think that because you responded to Karl's post rather than tech alum's everyone thought your comment was to Karl. At any rate it's best to use politer language and maybe a smile : )

CEO

### ADIOS HPMuseum [edited by moderator] woohoo...

Message #6 Posted by [ECL](#) on 24 Feb 2007, 1:09 a.m.,  
in response to message #5 by Charlie O.

I have participated (and contributed programs) in this forum over the last five years. I have no interest participating [edited by moderator] in a forum that EDITs my statements. I'd rather be PURGED!

[edited by moderator]

I've witnessed [edited by moderator] the foolish behavior on this site before, where participants appoint themselves as officers and alert D.H. to suspicious behavior...nothing more than "civic Walter Mittys." I suggest that you engage your mind in something interesting.

[edited by moderator] (makes you wonder what was removed, huh?)

Anyway, continue to run your "benchmarks" on obsolete pocket calculators. Don't forget to keep an up-to-date blog documenting your steps! We think of you as glorified technicians, nothing more.

[edited by moderator]

[edited by moderator]

At any rate, I haven't seen an interesting [edited by moderator] post here in a long time, so goodbye. Enjoy pondering just WHAT was edited.

[edited by moderator]

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## HP Forum Archive 17

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**composition of calculator cases**

Message #1 Posted by [Rob Stratton](#) on 22 Feb 2007, 11:05 p.m.

Does anyone know what type of plastic was used for the cases of older hp calculators, specifically the 42s and the 48G/GX.? Thanks

**Re: composition of calculator cases**

Message #2 Posted by [Eric Smith](#) on 22 Feb 2007, 11:22 p.m.,  
in response to message #1 by Rob Stratton

Traditionally HP used ABS. AFAIK, that's what the 42S and 48G/GX used.

**Re: composition of calculator cases**

Message #3 Posted by [Alan Firth](#) on 22 Feb 2007, 11:29 p.m.,  
in response to message #1 by Rob Stratton

I know you can melt 'em!

**Re: composition of calculator cases**

Message #4 Posted by [Eric Smith](#) on 23 Feb 2007, 1:17 a.m.,  
in response to message #3 by Alan Firth

Just about anything solid will melt, burn, or sublime if you get it hot enough.

**Re: composition of calculator cases**

Message #5 Posted by [Juan J](#) on 23 Feb 2007, 10:01 a.m.,  
in response to message #1 by Rob Stratton

Hello,

HP always used ABS on its calculator, and took pride of it every once in a while. Back in 1978 an article pointed out that "ABS, the same material used in football helmets [...] is used for the calculators' cases..."

ABS does melt. Otherwise, it could not be formed. As with almost all polymers, it will melt if heated to the right temperature. Phase transitions (e.g., solid to liquid) do not involve heat only but pressure as well.

My two cents.

**Re: composition of calculator cases**

Message #6 Posted by [bill platt](#) on 23 Feb 2007, 10:30 a.m.,  
in response to message #5 by Juan J

Hi Juan,

You said, "as with almost all polymers, it will melt if heated to the right temperature."

I think this is a bit misleading, in the sense that "almost all polymers" is meaningless.

Certainly all thermoplastics will melt, but many thermosets will not.

Examples of polymers that will not melt, but rather will decompose:

epoxy  
phenolic  
crosslinked styrenated unsaturated polyester--"boat resin"  
vulcanized rubber  
cross-linked PVC  
teflon (fluoropolymer)

On the subject of HP calculator cases, I damaged the case of a 15-c with acetone--it dissolved it enough to round off all the edges. It behaved as if it were styrene, but I don't know whether ABS may in fact dissolve in acetone, too. ABS is a terpolymer but is not cross-linked, correct? Therefore it could be dissolved or melted.

### **Re: composition of calculator cases**

*Message #7 Posted by **Randy** on 23 Feb 2007, 1:59 p.m.,  
in response to message #6 by bill platt*

Quote:

It behaved as if it were styrene

It's in that family of polymers... ABS = Acrylonitrile Butadiene Styrene

It is used over basic styrenes due to its higher impact strength, especially at lower temperatures. Better stress crack ratings are also a factor.

It is resistant to (most):

- Alkalis
- Acids
- Salts
- Oils and fats

It is **\*NOT\*** resistant to:

- Aromatic hydrocarbons
- Esters
- Ethers
- Ketones

and various chlorinated hydrocarbons (examples):

- Methylene chloride
- Ethylene chloride
- Trichloroethylene

## **Re: composition of calculator cases - Slightly OT**

*Message #8 Posted by **Juan J** on 24 Feb 2007, 9:02 a.m.,*

*in response to message #6 by bill platt*

Hello Bill,

Yes, it is a bit misleading. I was thinking of thermoplastics when I wrote my post.

Thermoset polymers usually crosslink during polymerization, and the final product has a structure usually impervious to chemicals and/or the external environment. Instead of long polymer chains you have crosslinked chains that form a grid. Depending on the monomers you use, the end polymer can be either very tough or very flexible. And when heated, as you noted, they decompose.

About teflon, "decomposing" is not exactly what happens. Teflon is usually sintered (the powder is heated to about the melting point temperature) and when heated above the melting point, it first turns into long fluorocarbon chains that in turn become the monomer at about 900 degrees (I am getting the temperature from memory, and it may be wrong.) The process is interesting enough and has been researched extensively, but that is another story.

ABS is usually a combination of either polyacrylonitrile/polystyrene and polybutadiene or polystyrene/polybutadiene and polyacrylonitrile (again, I am taking this from memory, it has been a long time since my Polymer Science class, and I might be missing something) that yields a uniform terpolymer.

Another two cents, and please excuse my mistakes.

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## HP Forum Archive 17

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### Re: Valentine's Day MC: A few modest insights, n! digits - part 3, anyone?

Message #1 Posted by [Gerson W. Barbosa](#) on 22 Feb 2007, 6:05 p.m.

Hello Valentin,

I have noticed these two discrepancies between your HP-15C and HP-71B programs, when checking against the HP-200LX:

| N        | HP-15C    | HP-200LX  | HP-71B    |
|----------|-----------|-----------|-----------|
| 44315509 | 319615034 | 319615033 | 319615033 |
| 54336595 | 396700506 | 396700505 | 396700506 |

This suggests the HP-15C fails for N=44315509 and the HP-71B fails for N=54336595.

The 200LX equation is the following:

$$\text{NDF} = \text{INT}(\text{N} * \text{LOG}(\text{N} / \text{EXP}(1)) + \text{LOG}(2 * \text{PI} * \text{N}) / 2 + 1)$$

On the HP-200LX, the second result is 396700505.9999999. It appears to be one of the cases the guard digits are not enough... This should be checked with more digits, though. Apparently, these are the only two discrepancies in the range [1..100,000,000].

Best regards,

Gerson.

*Edited: 22 Feb 2007, 6:11 p.m.*

### Re: Valentine's Day MC: A few modest insights, n! digits - part 3, anyone?

Message #2 Posted by [Valentin Albillo](#) on 22 Feb 2007, 7:14 p.m.,

in response to message #1 by [Gerson W. Barbosa](#)

Hi, Gerson:

Gerson posted:

*"I have noticed these two discrepancies between your HP-15C and HP-71B programs, when checking against the HP-200LX [...] This suggests the HP-15C fails for N=44315509 and the HP-71B fails for N=54336595 [...] This should be checked with more digits, though."*

Seems to me you're right. Checking with my SHARP PC-1475 produces:

N=54336595

396700505.99999998701

N=44315509

319615034.00000004201

which are absolutely correct to the 20 digits shown. I haven't checked that these are the only cases in the range, but this kind of off-by-one results isn't exactly a surprise since they are to be expected when working with transcendental functions with large inputs/outputs near the maximum significant digit limit of the computing device.

In these cases even two or three internal guard digits just aren't enough and either you restrict the range or else you use a double-precision capable handheld such as the SHARP PC-1475 or the SHARP PC-E500/E500S just like I did to test the anomalous cases above.

Thanks for sharing your interesting findings and

Best regards from V.

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## HP Forum Archive 17

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### **Malfunction of LCD segments on 41 display**

Message #1 Posted by [Jean-Michel](#) on 22 Feb 2007, 2:50 p.m.

Hi everybody,

some segments of the LCD display of my 41 doesn't light on when the calculator is just turned on, but a few minutes after, they operate correctly, with sometimes another malfunction during a few seconds. ((They flash slowly). Could anyone tell me what's hapenning and if it's possible to do something to repair without changing the whole display. (I fear it's not !) As this occurs on the right of the 7th digit, it doesn't disturb me too much, but when a "1" must be displayed there, nothing appears !

Another thing : could anyone post here two pictures to show me the difference between tall keys (41) and the other keys ? (Or a link to a previous discussion on this subject).

Thanks.

### **Re: Malfunction of LCD segments on 41 display**

Message #2 Posted by [Eric Smith](#) on 22 Feb 2007, 7:36 p.m.,  
in response to message #1 by [Jean-Michel](#)

I would expect that to be caused by either a mechanical intermittent connection between the right display driver chip and the actual glass, which I'm guessing goes through an elastomeric connection, or (less likely) by a failure of the right driver chip.

Unfortunately a failure of the interconnection between the main PCB and the display, while it would be much easier to fix, would not result in the described symptoms.

---

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## HP Forum Archive 17

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### 50g and 49g+ Library Transfer and Install

Message #1 Posted by [cfh](#) on 22 Feb 2007, 11:39 a.m.

Ladies and Gentlemen --

Just recently received my 50g, and wanting to configure it in the same way as my 49g+.

Managed to update ROM to v92 on both.

Now here is the weird part, keeping me from doing proper work:

I can't transfer the EqnLib.lib, EqnData.lib nor PerTbl.lib - Conn4x "flashes" that the calculator is busy (only managed to read that as I took a screen dump!).

I can delete variables on the calc, but not transfer those libraries. Help!

To make things worse - I transferred them to an SD card, but could not install them! I stored them in port 0, 1, 2, warmstart and also HOME 229 ATTACH, but only con an error message.

So, nothing works?

Must say that updating ROM was not at all that easy as the "manuals" or "guides" said, the best help was on [hpcalc.org](#).

1) Transfer via usb - why is hte transfer cancelled?

2) Attaching those libraries, step-by-step guide for a complete idioto (that's me)?

desperate cheers --

cfh, \*weeps\*

### Re: 50g and 49g+ Library Transfer and Install

Message #2 Posted by [Giancarlo \(Italy\)](#) on 22 Feb 2007, 11:58 a.m.,  
in response to message #1 by [cfh](#)

Hi cfh.

You'll have certainly read what HP states for updating the libraries:

Quote:

Equation Library: If you have the equation library installed on your calculator, you **MUST** update it with the new version of the equation library as the old version is **NOT COMPATIBLE** with the ROM 92 and can cause memory lost. To do so:

>>> on the calculator, press left shift FILES, select 2: FLASH (using up and down) press OK,

select the 2 EQLIB files (EQLIB: Equation L226 and EQLIB: Equation L227) using the up and down keys and the Enter key to 'select' them (a number will appear in front of these files). Press NXT and then PURGE and ALL to erase the files.

>>> Use the connectivity kit card to download the files into the HOME directory. Then use the file manager to copy the files from home to the Port 2 (Flash) following the instructions in the user manual.

>>> Alternatively, you can copy the 2 files on a SD card and then copy them in Port 2 (Flash) directly using the file manager

---

In particular, be sure to purge the old libs before installing the new ones.

By the way, what is exactly the error message you get?

Hope this helps.

Best regards.

Giancarlo

P.S.: the link for the above quoting is:

<http://h20000.www2.hp.com/bizsupport/TechSupport/SoftwareDescription.jsp?lang=en&cc=us&prodTypeId=215348&prodSeriesId=3235173&swItem=ca-31429-4&prodNameId=3235174&swEnvOID=181&swLang=8&taskId=135&mode=4&idx=0>

### **Re: 50g and 49g+ Library Transfer and Install**

*Message #3 Posted by [cfh](#) on 22 Feb 2007, 12:07 p.m.,  
in response to message #2 by Giancarlo (Italy)*

Hi, thank you for the answer.

But \*sigh\* still no solution.

- 1) How do I see I have the "right" Eqlib and Pertbl for latest ROM?
- 2) Is there a utility for installing libraries, as I can't just use STO or ATTACH...

I feel so stupid asking these questions that have so many answers just by googling - and still, nothing works!

/red-eyed cfh

### **Re: 50g and 49g+ Library Transfer and Install**

*Message #4 Posted by [cfh](#) on 22 Feb 2007, 12:20 p.m.,  
in response to message #2 by Giancarlo (Italy)*

Error on PC:

---

The calculator is busy, please wait for it to complete the commands.

You may press CANCEL to stop the PC side of the connection but the calculator will continue on its own.

---

Error on HP:

---

ATTACH Error: Bad Argument Value

---

and 227 (=library number) is left on stack.

Sigh, on my 49g+ I have 12-18 libraries installed (since 2 years or more) but now I can't install those Equation Libs or Periodic table on neither the 50 nor the 49. I am so (!) frustrated.

-- cfh

Edit: Why is the formatting so very Foobar?!

*Edited: 22 Feb 2007, 12:28 p.m.*

### **Re: 50g and 49g+ Library Transfer and Install**

*Message #5 Posted by [cfh](#) on 22 Feb 2007, 12:34 p.m.,  
in response to message #2 by Giancarlo (Italy)*

Hi again. No success.

Current state 50g:

Port 0: totally complete empty

Port 1: dito

Port 2: dito

Port 3: SD card full of libraries and backups from my old 49g+. However, please note, that the OLD Equation library and Periodic table have now been replaced on the SD, and purged on both calcs.

Basic question that drives me nutzkrazy: How do I attach libraries 226, 227 and 229?

I am not going to sleep until this is resolved. ;-D

--- cfh

### **Re: 50g and 49g+ Library Transfer and Install**

*Message #6 Posted by [cfh](#) on 22 Feb 2007, 1:25 p.m.,  
in response to message #1 by cfh*

Have I solved the problem?

The Eqn Lib and Per Table are available under APPS. Is this it? Are those libraries "special" ones that can not be detected by eg LibMan? I downloaded the manual 887 pages, and on p 783:

Follow these steps for solving an equation using the Equation Library. 1. Press [APPS UPARROW ENTER EQLIB EQNLI] to start the Equation Library.

\*sigh\* Was that it? No hints that those libraries are "not as the other ones"... ?

cheers

--cfh

(Why is the text never displayed as I enter it in the Message: box when writing it? Good ole plain text rules)

### **Re: 50g and 49g+ Library Transfer and Install**

*Message #7 Posted by [Tim Wessman](#) on 22 Feb 2007, 2:48 p.m.,  
in response to message #6 by cfh*

If I remeber right, libman only goes from a certain library number foreward. Otherwise you'd include all the built in libraries that conatin caluclator commands. The eq lib and the periodic table are in the "HP Only" library area and so won't be included.

It is simple to see if you have the latest. If it crashes, you don't!

TW

### **Re: 50g and 49g+ Library Transfer and Install**

*Message #8 Posted by [Jeff O.](#) on 23 Feb 2007, 7:54 a.m.,  
in response to message #6 by cfh*

Quote:

Why is the text never displayed as I enter it in the Message: box when writing it?

I presume that you wanted this:

Follow these steps for solving an equation using the Equation Library. 1. Press [APPS UPARROW ENTER EQLIB EQNLI] to start the Equation Library.

to look like this:

Follow these steps for solving an equation using the Equation Library.  
1. Press [APPS UPARROW ENTER EQLIB EQNLI] to start the Equation Library.

Instructions for doing so are detailed [here](#).

### **Re: 50g and 49g+ Library Transfer and Install**

*Message #9 Posted by [Tim Wessman](#) on 22 Feb 2007, 2:46 p.m.,  
in response to message #1 by cfh*

Idiots way to install libraries: (the only one I use)

Go into the filer, and move them into port 2. Reboot the calculator with an ON-C. All done

TW

### **Re: 50g and 49g+ Library Transfer and Install**

*Message #10 Posted by [cfh](#) on 22 Feb 2007, 3:11 p.m.,*

*in response to message #9 by Tim Wessman*

Quote:

---

Idiots way to install libraries: (the only one I use)

Go into the filer, and move them into port 2. Reboot the calculator with an ON-C. All done

TW

---

Guess I'll be quite comfortable with this explanation...

Also, the "low lib number" theorem seems reasonable. I just really expected those libs to show just like all the others... I was apparently wrong.

Another day with HP ballet, and lesson learned.

cheer!

---cfh

---

## **Re: 50g and 49g+ Library Transfer and Install**

*Message #11 Posted by [James M. Prange \(Michigan\)](#) on 22 Feb 2007, 3:46 p.m.,  
in response to message #9 by Tim Wessman*

Are you saying that you and I are idiots? ;-)

Also, if you've downloaded them to the calculator via wire or IrDA, be sure to move the library to a port instead of just copying it. Leaving a library object in home or its subdirectories can interfere with the memory recovery routine in case you answer "YES" to a "Try To Recover Memory?".

But if you used a MMC/SD card to transfer the library, then it's safe to leave a copy of it on the card.

Regards,  
James

---

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## HP Forum Archive 17

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### Difference between Voyager and HP-48G

Message #1 Posted by [James Biddlecombe](#) on 22 Feb 2007, 6:50 a.m.

Guys, I've recently got back into HP calculators after owning an HP-41 for over 20 years. Since then I've acquired a few off ebay, but have a question concerning a percentage calculation, for example, on the HP-41 and 48G:

Example calculation:

100 Enter 15 % +

produces and answer of 115 on the HP-41 and Voyager models, but an error on the 48G as the 100 seems to be removed from the stack after the percentage calculation. Can anyone explain why this is different and if there is some kind of 'trick' in performing this on the 48G without entering 100 twice.

Thanks, James.

### Re: Difference between Voyager and HP-48G

Message #2 Posted by [Giancarlo \(Italy\)](#) on 22 Feb 2007, 7:11 a.m.,

in response to message #1 by James Biddlecombe

Hi James.

The 42S (Pioneer) operates as you say on the Voyagers.

I'd say the different behaviour of the 48G is related to its being an RPL model rather than a "pure" RPN...

But I'd expect some deeper suggestions from more knowledgeable forum people :)

Just my two cents.

Best regards.

Giancarlo

### Re: Difference between Voyager and HP-48G

Message #3 Posted by [Bram](#) on 22 Feb 2007, 7:30 a.m.,

in response to message #1 by James Biddlecombe

Quote:

\_\_\_\_\_  
 (..) as the 100 seems to be removed from the stack after the percentage calculation.  
 \_\_\_\_\_

True, it does. The 48G %-operator needs (and consumes) two arguments and leaves just one result.

Quote:

\_\_\_\_\_  
 Can anyone explain why this is different  
 \_\_\_\_\_

Not me, sorry.

Quote:

\_\_\_\_\_

and if there is some kind of 'trick' in performing this on the 48G without entering 100 twice.

\_\_\_\_\_

100  
Enter  
Enter  
15  
%  
+

but I bet you have guessed this yourself as well

(o well, it does enter the 100 twice, but at least you don't have to type it twice)

*Edited: 22 Feb 2007, 7:32 a.m.*

### **Re: Difference between Voyager and HP-48G**

*Message #4 Posted by [Dia C. Tran](#) on 22 Feb 2007, 8:43 a.m.,  
in response to message #3 by Bram*

For the older calculators it's for convenient as you already know. For the 48, it's for consistency.

### **Re: Difference between Voyager and HP-48G**

*Message #5 Posted by [Les Bell](#) on 22 Feb 2007, 7:13 p.m.,  
in response to message #1 by James Biddlecombe*

Quote:

\_\_\_\_\_

Can anyone explain why this is different

\_\_\_\_\_

I'm pretty sure it's down to RPL being designed to be as "pure" and orthogonal as possible. The % operator is designed to consume two levels of the stack and return its result in one, just like all other binary operators. Leaving a copy of an original value behind might be convenient, but it's not mathematically kosher - a function can't return two values.

To my mind, the 41C, like all the other RPN calcs, is an arithmetic tool. The 48 and the other RPL calcs are mathematical tools, which is what makes them awkward for those back-of-envelope calculations.

Best,

--- Les

[<http://www.lesbell.com.au>]

### **Re: Difference between Voyager and HP-48G**

*Message #6 Posted by [Cameron Paine](#) on 22 Feb 2007, 7:15 p.m.,  
in response to message #1 by James Biddlecombe*

Quote:

\_\_\_\_\_

Can anyone explain why this is different...

\_\_\_\_\_

The behaviour of ENTER WRT stack lift differs between RPN and RPL calculators. On RPN machines,

ENTER terminates digit entry and duplicates X into Y. If the very next thing you do is press a digit key, the value in X is overwritten. However if the very next thing you do is invoke a function that consumes the value in X, the stack will drop, leaving your original value in X.

The RPL calculators terminate digit entry when ENTER is pressed and copy the content of the input buffer into X (AKA level 1). If the next thing you do is press a digit, the value in the input buffer is overwritten. If however you invoke a function that consumes the level 1 value, the stack will drop leaving whatever was in level 2 in level 1.

I believe that the % function consumes the level 1 value on both architectures.

HTH

Cameron

Edit: no sooner had I posted than I realised that % must consume two stack levels. Which renders my explanation irrelevant. What I describe above explains why 100 ENTER sqrt + produces 110 on an 11C and an error on a 48 (if both start with an empty stack). Unfortunately that's not what we were discussing here.

Sorry for the noise. <red face>

*Edited: 22 Feb 2007, 7:34 p.m.*

## **Re: Difference between Voyager and HP-48G**

*Message #7 Posted by [Antonio Maschio \(Italy\)](#) on 23 Feb 2007, 2:43 a.m.,  
in response to message #6 by Cameron Paine*

I guess this means that

with RPN the display and register X are the same, and while inputting a number we're affecting both; pressing Enter pushes the number down 1 position to Y (keeping the value in X); as a side effect, we have two copies of the input number.

with RPL, the display is not the same as register X, it's kind a level higher so, when we're inputting a number, we are not affecting register X, but only the input buffer; pressing Enter pushes the number again down 1 position to X (clearing the input buffer).

Right?

-- Antonio

*Edited: 23 Feb 2007, 2:44 a.m.*

## **RPL command line entry**

*Message #8 Posted by [James M. Prange \(Michigan\)](#) on 23 Feb 2007, 9:54 p.m.,  
in response to message #7 by Antonio Maschio (Italy)*

Quoting Bill Wickes:

Quote:

\_\_\_\_\_

The fundamental definition of the HP 48 operation ENTER is:

*Take the text in the command line, check it for correct syntax, then treat it as a program*



*and execute the objects defined there.*

---

With RPL, when you're typing in source code (for a number, other object, series of objects, whatever), you're inputting it to an "editor" (command line, equation writer, matrix writer, etc.), which could be considered a "buffer"; it has no effect on the stack until an ENTER operation is invoked. In the case of the command line editor in particular, when you press ENTER, ordinarily the source code is parsed and checked for syntax errors, and assuming no errors, all objects from the command line are combined into a compiled "secondary" (SysRPL program) which is placed on the stack and executed, and when finished, the display is updated.

In "immediate entry" mode (neither PRG nor ALG displayed in the status area), pressing an immediate entry key effectively appends the key object to the command line and then invokes an "implicit ENTER".

In the case of just a data class object such as a number, the effect of pressing ENTER is to put the object (or actually, a pointer to the object in temporary memory) on stack level 1 (moving anything already on the stack up one level), and then update the display.

But suppose that you open the command line with RightShift ENTRY (over the ALPHA key) to invoke PRM entry mode, then type in 1 2 +, and then press ENTER. In this case the number 3 is placed on the stack before the display is updated.

Or if you type 1 2 into the command line and then press + (which invokes an implicit ENTER), 3 is also placed on the stack.

Or if you already have 1 on the stack, then type in 2 and then press +, the 1 is replaced by a 3 before the display is updated.

In general, the command line could be considered source code for a program to be executed immediately.

Note that when in the standard stack display (no command line or other "special environment" active), pressing the ENTER key doesn't invoke the ENTER operation; it invokes a DUP command instead.

For more details, see section 4.3 (pages 83-90) of *HP 48 Insights Part I: Principles and Programming HP48G/GX Edition*, available on the current MoHPC CD-ROM set / DVD-ROM.

Regards,  
James

*Edited: 23 Feb 2007, 10:20 p.m.*

---

### **As usual, an excellent essay**

*Message #9 Posted by [bill platt](#) on 24 Feb 2007, 10:38 a.m.,  
in response to message #8 by James M. Prange (Michigan)*

Thanks, James

bill

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## HP Forum Archive 17

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### Re: protecting oneself from paypal

Message #1 Posted by [db \(Martinez, California\)](#) on 21 Feb 2007, 10:31 p.m.

Howard; I didn't state clearly the type of card I used. It seems that i stupidly gave paypal both my debit and credit card numbers though probably not at the same time. You know how they are always fishing for your private info. The calculator was paid for with the Visa credit card and the DVDs came out of the debit card (which says Visa on it too). So to get this fixed; i dealt with two different Wells Fargo offices that administer two different accounts. I canceled the credit card and opened a new one with a different number. I am watching the debit account.

So anyway, after i got my money back, paypal wrote me and said, in part: "Recently, our Account Review Team identified some unusual activity in your account. In accordance with PayPal's User Agreement access to your account will be limited." Then they commenced to fishin'. I imagine they don't phone people because they got tired of hearing what they can do to thier mothers.

### Re: protecting oneself from paypal

Message #2 Posted by [Don Shepherd](#) on 21 Feb 2007, 10:53 p.m.,  
in response to message #1 by [db \(Martinez, California\)](#)

DB, I'll bet a million dollars that email did NOT come from Paypal. It came from some jerk who is trying to get your personal information. NEVER click on links in those emails. Instead, forward those messages to [spoofo@paypal.com](mailto:spoofo@paypal.com) (or [spoofo@ebay.com](mailto:spoofo@ebay.com) for ebay solicitations) and they will shut those jerks down.

### Re: protecting oneself from paypal

Message #3 Posted by [db \(Martinez, California\)](#) on 22 Feb 2007, 2:26 a.m.,  
in response to message #2 by [Don Shepherd](#)

Don; That may be, which is a good reason for me to not have answered it, and i didn't. However this one came to my inbox and 95% of paypal/ebaby related garbage goes automaticaly to the junk mail folder. I seldom open any of it but this time the timing and title seemed to have something to do with the refund they were forced to give me. Sure enough; it was a typical paypal vaguely-threatening-demand for more of my personal information that they have no need or right to have. I think that paypal used to be a service. Then ebaby bought them. Now they just want to *service* us.

btw: Was that a convoluted first sentence or what. What tense was it in anyway? And to think: I used to teach impressionable young Bolivians to speak English. Well, to talk American anyway.

### Re: protecting oneself from paypal

Message #4 Posted by [Howard Owen](#) on 22 Feb 2007, 10:42 a.m.,  
in response to message #3 by [db \(Martinez, California\)](#)

That mail was absolutely, incontrovertibly a scam email from some Windows PC infected with a virus. PayPal may be more or less predatory, but they never ask for information in those terms.

In any case, your resentment over their treatment of you led you to do the right thing. 8)

Regards,  
Howard

### **Re: protecting oneself from paypal**

*Message #5 Posted by [pierre lallier](#) on 22 Feb 2007, 12:30 p.m.,  
in response to message #4 by Howard Owen*

At the risk of stating the obvious, strange spelling, faulty grammar, weird tenses, and threats to shut you down are typical phishing characteristics. If you have any doubts about your account, type "www.paypal.com" yourself, login and check your status. No bank would ever ask for your details in an e-mail. I would be doubtful about a similar request on the phone - even if they say that they are "Barclays Bank", don't give them your login details or your pin. There is a good tutorial about all this on eBay itself. Another giveaway (but not necessarily always the case), is that they send the same message to millions of people: "dear PayPal user" rather than "dear pierre\_12\_xx".

### **Re: protecting oneself from paypal**

*Message #6 Posted by [Dave Shaffer](#) on 22 Feb 2007, 2:14 p.m.,  
in response to message #2 by Don Shepherd*

I agree with Don and the others - you just happened to get a phishing expedition at a coincidental time.

You can verify (and marginally amuse yourself) that these are fake messages by mousing over the reply/go to URL (which at face value looks like it points to eBay or your bank) and seeing that it is not a real eBay (or whatever) URL. There may be an eBay-like part in the name, but the rest of the URL will be different words, and/or point to a country like Russia ( .ru at the end), or it may be just a bunch of IP address numbers - something like 12.34.56.78 .

### **Re: protecting oneself from paypal**

*Message #7 Posted by [db](#) on 23 Feb 2007, 1:05 a.m.,  
in response to message #6 by Dave Shaffer*

Don, Dave, et al: That may be so. It was just a string of gobbledygook, so long that the URL scrolled off the screen.

If i may go off topic on an off topic, this [feeding frenzy of the innumerates](#) was brought to my attention today. Why would someone pay \$127.50 for a \$100 gift certificate?

### **Re: protecting oneself from paypal**

*Message #8 Posted by [Ron](#) on 23 Feb 2007, 1:32 a.m.,  
in response to message #7 by db*

Bidders are no longer registered. Prob'ly just some good ole boys havin' a little fuuun.

### **Re: protecting oneself from paypal**

*Message #9 Posted by [Chris Roccati](#) on 23 Feb 2007, 5:58 a.m.,  
in response to message #7 by db*

Quote:

\_\_\_\_\_

If i may go off topic on an off topic, this feeding frenzy of the innumerates was brought

to my attention today. Why would someone pay \$127.50 for a \$100 gift certificate?

This kind of things has become weirdly common on eBay lately: Try to search for any cell phone or pda. I'm not talking about rare and exotic stuff, or items only available in some remote part of the world, I'm talking about perfectly ordinary and widely available devices, for example a Treo 680. Why pay 450\$ for a (even if slightly) used Treo 680 which I can easily get new from the online palm store for \$399? What's the deal? What am I missing?

### **Re: protecting oneself from paypal**

*Message #10 Posted by **Ron** on 23 Feb 2007, 9:05 a.m.,  
in response to message #9 by Chris Roccati*

People are getting used to using eBay, and assuming they will have the lowest prices. Plus, it's convenient to sit at your keyboard - Click buy it now, pay by PayPal, and wait for you phone to arrive.

The gift cert though - ??????????!!

*Edited: 23 Feb 2007, 9:16 a.m.*

### **Re: protecting oneself from paypal**

*Message #11 Posted by **David Smith** on 23 Feb 2007, 11:42 a.m.,  
in response to message #9 by Chris Roccati*

I was needing a cheap, used 15" or so LCD monitor. No problemo, snag one on Ebay for \$50, right? All attempts to get one on Ebay went for over \$100. A brand new 19+ inch analog/digital one can be had for less than \$120.

### **Re: protecting oneself from paypal**

*Message #12 Posted by **Ruben** on 23 Feb 2007, 3:01 p.m.,  
in response to message #9 by Chris Roccati*

If you're talking about cellphones, people will frequently pay a lot more than they can buy them for at the Cingular Store for example, because they can buy them, and aren't locked into a contract. With GSM phones, you can typically pop the SIM card out of your Nokia for example, and into your later model Motorola, and have a working new phone with no contract BS. I've done this a few times.

Still, I've seen people paying a lot more for things than they can get them for at a store new. Who knows why.

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## HP Forum Archive 17

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### Re: HP 17bii+ keys

Message #1 Posted by [John Smitherman](#) on 21 Feb 2007, 9:03 p.m.

Thanks for the feedback. I picked up a 17bii+ with s/n 618... today. My first impressions are positive. The build quality is much better than the 10bii - keys, display, weight and overall feel are good. I need to dig in and try all the functions.

Regards,

John

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## HP Forum Archive 17

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### HP 33S constants

Message #1 Posted by [E SAMUEL LEVY](#) on 21 Feb 2007, 4:22 p.m.

There is a list of physical constants that are accessed by the cursors, selecting one by underlining and pressing enter. I found that if I keyed the number 1 through 6 counting from the left, it entered that constant into X immediately.

### Re: HP 33S constants

Message #2 Posted by [bill platt](#) on 21 Feb 2007, 7:46 p.m.,  
in response to message #1 by [E SAMUEL LEVY](#)

Cool discovery!

I tried it with 7, 8, etc and that doesn't work (obvioulsy you did the same).

Di you accidentally do this? I'm curious \*how\* you made this discovery.

*Edited: 21 Feb 2007, 7:48 p.m.*

### Re: HP 33S constants

Message #3 Posted by [Norris](#) on 21 Feb 2007, 8:58 p.m.,  
in response to message #1 by [E SAMUEL LEVY](#)

Quote:

\_\_\_\_\_

I found that if I keyed the number 1 through 6 counting from the left, it entered that constant into X immediately.

\_\_\_\_\_

Interesting. This trick also works in the SUMS menu, if there is data entered into the statistics registers.

Of course, it works in the MODES, DISPLAY, MEM, CLEAR, X?Y, X?0, BASE, and FLAGS menus as well, but you would expect it to work in those cases, because in these cases the menu items are explicitly numbered. The menu items \*aren't\* numbered in the SUMS or CONST menus, yet the numbers work anyway.

Quote:

\_\_\_\_\_

I tried it with 7, 8, etc and that doesn't work (obvioulsy you did the same).

\_\_\_\_\_

The CONST key actually brings up a series of eight different menus, which you can scroll through using UP-ARROW, DOWN-ARROW, [right-shift] CONST, or [left-shift] CONST. The number 1-6 trick seems to work on each separate menu.

So you can't get constant #7 (i.e., the first constant in the second CONST menu) with [right-shift] CONST 7. But you apparently can get it by holding down [right-shift], pressing CONST twice while [right-shift] is down (which scrolls to the second CONST menu), and then 1.

This procedure works for the two SUMS menus too.

*Edited: 21 Feb 2007, 9:06 p.m.*

## **Re: HP 33S constants**

Message #4 Posted by **Karl Schneider** on 23 Feb 2007, 2:10 a.m.,  
in response to message #1 by E SAMUEL LEVY

Quote:

There is a list of physical constants that are accessed by the cursors, selecting one by underlining and pressing enter. I found that if I keyed the number 1 through 6 counting from the left, it entered that constant into X immediately.

Nice shortcut. This essentially makes the "point-and-click" menus work like the ones with numbers, but the user must manually advance from one screen to the next.

I also found that many of the physical constants in the HP-33S (released in 2004) don't match those in the HP-49G, which was designed in the late 1990's. It turns out that further scientific research has produced revisions to many values. Here are several links to Constant Data (CODATA) of internationally recommended values, from the US National Institute of Science and Technology.

NIST CODATA 1998: <http://www.physlink.com/Reference/PhysicalConstants.cfm>

NIST CODATA 2002: <http://physics.nist.gov/cuu/pdf/chart1.pdf>

A slight error in the HP-33S: The magnetic permeability of a vacuum ( $\mu_0$ ) is exactly  $4\pi \times 10^{-7}$  H/m, but the constant's value is missing the "4" in the last significant digit.

-- KS

*Edited: 23 Feb 2007, 2:14 a.m.*

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## HP Forum Archive 17

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### **Re: Transparent back calculators**

*Message #1 Posted by [Ronald](#) on 21 Feb 2007, 3:38 p.m.*

And my pictures:

<http://www.xs4all.nl/~prinsron/HP%2080%20Transparant%201.jpg>

<http://www.xs4all.nl/~prinsron/HP%2080%20Transparant%202.jpg>

<http://www.xs4all.nl/~prinsron/HP%2080%20Transparant%203.jpg>

Ronald

### **Re: Transparent back calculators**

*Message #2 Posted by [Steve Borowsky](#) on 22 Feb 2007, 5:50 p.m.,  
in response to message #1 by Ronald*

WOW! That's really mint stuff! Beautiful!

### **Re: Transparent back calculators**

*Message #3 Posted by [Ronald](#) on 24 Feb 2007, 4:36 p.m.,  
in response to message #2 by Steve Borowsky*

Hi Steve,

Yes, this is the highlight of my collection !.

Kind regards

Ronald

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**HP-41 Quiz (big, contains pictures)**

Message #1 Posted by [Juergen \(CH\)](#) on 21 Feb 2007, 1:51 p.m.

Recently, I stumbled across a strange HP-41CV. It has no LCD display, the battery compartment is closed with a fawn cover, and on the side, there is a cable with a plug at the end (labeled 82106A memory module):

[http://www.fjk.ch/images/hp41/hp41\\_quiz1.jpg](http://www.fjk.ch/images/hp41/hp41_quiz1.jpg)

[http://www.fjk.ch/images/hp41/hp41\\_quiz2.jpg](http://www.fjk.ch/images/hp41/hp41_quiz2.jpg)

After thinking some minutes what this device is all about, I found the solution. It is a .... STOP. I know the folks here likes quiz games :-). And this one is not too difficult. But the only prize I can offer is a picture of the inside of this device.

Enjoy, Juergen

**Re: HP-41 Quiz (big, contains pictures)**

Message #2 Posted by [Bill \(Smithville, NJ\)](#) on 21 Feb 2007, 1:59 p.m.,  
in response to message #1 by Juergen (CH)

Hi Juergen,

Okay, I'm game - here's two guesses:

1. Ports expander.
2. Memory expander.

Bill

**Re: HP-41 Quiz (big, contains pictures)**

Message #3 Posted by [Randy](#) on 21 Feb 2007, 2:01 p.m.,  
in response to message #1 by Juergen (CH)

(semi)-remote keyboard?

**Re: HP-41 Quiz (big, contains pictures)**

Message #4 Posted by [Howard Owen](#) on 21 Feb 2007, 10:59 p.m.,  
in response to message #1 by Juergen (CH)

OK, Here's what I think we know:

1. Fawn colored cover on the back where the batteries go
2. Cable emerging from AC power port

3. No display
4. Cable terminates in a module reading "82106A"

OK, so #1 #2 and #3 clearly point to a homebrew project of some kind. In light of that, #4 is a red herring, since a hacker could implement just about anything inside an 82106A case. (Hi, Diego!) #3 clearly implies that processing for local consumption is not a feature of this device. #2 says the same thing. So what's inside the box that could be a resource for an external 41C? Probably not another 41C. I doubt the 41C electronics would be happy running without an LCD, so I'd guess that the case is just an enclosure for something.

What could that be? Well, if you replace the PCBs, practically anything. But what is a 41C case good at holding, other than the PCBs, keyboard etc? Ah, the modules. You haven't shown us the ports, have you? 8)

Regards,  
Howard

### Re: HP-41 Quiz

Message #5 Posted by [Bram](#) on 22 Feb 2007, 6:09 a.m.,  
in response to message #4 by Howard Owen

I thought of a second processor thing, like the Acorn BBC used to support, but on second thought I also bet on a port replicator.  
But then, why would the LCD have been removed?

### Re: HP-41 Quiz

Message #6 Posted by [Howard Owen](#) on 22 Feb 2007, 10:12 a.m.,  
in response to message #5 by Bram

Because the PCB is gone, not just the display?

### Re: HP-41 Quiz (big, contains pictures)

Message #7 Posted by [Frank Boehm](#) on 22 Feb 2007, 8:00 a.m.,  
in response to message #1 by Juergen (CH)

Two guesses I know, that's cheating ;)

1) using the 41 "framework" (electronics removed) as a cheap keyboard 2) using the 41 with a speaker box instead of a display for blind people

### Re: HP-41 Quiz (big, contains pictures)

Message #8 Posted by [Ron](#) on 22 Feb 2007, 9:10 a.m.,  
in response to message #1 by Juergen (CH)

It doesn't do anything. You see it, you get curious, you open it up, and a spring snake jumps out. 8^)

### Solution

Message #9 Posted by [Juergen \(CH\)](#) on 22 Feb 2007, 1:42 p.m.,  
in response to message #1 by Juergen (CH)

Thank you all for your guesses which show, on the one hand, your expertise and, on the other hand, your good sense of humor. I enjoyed the ideas of remote keyboard, dual-core 41, 41 for the blinds, etc. Now it's time to

disclose the secret (well, it's not so secret anymore; you already found the solution): it is a port replicator. when opening the calculator, I saw that there was no PCB, too:

[http://www.fjk.ch/images/hp41/hp41\\_quiz3.jpg](http://www.fjk.ch/images/hp41/hp41_quiz3.jpg)

[http://www.fjk.ch/images/hp41/hp41\\_quiz4.jpg](http://www.fjk.ch/images/hp41/hp41_quiz4.jpg)

This might mean a second life for many "cannibalized" HP-41. Unfortunately, I cannot open the plug because it is glued and I borrowed the calculator from a friend of mine. Thus I cannot provide the exact connections but probably they can be deduced from information in the HP-41 service manual.

Best Regards, Jürgen

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### OT: Casio magnetic cards

Message #1 Posted by [Juergen \(CH\)](#) on 21 Feb 2007, 1:32 p.m.

A while ago I got these Casio magnetic cards:

[http://www.fjk.ch/images/casio/casio\\_magcards.jpg](http://www.fjk.ch/images/casio/casio_magcards.jpg)

I have no idea for which calculator they are. Does anybody know something about these cards? Otherwise they probably end up in the bin...

Thanks, Juergen

### Re: OT: Casio magnetic cards

Message #2 Posted by [Etienne Victoria](#) on 21 Feb 2007, 4:36 p.m.,  
in response to message #1 by Juergen (CH)

How about [this one](#). ?

This is from: [The great rskey.org site](#).

Posting edited : I don't think it is legal to link directly to copyrighted pictures.

Etienne

*Edited: 21 Feb 2007, 4:40 p.m.*

### Re: OT: Casio magnetic cards

Message #3 Posted by [Steve Borowsky](#) on 22 Feb 2007, 5:39 p.m.,  
in response to message #2 by Etienne Victoria

It would be nice if they were from a calculator, but I don't think they are. Casio makes a variety of digital instruments, including office equipment and point-of-sale terminals. They're probably for one of those. I don't think Casio had a magnetic card calculator. I could be wrong though.

### Re: OT: Casio magnetic cards

Message #4 Posted by [Xerxes](#) on 22 Feb 2007, 7:33 p.m.,  
in response to message #3 by Steve Borowsky

[Casio Pro fx-1](#)

### Re: OT: Casio magnetic cards

Message #5 Posted by [GE](#) on 23 Feb 2007, 5:05 a.m.,  
in response to message #4 by Xerxes

Dont EVER throw those babies out (please) !

Here is my list of machines having sported magnetic cards, this list is surprisingly short IMHO considering the ease of use of this media, but it was probably killed by low storage capacity and mechanical fragility.

Most of the info here for exotic models comes from <http://www.oldcalculatormuseum.com/> (a must-see site).

Handhelds :

- Casio Pro fx-1 as per Xerces' remark
- HP65
- HP67
- HP 41C/CV/CX (option)
- HP71B (option)
- HP75C/D
- SR52 oldest from TI
- TI59

Desktops :

- HP9100
- HP9810
- SR60
- Sharp Compet 363P
- Burroughs C3660
- Tektronix 21
- Monroe 1860
- Victor 4800
- Victor 4900

### **Re: OT: Casio magnetic cards**

*Message #6 Posted by [Massimo Gnerucci \(Italy\)](#) on 23 Feb 2007, 8:00 a.m.,  
in response to message #5 by GE*

HP-97/S

;) )

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### **Re: HP41 "Tall keys" - why was there such a big fuss?**

Message #1 Posted by **Jean-Michel** on 21 Feb 2007, 1:30 p.m.

Just to see the difference once in my life, without having to buy a 41 "small" keys to compare with my tall-keys-41, could anyone put here two good pictures to show it ? I've heard about this difference for a long time, but haven't really seen the difference yet. (I think a side view would be the best). Perhaps a website shows this well ? Thanks.

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**Re: [O.T.] Casio IF-8000**

Message #1 Posted by [opotente](#) on 21 Feb 2007, 12:56 p.m.

Hi Look at this link, maybe you find it

[Casio Distibutors](#) Best regards

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## HP Forum Archive 17

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### **Re: Porting 49G Programs to 49G+/50G**

Message #1 Posted by [Les Wright](#) on 21 Feb 2007, 10:16 a.m.

The problem I am having now is getting it to replicate the example problem with JM Baillard's simplex routine in our 41C program library on the site. Returns not the correct answer but "problem infeasible".

Either I am setting up the problem wrong, or the 49G program can't cope with equality constraints--just less-than and greater-than.

I will do a little more homework on linear programming and see what I come up with. It really is cool, though, to have an LP routine on a handheld device.

Les

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### Re: funny math stuff - Is this true, Katie?

Message #1 Posted by [Katie Wasserman](#) on 21 Feb 2007, 9:22 a.m.

Dear Someone,

I'm not sure that we can get any more OT than this, so I'll keep my answer brief:

woman / man = wo[e]

-kt

### Re: funny math stuff - Is this true, Katie?

Message #2 Posted by [Paul Dale](#) on 21 Feb 2007, 6:54 p.m.,  
in response to message #1 by Katie Wasserman

Reminds me of this old one:

The plural of *spouse* is *spice*.

- Pauli

### Re: funny math stuff - Is this true, Katie?

Message #3 Posted by [cfh](#) on 22 Feb 2007, 6:37 a.m.,  
in response to message #2 by Paul Dale

Teacher: What is  $2k + k$ ? Student: 3000

Why do you rarely find mathematicians spending time at the beach? Because they have sine and cosine to get a tan and don't need the sun!

Teacher: "Who can tell me what 7 times 6 is?" Student: "It's 42!" Teacher: "Very good! - And who can tell me what 6 times 7 is?" Same student: "It's 24!"

"That math prof's marriage is falling apart!" "No wonder! He's into scientific computing - and she's incalculable!"

Trigonometry for farmers: swine and coswine...

Life is complex: it has both real and imaginary components.

There are 10 kinds of mathematicians. Those who can think binarily and those who can't...

Q: How can you tell that Harvard was planned by a mathematician? A: The div school is right next to the grad school...

"Students nowadays are so clueless", the math professor complains to a colleague. "Yesterday, a student

came to my office hours and wanted to know if General Calculus was a Roman war hero..."

Three statisticians go hunting. When they see a rabbit, the first one shoots, missing it on the left. The second one shoots and misses it on the right. The third one shouts: "We've hit it!"

cheers

cfh

**Re: funny math stuff - Is this true, Katie?**

*Message #4 Posted by [Dave Shaffer](#) on 22 Feb 2007, 2:03 p.m.,  
in response to message #3 by cfh*

I can't resist:

What do you get if you cross an alligator and an elephant?

|alligator| |elephant| sin(theta)

Why can't you cross a mosquito and a mountain climber?

You can't cross a vector with a scaler!

**Re: Funny math stuff**

*Message #5 Posted by [Andrés C. Rodríguez](#) on 24 Feb 2007, 1:09 p.m.,  
in response to message #4 by Dave Shaffer*

A panel of scientists were summoned to witness an experiment:

A couple (man and woman, both young) enter a small car, which is parked at some distance from the observation point.

Some time passes, some noises are heard, and soon a doctor comes saying that three human beings had just left the car.

The panel members' opinions:

The biologist: They have had a baby.

The physicist: There should have been a third person, hidden in the car from the beginning. Otherwise, conservation laws would have been violated.

The mathematician: The car will become empty again when the next person enters it.

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### Re: protecting oneself from paypal

Message #1 Posted by [Jeff O.](#) on 21 Feb 2007, 9:13 a.m.

The one time I had a problem with a seller not delivering after I paid with paypal, I first tried to get the bank to reverse the credit card charge. They refused, with some sort of lame excuse to the effect that they could not reverse the charge since I had authorized it. I did not read the fine print of the cardholder "agreement", but my guess is that different banks offer different levels of service for refunds in cases where you did indeed authorize the charge but are dissatisfied with the purchase. (Miraculously, the seller had not cleaned out his account, so we used paypal's dispute resolution process to get the money back - less paypal's \$25 fee, of course.)

Regarding protection with debit cards vs. credit cards, this [FTC page](#) gives the basics. Debit cards do offer less protection against unauthorized charges. I believe that some banks voluntarily offer the same protections, but it is not required. Which brings me to another question (caution - curmudgeon alert): just exactly what is the advantage of using a debit card? If the money comes directly out of your checking account as you use it, then one must obviously have the money in the account to pay the charges. So why not just charge everything to a credit card and pay the bill in full every month from that same checking account? That way you will get the credit card protections. (For those that might be inclined to build up a huge balance on their credit card rather than pay it off, I suppose that the debit card forces some financial discipline.) Debit cards seem to me to just be a way to essentially give money to the banks and credit card issuers for them to allow you to use your money, with zero risk to them. (Don't get me started on how the price of virtually everything is inflated by 3% or more to account for the credit card holdback fees and that anyplace that accepts credit cards should be **required** to give a discount if you pay in cash or cash equivalent.)

### ot: debit cards

Message #2 Posted by [bill platt](#) on 21 Feb 2007, 2:13 p.m.,  
in response to message #1 by [Jeff O.](#)

I never use the debit card feature. In fact when they started that nonsense, I started getting annoyed that I now had to answer the question, "debit or credit?" It's a freakin' credit card fercrissake!

I put the debit card in the same category with check cashing establishments. Only people with zero credit and often zero sense will flock to them.

As far as the % charged for credit card transactions, I agree that it is obnoxious that the Credit Card Companies manage to bully their patrons into a one price structure. Interestingly it used to be that gasoline stations got away with a two-tier structure, and I offer a rebate for money orders on Ebay--even though it is a "violation" of their rules (read: monopoly practices on financing--therefore ebay is \*not\* an auction site but rather a 21st century sharkfest.)

Paypal plus Ebay charges chews up some serious margin.

### Re: ot: debit cards

Message #3 Posted by [Bill \(Smithville, NJ\)](#) on 21 Feb 2007, 3:37 p.m.,  
in response to message #2 by [bill platt](#)

Hi Bill,

Quote:

It's a freakin' credit card fercrissake!

Welllllll - maybe not. It all depends.

I think we're talking two different types of cards here (or maybe it's three or four types).

First, there is the standard credit card - visa, mastercard, Amex, etc.

Second there is the Debit Card (or in my Area MAC). This is the old card that was tied directly to your bank accounts and for many years was only usable at a bank machine.

Third is the combination Debit card. This one can come in two flavors:

Flavor One - It's still a standard debit card but can be processed through two different transaction methods. Method one is to use it as a standard debit card where the money is withdrawn directly from from the bank account and a PIN number is used. Method two is still a debit transaction, but the transaction takes place through the Credit Card Company. Only a signature is require. But the money is still taken directly from your checking account. The key difference is that the merchant is charged very different transaction fees. The Debit version is charged a per transaction cost while the credit debit is charge a varying percentage of the transaction.

Flavor Two - It's both a standard debit card and a credit card. In this case when debit is used, the money comes directly from the bank account and when credit is used, it is charged as regular credit card trasaction and appears on the credit card statement which you then pay.

Quote:

I put the debit card in the same category with check cashing establishments. Only people with zero credit and often zero sense will flock to them.

Well I use a debit card where ever I might be paying by cash anyway and I definetly don't have zero credit or (I hope) zero sense. :)

Bill

### **Re: ot: debit cards**

*Message #4 Posted by **bill platt** on 22 Feb 2007, 7:41 p.m.,  
in response to message #3 by Bill (Smithville, NJ)*

When Mellon first came out with the debit idea, I read the fine print, and I declined it. I used my MAC card until they expired it, then I gave it up. The fine print turned the MAC card into a non-secure credit-card-access-directly to your bank account. I didn't want to have any part of that nonsense.

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### Re: Valentine's Day MC: A few modest insights, n! digits - part 3, anyone?

Message #1 Posted by [Valentin Albillo](#) on 21 Feb 2007, 9:10 a.m.

Hi, Gerson:

Very nice !

Thanks, Gerson, and

Best regards from V.

### Re: Valentine's Day MC: A few modest insights, n! digits - part 3, anyone?

Message #2 Posted by [Gerson W. Barbosa](#) on 21 Feb 2007, 7:20 p.m.,  
in response to message #1 by [Valentin Albillo](#)

Hello Valentin,

Quote:

Very nice !

Thanks, but those two lines of mine are not nearly as nice as the other 17 ones of yours!

Here is my first attempt for the HP-12C. Took more than 5 minutes though :-)

```
01  ENTER
02  LN
03  LST x
04  .
05  5
06  +
07  *
08  x<>y
09  -
10  1
11  1
12  12/
13  +
14  1
15  0
16  LN
17  /
18  1
19  +
20  INTG
```

```
2 <= n <= 100,000,000 (wrong! see update below)
```

```
N = INT(1 + ((n + 1/2)*ln(n) - n + 11/12)/ln(10))
```

```
ln(sqrt(2*pi)) = 0.918938533
```

$$11/12 = 0.916666667$$

20 steps! Not so bad, considering the 12C lacks pi and common logarithm...

Best regards,

Gerson.

-----

Update:

Unfortunately, 11/12 is not good enough. The results are one unit less for N=197, 216, 1944, 2512, etc. 34/37 would raise the upper limit to 165534. And 1213/1320 would raise it to 2064172, but in this case it would be better go back to the original formula and start over. Approximating pi as 355/113 (8 steps) would not be of much help...

*Edited: 22 Feb 2007, 6:08 p.m.*

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### Touching up a scratched Voyageur

Message #1 Posted by [Les Wright](#) on 21 Feb 2007, 8:23 a.m.

I have been spending some time trying to improve the appearance of my working grade 11C.

I have found that pretty coarse sandpaper (180 grit) followed by a buffing with a fresh scotch brite kitchen pad got rid of scratches and restored a pretty convincing brush finish to the bezel.

Several small scratches on the key deck that did not cut across lettering were convincingly touched up by a black Sharpie. It isn't perfect, and you can see the ink dots if you look at the key deck in glancing light, but face on it is much more attractive than the silver colour of the metal shining through. The back label was particularly scratched around the edges and painting along the scratches with the pen made it a little less ugly. The pen is easier to use than a small brush and model paint, and if it wears off it is easily redone.

My next project is getting some sort of silver colouring back on the logo. I am going to try a silver ink gel pen. Some women friends are also heavily involved in stamping and scrapbooking, so I may seek their advice on how to get colouring onto the outside parts but not in the grooves.

Thought I would share that with you. The pleasure I get out of my 11C is much greater now that it looks, to my eye, a little better than when I got it. True collectors may object to my methods, but I am not selling it!

Les

*Edited: 21 Feb 2007, 12:52 p.m. after one or more responses were posted*

### Re: Touching up a scratched Voyageur

Message #2 Posted by [Giancarlo \(Italy\)](#) on 21 Feb 2007, 8:46 a.m.,  
in response to message #1 by [Les Wright](#)

Hi Les.

Congrats for your 11C revamping!

How about share a couple of snapshots of the outcome of your activity?

Ideal would be: before and after the intervention :)

Best regards.

Giancarlo

### Re: Touching up a scratched Voyageur

Message #3 Posted by [Bill \(Smithville, NJ\)](#) on 21 Feb 2007, 9:18 a.m.,  
in response to message #1 by [Les Wright](#)

Hi Les,

Quote:

I have been spending some time trying to improving the appearance of my working grade 11C.



---

Reading about you cleaning up your "working grade 11C" made me pick up my 11c from my desk. What a sorry state it is - it is always on my desk, usually under a pile of papers, gets exposed to all kinds of dirt and dust, but just keeps on working and working. The only cleaning it gets is occasionally wiping a wet finger across the display. The feet are almost worn away.

About four years ago, I did send it to Randy and had him do a complete cleaning of it since several keys were getting problematic. It's been in daily use every since and is a real work horse for doing daily calcs.

Who knows how long it would last if I took a page from your book and cleaned it up a little bit.

Great work Les and enjoy the 11C.

Bill

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### **Re: protecting oneself from paypal**

*Message #1 Posted by [Gene](#) on 21 Feb 2007, 7:29 a.m.*

Sometimes, there is no money in the seller's account and nothing for Paypal to recover from them.

This seems to be when they do nothing.

After all, they aren't going to pay you out of THEIR monies.

If a seller is stupid enough to give paypal a checking account link, then paypal can always recover money because they will take it from your checking account.

Even if you get a chargeback from a buyer that is fraudulent. A quick check of google will turn up cases where paypal has frozen funds in sellers accounts for months with little explanation, where paypal gave a refund to a buyer with no requirement for the buyer to send back the goods - they end up with your product AND their money back, etc.

Hearing from people who say "I've used paypal for years without any problems" doesn't really address the poor people's plight who get hit by this buzzsaw.

And, if you sell and take paypal, you could be next. You have little to no protection.

If you buy and use paypal, use funds from a credit card. It's the only real protection you have.

### **Re: protecting oneself from paypal**

*Message #2 Posted by [Katie Wasserman](#) on 21 Feb 2007, 8:56 a.m.,  
in response to message #1 by Gene*

I agree completely -- use a credit card. My one instance of ebay fraud, in over 900 transactions almost all of which were via Paypal, ended with a full refund from my credit card company. I never even filed a Paypal complaint just made one phone call to American Express and they took care of it. It took about 6 weeks but they told me it would take some time up front and they informed me in writing of their progress in getting my refund.

### **Re: protecting oneself from paypal**

*Message #3 Posted by [Gene](#) on 21 Feb 2007, 11:59 a.m.,  
in response to message #2 by Katie Wasserman*

Agreed. NEVER give paypal your bank account information. Period.

### **Re: protecting oneself from paypal**

*Message #4 Posted by [Disadvantages of no bank info to Paypal](#) on 22 Feb 2007, 1:33 p.m.,  
in response to message #3 by Gene*

Remove Bank Account Confirmation

[Back to Profile Summary](#)

You are about to remove the following bank account from your PayPal account:

Bank Account Name:  
Bank Name:  
Bank Account Number:

This is your only confirmed bank account on file. If you remove it now, your account status will instantly become unverified. Becoming unverified means you can no longer add funds via electronic funds transfer, your credit card charge limit is reinstated, and you lose protections safeguarded under PayPal's Buyer and Seller Protection Policies.

Are you sure you want to remove this bank account from your PayPal Profile?

Note: After removing this bank account it will no longer be possible to complete PayPal payments by bank transfer or by Direct Debit or Bank Funding. If you add this bank account to your PayPal account again, you'll need to repeat confirmation and authorization to use these payment methods.

And here are the differences in fees for various withdrawals. Note that bank transfers are free.

| Options                             | Processing Time               | Cost          |
|-------------------------------------|-------------------------------|---------------|
| Transfer funds to your bank account | 3-4 Business Days             | Free!         |
| Request a check from PayPal         | 1-2 Weeks                     | \$1.50        |
| Shop with a PayPal debit card       | Instant (once you get a card) | Get cashback! |
| Get cash out of an ATM              | Instant                       | \$1.00        |
| Buy from over 42,000 PayPal Shops   | Instant                       | Free!         |

Add Funds

You can transfer funds from your checking or savings account to your PayPal account using Electronic Funds Transfer.

Transfer money into your PayPal Money Market account and earn a competitive return. As of 1/3/2007, you would be earning 5.02 percent on your PayPal balance!\*

| Options   | Processing Time   | Cost  |
|---|-------------------|-------|
| Transfer Funds From a Bank Account in the United States | 3-4 Business Days | Free! |

*Edited: 22 Feb 2007, 1:35 p.m.*

**Agreed, but not having someone steal my money is more important**

Message #5 Posted by [Gene](#) on 22 Feb 2007, 2:42 p.m.,  
in response to message #4 by *Disadvantages of no bank info to Paypal*

When they can come take funds from my bank account when a fraudulent buyer says he/she didn't receive an item, that is too much of a disadvantage.

If that means I can't pay because of a limit, whatever.

Do a google search where people report the things paypal has done.

Let the user beware.

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### HEWLETT PACKARD 9815A Sale !!!

Message #1 Posted by [gileno](#) on 21 Feb 2007, 6:57 a.m.

[9815A Link - Ebay](#)

### Re: HEWLETT PACKARD 9815A Sale !!!

Message #2 Posted by [Jean-Michel](#) on 21 Feb 2007, 1:22 p.m.,  
in response to message #1 by [gileno](#)

You break my heart by showing this 9815... When I was 18 (in '85), my father came back one evening with a big thing he put onto my desk saying "It was in the trash at my office, I took it for you but I don't know what you can do with this big calculator..." (He knew I was already interested in). Guess what it was : a HP-9815A with its printer and its tape recorder, fully operating ! It stayed onto my desk a couple of years without I really used it, because I didn't have the User's Manual, and one day my parents moved from their home to a smaller flat when I was gone for my studies. When I came back, I never saw again the "big" HP... back to the trash definitely ! (I didn't tell my father my deep interest in calculators and especially HP to keep him without too much regrets !)

Now, I could buy it, but it won't be the same as having the other for all these years...

### Re: HEWLETT PACKARD 9815A Sale !!!

Message #3 Posted by [Steve Borowsky](#) on 22 Feb 2007, 5:43 p.m.,  
in response to message #2 by [Jean-Michel](#)

That was noble of you Jean-Michel. I think there's a 9815A with your name on it 'up there'.

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## Re: Significant digits -- well, yes and no...

Message #1 Posted by [Massimo Gnerucci \(Italy\)](#) on 21 Feb 2007, 2:49 a.m.

Quote:

HP-42S:  $\sin(3.14159265358 \text{ rad}) = 9.79323846264 \times 10^{-12}$  -- correct result to 12 significant digits

HP-41:  $\sin(3.141592653 \text{ rad}) = 5.9 \times 10^{-10}$  -- correct result to 2 significant digits

Sorry Karl, shouldn't that be:

HP-41:  $\sin(3.141592654 \text{ rad}) = -4.1 \times 10^{-10}$  vs  $-4.10206761537 \times 10^{-10}$  ?

Greetings,  
Massimo

## Missing pi digits calculation

Message #2 Posted by [Karl Schneider](#) on 21 Feb 2007, 3:47 a.m.,  
in response to message #1 by Massimo Gnerucci (Italy)

Hi, Massimo --

Quote:

Sorry Karl, shouldn't that be: HP-41:  $\sin(3.141592654 \text{ rad}) = -4.1 \times 10^{-10}$  vs  $-4.10206761537 \times 10^{-10}$  ?

That also is a correct calculation, but my point was to reveal the ensuing digits of pi by calculating a truncated (not rounded) value of pi in radians mode. I've gone through the exercise several times in the Forum, but didn't save a bookmark to those posts:

$$\begin{aligned}
\sin(\pi - x) &= \sin(\pi) \cdot \cos(x) - \cos(\pi) \cdot \sin(x) \\
&= 0 \cdot \cos(x) - (-1) \cdot \sin(x) \\
&= \sin(x)
\end{aligned}$$

x represents the truncated digits. For very small x,  $\sin(x) \approx x$ , so the result produces a limited string of those digits.

The excellent mathematical routines developed for the Saturn microprocessor (debuting with the HP-71B) were ported to the Pioneer-series calculators. No other calculator I own matches the quality of the Saturn mathematics, although the TI-89 *might*. It also seems likely that Valentin's vintage Sharp pocket computers could meet or exceed the accuracy.

-- KS

## SHARP accuracy

Message #3 Posted by [Valentin Albillo](#) on 21 Feb 2007, 5:15 p.m.,  
in response to message #2 by [Karl Schneider](#)

Hi, Karl:

Karl posted:

*"It also seems likely that Valentin's vintage Sharp pocket computers could meet or exceed the accuracy."*

Likely. These are your results as computed by my SHARP PC-1475, rounded to 12 digits:

$$\sin (3.14159265358 \text{ rad}) = 9.79323846265\text{E-}12$$

$$\sin (3.141592653 \text{ rad}) = 5.89793238463\text{E-}10$$

$$\cos (89.9999999 \text{ deg}) = 1.74532925199\text{E-}09$$

Matter of fact, this last result actually comes out in full precision as:

$$\cos (89.9999999 \text{ deg}) = 1.7453292519943295760\text{D-}09$$

which has all its 20 significant digits absolutely correct.

Best regards from V.

## Re: SHARP accuracy

Message #4 Posted by [Karl Schneider](#) on 23 Feb 2007, 1:39 a.m.,  
in response to message #3 by [Valentin Albillo](#)

Hi, Valtin --

Quote:

These are your results as computed by my SHARP PC-1475, rounded to 12 digits:

$$\sin (3.14159265358 \text{ rad}) = 9.79323846265\text{E-}12$$

But, V! The last mantissa digit should be a "4", whether it's the actual digit or rounded. Who was responsible for the rounding? :-)

Seriously though, 20 significant digits was quite impressive for the era. I safely considered the 12+ digit performance "likely" from your photos I had previously viewed, at least one of which depicted a Sharp "PC" with many digits showing in its display.

Best regards,

-- KS



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### **Re: HP Calculator Packaging**

Message #1 Posted by [Matthias Wehrli](#) on 21 Feb 2007, 2:47 a.m.

Have a loot at my museum. I collect all boxes and show them on the website.

[www.hp-collection.org](http://www.hp-collection.org) Matthias

### **Re: HP Calculator Packaging**

Message #2 Posted by [Tom \(UK\)](#) on 21 Feb 2007, 11:08 a.m.,  
in response to message #1 by [Matthias Wehrli](#)

That's a great typo, 'Have a loot at my museum.'

When can I come round to loot your museum :-)) You seem to have lots of interesting items listed there, thanks for the work.

The packaging and manuals may end up like the toys of old, quite often the box is worth more than the toy!

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